SERVICE MANUAL

L54

DVD RECEIVER

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NAD ELECTRONICS INTERNATIONAL
TORONTO

SERVICE MANUAL

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DVD RECEIVER

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DVD RECEIVER

SECTION 1
SUMMARY

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PRODUCT SAFETY SERVICING GUIDELINES

CAUTION : DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY. NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANY RESULTING PROPERTY DAMAGE OR USER INJURY.

SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.

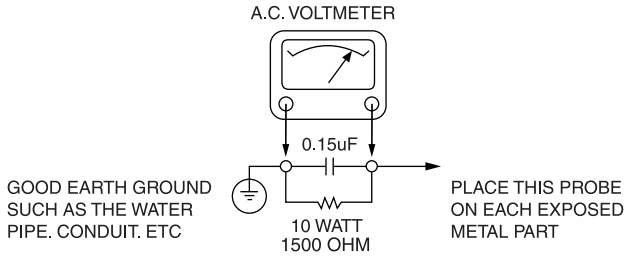
WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM AC LINE SHOCK.

SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED. A CHECK SHOULD BE MADE OF THE FOLLOWING.

SUBJECT : FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.
3. SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OR SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.
4. CHECK FOR PHYSICAL EVIDENCE OF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS. FOR FRAYED LEADS, DAMAGED INSULATION (INCLUDING AC CORD). AND REPLACE IF NECESSARY FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTORS, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES, DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
7. AFTER RE-ASSEMBLY OF THE SET ALWAYS PERFORM AN AC LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET, (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS. HANDLE AND SCREWS) TO BE SURE THE SET IS SAFET TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN AC VOLTMETER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER; CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD, 150V AC TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER PIPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME.
   MEASURE THE AC VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR.
   REVERSE THE AC PLUG AND REPEAT AC VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART.
   VOLTAGE MEASURE MUST NOT EXCEED 75 VOLTS R.M.S. THIS CORRESPONDS TO 0.5 MILLIAMP AC ANY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



SUBJECT : GRAPHIC SYMBOLS

THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.

THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

SUBJECT : TIPS ON PROPER INSTALLATION

1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBYHOLE OR CLOSELY FITTING SHELF SPACE. OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
2. AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
3. AVOID PLACEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
4. WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCAL MOUNTING KIT MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS) TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM, BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART. CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES, INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERICALLY APPROVED FOR USE WITH T.V.'S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS, EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

SERVICING PRECAUTIONS

CAUTION : Before servicing the A/V Receiver covered by this service data and its supplements and addends, read and follow the *SAFETY PRECAUTIONS. NOTE* : if unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions in this publication, always follow the safety precautions.
Remember Safety First:

General Servicing Precautions

1. Always unplug the A/V Receiver AC power cord from the AC power source before:
   (1) Removing or reinstalling any component, circuit board, module, or any other assembly.
   (2) Disconnecting or reconnecting any internal electrical plug or other electrical connection.
   (3) Connecting a test substitute in parallel with an electrolytic capacitor.
   Caution : A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Do not spray chemicals on or near this A/V Receiver or any of its assemblies.

3. Unless specified otherwise in this service data, clean electrical contacts by applying an appropriate contact cleaning solution to the contacts with a pipe cleaner, cottontipped swab, or comparable soft applicator.
   Unless specified otherwise in this service data, lubrication of contacts is not required.

4. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.

5. Do not apply AC power to this A/V Receiver and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.

6. Always connect test instrument ground lead to the appropriate ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power on. Connect an insulation resistance meter(500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts (Note 1) should be more than 1M-ohm.
Note 1 : Accessible Conductive Parts including Metal panels, Input terminals, Earphone jacks, etc.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical Es devices are integrated circuits and some field effect transistors and semiconductor chip components.
The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.

4. Use only an antistatic solder removal device. Some solder removal devices not classified a “anti-static” can generate electrical charges sufficient to damage ES devices.

5. Do not use freonpropelled chemicals. These can generate electrical charge sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material).

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

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

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

SPECIFICATIONS

AMPLIFIER SECTION

Power output Stereo Mode	50W (8 ohms within rated distortion)
IHF dynamic power; 8 ohms	70W
IHF dynamic power; 4 ohms	100W
Total harmonic distortion at rated power	<0.08%
IM distortion at rated power	<0.08%
Damping factor, 8 ohms	>60
Input sensitivity and impedance	320mV/47KΩ
Frequency response	± 0.5dB (ref. 1 kHz, 20Hz – 20kHz)
Signal/noise ratio	>100dB (ref. rated power / 8 ohms A-WTD)
Signal/noise ratio	>80dB (ref. 1W / 8 ohms A-WTD)

TUNER SECTION

AM SECTION	Frequency range	530kHz -1710kHz (North America version, 10kHz steps)
		522kHz -1620kHz (Europe version, 9kHz steps)
	Usable sensitivity	500μV/m
	S/N ratio	40dB
	Total Harmonic Distortion	1.5%
	Selectivity	25dB
	Frequency response	- 6dB (ref. 400Hz, 80Hz – 2.2 kHz)
FM SECTION	Usable sensitivity, MONO	11dBf
	S/N Ratio MONO	70dB
	S/N Ratio STEREO	65dB
	Total Harmonic Distortion, MONO	0.4%
	Total Harmonic Distortion, STEREO	0.5%
	Frequency response	- 3dB (ref. 1 kHz, 20Hz – 15kHz
	Channel Separation	40dB
	RDS decode sensitivity	0.5%

DVD SECTION

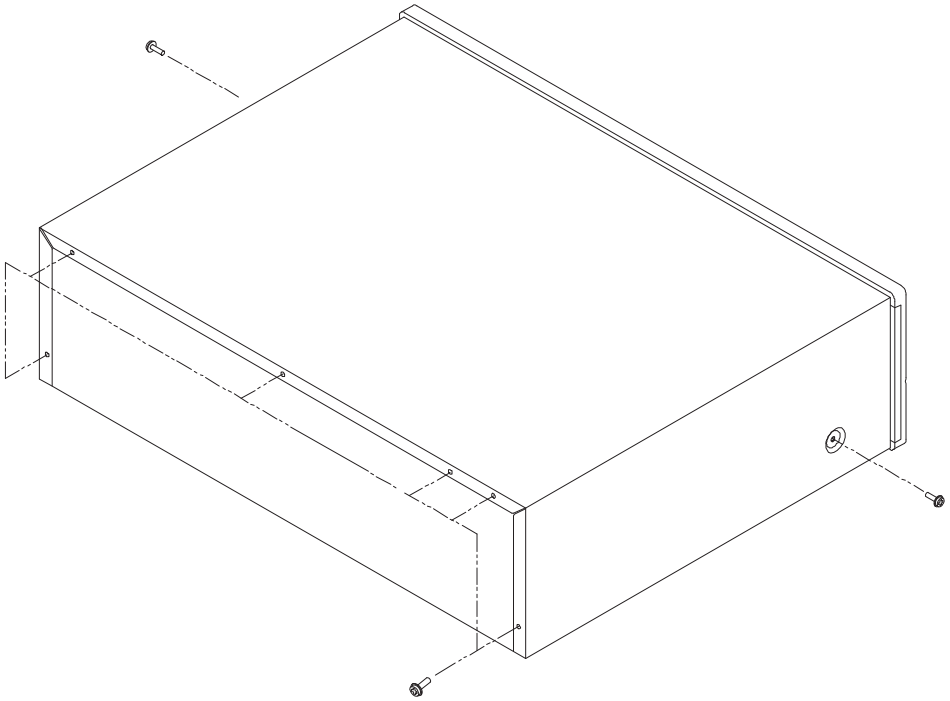
	Signal system	PAL/NTSC/Auto
	Laser	Two wavelength laser diode
	CD	Wavelength 790nm
	DVD	Wavelength 650nm
	Signal-to-noise ratio (audio)	>95dBA (A-WTD)
	Dynamic range (audio)	>90dBA (A-WTD)
INPUT	Audio input (optical audio)	Optical x 1
	Audio input (coaxial audio)	Coaxial x 1
	Audio input (analog audio)	RCA Jack (L,R) x 2
	IR input	3.5mm Mini jack x 1
	Video input	RCA jack x 3
	S-Video input	Mini-Din jack x 3
OUTPUT	Video output	1 Vp-p/ 75 ohms
	S-Video (Y signal)	1 Vp-p/ 75 ohms
	S-Video (C signal)	0.286 Vp-p/ 75 ohms
	Component (Y signal)	1 Vp-p/ 75 ohms (North American version only)
	Component (Cb/Cr signal)	0.7 Vp-p/ 75 ohms (North American version only)
	Scart (RGB signal)	0.7 Vp-p/ 75 ohms (European version only)
	Audio output (optical audio)	-15 to -21dBm
	VCR output level	2mVrms

PHYSICAL SPECIFICATIONS

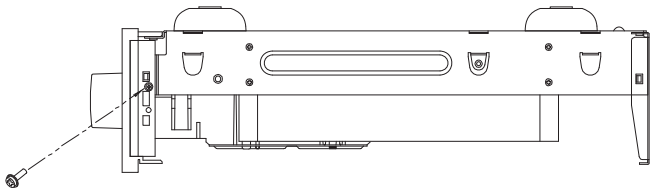
Dimensions (W x H x D)	435x105x375 mm
Net Weight	8.4kg
Shipping Weight	10.5kg

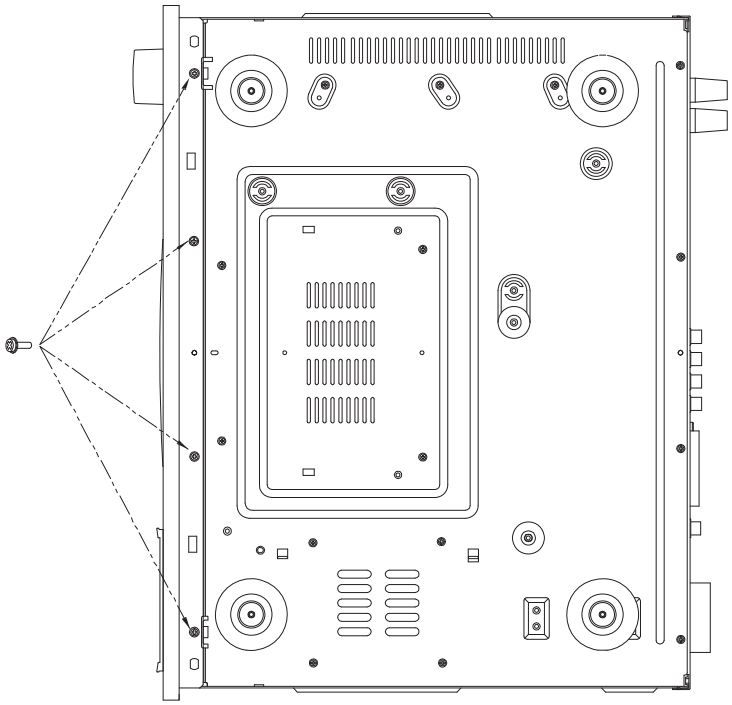
DISASSEMBLY

1> REMOVAL OF TOP COVER

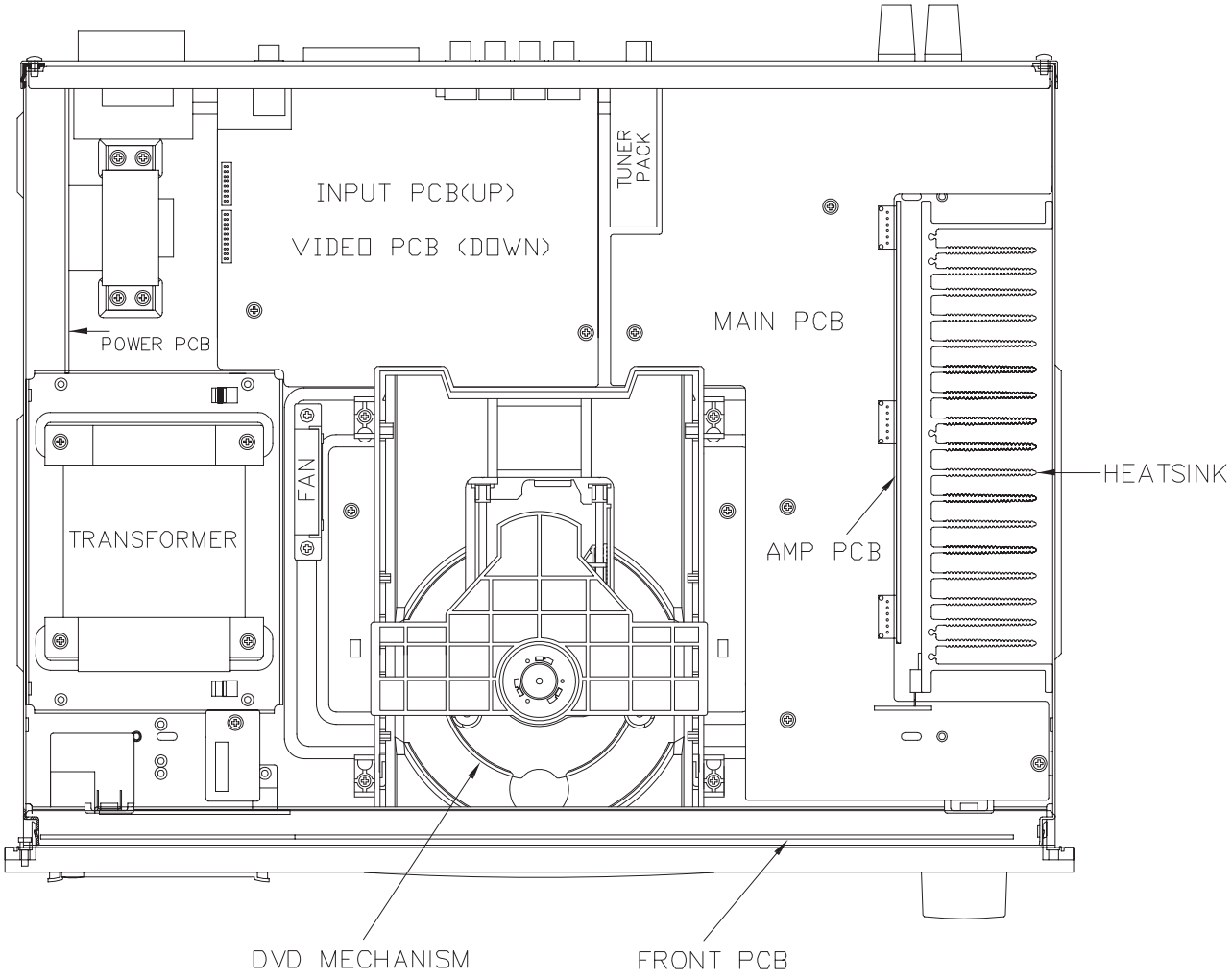


2> REMOVAL OF FRONT PANEL

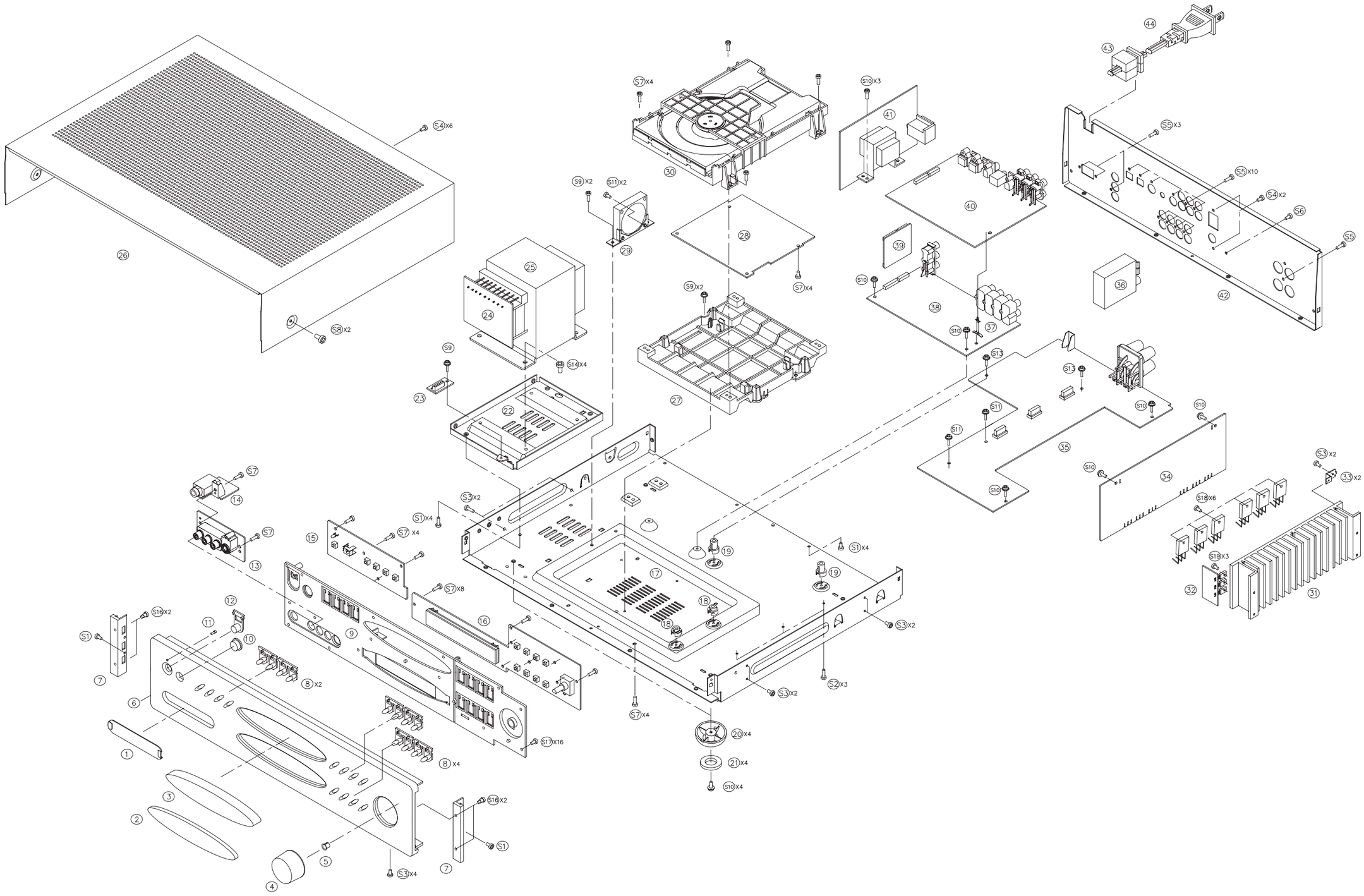




PRINCIPAL PARTS LOCATION



EXPLODED VIEW (L54AH)



L54AH EXPLODED VIEW PARTS LIST

** PCB ASS'Y **

	COP11961B	L54C FRONT PCB ASS'Y	1
16	CUP11961-1	FRONT PCB B'D(1)	
15	CUP11961-2	FRONT PCB B'D(2)	
13	CUP11961-3	VIDEO JACK PCB B'D	
14	CUP11961-4	PHONE JACK PCB B'D	
24	CUP11961-5	POWER TRANS PCB B'D	
41	CUP11961-6	SUB TRANS PCB B'D	
38	CUP11961-7	VIDEO PCB B'D	

40	COP11962B	L54C INPUT PCB ASS'Y	0.5

	COP11964B	L54C AMP PCB ASS'Y	1
35	CUP11964-1	MAIN PCB B'D	
34	CUP11964-2	AMP PCB B'D	
32	CUP11964-3	TR PCB B'D	
39	CUP11964-4	CONNECTION PCB B'D	
23	CUP11964-5	UPDATE PCB B'D	

28	COP11975B	MPEG PCB ASS'Y	1

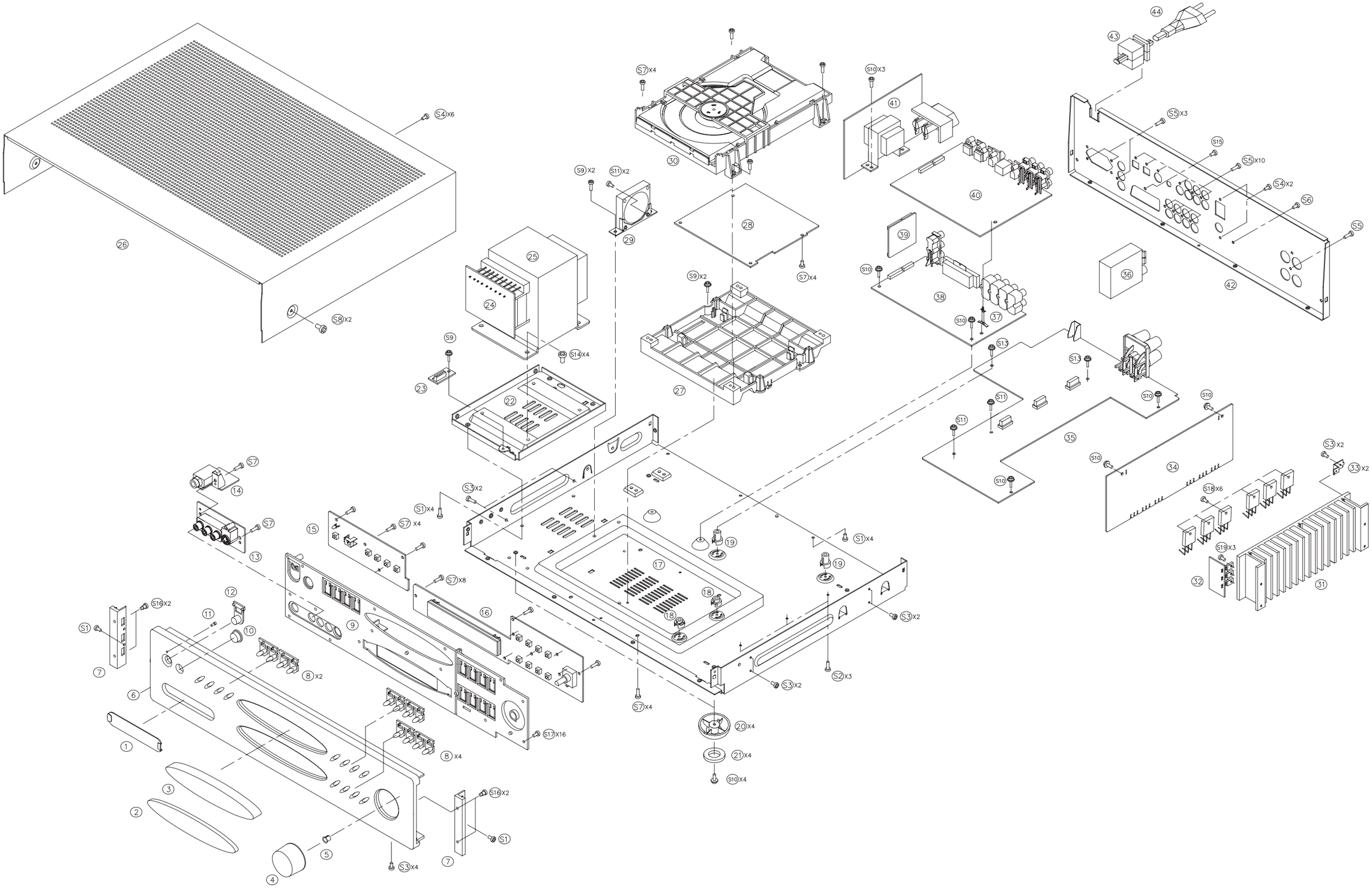
** SCREW **

NO.	PARTS NO.	DESCRIPTION	Q'TY
S19	CHD4A012R	SCREW, TR	3
S18	CHD1A012R	SCREW, TR	9
S17	CTB3+6FR	SCREW	16
S16	CHD1A016R	SCREW	4
S15	CHD1A055R	SCREW	1
S14	CHD1A023R	SCREW, TRANS	4
S13	CTW3+18JR	SCREW	2
S12	CTW3+14JR	SCREW	2
S11	CTW3+12JR	SCREW	2
S10	CTW3+8JR	SCREW	13
S9	CTW3+6JR	SCREW	5
S8	CTB4+6FFZR	SCREW	4
S7	CTB3+10JR	SCREW	22
S6	CTB3+6FFZR	SCREW	1
S5	CTB3+10JFZR	SCREW	14
S4	CTB3+8JFZR	SCREW	8
S3	CTS3+8JR	SCREW	10
S2	CTB3+8JR	SCREW	3
S1	CTB3+6JR	SCREW	10

** PARTS **

NO.	PARTS NO.	DESCRIPTION	Q'TY
44	CJA523FBYA	CORD,POWER	1
43	KHR1A028	BUSHING, AC CORD	1
42	CKF2A288UK1	PANEL, REAR	1
41	CUP11961-6	SUB TRANS PCB B'D	1
40	CUP11962	INPUT PCB B'D	1
39	CUP11964-4	CONNECTION PCB B'D	1
38	CUP11961-7	VIDEO PCB B'D	1
37	KRE1A064	SUPPORT,PCB	1
36	CNVMB114MA1J8L	TUNER MODULE	1
35	CUP11964-1	MAIN PCB B'D	1
34	CUP11964-2	AMP PCB B'D	1
33	CMD1A490	BRACKET, HEATSINK	1
32	CUP11964-3	TR PCB B'D	1
31	CMY1A243	HEATSINK	1
30	CJDL54ZA	MECHANISM ASS'Y	1
29	CMD1A507	BRACKET,FAN	1
28	CUP11975	MPEG PCB B'D	1
27	CMH2A240	SUPPORT, MECHA	1
26	CKC4A159B22	CABINET, TOP	1
25	CLT5R038ZU	POWER TRANS (L54AH)	1
24	CUP11961-5	POWER TRANS PCB B'D	1
23	CUP11964-5	UPDATE PCB B'D	1
22	CMD1A541	BRACKET,TRANS	1
21	CHG1A297	CUSHION, FOOT	4
20	CKL1A086	FOOT	4
19	CHE170	HOLDER, PCB	2
18	CHE1A030	HOLDER, PCB	2
17	CUA2A252	CHASSIS, BOTTOM	1
16	CUP11961-1	FRONT PCB B'D (1)	1
15	CUP11961-2	FRONT PCB B'D (2)	1
14	CUP11961-4	PHONE JACK PCB B'D	1
13	CUP11961-3	VIDEO JACK PCB B'D	1
12	CBT1A746M7K102	KNOB, POWER	1
11	CGL1A188	INDICATOR, POWER	0.17
10	CGU1A245A10	WINDOW, SENSOR	1
9	CGW2A389R4	PANEL, SUB	1
8	CBT1A745M7K102	KNOB, DISPLAY	6
7	CKM1A158C64	BAR, SIDE	2
6	CKM2A157XC64	PANEL, AL	1
5	CMC1A140	RING,SHAFT	1
4	HGK1A063YA	VOLUME KNOB ASS'Y	1
3	CGR1A287M7WK102	ORNAMENT, DOOR	1
2	CGU1A244A8	WINDOW, FIP	1
1	CGR1A288R4B23	COVER, JACK	1

EXPLODED VIEW (L54C)



L54C EXPLODED VIEW PARTS LIST

** PCB ASS'Y **

	COP11961C	L54C FRONT PCB ASS'Y	1
16	CUP11961-1	FRONT PCB B'D(1)	
15	CUP11961-2	FRONT PCB B'D(2)	
13	CUP11961-3	VIDEO JACK PCB B'D	
14	CUP11961-4	PHONE JACK PCB B'D	
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38	CUP11961-7	VIDEO PCB B'D	

40	COP11962C	L54C INPUT PCB ASS'Y	0.5

	COP11964C	L54C AMP PCB ASS'Y	1
35	CUP11964-1	MAIN PCB B'D	
34	CUP11964-2	AMP PCB B'D	
32	CUP11964-3	TR PCB B'D	
39	CUP11964-4	CONNECTION PCB B'D	
23	CUP11964-5	UPDATE PCB B'D	

28	COP11975C	MPEG PCB ASS'Y	1

** SCREW **

NO.	PARTS NO.	DESCRIPTION	Q'TY
S19	CHD4A012R	SCREW, TR	3
S18	CHD1A012R	SCREW, TR	9
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S16	CHD1A016R	SCREW	4
S15	CHD1A055R	SCREW	1
S14	CHD1A023R	SCREW, TRANS	4
S13	CTW3+18JR	SCREW	2
S12	CTW3+14JR	SCREW	2
S11	CTW3+12JR	SCREW	2
S10	CTW3+8JR	SCREW	13
S9	CTW3+6JR	SCREW	5
S8	CTB4+6FFZR	SCREW	4
S7	CTB3+10JR	SCREW	22
S6	CTB3+6FFZR	SCREW	1
S5	CTB3+10JFZR	SCREW	14
S4	CTB3+8JFZR	SCREW	8
S3	CTS3+8JR	SCREW	10
S2	CTB3+8JR	SCREW	3
S1	CTB3+6JR	SCREW	10

** PARTS **

NO.	PARTS NO.	DESCRIPTION	Q'TY
44	CJA2B043ZA	CORD,POWER	1
43	KHR1A028	BUSHING, AC CORD	1
42	CKF1A288UK1	PANEL, REAR	1
41	CUP11961-6	SUB TRANS PCB B'D	1
40	CUP11962	INPUT PCB B'D	1
39	CUP11964-4	CONNECTION PCB B'D	1
38	CUP11961-7	VIDEO PCB B'D	1
37	KRE1A064	SUPPORT,PCB	1
36	CNVMB114MA1J8L	TUNER MODULE	1
35	CUP11964-1	MAIN PCB B'D	1
34	CUP11964-2	AMP PCB B'D	1
33	CMD1A490	BRACKET, HEATSINK	1
32	CUP11964-3	TR PCB B'D	1
31	CMY1A243	HEATSINK	1
30	CJDL54ZA	MECHANISM ASS'Y	1
29	CMD1A507	BRACKET,FAN	1
28	CUP11975	MPEG PCB B'D	1
27	CMH2A240	SUPPORT, MECHA	1
26	CKC4A159B22	CABINET, TOP	1
25	CLT5R038ZE	POWER TRANS (L54C)	1
24	CUP11961-5	POWER TRANS PCB B'D	1
23	CUP11964-5	UPDATE PCB B'D	1
22	CMD1A541	BRACKET,TRANS	1
21	CHG1A297	CUSHION, FOOT	4
20	CKL1A086	FOOT	4
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17	CUA2A252	CHASSIS, BOTTOM	1
16	CUP11961-1	FRONT PCB B'D (1)	1
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13	CUP11961-3	VIDEO JACK PCB B'D	1
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11	CGL1A188	INDICATOR, POWER	0.17
10	CGU1A245A10	WINDOW, SENSOR	1
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8	CBT1A745M7K102	KNOB, DISPLAY	6
7	CKM1A158C64	BAR, SIDE	2
6	CKM2A157XC64	PANEL, AL	1
5	CMC1A140	RING,SHAFT	1
4	HGK1A063YA	VOLUME KNOB ASS'Y	1
3	CGR1A287M7WK102	ORNAMENT, DOOR	1
2	CGU1A244A8	WINDOW, FIP	1
1	CGR1A288R4B23	COVER, JACK	1

SECTION 2
ELECTRICAL CONTENTS

CONTENTS

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SOFT RESET METHOD

1 SOFT RESET

- Power on / AM Funtion,
- Play Key–> Stop Key –> Display Key(5 sec)

2 Version Display

ⓐHost MCU Program
- Power on / AM Funtion,
- Play Key –> Stop Key–> FM mono/mute Key (5 sec) :
- VFD Version Display
  070522-02
  (YYMMDD-Version)

ⓑMPEG Program (DVD Program)
① DVD FUNCTION SELECT
② OPEN KEY
③ DVD KEY(DEVICE SELECTOR)
④ CLEAR –> 2 –> 5 –> 8 –> 0 –> CLEAR (REMOTE) - SERVICE MODE

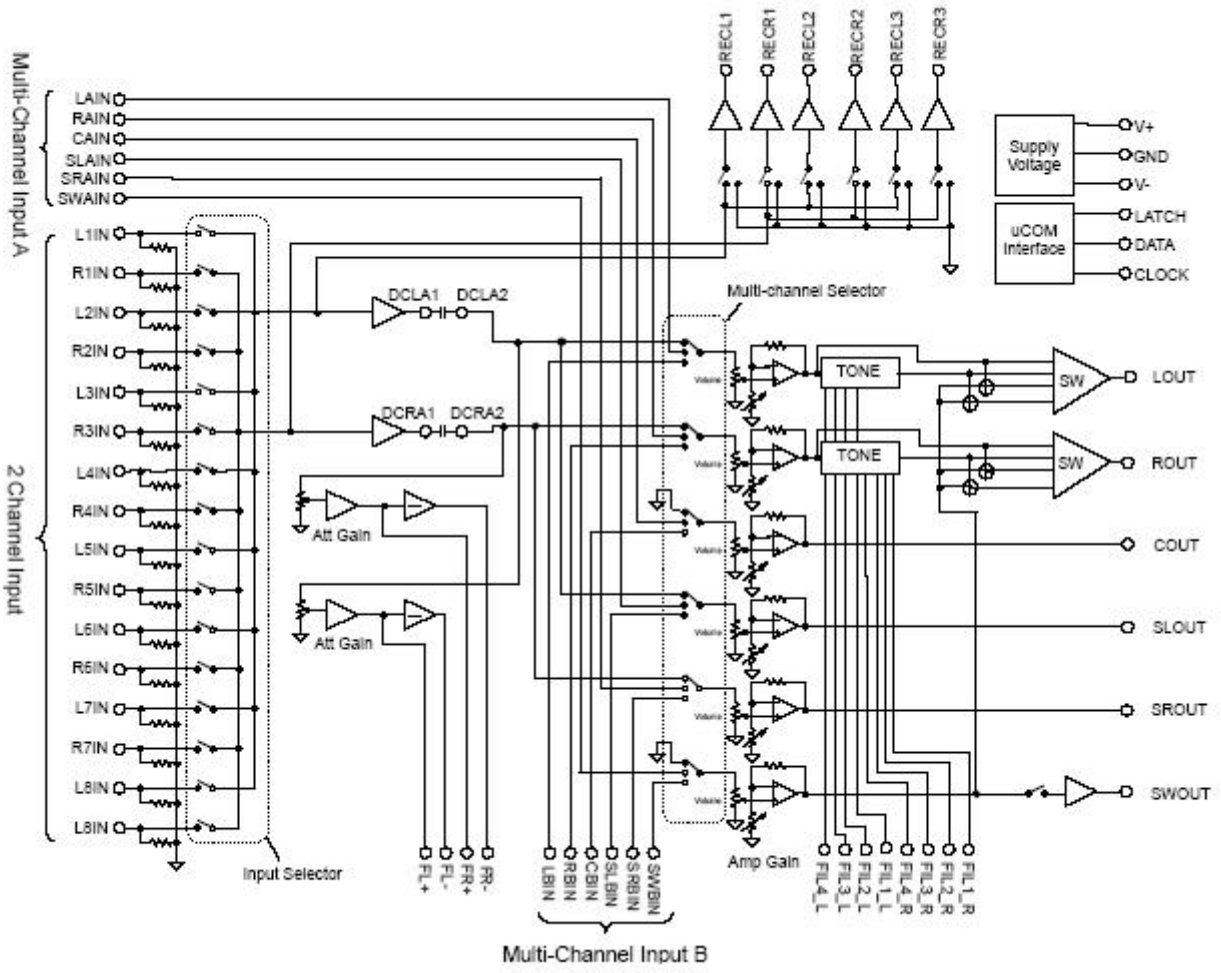
4 FACTORY RESET
① FM FUNCTION SELECT
② FM_MODE_KEY(4 ~ 5 sec)

5 AM TUNER STEP CHANGE
① AM FUNCTION SELECT
② FM_MODE_KEY PUSH + MEMORY_KEY(4 ~ 5sec)

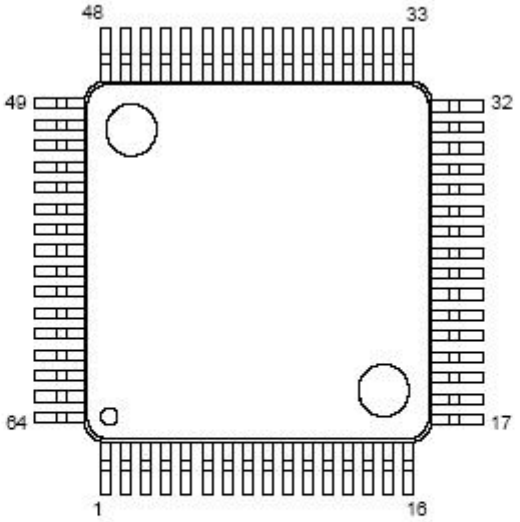
IC BLOCK DIAGRAMS & PIN DESCRIPTION

VOL + FUNCTION IC (NJW1153FG1) : IC11

■ BLOCK DIAGRAM



■ PIN FUNCTION



No.	SYMBOL	FUNCTION	No.	SYMBOL	FUNCTION
1	FIL2_R	Rch Bass filter terminal	33	RAIN	Multi-channel Rch input A
2	FIL3_R	Rch Bass filter DC cut capacitor output terminal	34	CAIN	Multi-channel Cch input A
3	FIL4_R	Rch Bass filter DC cut capacitor input terminal	35	SLAIN	Multi-channel SLch input A
4	GND	Ground	36	SRAIN	Multi-channel SRch input A
5	FL+	"Input selector gain control" Lch no-inverted output	37	SWAIN	Multi-channel SWch input A
6	FL-	"Input selector gain control" Lch inverted output	38	LBIN	Multi-channel Lch input B
7	FR+	"Input selector gain control" Rch no-inverted output	39	RBIN	Multi-channel Rch input B
8	FR-	"Input selector gain control" Rch inverted output	40	CBIN	Multi-channel Cch input B
9	DCLA1	"Input selector" Lch output	41	SLBIN	Multi-channel SLch input B
10	DCLA2	"Multi-channel selector" Lch input	42	SRBIN	Multi-channel SRch input B
11	DCRA1	"Input selector" Rch output	43	SWBIN	Multi-channel SWch input B
12	DCRA2	"Multi-channel selector" Rch input	44	SurTC	Switching noise rejection capacitor
13	L1IN	"Input selector" Lch input 1	45	FIL4_L	Lch Bass filter DC cut capacitor input terminal
14	R1IN	"Input selector" Rch input 1	46	FIL3_L	Lch Bass filter DC cut capacitor output terminal
15	L2IN	"Input selector" Lch input 2	47	FIL2_L	Lch Bass filter terminal
16	R2IN	"Input selector" Rch input 2	48	FIL1_L	Lch Treble filter terminal
17	L3IN	"Input selector" Lch input 3	49	LOUT	Lch output
18	R3IN	"Input selector" Rch input 3	50	ROUT	Rch output
19	L4IN	"Input selector" Lch input 4	51	COUT	Cch output
20	R4IN	"Input selector" Rch input 4	52	SLOUT	SLch output
21	L5IN	"Input selector" Lch input 5	53	SROUT	SRch output
22	R5IN	"Input selector" Rch input 5	54	SWOUT	SWch output
23	L6IN	"Input selector" Lch input 6	55	V+	+ Power supply voltage input
24	R6IN	"Input selector" Rch input 6	56	GND	Ground
25	L7IN	"Input selector" Lch input 7	57	V-	- Power supply voltage input
26	R7IN	"Input selector" Rch input 7	58	RECL1	"Input selector" Lch REC output 1
27	L8IN	"Input selector" Lch input 8	59	RECR1	"Input selector" Rch REC output 1
28	R8IN	"Input selector" Rch input 8	60	RECL2	"Input selector" Lch REC output 2
29	DATA	Control data signal input	61	RECR2	"Input selector" Rch REC output 2
30	CLOCK	Clock signal input	62	RECL3	"Input selector" Lch REC output 3
31	LATCH	Latch signal input	63	RECR3	"Input selector" Rch REC output 3
32	LAIN	Multi-channel Lch input A	64	FIL1_R	Rch Treble filter terminal

OPERATIONAL AMPLIFIER IC

(OPA2134UA) : IC26

(NJM2068M) : IC22,IC25,IC28

(TL3472IDR) : IC41

BLOCK DIAGRAM

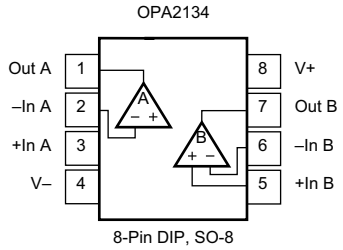
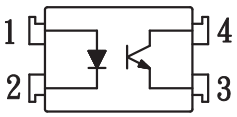


PHOTO COUPLER(KP1010B) : IC24

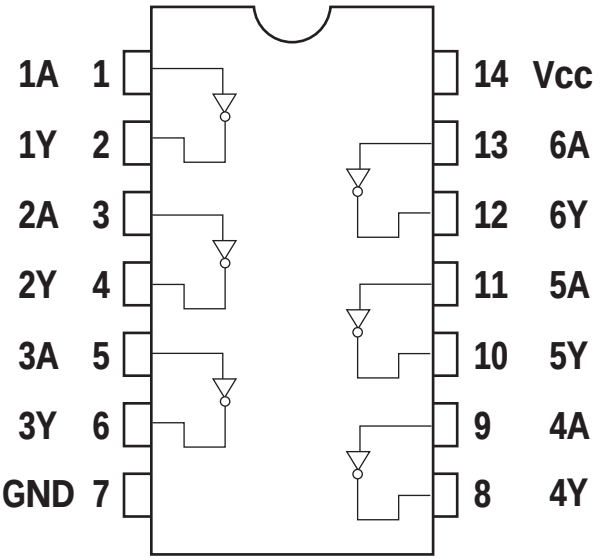
Schematic : Top View



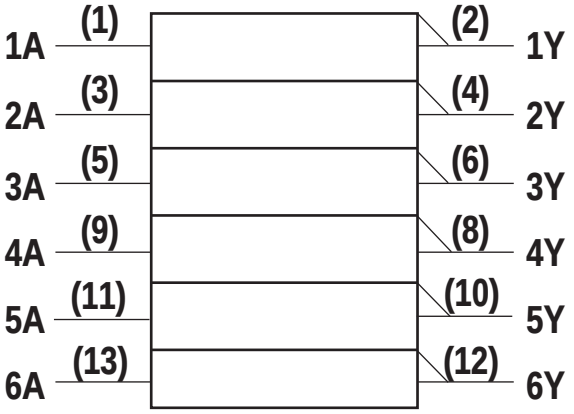
1. Anode
2. Cathode
3. Emitter
4. Collector

INVERTER IC (TC74HCU04AFN) : IC23

PIN ASSIGNMENT



LOGIC SYMBOL

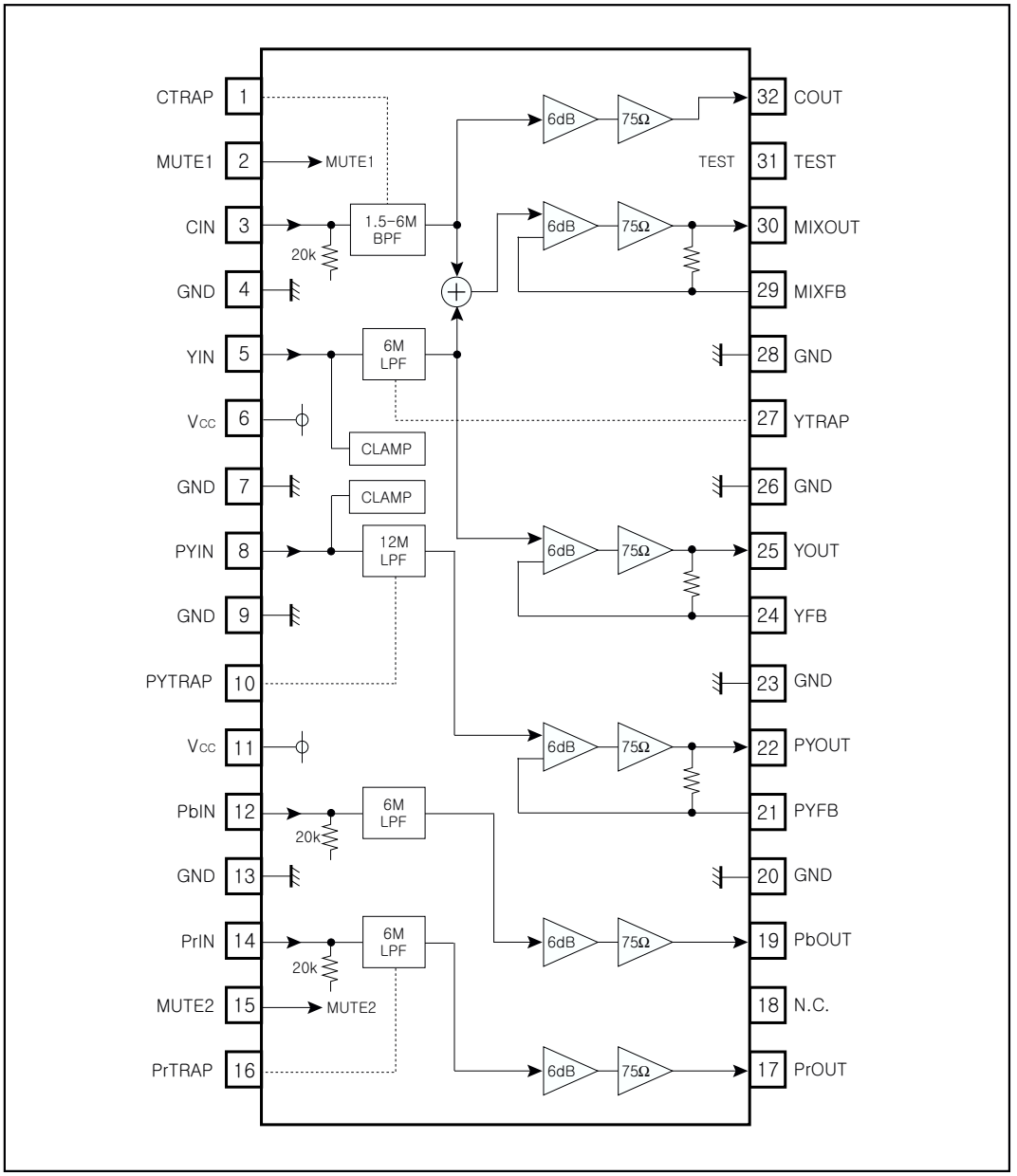


TRUTH TABLE

A	Y
L	H
H	L

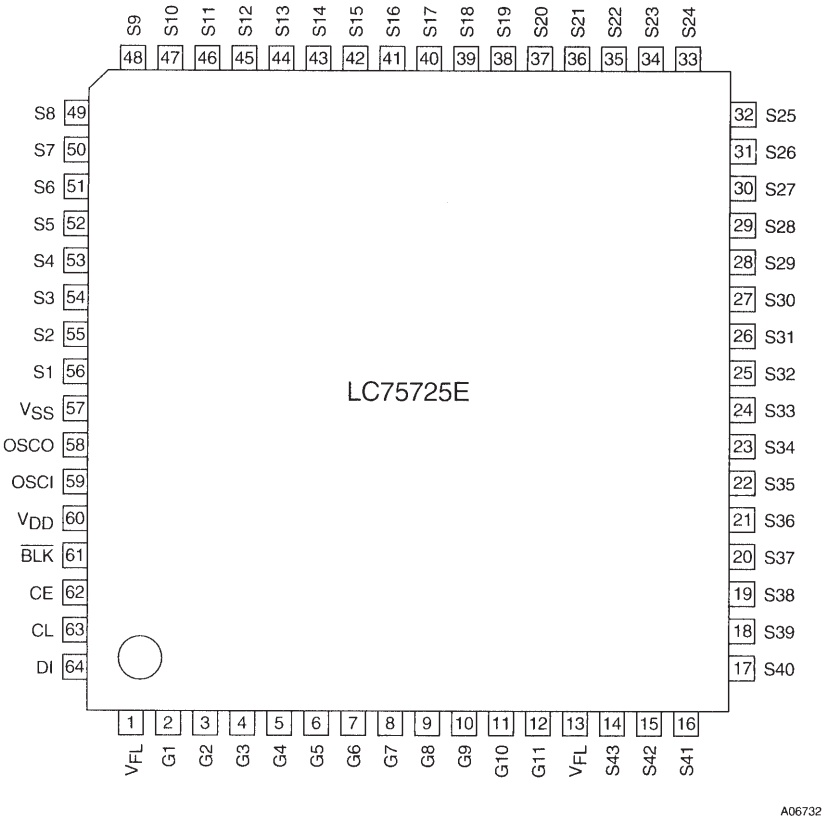
6-channel Video Driver IC (BH7862FS) : IC44

BLOCK DIAGRAM

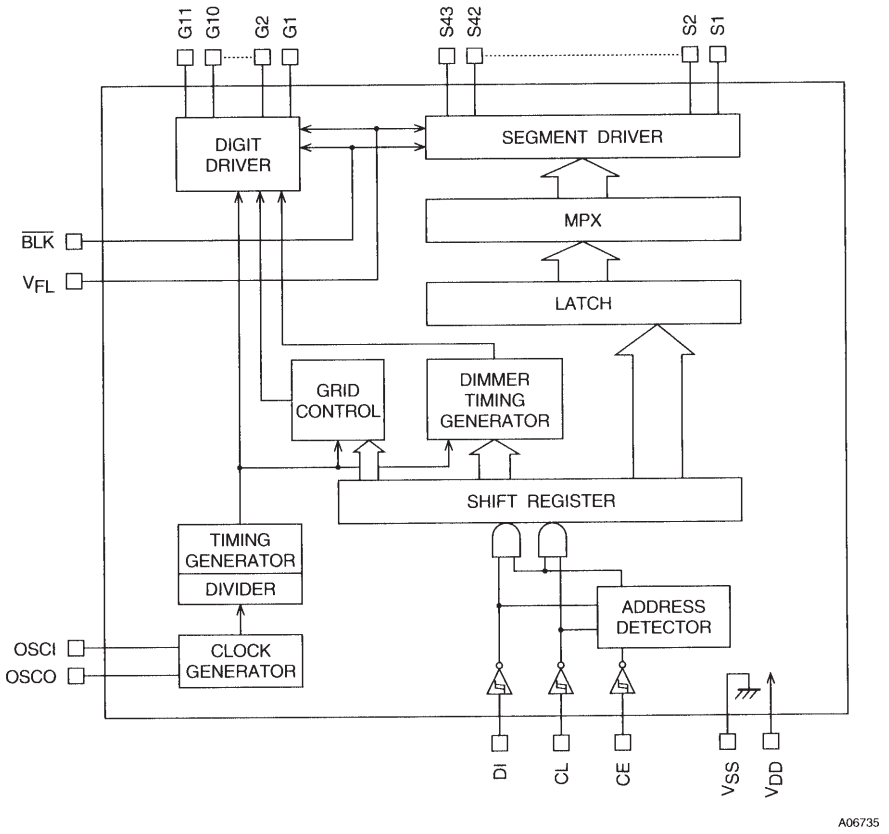


VFL DRIVER IC (LC75725E) : IC91

Pin Assignment



Block Diagram



Pin Functions

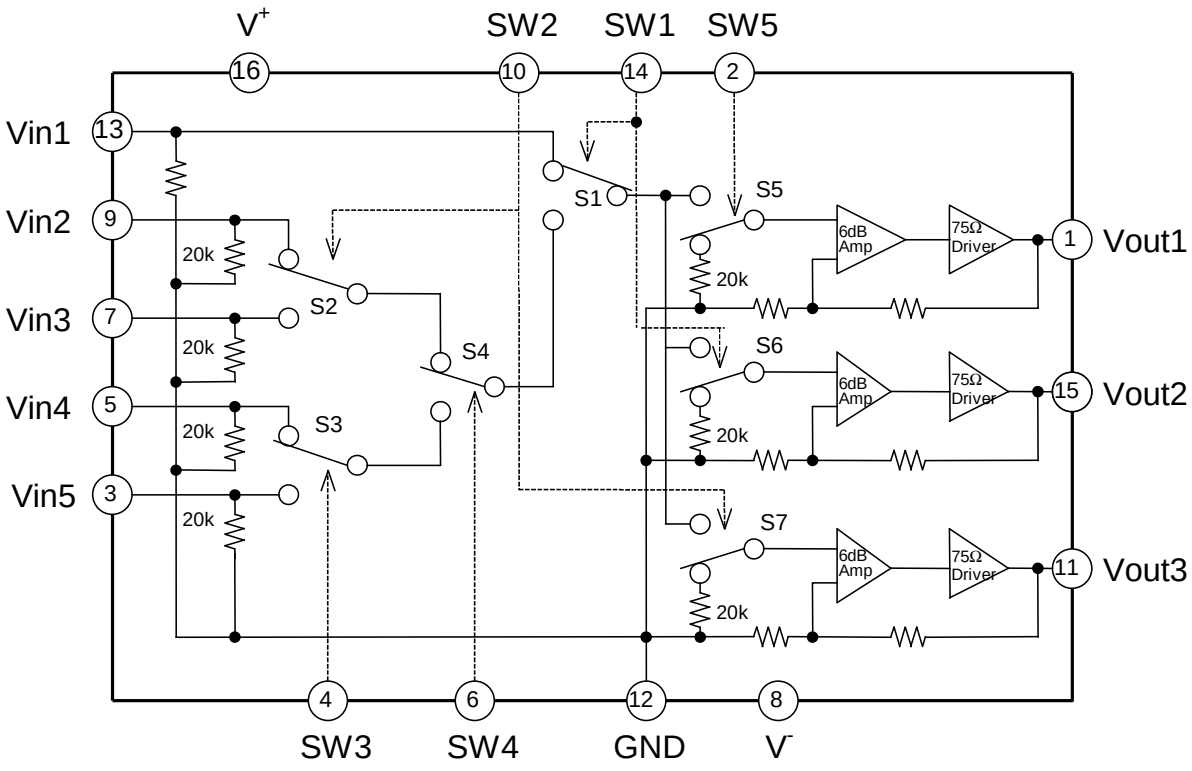
Pin	Pin No.	Function	I/O	Handling when unused
V_{FL}	1, 13	Driver block power supply connection. (Both pins must be connected.)	—	—
V_{DD}	60	Logic block power supply connection. Provide a voltage between 4.5 and 5.5 V.	—	—
V_{SS}	57	Power supply connection. Connect to the ground.	—	—
OSCI	59	Oscillator connection. An oscillator circuit is formed by connecting an external resistor and capacitor to these pins.	I	GND
OSCO	58		O	OPEN
$\overline{BLK}$	61	Display off control input. $\overline{BLK}$ = Low (V_{SS}) ... Display off. (S1 to S43 and G1 to G11 at V_{FL} level.) $\overline{BLK}$ = 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

VIDEO SW IC (NJM2595) : IC80,IC81,IC82

5-INPUT 3-OUTPUT VIDEO SWITCH

- FEATURES
  - 5-input 3-output
  - Operating Voltage ±4.0 to ±6.5V
  - Operating current ±15mAtyp. at Vcc=±5V
  - Crosstalk -65dBtyp.
  - Internal 6dB Amplifier
  - Internal 75Ω Driver
  - Bipolar Technology
  - Package Outline DIP16,DMP16

- PIN CONFIGURATION and BLOCK DIAGRAM



VIDEO SW IC(PI5V330) : IC88

Low On-Resistance Wideband/Video Quad 2-Channel Mux/DeMux

Features

- High-performance solution to switch between video sources
- Wide bandwidth: 200 MHz
- Low On-Resistance: 3Ω
- Low crosstalk at 10 MHz: –58dB
- Ultra-low quiescent power (0.1µA typical)
- Single supply operation: +5.0V
- Fast switching: 10ns
- High-current output: 100mA
- Packaging (Pb-free & Green Available):
  – 16-pin 300-mil wide plastic SOIC (S)
  – 16-pin 150-mil wide plastic SOIC (W)
  – 16-pin 150-mil wide plastic QSOP (Q)

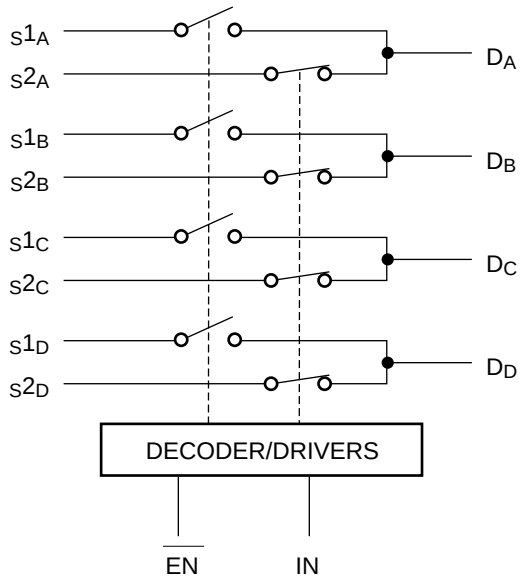
Description

Pericom Semiconductor's PI5V330 is a true bidirectional Quad 2-channel multiplexer/demultiplexer recommended for both RGB and composite video switching applications. The video switch can be driven from a current output RAMDAC or voltage output composite video source.

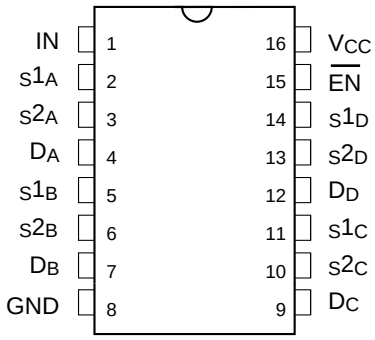
Low On-Resistance and wide bandwidth make it ideal for video and other applications. Also this device has exceptionally high current capability which is far greater than most analog switches offered today. A single 5V supply is all that is required for operation.

The PI5V330 offers a high-performance, low-cost solution to switch between video sources. The application section describes the PI5V330 replacing the HC4053 multiplier and buffer/amplifier.

Block Diagram



Pin Configuration



Truth Table

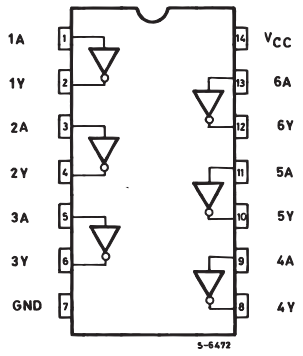
$\overline{EN}$	IN	ON Switch
0	0	$S1_A$, $S1_B$, $S1_C$, $S1_D$
0	1	$S2_A$, $S2_B$, $S2_C$, $S2_D$
1	X	Disabled

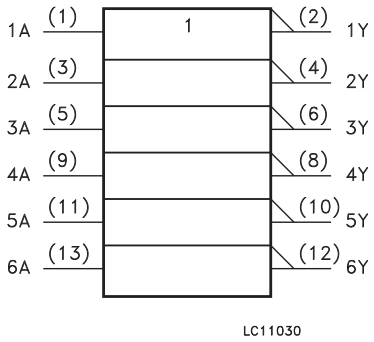
Pin Description

Pin Name	Description
$S1_A$, $S1_B$, $S1_C$, $S1_D$ $S2_A$, $S2_B$, $S2_C$, $S2_D$	Analog Video I/O
IN	Select Input
$\overline{EN}$	Enable
D_A, D_B D_C, D_D	Analog Video I/O
GND	Ground
V_{CC}	Power

HEX INVERTER (74ACT04) : IC36,IC39

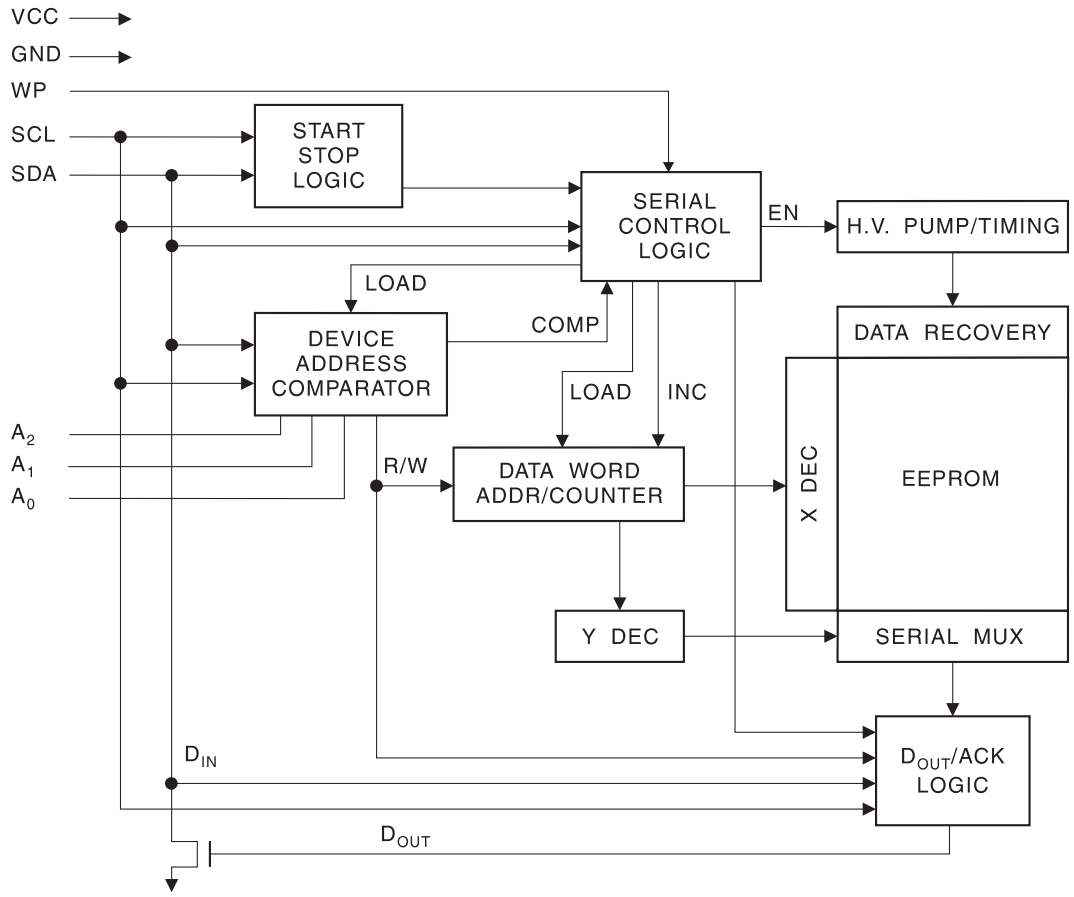
PIN CONNECTION AND IEC LOGIC SYMBOLS





SERIAL EEPROM (ATC2408) : IC34

Block Diagram



Pin Description

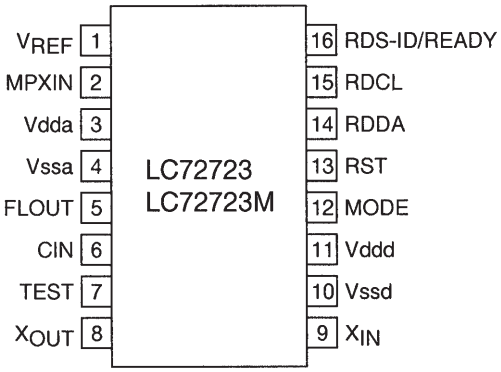
SERIAL CLOCK (SCL): The SCL input is used to positive edge clock data into each EEPROM device and negative edge clock data out of each device.

SERIAL DATA (SDA): The SDA pin is bidirectional for serial data transfer. This pin is open-drain driven and may be wire-ORed with any number of other open-drain or open-collector devices.

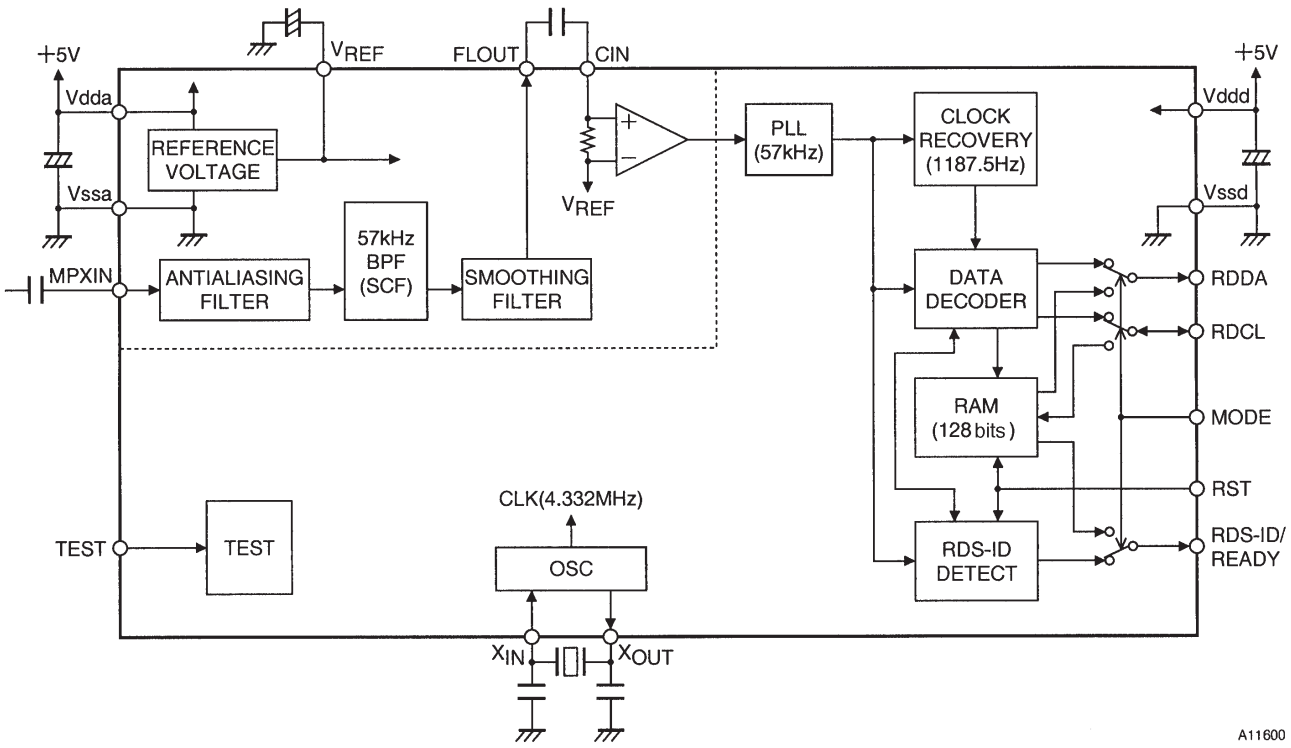
DEVICE/PAGE ADDRESSES (A2, A1, A0): The A2, A1 and A0 pins are device address inputs that are hard wired for the AT24C01A and the AT24C02. As many as eight 1K/2K devices may be addressed on a single bus system (device addressing is discussed in detail under the Device Addressing section).

RDS DEMODULATION IC(LC72723M) : IC29

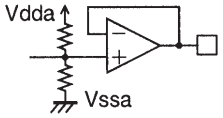
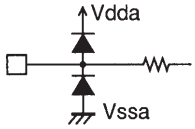
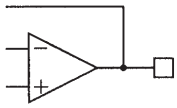
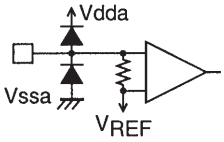
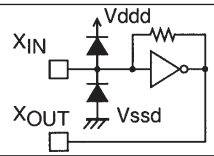
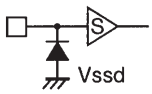
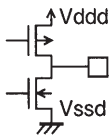
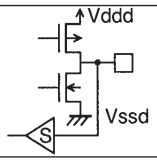
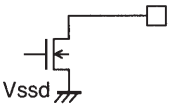
Pin Assignment



Block Diagram

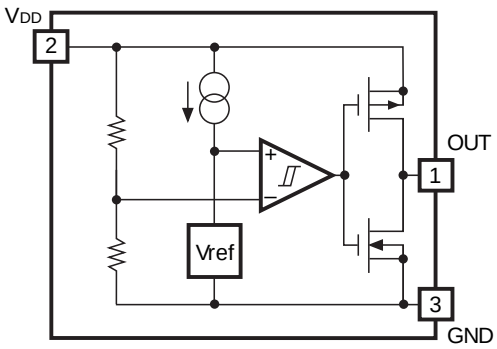


Pin Descriptions

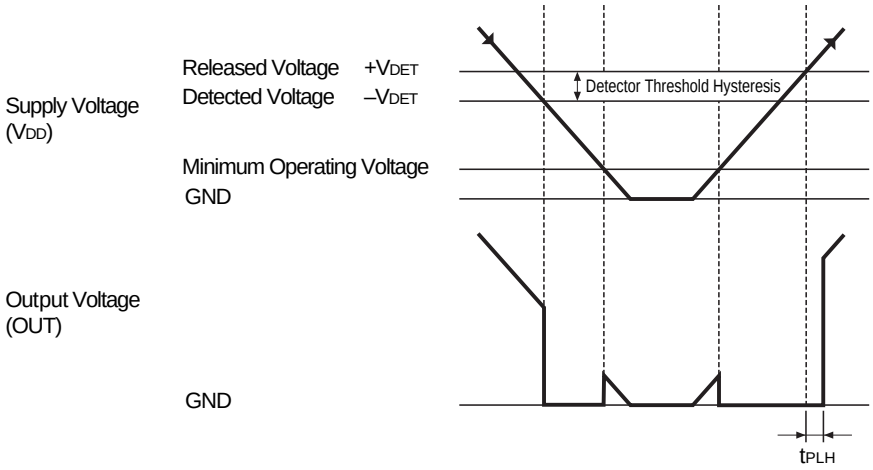
Pin No.	Pin	Function	I/O	Pin circuit type
1	VREF	Reference voltage output (Vdda/2)	Output	
2	MPXIN	Base band (multiplex) signal input	Input	
5	FLOUT	Subcarrier output (filter output)	Output	
6	CIN	Subcarrier input (comparator input)	Input	
3	Vdda	Analog system power supply (+5 V)	—	—
4	Vssa	Analog system ground	—	—
8	XOUT	Crystal element output (4.332 MHz)	Output	
9	XIN	Crystal element input (or external reference signal input)	Input	
7	TEST	Test input		
12	MODE	Readout mode setting (0: master, 1: slave)		
13	RST	RDS ID and RAM reset (Active high logic)		
14	RDDA	RDS data output	Output	
15	RDCL	RDS clock output (master mode) RDS clock input (slave mode)	I/O	
16	RDS-ID/READY	RDS ID/ready output (Active low)	Output	
11	Vddd	Digital system power supply (+5 V)	—	—
10	Vssd	Digital system ground	—	—

RESET IC(RH5VT18C) : IC31

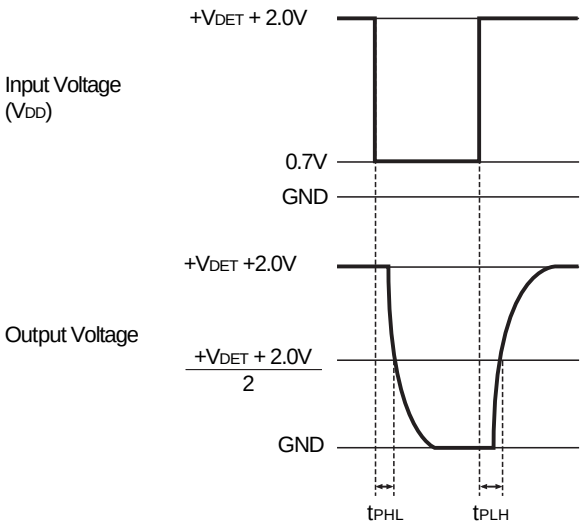
BLOCK DIAGRAMS



TIME CHART

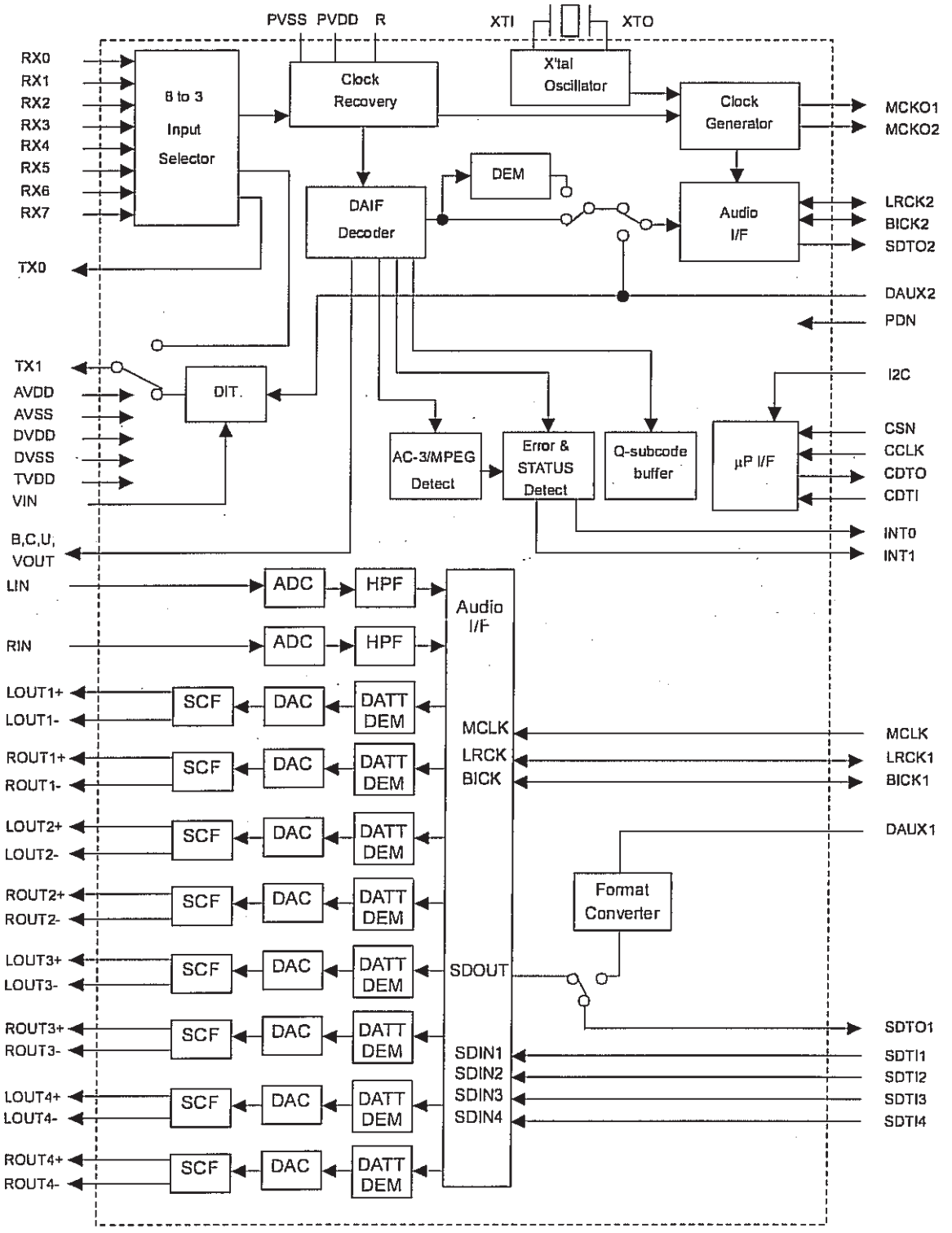


DEFINITION OF OUTPUT DELAY TIME t_{PLH}



CODEC+DIR (AK4589) : IC34

BLOCK DIAGRAM



PIN DESCRIPTION

PIN/FUNCTION			
No.	Pin Name	I/O	Function
1	INT1	O	Interrupt 1 Pin
2	BOUT	O	Block-Start Output Pin for Receiver Input "H" during first 40 flames.
3	TVDD	-	Output Buffer Power Supply Pin, 2.7V~5.25V
4	DVDD	-	Digital Power Supply Pin, 4.75V~5.25V
5	DVSS	-	Digital Ground Pin
6	XTO	O	X'tal Output Pin
7	XTI	I	X'tal Input Pin
8	TEST3	I	Test 3 Pin This pin should be connected to DVSS.
9	MCKO2	O	Master Clock Output 2 Pin
10	MCKO1	O	Master Clock Output 1 Pin
11	COUT	O	C-bit Output Pin for Receiver Input
12	UOUT	O	U-bit Output Pin for Receiver Input
13	VOUT	O	V-bit Output Pin for Receiver Input
14	SDTO2	O	Audio Serial Data Output Pin (DIR/DIT part)
15	BICK2	I/O	Audio Serial Data Clock Pin (DIR/DIT part)
16	LRCK2	I/O	Channel Clock Pin (DIR/DIT part)
17	SDTO1	O	Audio Serial Data Output Pin (ADC/DAC part)
18	BICK1	I/O	Audio Serial Data Clock Pin (ADC/DAC part)
19	LRCK1	I/O	Input Channel Clock Pin
20	CDTO	O	Control Data Output Pin in Serial Mode, I2C= "L".
21	CCLK	I	Control Data Clock Pin in Serial Mode, I2C= "L"
	SCL	I	Control Data Clock Pin in Serial Mode, I2C= "H"
22	CDTI	I	Control Data Input Pin in Serial Mode, I2C= "L".
	SDA	I/O	Control Data Pin in Serial Mode, I2C= "H".
23	CSN	I	Chip Select Pin in Serial Mode, I2C= "L".
		I	This pin should be connected to DVSS, I2C= "H".
24	DAUX1	I	AUX Audio Serial Data Input Pin (ADC/DAC part)
25	SDTI4	I	DAC4 Audio Serial Data Input Pin
26	SDTI3	I	DAC3 Audio Serial Data Input Pin
27	SDTI2	I	DAC2 Audio Serial Data Input Pin
28	SDTI1	I	DAC1 Audio Serial Data Input Pin
29	XTL1	I	X'tal Frequency Select 0 Pin
30	XTL0	I	X'tal Frequency Select 1 Pin

PIN DESCRIPTION

No.	Pin Name	I/O	Function	
31	PDN	I	Power-Down Mode Pin When "L", the AK4589 is powered-down, all digital output pins go "L", all registers are reset. When CAD1/0 pins are changed, the AK4589 should be reset by PDN pin.	
32	MASTER	I	Master Mode Select Pin "H": Master mode, "L": Slave mode	
33	DZF2	O	Zero Input Detect 2 Pin (Table 13) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H". And when RSTN bit is "0", PWDAN bit is "0", this pin goes to "H". It always is in "L" when P/S pin is "H".	
	OVF	O	Analog Input Overflow Detect Pin This pin goes to "H" if the analog input of Lch or Rch overflows.	
34	DZF1	O	Zero Input Detect 1 Pin (Table 13) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H". And when RSTN bit is "0", PWDAN bit is "0", this pin goes to "H". Output is selected by setting DZFE pin when P/S pin is "H".	
35	LOUT4-	O	DAC4 Lch Negative Analog Output Pin	470pF capacitor should be connected between LOUT4- and LOUT4+.
36	LOUT4+	O	DAC4 Lch Positive Analog Output Pin	
37	ROUT4-	O	DAC4 Rch Negative Analog Output Pin	470pF capacitor should be connected between ROUT4- and ROUT4+.
38	ROUT4+	O	DAC4 Rch Positive Analog Output Pin	
39	LOUT3-	O	DAC3 Lch Negative Analog Output Pin	470pF capacitor should be connected between LOUT3- and LOUT3+.
40	LOUT3+	O	DAC3 Lch Positive Analog Output Pin	
41	ROUT3-	O	DAC3 Rch Negative Analog Output Pin	470pF capacitor should be connected between ROUT3- and ROUT3+.
42	ROUT3+	O	DAC3 Rch Positive Analog Output Pin	
43	LOUT2-	O	DAC2 Lch Negative Analog Output Pin	470pF capacitor should be connected between LOUT2- and LOUT2+.
44	LOUT2+	O	DAC2 Lch Positive Analog Output Pin	
45	ROUT2-	O	DAC2 Rch Negative Analog Output Pin	470pF capacitor should be connected between ROUT2- and ROUT2+.
46	ROUT2+	O	DAC2 Rch Positive Analog Output Pin	
47	LOUT1-	O	DAC1 Lch Negative Analog Output Pin	470pF capacitor should be connected between LOUT1- and LOUT1+.
48	LOUT1+	O	DAC1 Lch Positive Analog Output Pin	
49	ROUT1-	O	DAC1 Rch Negative Analog Output Pin	470pF capacitor should be connected between ROUT1- and ROUT1+.
50	ROUT1+	O	DAC1 Rch Positive Analog Output Pin	
51	LIN	I	Lch Analog Input Pin	
52	RIN	I	Rch Analog Input Pin	
53	VCOM	-	Common Voltage Output Pin 2.2μF capacitor should be connected to AVSS externally.	
54	VREFH	-	Positive Voltage Reference Input Pin, AVDD	

PIN DESCRIPTION

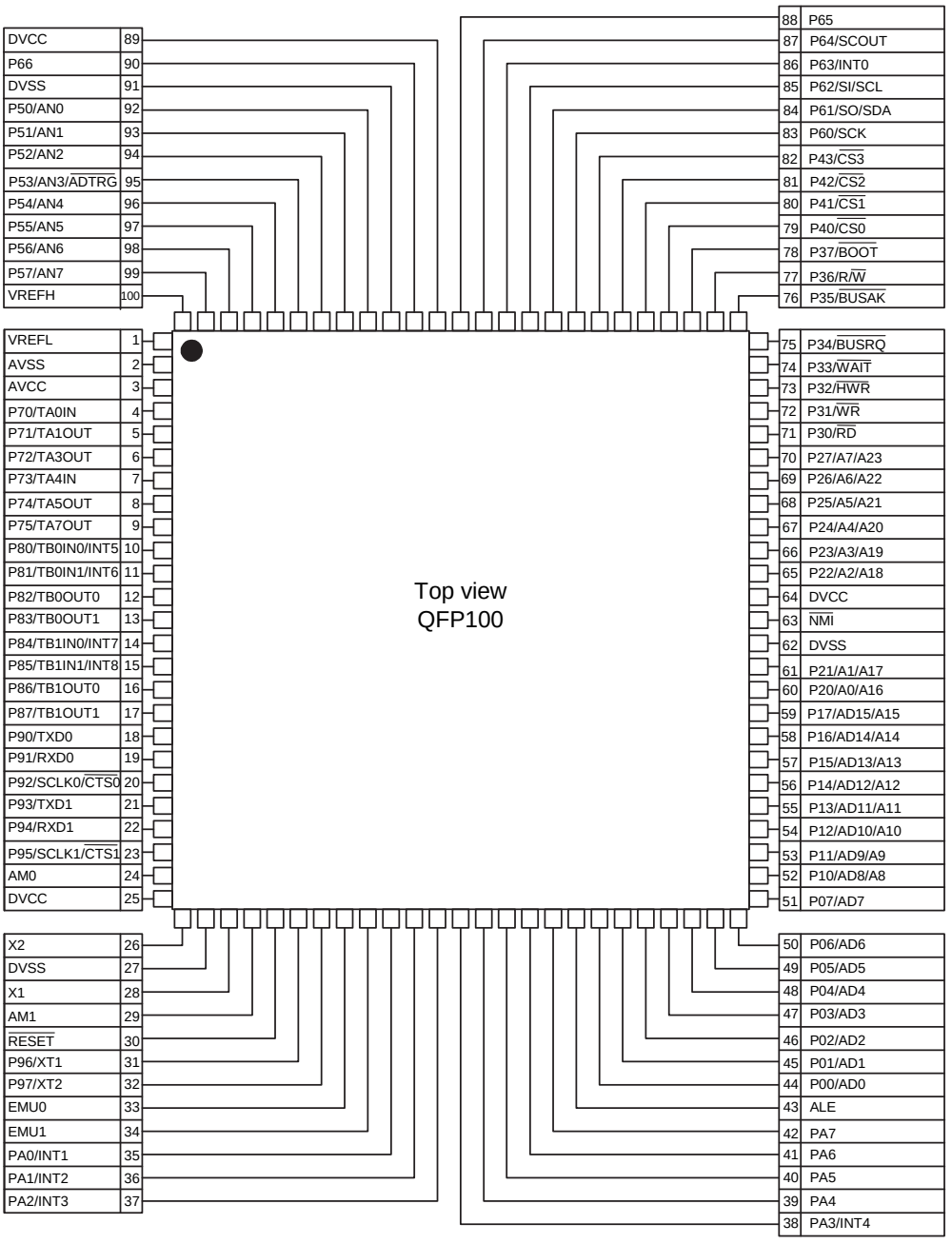
No.	Pin Name	I/O	Function
55	AVDD	-	Analog Power Supply Pin, 4.75V~5.25V
56	AVSS	-	Analog Ground Pin, 0V
57	RX0	I	Receiver Channel 0 Pin (Internal biased pin. Internally biased at PVDD/2)
58	NC	-	No Connect pin No internal bonding. This pin should be connected to PVSS.
59	RX1	I	Receiver Channel 1 Pin (Internal biased pin. Internally biased at PVDD/2)
60	TEST1	I	Test 1 Pin This pin should be connected to PVSS.
61	RX2	I	Receiver Channel 2 Pin (Internal biased pin. Internally biased at PVDD/2)
62	NC	-	No Connect pin No internal bonding. This pin should be connected to PVSS.
63	RX3	I	Receiver Channel 3 Pin (Internal biased pin. Internally biased at PVDD/2)
64	PVSS	-	PLL Ground pin
65	R	-	External Resistor Pin 12kΩ +/-1% resistor should be connected to PVSS externally.
66	PVDD	-	PLL Power supply Pin, 4.75V~5.25V
67	RX4	I	Receiver Channel 4 Pin (Internal biased pin. Internally biased at PVDD/2)
68	TEST2	I	Test 2 Pin This pin should be connected to PVSS.
69	RX5	I	Receiver Channel 5 Pin (Internal biased pin. Internally biased at PVDD/2)
70	CAD0	I	Chip Address 0 Pin (ADC/DAC part)
71	RX6	I	Receiver Channel 6 Pin (Internal biased pin. Internally biased at PVDD/2)
72	CAD1	I	Chip Address 1 Pin (ADC/DAC part)
73	RX7	I	Receiver Channel 7 Pin (Internal biased pin. Internally biased at PVDD/2)
74	I2C	I	Control Mode Select Pin. "L": 4-wire Serial, "H": I^2C Bus
75	DAUX2	I	Auxiliary Audio Data Input Pin (DIR/DIT part)
76	VIN	I	V-bit Input Pin for Transmitter Output
77	MCLK	I	Master Clock Input Pin
78	TX0	O	Transmit Channel (Through Data) Output 0 Pin
79	TX1	O	Transmit Channel Output1 pin When DIT bit = "0", Through Data. When DIT bit = "1", DAUX2 Data.
80	INT0	O	Interrupt 0 Pin

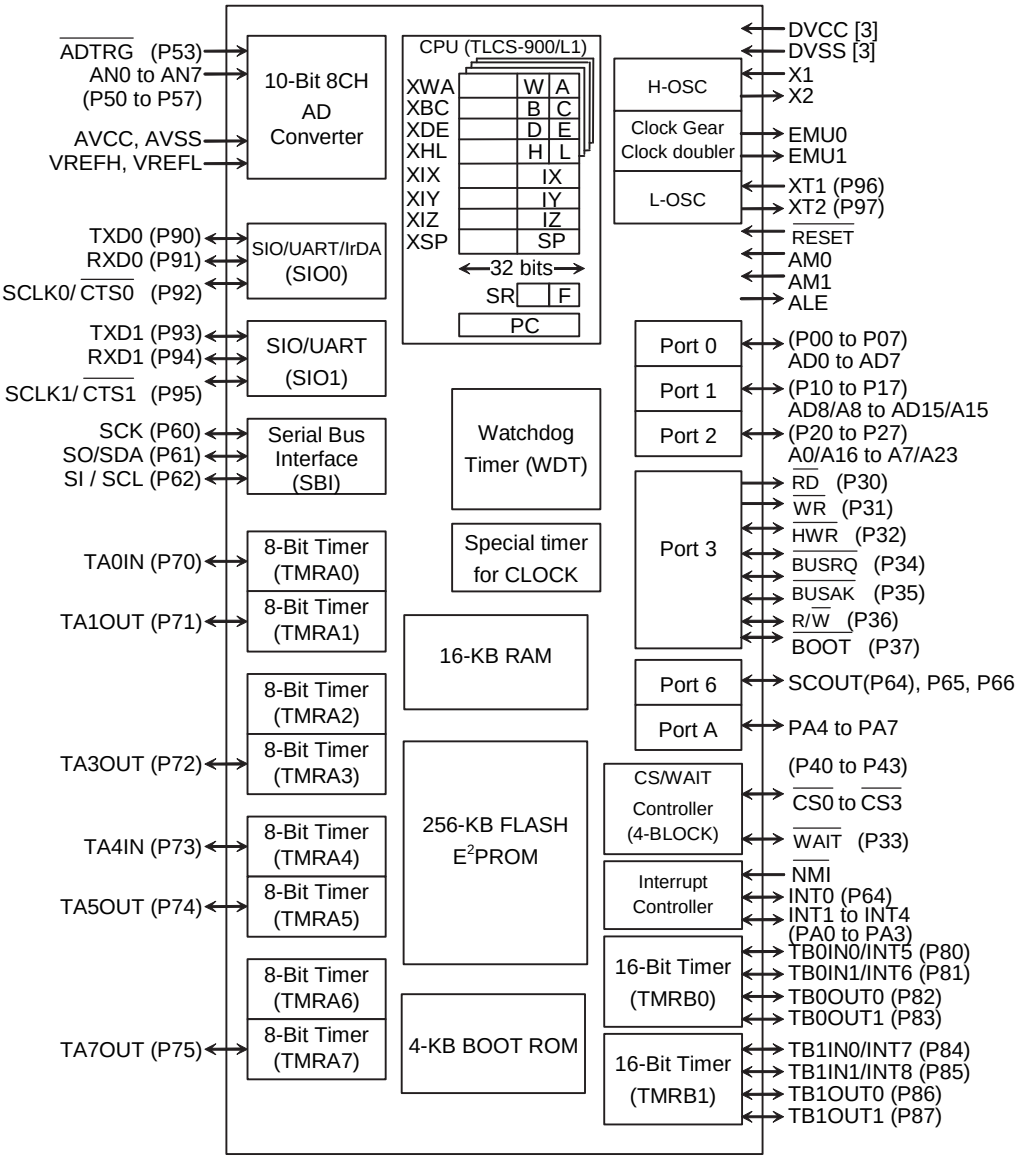
MCU(T5CC1) : IC30

Pin Assignment and Pin Functions

The assignment of input/output pins for the T5CC1, their names and functions are as follows:

PIN ASSIGNMENT





( ): Initial function after reset

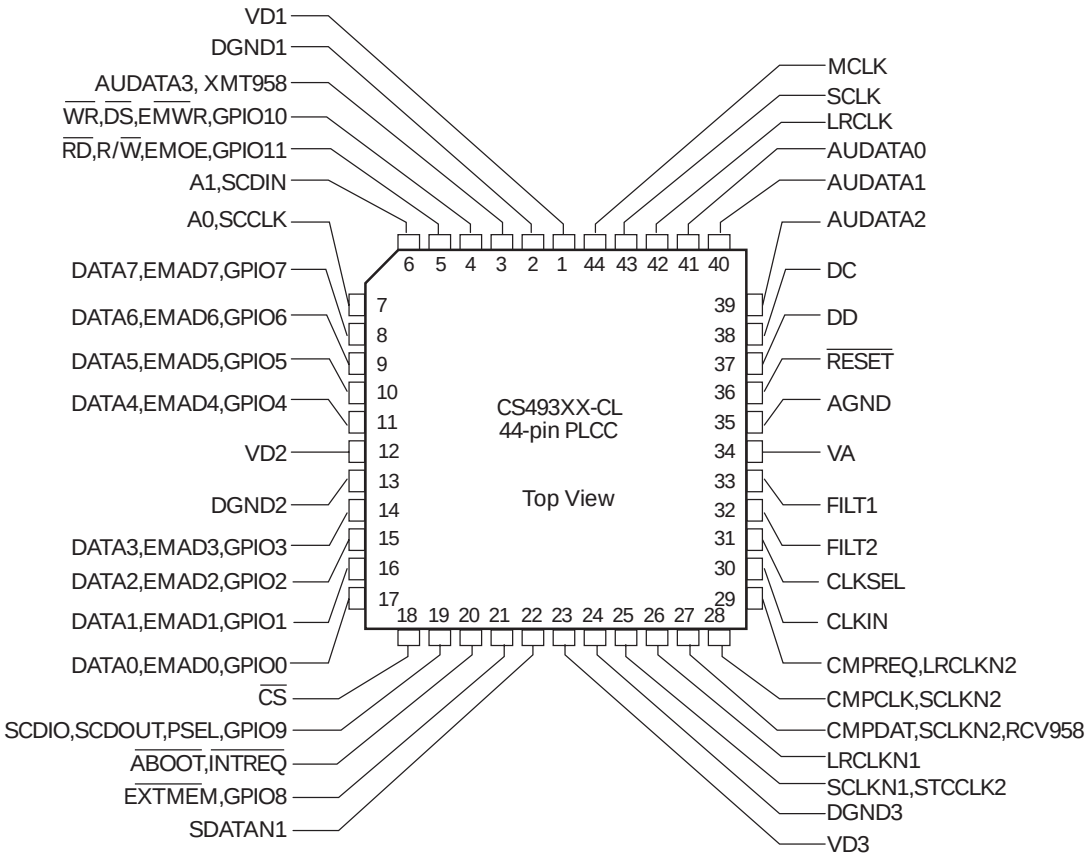
PIN DESCRIPTION

FUNCTION	MCU NAME	CONTROL VOLTAGE	T5CC1 PIN NUMBER	DATA FORMAT	ACTIVE	INPUT OUPUT
DSP+CODEC (CS493264+AK4589)	DSP_INTREQ	+3.3V	60	Serial Data	Serial Data	INPUT
	DSP_CS	+3.3V-->2.5V	67	Serial Data	Serial Data	OUTPUT
	DSP_CODEC_DO	+3.3V	19	Serial Data	Serial Data	INPUT
	DSP_CODEC_CLK	+3.3V->2.5V	20	Serial Data	Serial Data	OUTPUT
	DSP_CODEC_DATA	+3.3V->2.5V	18	Serial Data	Serial Data	OUTPUT
	DSP_RESET	+3.3V->2.5V	61	Serial Data	Serial Data	OUTPUT
	CODEC_CS	+3.3V	65	Serial Data	Serial Data	OUTPUT
	CODEC_RESET	+3.3V	66	Serial Data	Serial Data	OUTPUT
EEPROM(AT24C08)	EP_SCL	+3.3V	54	I2C CLOCK	Serial Data	OUTPUT
	EP_SDA	+3.3V	53	I2C DATA	Serial Data	IN/OUTPUT
VFD DRIVER IC (LC75725)	VFD_CS	+3.3V-->+5.0V	7	Serial Data	Serial Data	OUTPUT
	VFD_CLK	+3.3V-->+5.0V	5	Serial Data	Serial Data	OUTPUT
	VFD_DATA	+3.3V-->+5.0V	4	Serial Data	Serial Data	OUTPUT
	VFD_BLK	+3.3V-->+5.0V	6	Serial Data	Serial Data	OUTPUT
VOLUME IC(NJW1153)	EVOL_CE	+3.3V	70	High / Low	High	OUTPUT
	EVOL_CLK	+3.3V	71	High / Low	High	OUTPUT
	EVOL_DATA	+3.3V	72	High / Low	High	OUTPUT
KEY CONTROL	KEY_IN1	+3.3V	94	High / Low	High / Low	INPUT
	KEY_IN2	+3.3V	93	High / Low	High / Low	INPUT
	JOG A1 (VOL-UP)	+3.3V	97	High / Low	High / Low	INPUT
	JOG A1 (VOL-DOWN)	+3.3V	98	High / Low	High / Low	INPUT
MUTE	FUNCTION_MUTE	+3.3V	9	High / Low	LOW	OUTPUT
	SCART_AUDIO_MUTE	+3.3V	86	High / Low	LOW	OUTPUT
	VIDEO_MUX_ENABLE	+3.3V	87	High / Low	LOW	OUTPUT
	POWER_MUTE	+3.3V	17	High / Low	LOW	OUTPUT
	VCR REC_MUTE	+3.3V	90	High / Low	LOW	OUTPUT
MPEG(ZR36778)	DVD_RESET(HOST OUT)	+3.3V	73	Serial Data	Serial Data	OUTPUT
	DVD_DATA(HOST OUT))	+3.3V	84	Serial Data	Serial Data	OUTPUT
	DVD_DATA(MPEG OUT)	+3.3V	85	Serial Data	Serial Data	INPUT
	DVD_CS(MPEG OUT)	+3.3V	15	Serial Data	Serial Data	INPUT
	DVD_CLK(MPEG OUT)	+3.3V	83	Serial Data	Serial Data	INPUT
	DVD_CS(HOST OUT)	+3.3V	79	Serial Data	Serial Data	OUTPUT
	DVD_POWER_ON(SW)	+3.3V	81	High / Low	HIGH	OUTPUT
	DVD_FAN	+3.3V	80	High / Low	HIGH	OUTPUT
TUNER (KSTMB014MA18)	RDS_DATA	+5.0V-->+3.3V	36	Serial Data	Serial Data	INPUT
	RDS_CLK	+5.0V-->+3.3V	37	Serial Data	Serial Data	INPUT
	TUNER_MUTE	+3.3V-->+5.0V	46	High / Low	High	OUTPUT
	PLL_CE	+3.3V-->+5.0V	39	Serial Data	Serial Data	OUTPUT
	PLL_DATA(HOST DATA OUT)	+3.3V-->+5.0V	40	Serial Data	Serial Data	OUTPUT
	PLL_CLK	+3.3V-->+5.0V	41	Serial Data	Serial Data	OUTPUT
	PLL_DOUT(HOST DATA IN)	+5.0V-->+3.3V	42	Serial Data	Serial Data	INPUT
	TUNED	+5.0V-->+3.3V	45	High/ Low	LOW	INPUT
	STEREO	+5.0V-->+3.3V	44	High/ Low	LOW	INPUT
VIDEO SW(NJW2295)	VIDEO_SW2	+3.3V	82	High / Low	High	OUTPUT
	VIDEO_SW3	+3.3V	77	High / Low	High	OUTPUT
	VIDEO_SW4	+3.3V	75	High / Low	High	OUTPUT
	VIDEO_SW1(=SW5)	+3.3V	76	High / Low	High	OUTPUT
UPDATE PART	UP_TX	+3.3V	21	Serial Data	Serial Data	OUTPUT
	UP_RX	+3.3V	22	Serial Data	Serial Data	INPUT
	RESET	+3.3V	30	High / Low	LOW	INPUT
	BOOT MODE	+3.3V	78	High / Low	LOW	INPUT
OPTION1	RDS ON / OFF	+3.3V	47	High / Low	LOW	INPUT
OPTION2	AM (9K/10K)	+3.3V	48	High / Low	LOW	INPUT
OPTION3	FM (50K/100K)	+3.3V	49	High / Low	LOW	INPUT
OPTION4	EUR / USA	+3.3V	50	High / Low	LOW	INPUT
SYSTEM	HP_IN	+3.3V	8	High / Low	HIGH	INPUT
	SPEAKER_ON	+3.3V	14	High / Low	HIGH	OUTPUT
	REMOTE_IN	+5.0V-->+3.3V	35	Serial Data	Serial Data	INPUT
	PROTECT_IN	+3.3V	12	High / Low	High	INPUT
	STBY_LED	+3.3V	88	High / Low	HIGH	OUTPUT
	POWER_ON1	+3.3V	10	High / Low	High	OUTPUT
MCU	OSC_OUT	27MHz	26			OUTPUT
	OSC_IN	27MHz	28			INPUT
	BACK UP	+3.3V	38			INPUT
RTC	OSC_OUT	32.768kHZ	31			OUTPUT
	OSC_IN	32.768kHZ	32			INPUT
GND			1,2,27,62,91			
VCC			3,24,25,63,64,89,100			
NC			11,13,16,23,29,33,34,43, 51,52,55,56,57,58,59,68, 69,74,92,95,96,99,			

AUDIO DSP (CS49326) : IC17

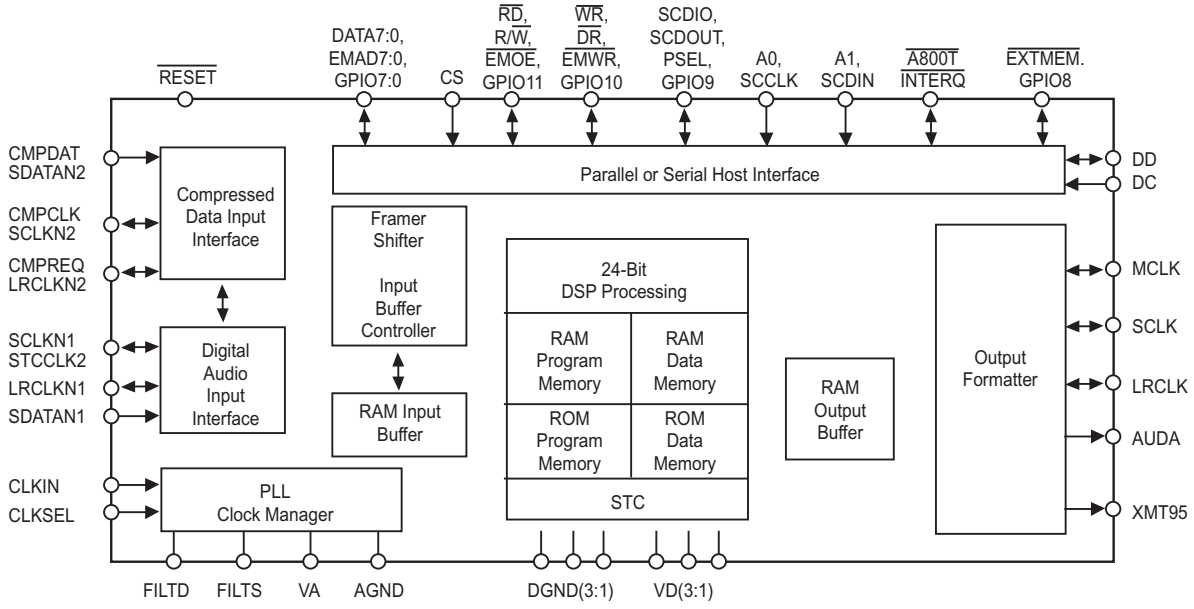
PIN No.	Pin Name	I/O	Function
1,12,23	+VD1	-	Digital Power supply. Normally +2.5v
2,13,24	DGND	-	Digital Ground
3	AUD3	O	SPDIF transmitter output/Digital audio output(N.C)
4	WR	I	Host write strobe pin(connected to GND with an external resistor)
5	RD	I	Host parallel output enable pin(pulled up with an 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.(CS493264)



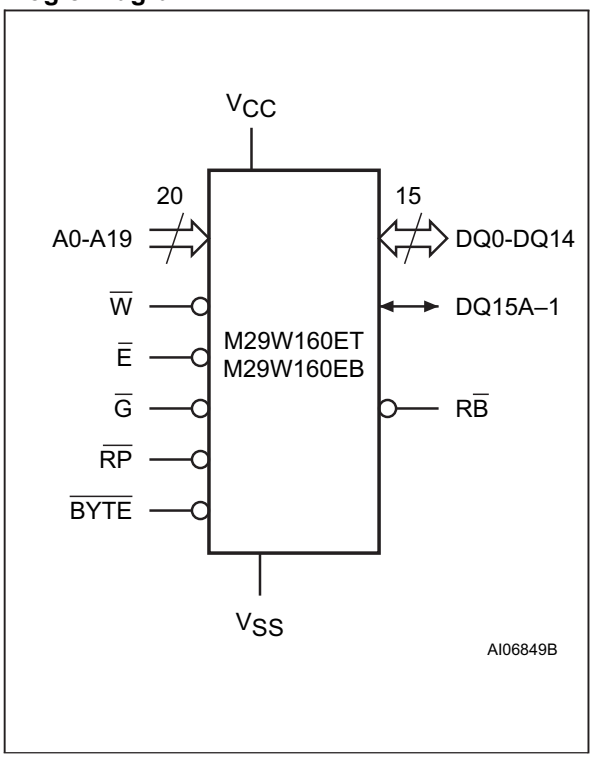
(TOP VIEW)

BLOCK DIAGRAM (CS493264)



Flash Memory (M29W160ET) : IC31

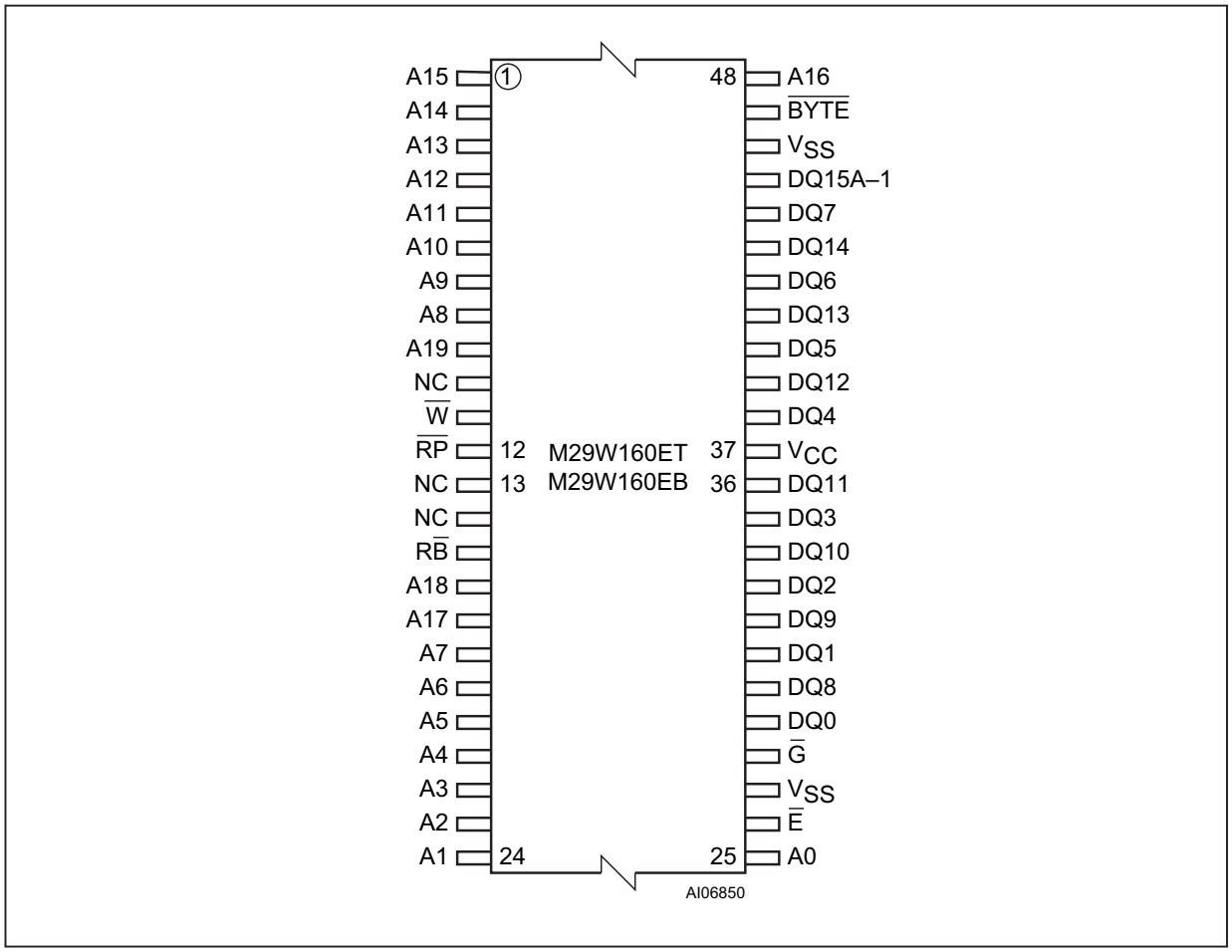
Logic Diagram



Signal Names

A0-A19	Address Inputs
DQ0-DQ7	Data Inputs/Outputs
DQ8-DQ14	Data Inputs/Outputs
DQ15A–1	Data Input/Output or Address Input
$\overline{E}$	Chip Enable
$\overline{G}$	Output Enable
$\overline{W}$	Write Enable
$\overline{RP}$	Reset/Block Temporary Unprotect
$R\overline{B}$	Ready/Busy Output
$\overline{BYTE}$	Byte/Word Organization Select
V_{CC}	Supply Voltage
V_{SS}	Ground
NC	Not Connected Internally

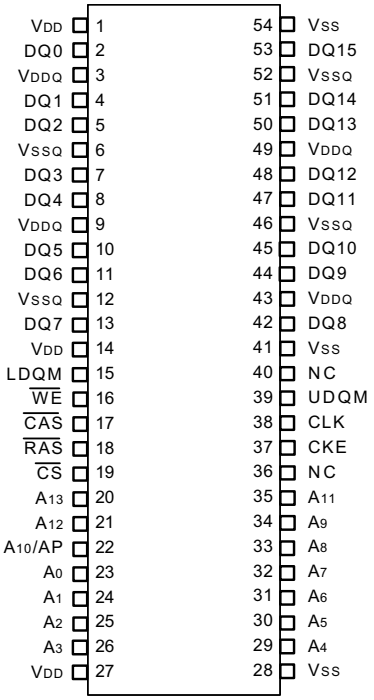
TSOP Connections



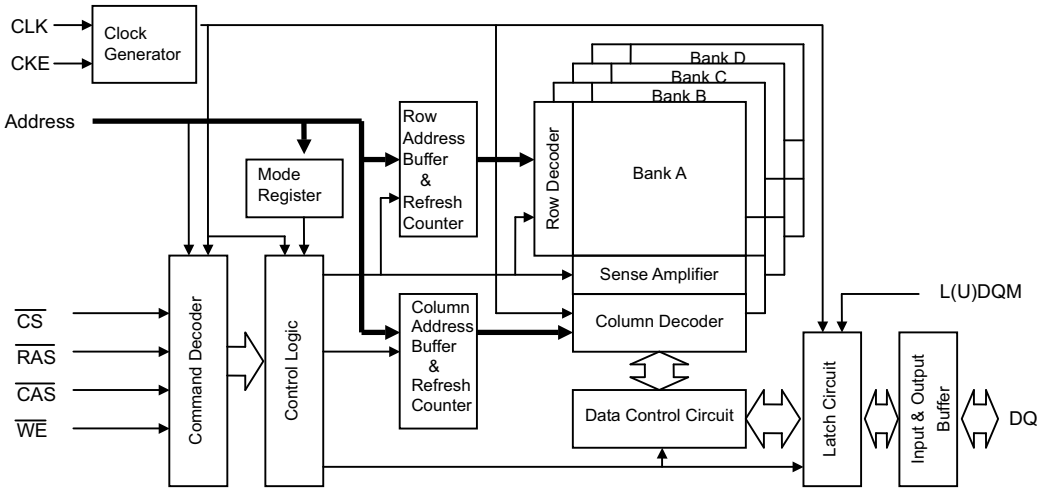
64M SDRAM (M12L64164A) : IC32

PIN ASSIGNMENT

Top View



FUNCTIONAL BLOCK DIAGRAM

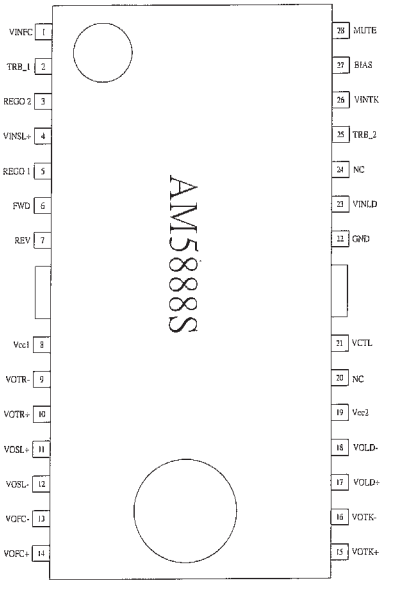


PIN FUNCTION DESCRIPTION

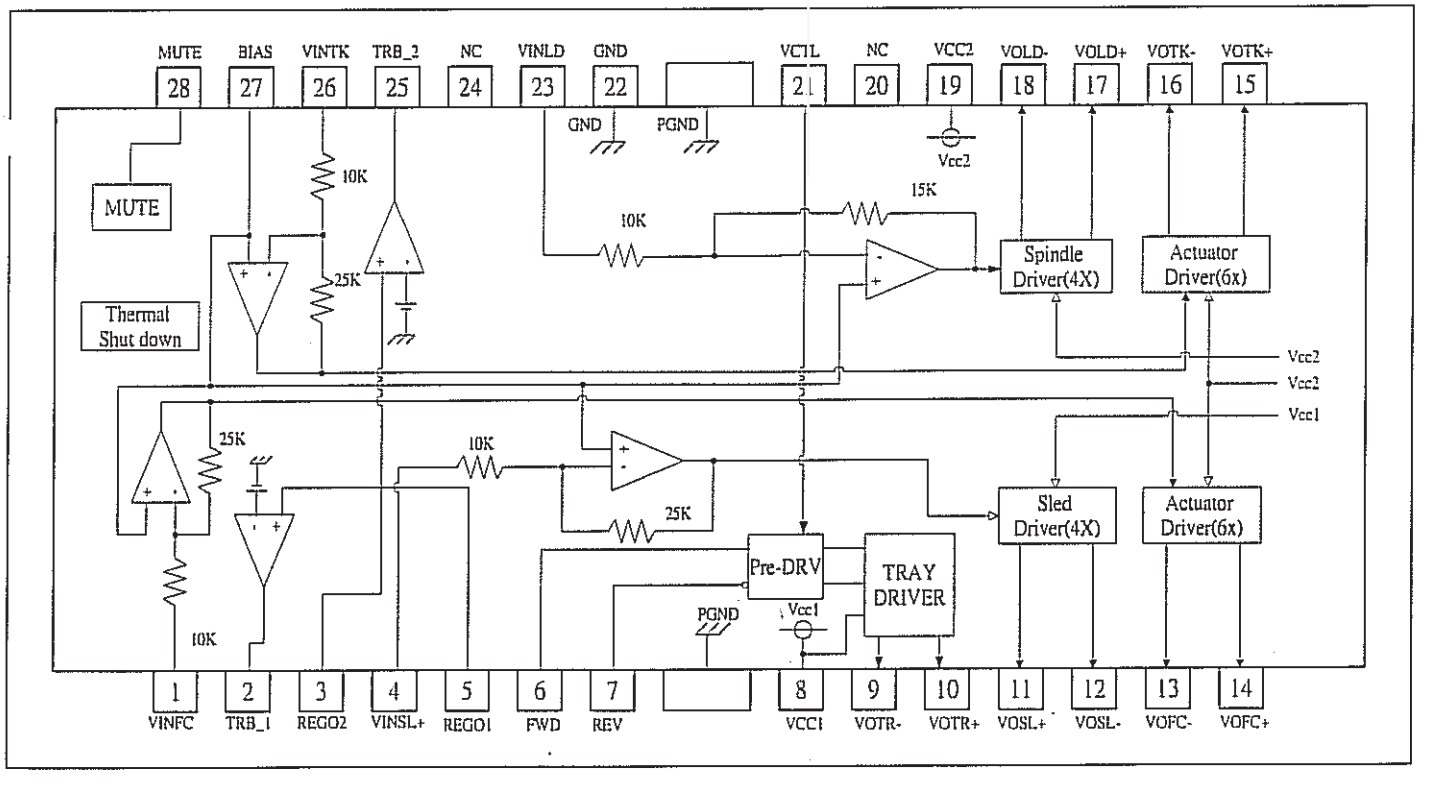
PIN	NAME	INPUT FUNCTION
CLK	System Clock	Active on the positive going edge to sample all inputs
$\overline{CS}$	Chip Select	Disables or enables device operation by masking or enabling all inputs except CLK , CKE and L(U)DQM
CKE	Clock Enable	Masks system clock to freeze operation from the next clock cycle. CKE should be enabled at least one cycle prior new command. Disable input buffers for power down in standby.
A0 ~ A11	Address	Row / column address are multiplexed on the same pins. Row address : RA0~RA11, column address : CA0~CA7
A12 , A13	Bank Select Address	Selects bank to be activated during row address latch time. Selects bank for read / write during column address latch time.
$\overline{RAS}$	Row Address Strobe	Latches row addresses on the positive going edge of the CLK with $\overline{RAS}$ low. Enables row access & precharge.
$\overline{CAS}$	Column Address Strobe	Latches column address on the positive going edge of the CLK with $\overline{CAS}$ low. Enables column access.
$\overline{WE}$	Write Enable	Enables write operation and row precharge. Latches data in starting from $\overline{CAS}$, $\overline{WE}$ active.
L(U)DQM	Data Input / Output Mask	Makes data output Hi-Z, t_{SHZ} after the clock and masks the output. Blocks data input when L(U)DQM active.
DQ0 ~ DQ15	Data Input / Output	Data inputs / outputs are multiplexed on the same pins.
VDD / VSS	Power Supply / Ground	Power and ground for the input buffers and the core logic.
VDDQ / VSSQ	Data Output Power / Ground	Isolated power supply and ground for the output buffers to provide improved noise immunity.
NC	No Connection	This pin is recommended to be left No Connection on the device.

Motor Driver IC (AM5888) : IC42

PIN ASSIGNMENT



- **Block diagram**



● Pin description

PIN No	Pin Name	Function
1	VINFC	Input for focus driver
2	TRB_1	Connect to external transistor base
3	REGO2	Regulator voltage output, connect to external transistor collector
4	VINSL+	Input for the sled driver
5	REGO1	Regulator voltage output, connect to external transistor collector
6	FWD	Tray driver forward input
7	REV	Tray driver reverse input
8	Vcc1	Vcc for pre-drive block and power block of sled and tray
9	VOTR-	Tray driver output (-)
10	VOTR+	Tray driver output (+)
11	VOSL+	Sled driver output (+)
12	VOSL-	Sled driver output (-)
13	VOFC-	Focus driver output (-)
14	VOFC+	Focus driver output (+)
15	VOTK+	Tracking driver output (+)
16	VOTK-	Tracking driver output (-)
17	VOLD+	Spindle driver output (+)
18	VOLD-	Spindle driver output (-)
19	Vcc2	Vcc for power block of spindle, tracking and focus
20	NC	No Connection
21	VCTL	Speed control input of tray driver
22	GND	Ground
23	VINLD	Input for spindle driver
24	NC	No Connection
25	TRB_2	Connect to external transistor base
26	VINTK	Input for tracking driver
27	BIAS	Input for reference voltage
28	MUTE	Input for mute control

TRANSISTOR, REGULATOR IC PIN DESCRIPTION

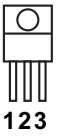
<table>
<tr>
<td>TO-92S
 

1. Emitter
2. Collector
3. Base

KSC2785Y
KSA1175Y
KSB811Y</td>
<td>TO-92
 

1. Emitter
2. Collector
3. Base

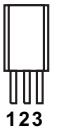
KTC3200GR
KTA1271Y
KTA1268GR
KTC2874

KTC3198Y
KSA733C</td>
<td>TO-220IS
 

1. INPUT
2. COMMON
3. OUTPUT

KIA7812API
KIA7805API
KIA7805API

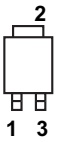
1. GND
2. INPUT
3. OUTPUT

KIA7912PI
KIA7908PI
KIA7905PI</td>
<td>TO-92L
 

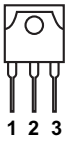
1. Emitter
2. Collector
3. Base

KTA1024Y</td>
</tr>
<tr>
<td>TO-126
 

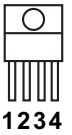
1. Emitter
2. Collector
3. Base

KTC3114A
KTA1360Y
KTC3423Y</td>
<td>SOT-223
 

1. COMMON
2. OUTPUT
3. INPUT

KIA1117S</td>
<td>TO-3P
 

1. Base
2. Collector
3. Emitter

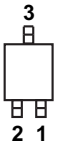
2SB1559
2SD2389</td>
<td>TO-220IS-4
 

1. INPUT
2. OUTPUT
3. GND
4. CONTROL

KIA278R05
KIA78R05</td>
</tr>
<tr>
<td>TO-92M
 

1. Emitter
2. Collector
3. Base

KRA107M
KRC107M
KRA102M
KRC102M</td>
<td>SOT-89
 
1. Base
2. Collecter
3. Emitter

KTA1664Y</td>
<td>SOT-23
 

1. Emitter
2. Base
3. Collector

KRA102S
KRC102S
KRD1304
2N3904S</td>
<td></td>
</tr>
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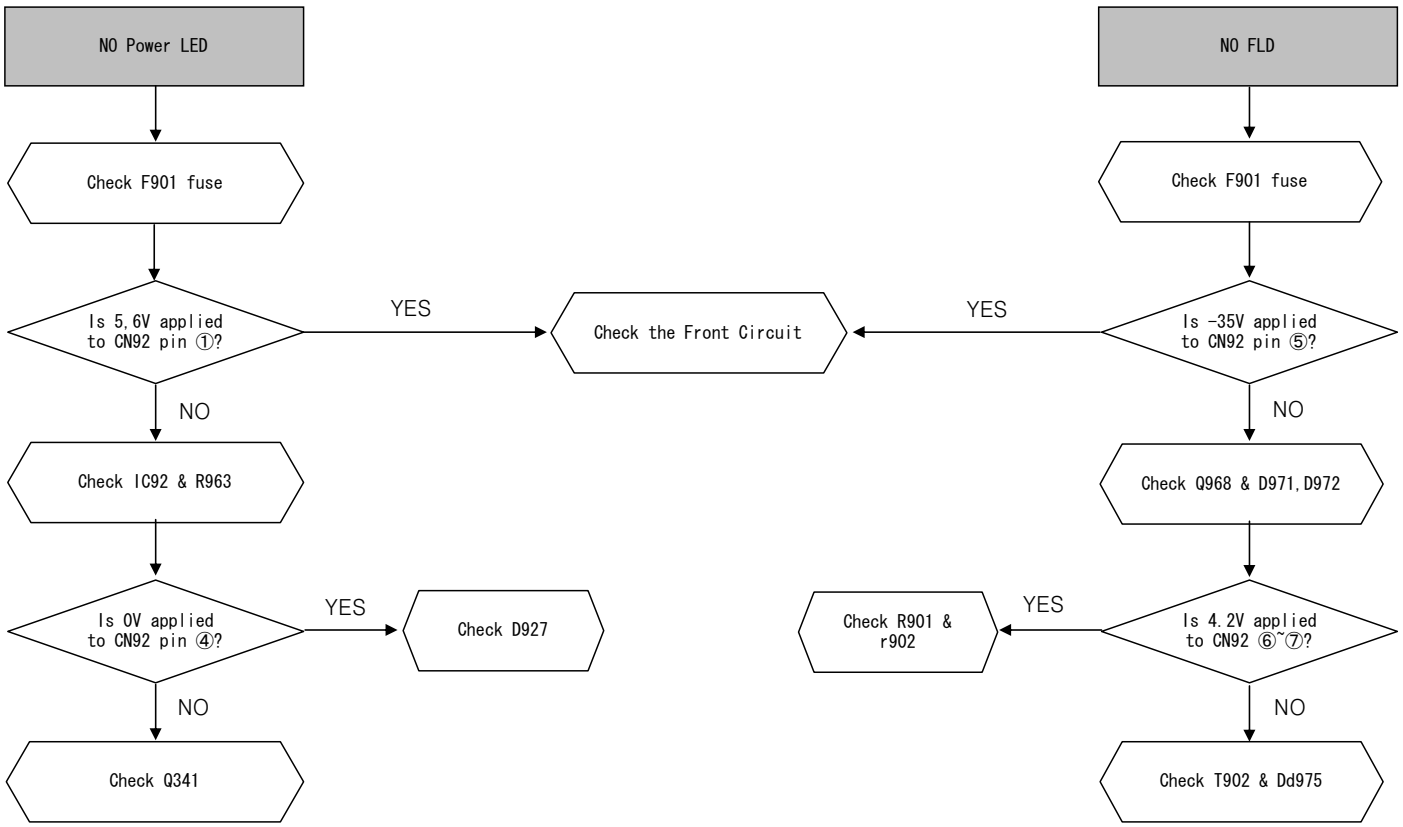
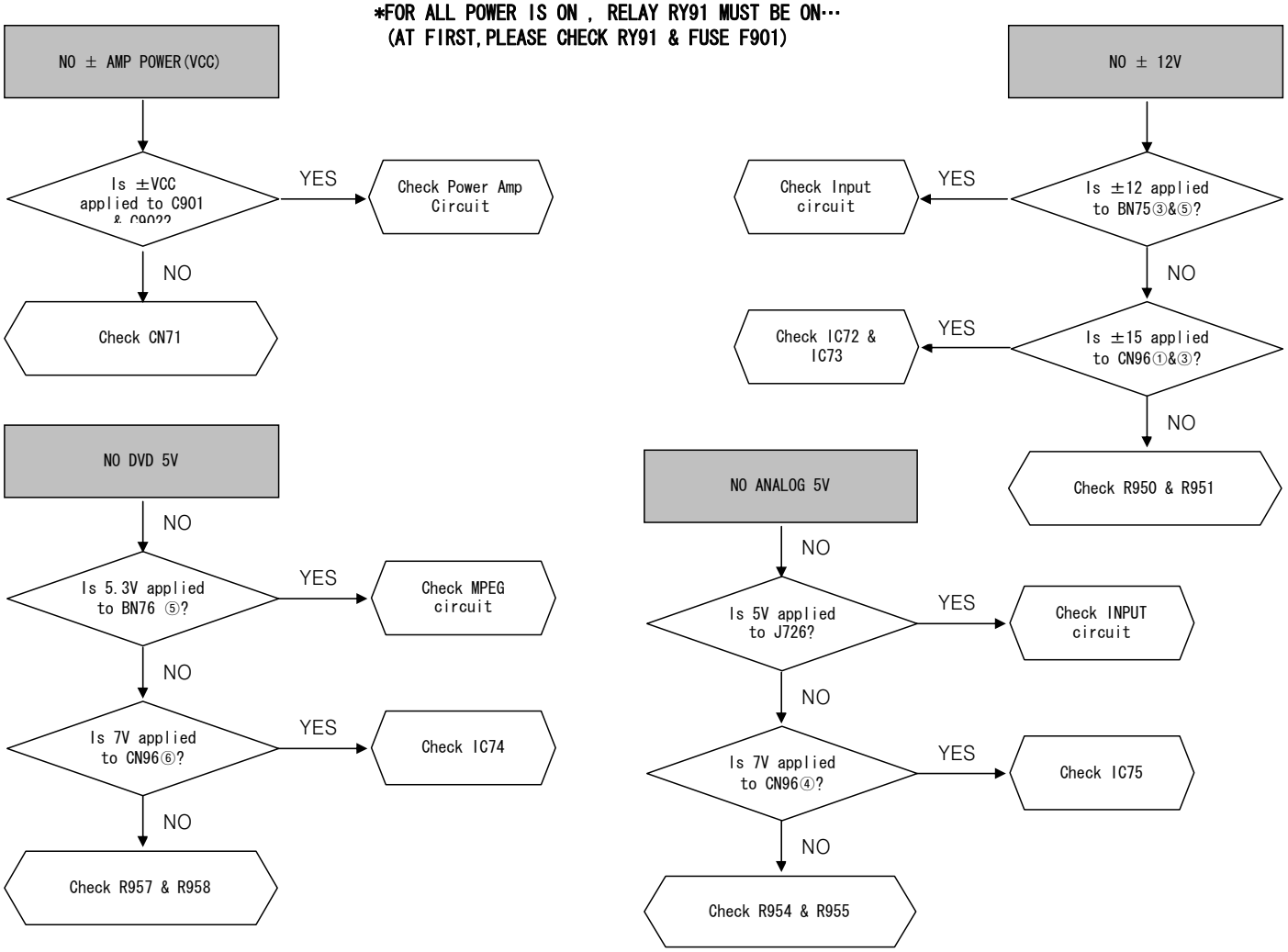
ELECTRICAL TROUBLESHOOTING GUIDE

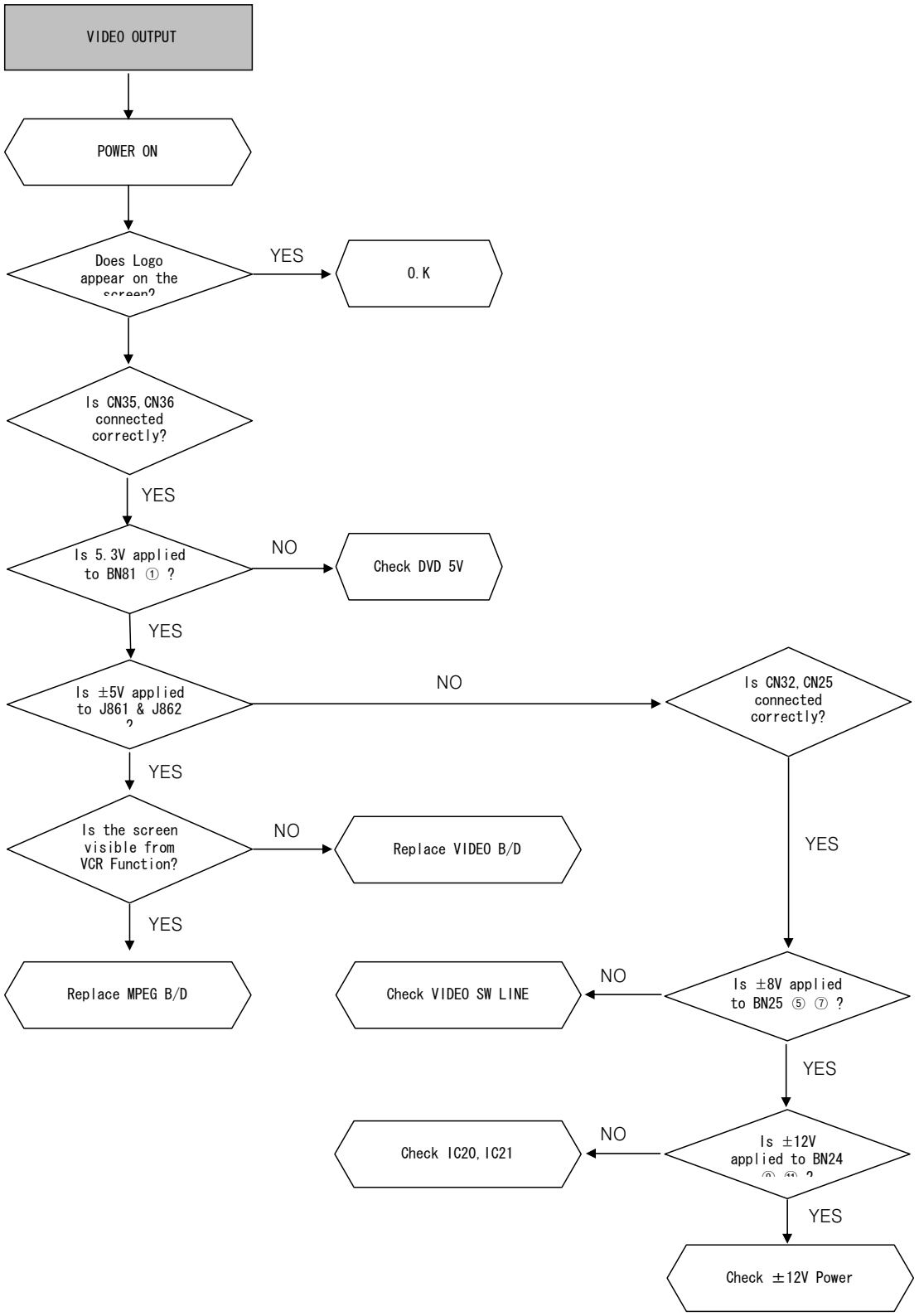
1. POWER CHECK



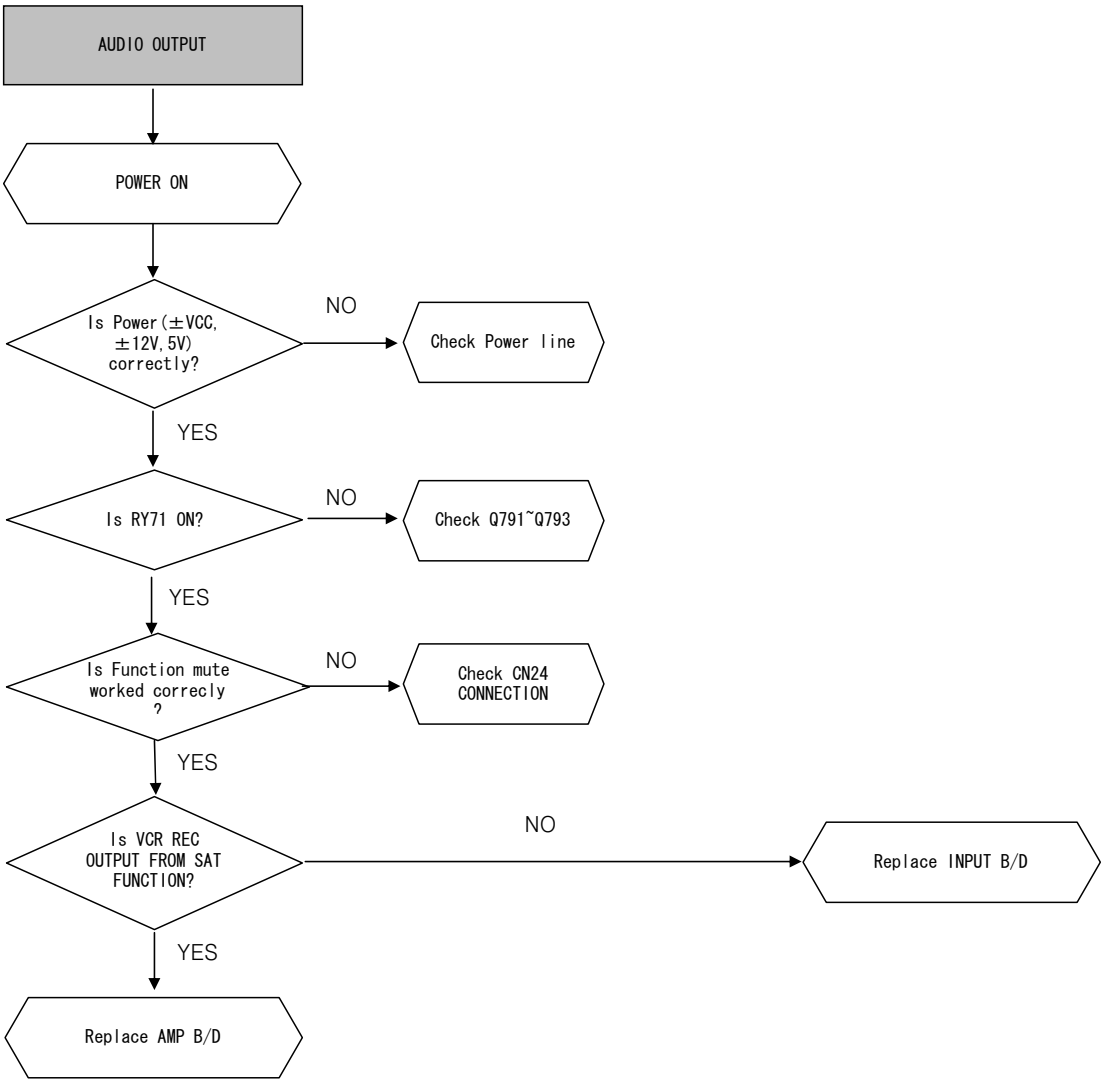
***FOR ALL POWER IS ON , RELAY RY91 MUST BE ON…**
(AT FIRST,PLEASE CHECK RY91 & FUSE F901)



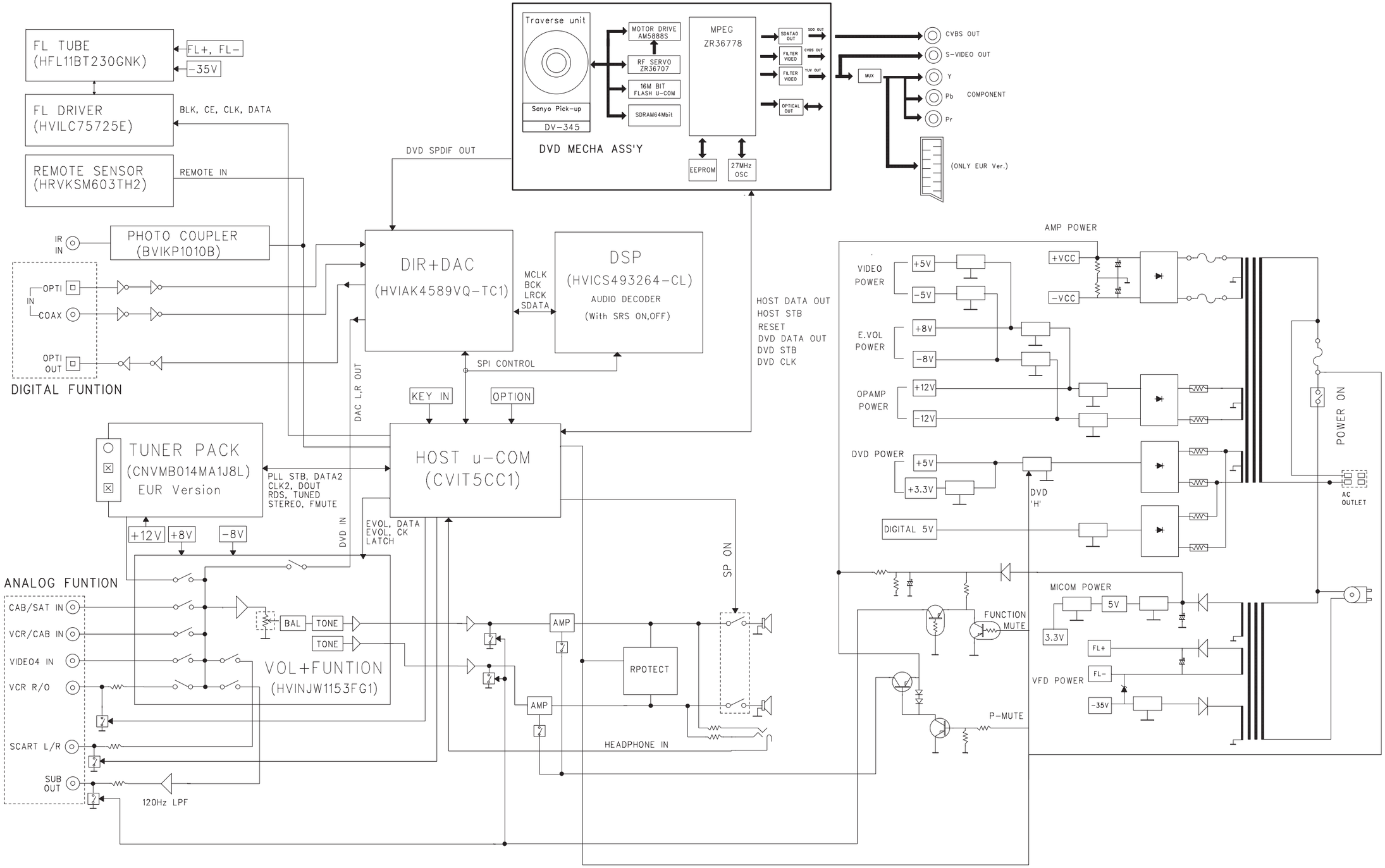
2. VIDEO PART CHECK



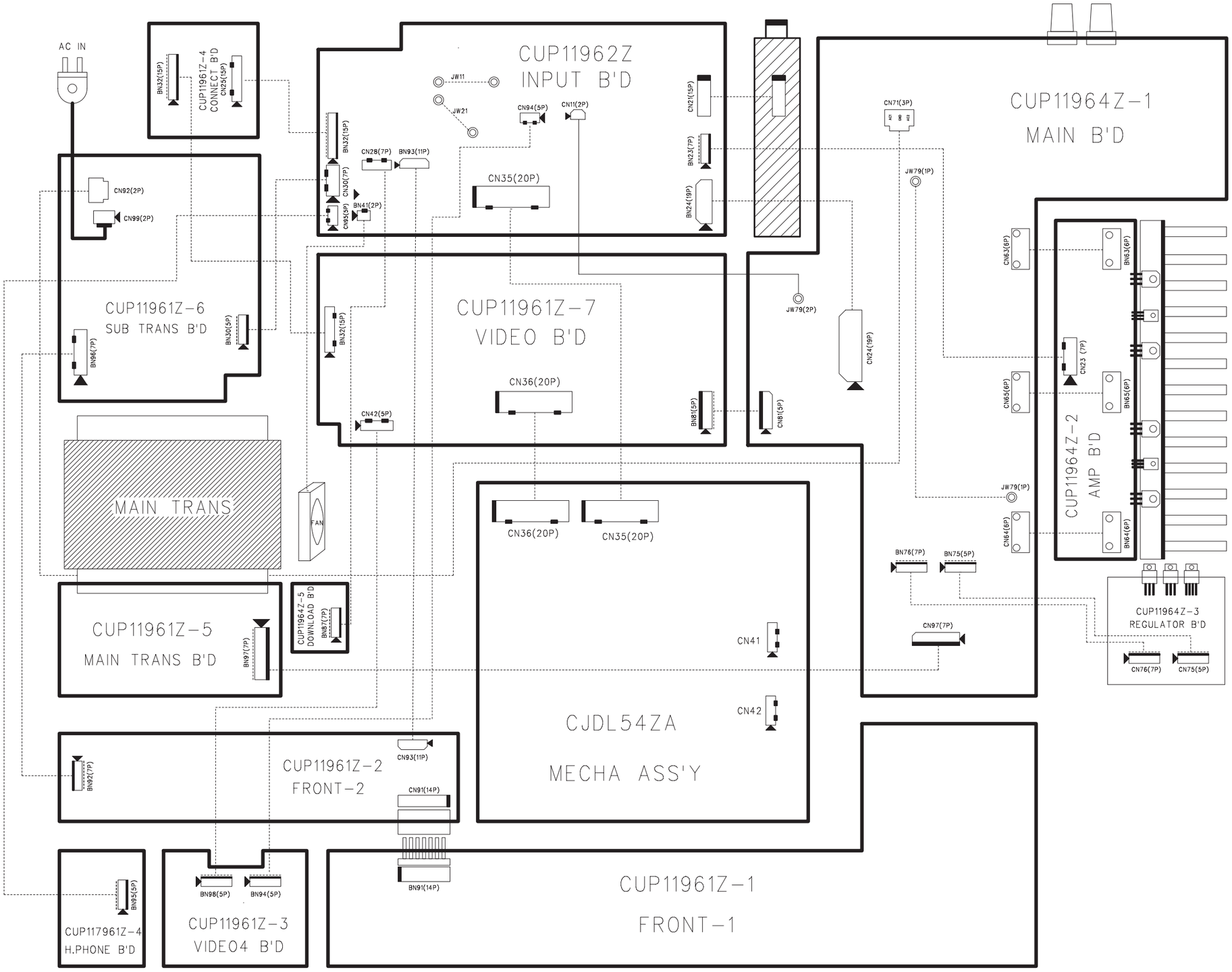
3. AUDIO PART CHECK



1. BLOCK DIAGRAM

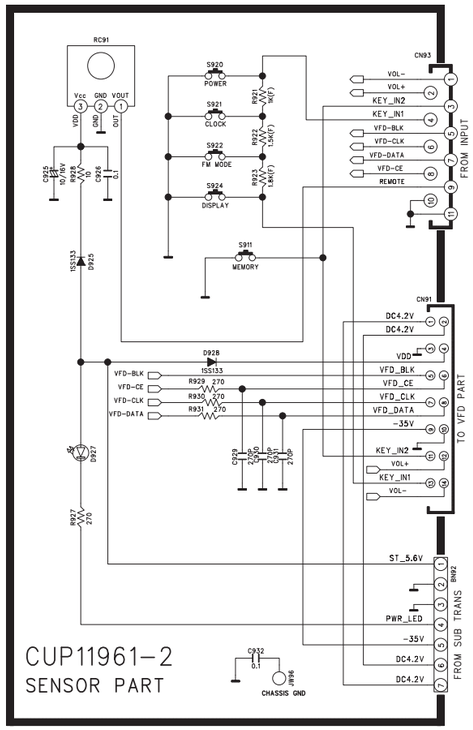


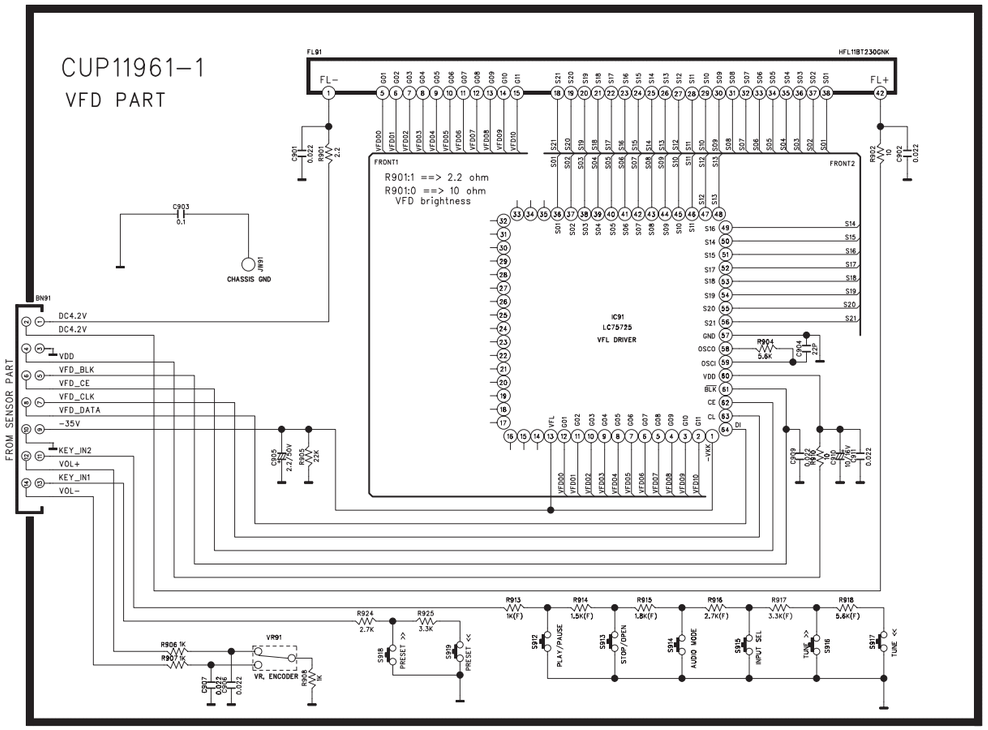
2. WIRING DIAGRAM

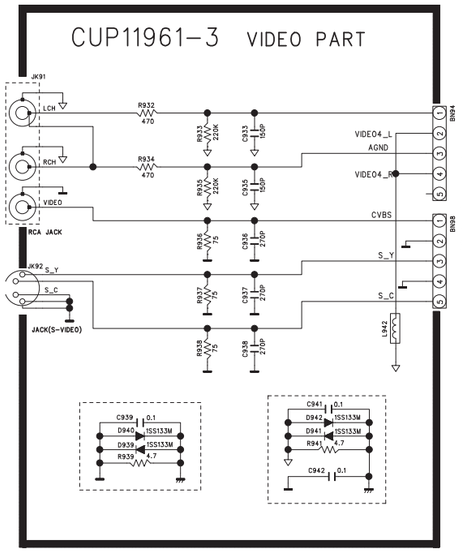


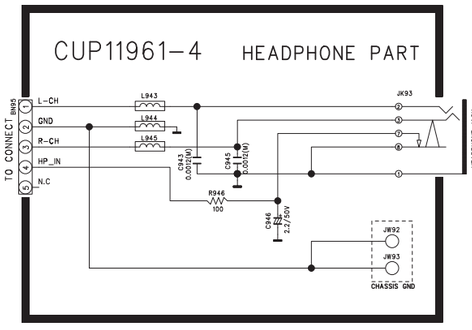
3. SCHEMATIC DIAGRAM

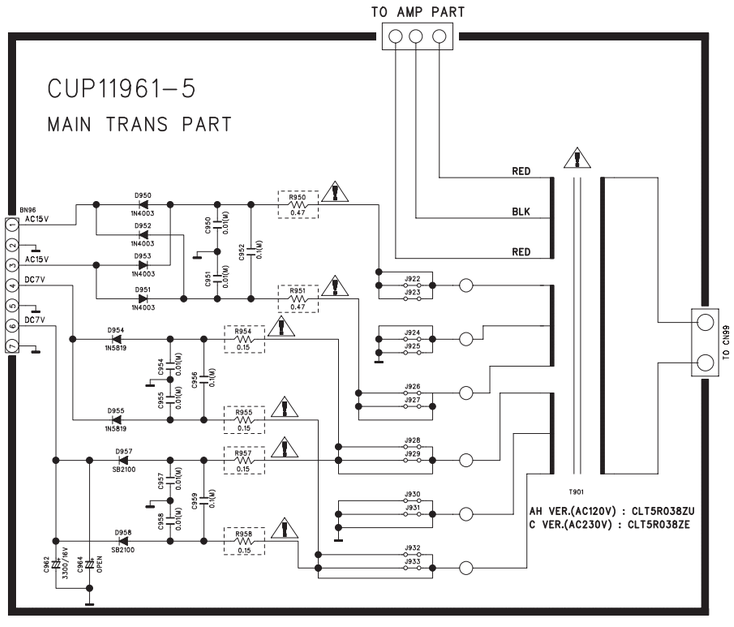
FRONT PART

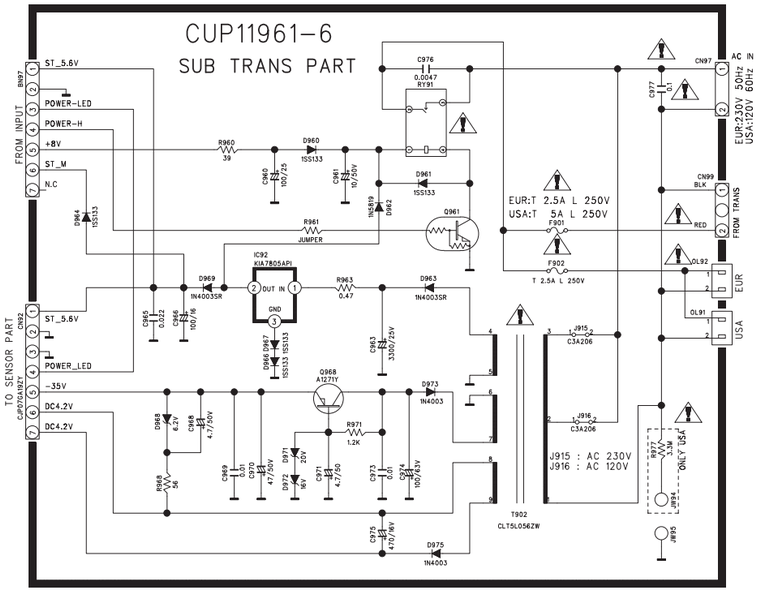






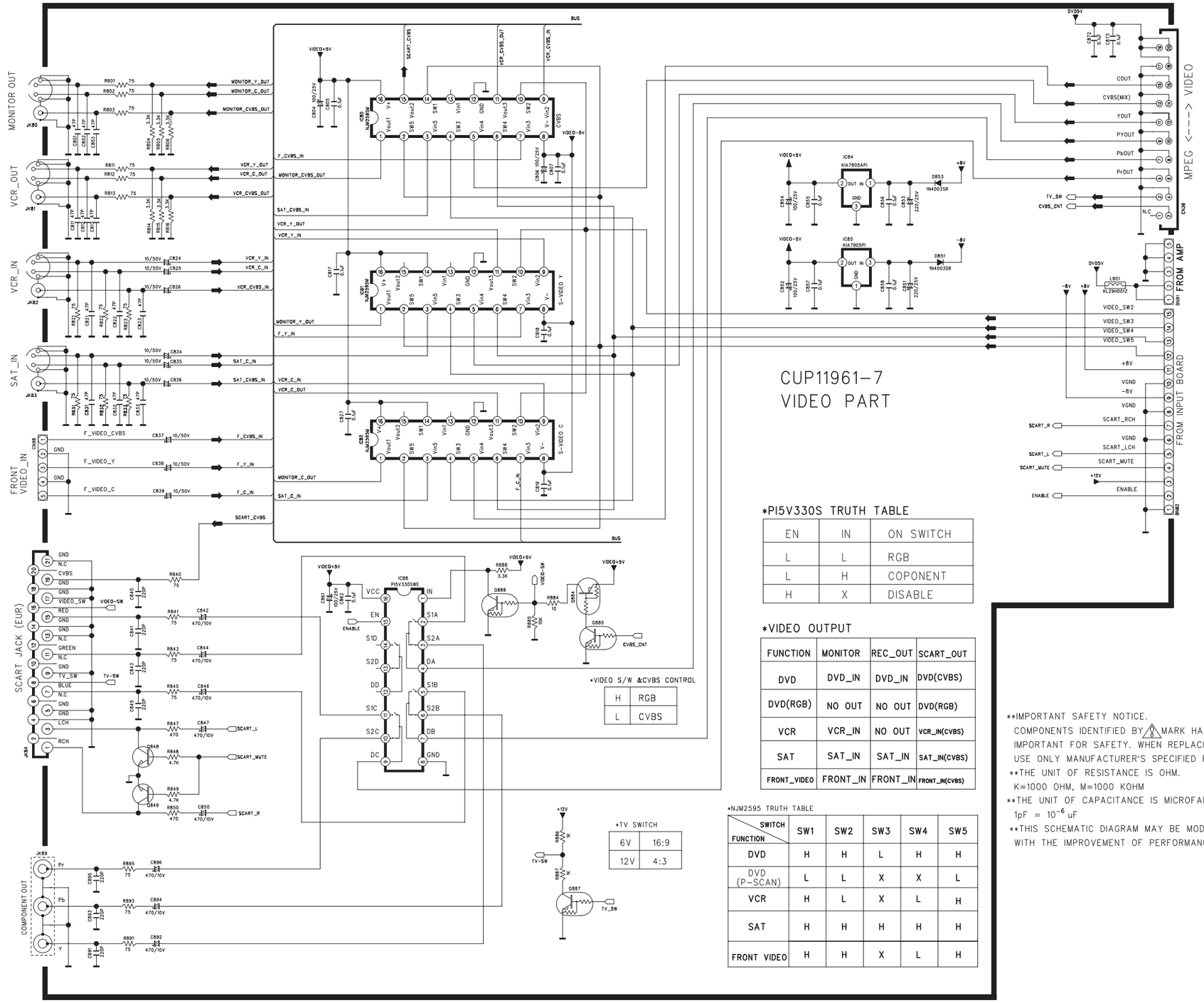






** IMPORTAT SAFETY NOTICE.
COMPONENT IDENTIFIED BY ⚠ MARK HAVE SPECIAL CHARACTERISICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY MANUFACTURER'S SPECIFIED PARTS.
** THE UNIT OF RESISTANCE IS OHM.
K = 1000 OHM, M = 1000KOHM.
** THE UNIT OF CAPACITANCE IS MICROFARAD(uF)
pF = 10^{-6} uF
** THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE IMPOROVEMENT OF PERFORMANCE.

VIDEO PART



*PI5V330S TRUTH TABLE

EN	IN	ON SWITCH
L	L	RGB
L	H	COPONENT
H	X	DISABLE

*VIDEO OUTPUT

FUNCTION	MONITOR	REC_OUT	SCART_OUT
DVD	DVD_IN	DVD_IN	DVD(CVBS)
DVD(RGB)	NO OUT	NO OUT	DVD(RGB)
VCR	VCR_IN	NO OUT	VCR_IN(CVBS)
SAT	SAT_IN	SAT_IN	SAT_IN(CVBS)
FRONT_VIDEO	FRONT_IN	FRONT_IN	FRONT_IN(CVBS)

*VIDEO S/W &CVBS CONTROL

H	RGB
L	CVBS

*TV SWITCH

6V	16:9
12V	4:3

*NJM2595 TRUTH TABLE

SWITCH / FUNCTION	SW1	SW2	SW3	SW4	SW5
DVD	H	H	L	H	H
DVD (P-SCAN)	L	L	X	X	L
VCR	H	L	X	L	H
SAT	H	H	H	H	H
FRONT VIDEO	H	H	X	L	H

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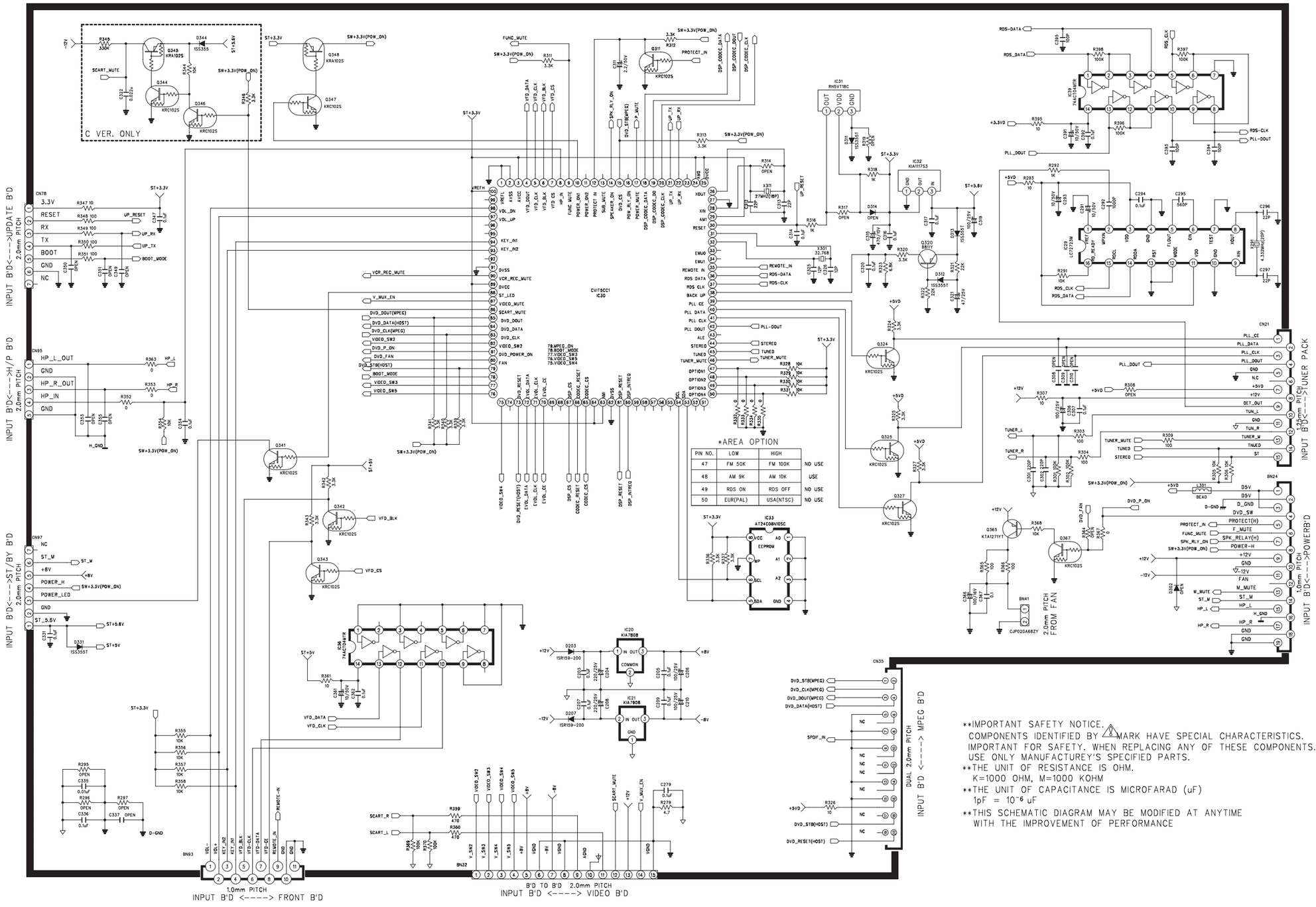
1pF = 10^{-6} uF
**THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANYTIME WITH THE IMPROVEMENT OF PERFORMANCE.

MCU PART


C VER. ONLY
CVITSCC1
IC30
*AREA OPTION
PIN NO. | LOW | HIGH
47 | FM 50K | FM 100K | NO USE
48 | AM 9K | AM 10K | USE
49 | RDS ON | RDS OFF | NO USE
50 | EUR(PAL) | USA(NTSC) | NO USE
INPUT B'D<---->UPDATE B'D 2.0mm PITCH
INPUT B'D<---->H/P B'D 2.0mm PITCH
INPUT B'D<---->ST/BY B'D 2.0mm PITCH
INPUT B'D <----> FRONT B'D 1.0mm PITCH
INPUT B'D <----> VIDEO B'D B'D TO B'D 2.0mm PITCH
INPUT B'D <----> MPEG B'D DUAL 2.0mm PITCH
INPUT B'D<----> TUNER PACK 2.0mm PITCH
INPUT B'D<----> POWER B'D 1.0mm PITCH
2.0mm PITCH FROM FAN
**IMPORTANT SAFETY NOTICE.
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1pF = 10⁻⁶ uF
**THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANYTIME
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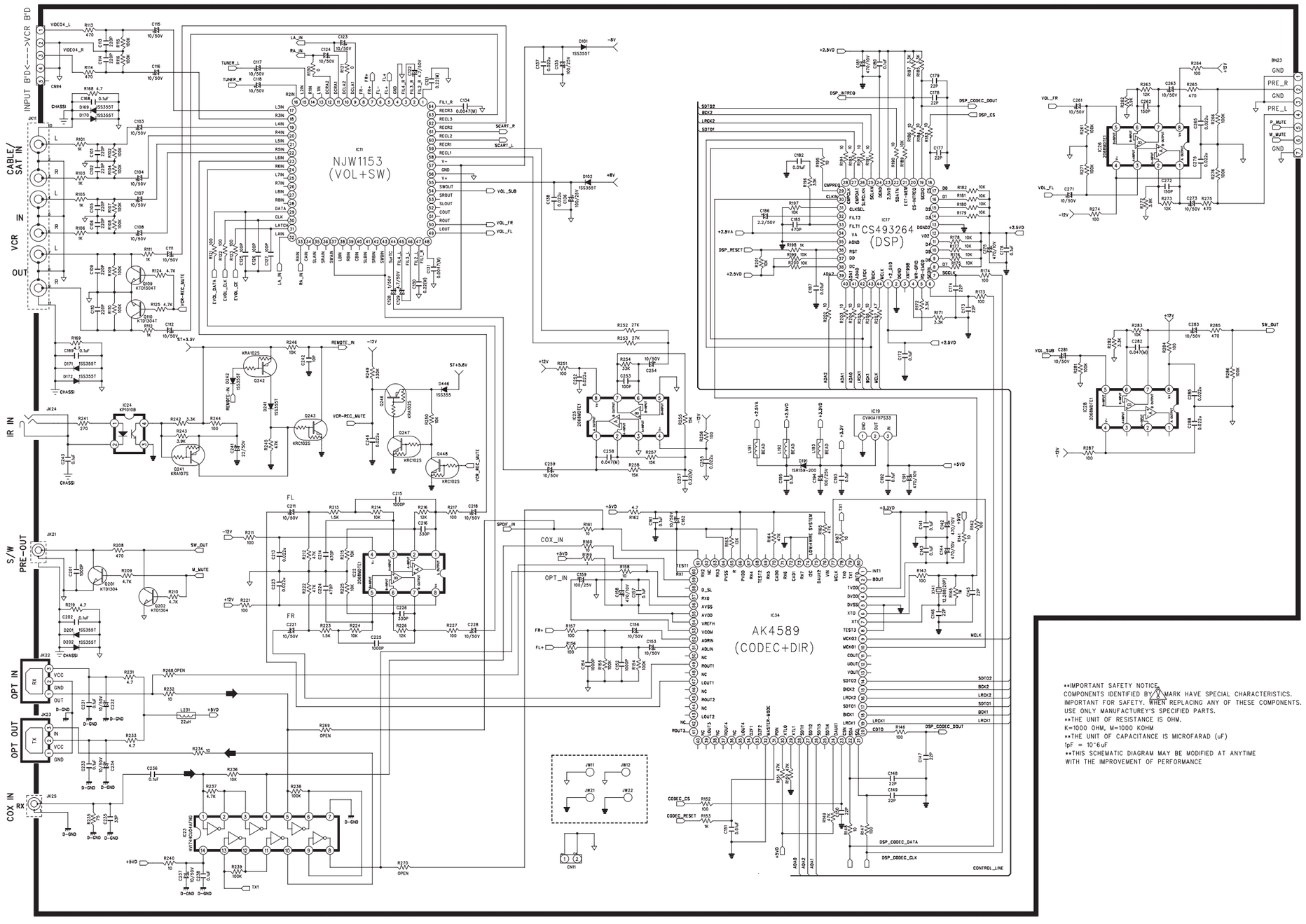
INPUT PART



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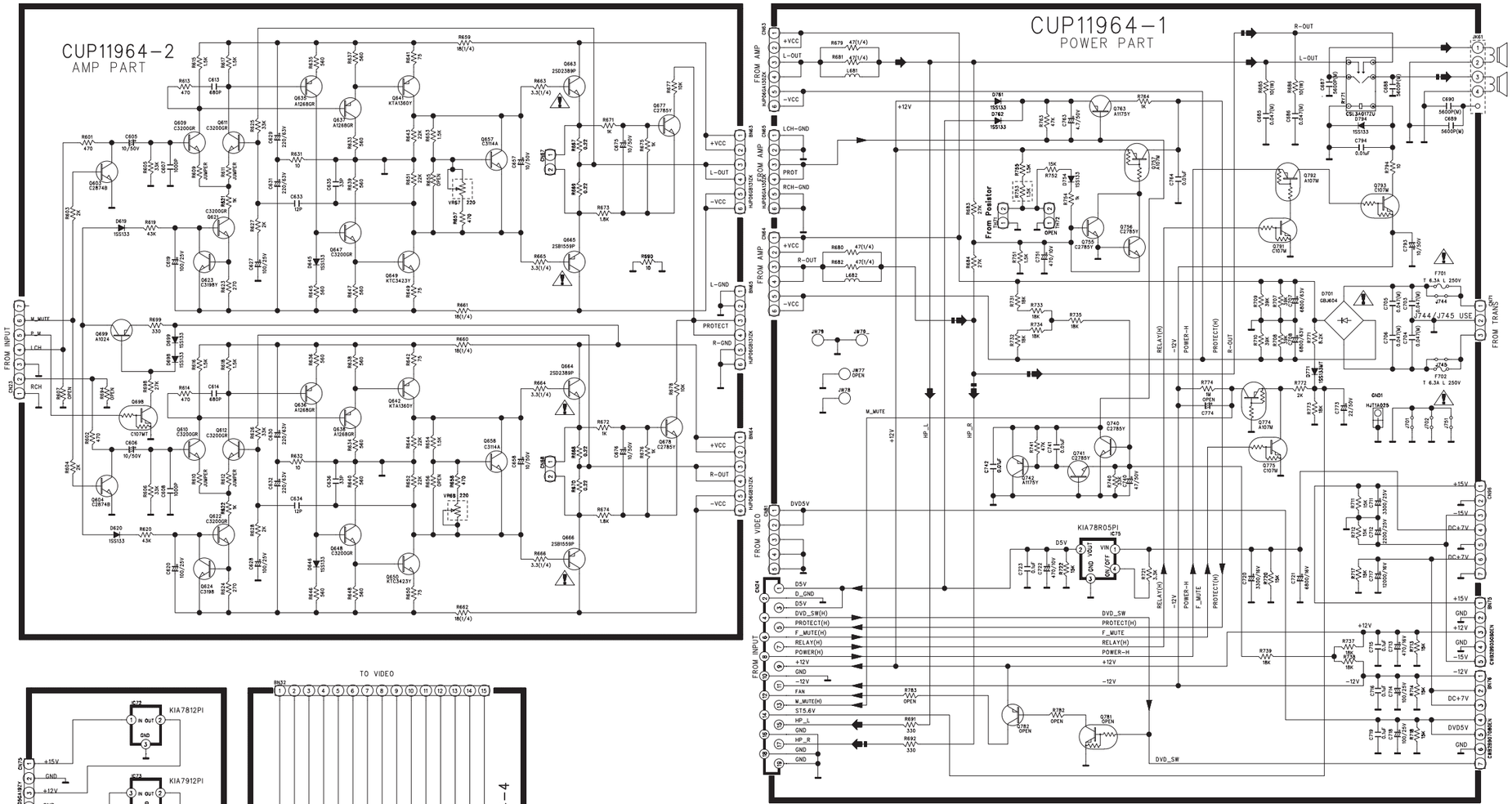
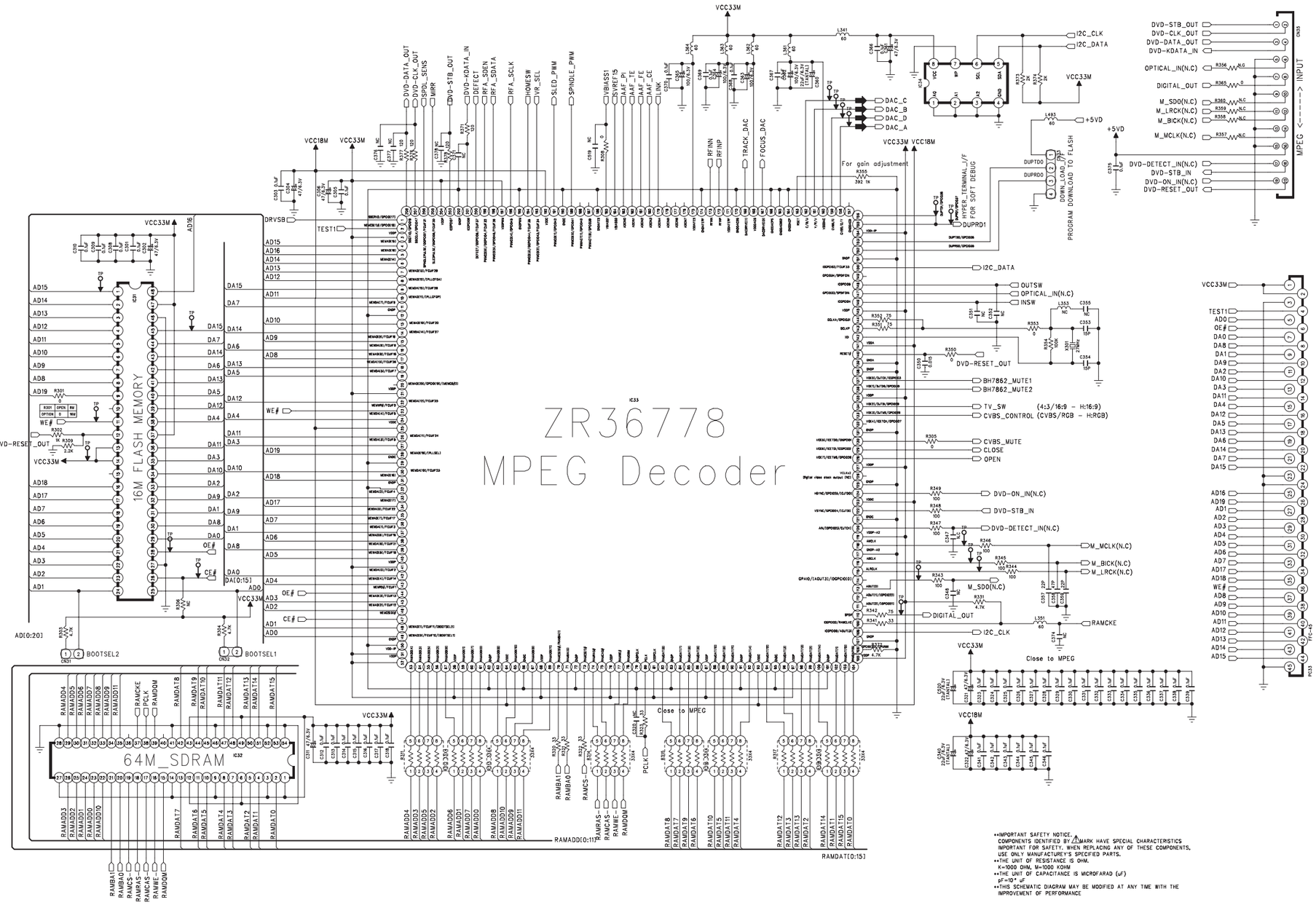
**THE UNIT OF CAPACITANCE IS MICROFARAD (uF)
1pF = 10^6uF
**THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANYTIME
WITH THE IMPROVEMENT OF PERFORMANCE

AMP PART



REG. PART
CUP11964-3

MPEG PART



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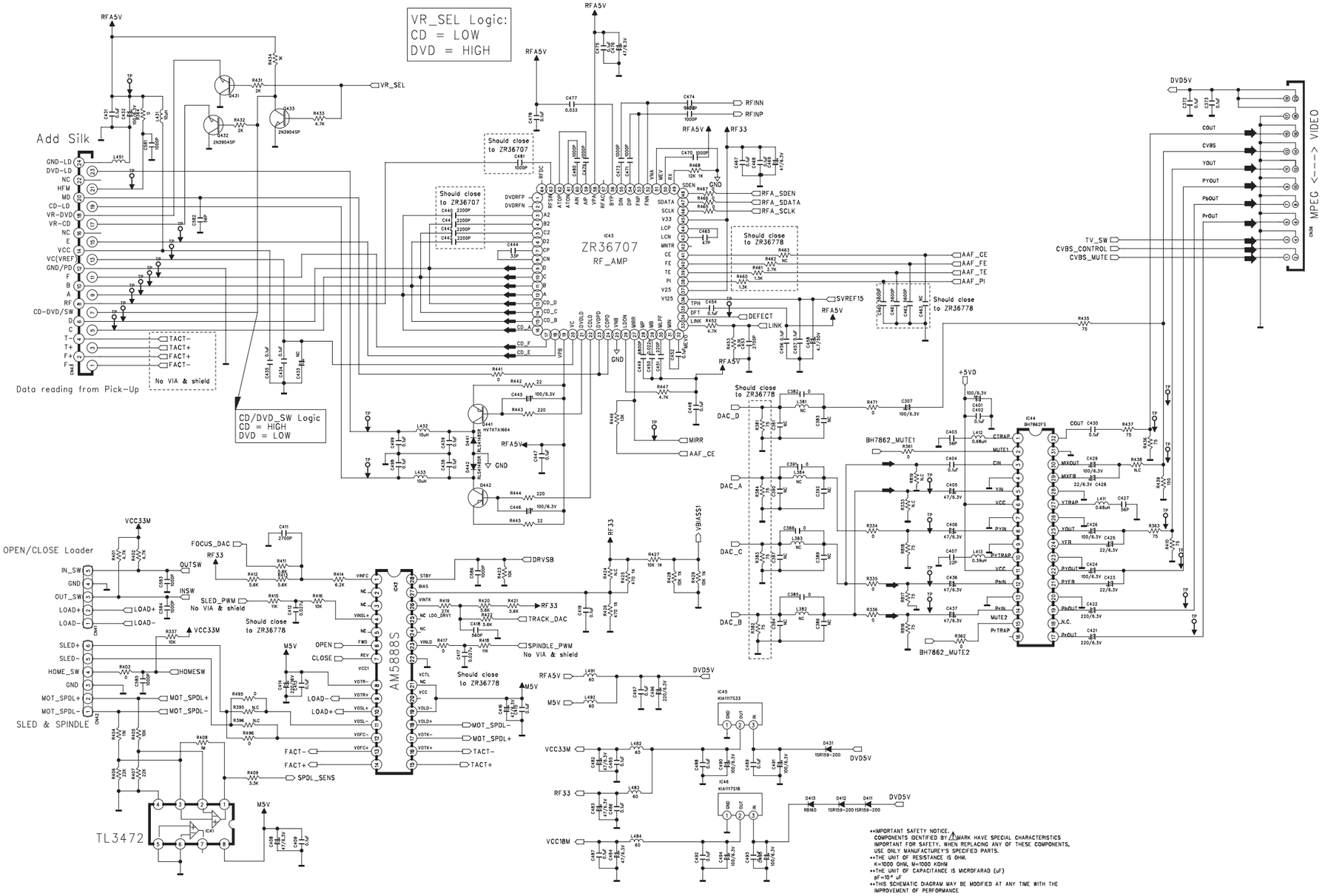
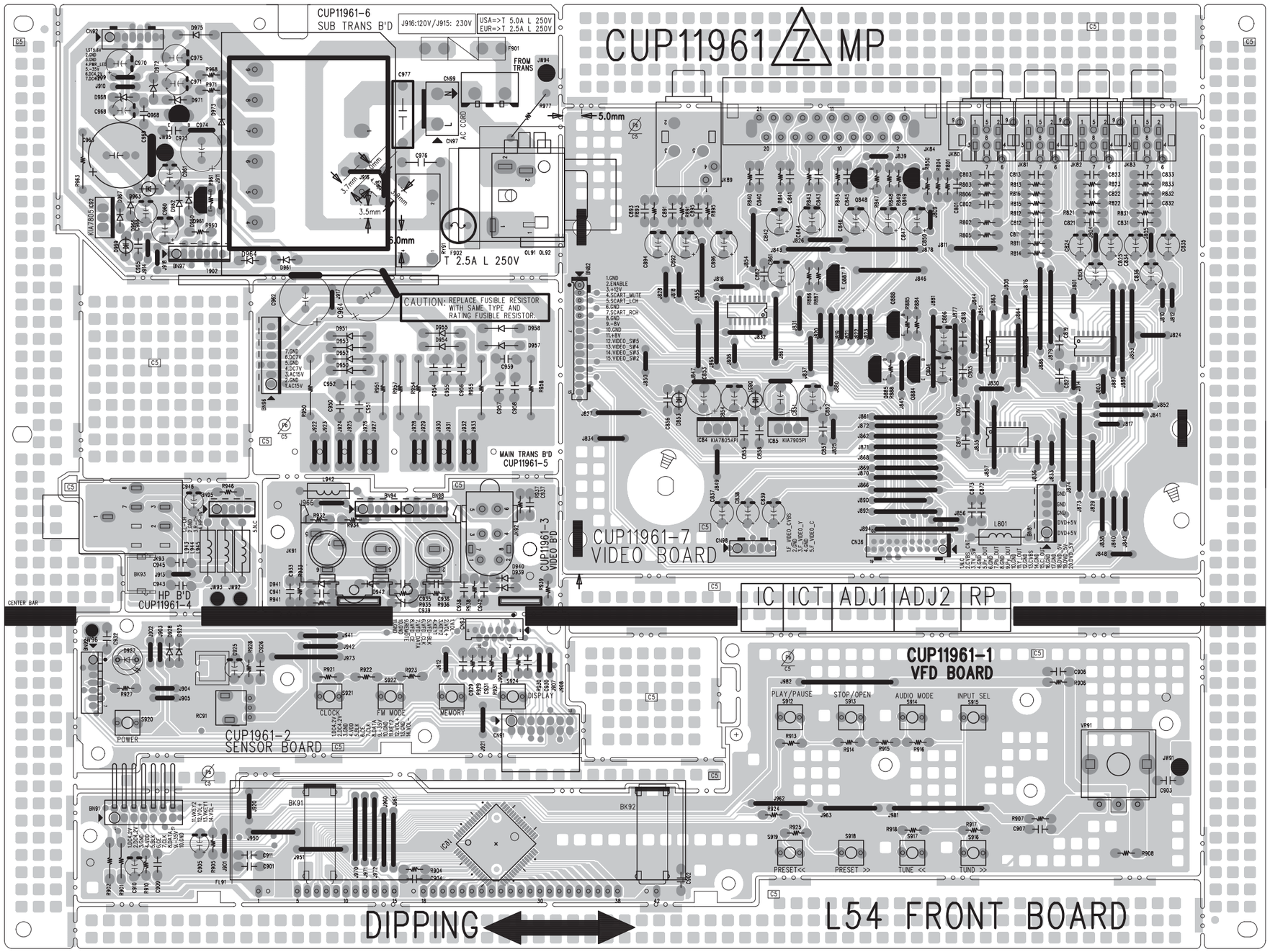
pF=10^-6 uF
**THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE

MPEG PART

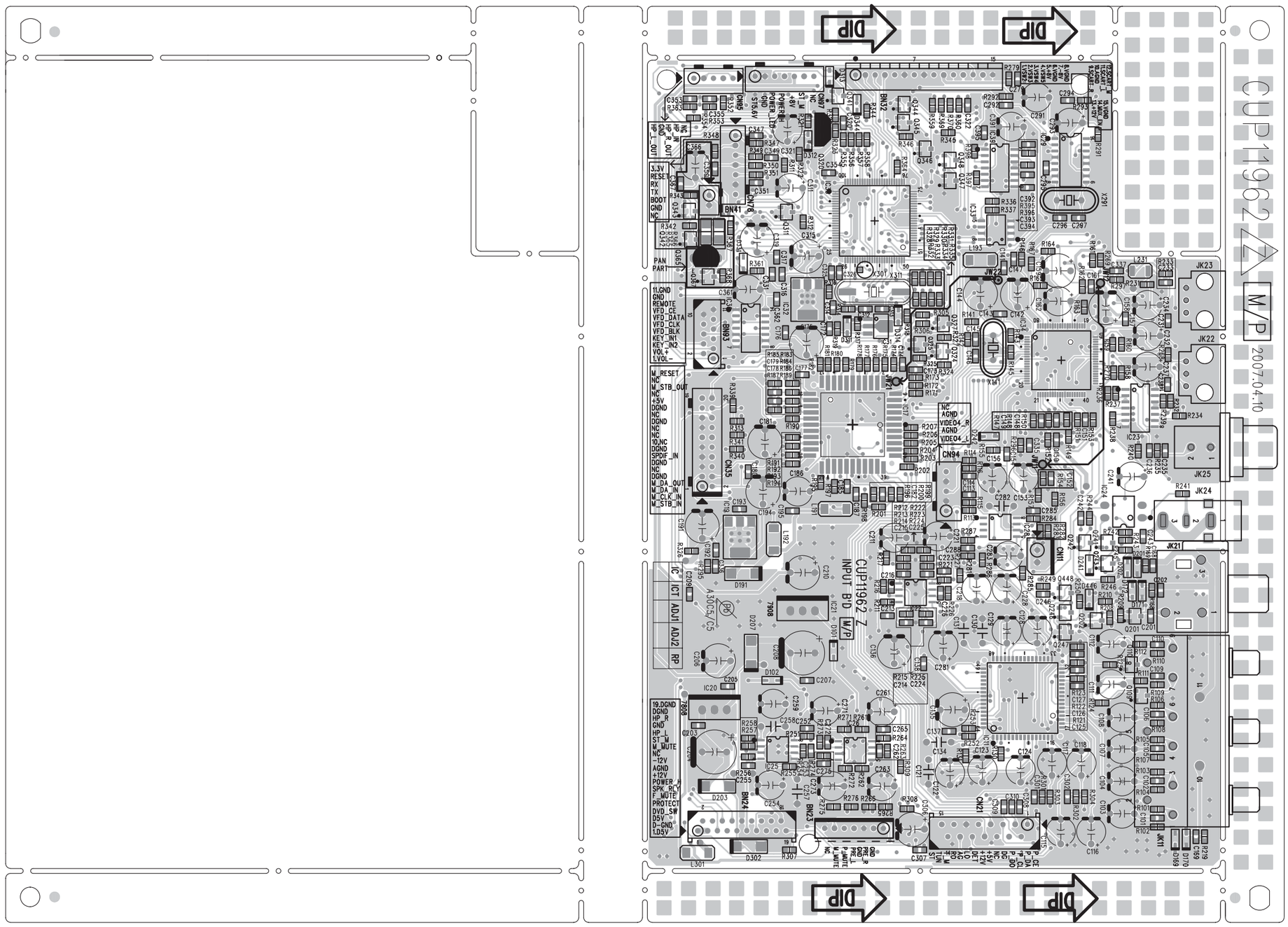

VR_SEL Logic:
CD = LOW
DVD = HIGH
Add Silk
Data reading from Pick-Up
No VIA & shield
CD/DVD_SW Logic
CD = HIGH
DVD = LOW
IC43
ZR36707
RF_AMP
AM5888S
TL3472
OPEN/CLOSE Loader
SLED & SPINDLE
SLED_PWM
No VIA & shield
FOCUS_DAC
TRACK_DAC
SPINDLE_PWM
No VIA & shield
Should close to ZR36707
Should close to ZR36778
BH7862_MUTE1
BH7862_MUTE2
MPEG <---> VIDEO
**IMPORTANT SAFETY NOTICE.
COMPONENTS IDENTIFIED BY MARK HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY MANUFACTUREY'S SPECIFIED PARTS.
**THE UNIT OF RESISTANCE IS OHM.
K=1000 OHM, M=1000 KOHM
**THE UNIT OF CAPACITANCE IS MICROFARAD (uF)
pF=10^-6 uF
**THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE

4. PRINTED CIRCUIT BOARDS

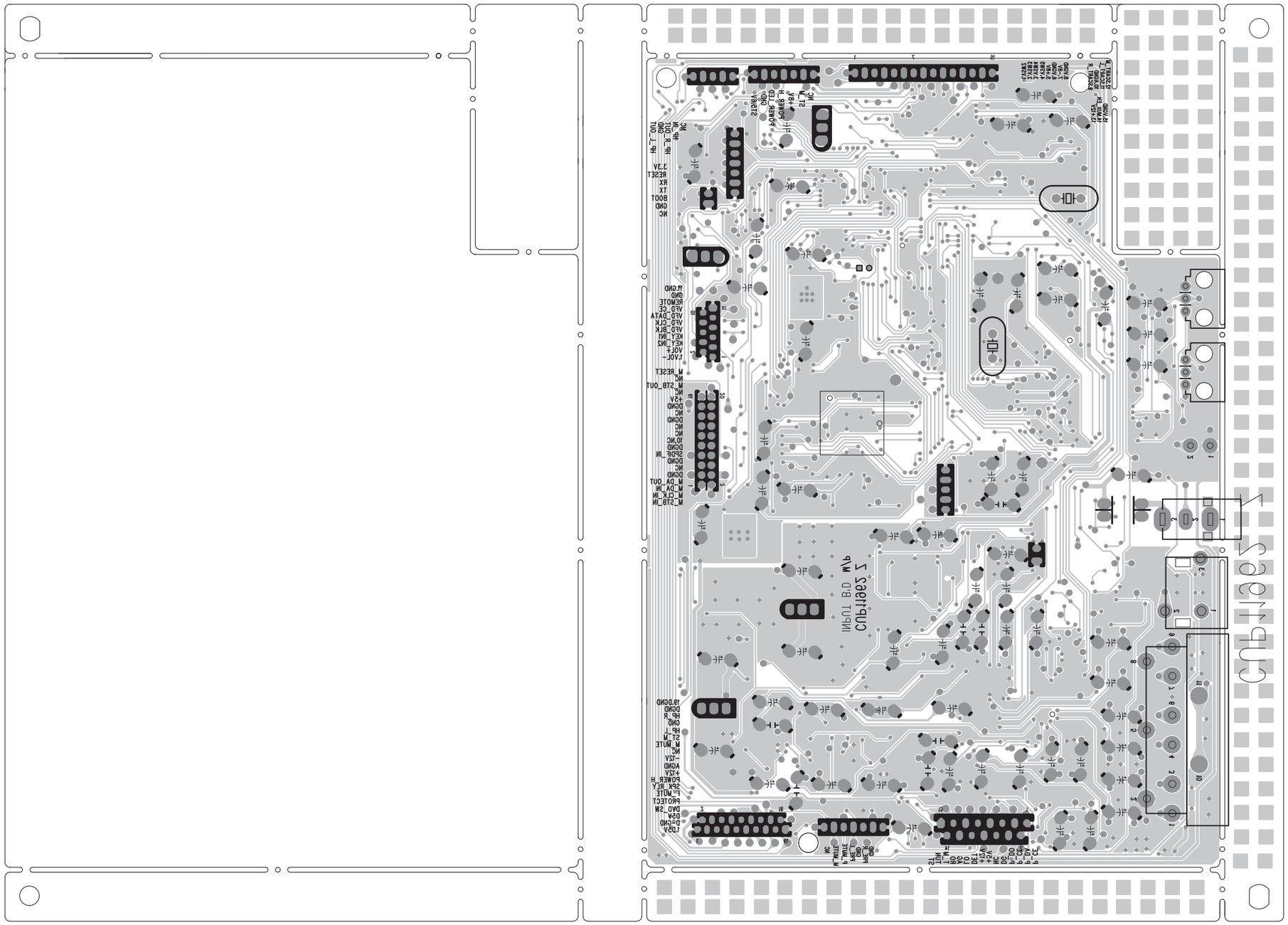
FRONT PCB DATA VIEW



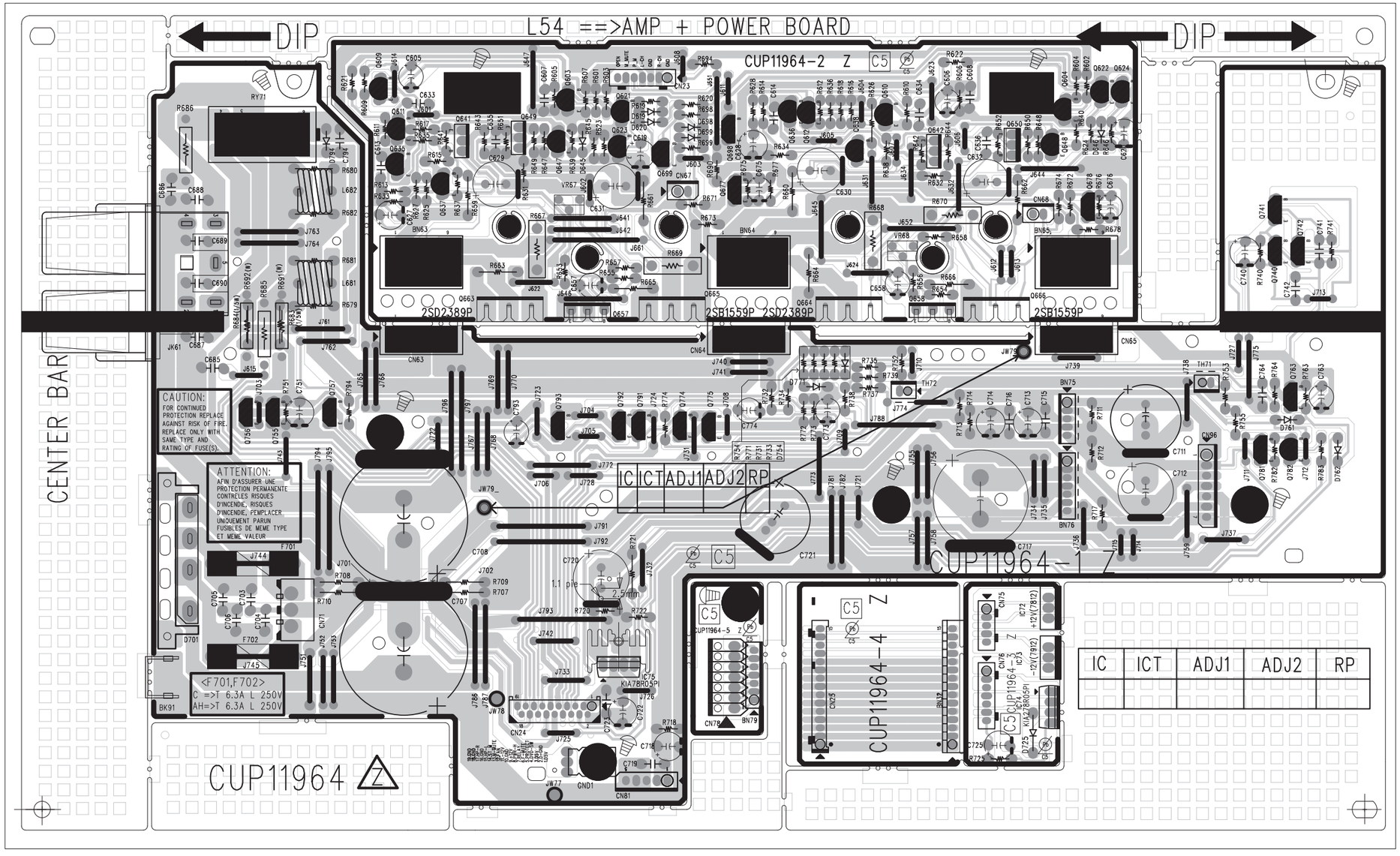
INPUT PCB DATA VIEW (TOP)



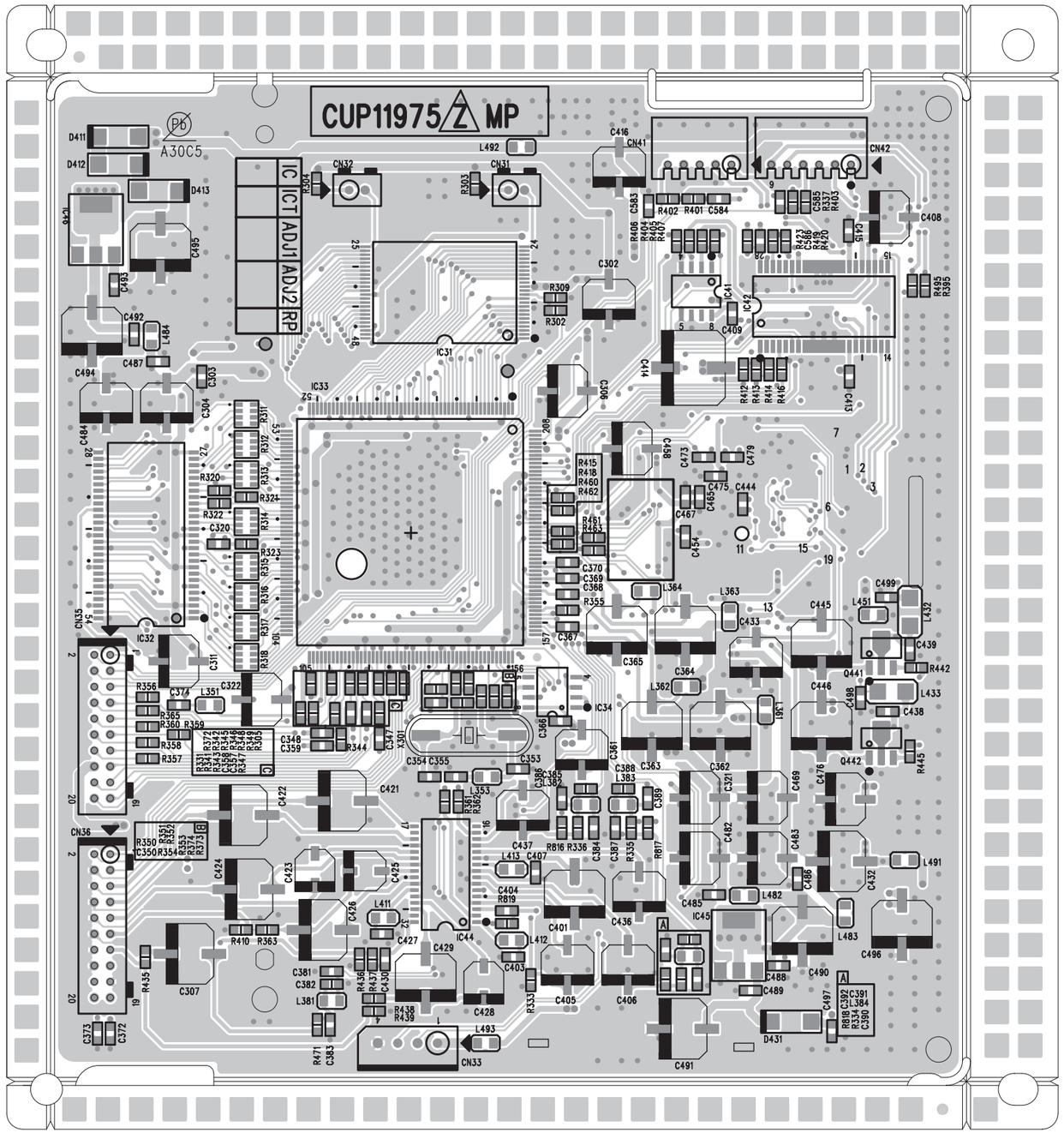
INPUT PCB DATA VIEW (BOTTOM)



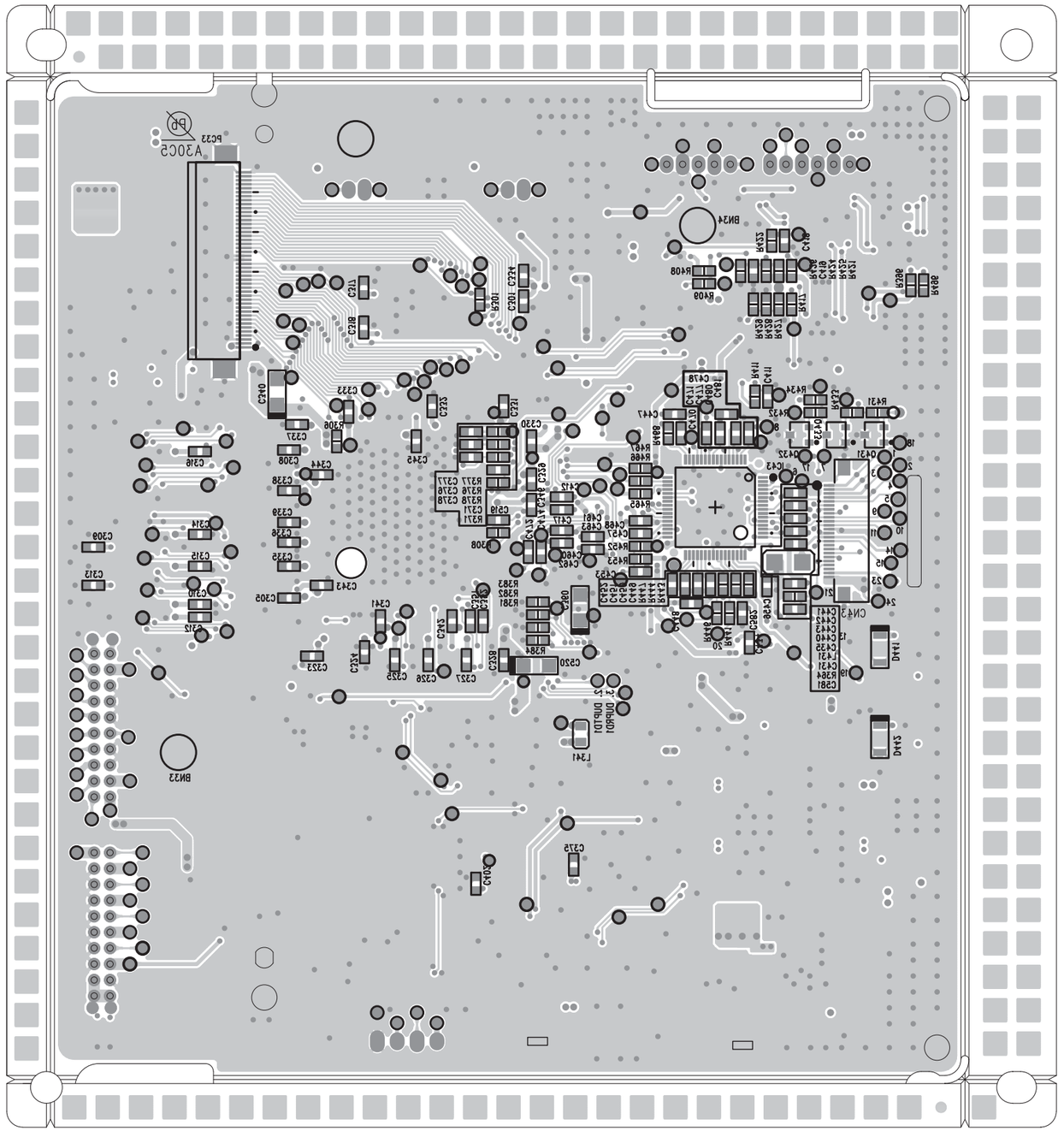
AMP PCB DATA VIEW



MPEG PCB DATA VIEW (TOP)



MPEG PCB DATA VIEW (BOTTOM)



SECTION 3

ELECTRICAL PARTS LIST

Notes : • Part numbers are indicated for most mechanical parts.
Please use this part number for parts order.
• IMPORTANT SAFETY NOTICE.
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacture's specified parts.
• The unit of resistance is OHM (Ω)
K=1000 (Ω), M=1000 (KΩ)
• The unit of capacitance is MICROFARAD (μF)
P=10 -6μF

* Numbering System of Resistor

Type		Wattage	Tolerance
C(H)RD	Carbon	20 : 1/5W 25 : 1/4W	
CRG	Metal Oxide	1 : 1W	F : ± 1%
KRQ	Fuse	2 : 2W	J : ± 5%
CRF	Cement	5 : 5W	K : ±10%
CRJ	Carbon , Chip	10 : 1/10W 14 : 1/4W	

CRD	20	T	J	101	T
Type	Wattage	Shape	Tolerance	Value	

* Numbering System of Capacitor

Type		Voltage		Tolerance
CCUS	Ceramic , Chip	0J : 6.3V	1H : 50V	
CCKT	Ceramic , Radial type	1A : 10V	1J : 63	F : ± 1%
HCQI	Polyester	1C : 16V	2A : 100	J : ± 5%
CCEA	Elect	1E : 25V		K : ± 10%
HCBS	Ceramic , Axial type	1V : 35V		

CCUS	1H	104	K	C
Type	Voltage	Value	Tolerance	Peculiarity

REF NO.	PART NO.	DESCRIPTION		REMARKS
FRONT PCB ASS'Y (AH: COP11961B C: COP11961C)				
	CUP11961	PCB , FRONT L54(FR-1, 330X247)	FR-1, 330X247	
CUP11961-1	VFD BOARD			
BK91	CMD1A374	BRACKET , FLT		
BK92	CMD1A374	BRACKET , FLT		
BN91	CJP14GB142ZB	PIN HEADER(14PIN, 2.54mm, ANGL		
C901	HCBS1H223ZFT	CAP , CERAMIC	0.02uF 50V	
C902	HCBS1H223ZFT	CAP , CERAMIC	0.02uF 50V	
C903	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C904	HCBS1H220JCT	CAP , CERAMIC	22pF 50V	
C905	CCEA1HKS2R2T	CAP , ELECT	2.2uF 50V SMALL SIZE	
C906	HCBS1H223ZFT	CAP , CERAMIC	0.02uF 50V	
C907	HCBS1H223ZFT	CAP , CERAMIC	0.02uF 50V	
C909	HCBS1H223ZFT	CAP , CERAMIC	0.02uF 50V	
C910	CCEA1CKS100T	CAP , ELECT	10uF 16V	
C911	HCBS1H223ZFT	CAP , CERAMIC	0.02	
FL91	HFL11BT230GNK	V.F.D	11-BT-230GNK	
IC91	HVILC75725E	IC , VFL DRIVER	LC75725E	
JW91	CWE8102080RV	WIRE(1P)		
R901	CRD25FJ2R2T	RES , CARBON	2.2 OHM 1/4W J	
R902	CRD25FJ100T	RES , CARBON	10 OHM 1/4W J	
R904	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	
R905	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	
R906	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R907	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R908	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R910	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R913	CRD20TF1001T	RES , CARBON	1K /1/5W /F	
R914	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F	
R915	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F	
R916	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F	
R917	CRD20TF3301T	RES , CARBON	3.3K /1/5W/F	
R918	CRD20TF5601T	RES , CARBON	5.6K /1/5W/F	
R924	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F	
R925	CRD20TF3301T	RES , CARBON	3.3K /1/5W/F	
S912	CST1A023ZT	SW , TACT		
S913	CST1A023ZT	SW , TACT		
S914	CST1A023ZT	SW , TACT		
S915	CST1A023ZT	SW , TACT		
S916	CST1A023ZT	SW , TACT		
S917	CST1A023ZT	SW , TACT		
S918	CST1A023ZT	SW , TACT		
S919	CST1A023ZT	SW , TACT		
VR91	CSR2A036Z	ENCODER VR		
CUP11961-2	SENSOR BOARD			
BN92	CWB2B907300EN	WIRE ASS'Y		
C925	CCEA1CKS100T	CAP , ELECT	10uF 16V	
C926	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C929	HCBS1H271KBT	CAP , CERAMIC	270pF 50V	
C930	HCBS1H271KBT	CAP , CERAMIC	270pF 50V	
C931	HCBS1H271KBT	CAP , CERAMIC	270pF 50V	
C932	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
CN91	CJP14GB143ZB	PIN HEADER , DIP SOCKET(14PIN,		
CN93	CJP11GB113ZY	WAFER , CARD CABLE		
D925	CVD1SS133MT	DIODE	1SS133	
D927	HVDSEL2E10CFT	L.E.D , BLUE		
D928	CVD1SS133MT	DIODE	1SS133	
JW96	CWE8102080RV	WIRE(1P)		
R921	CRD20TF1001T	RES , CARBON	1K /1/5W /F	
R922	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F	
R923	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F	
R927	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	
R928	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	
R929	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	
R930	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	
R931	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	
RC91	CRVKSM603TH2E	SENSOR , REMOCON	KSM603TH2E	
S911	CST1A023ZT	SW , TACT		
S920	CST1A023ZT	SW , TACT		
S921	CST1A023ZT	SW , TACT		
S922	CST1A023ZT	SW , TACT		
S924	CST1A023ZT	SW , TACT		
CUP11961-3	VIDEO BOARD			
BN94	CWZL54BN94	WIRE ASS'Y(7P, 150MM)		
BN98	CWZL54BN98	WIRE ASS'Y(5P, 150MM)		
C933	HCBS1H151KBT	CAP , CERAMIC	150pF 50V	
C935	HCBS1H151KBT	CAP , CERAMIC	150pF 50V	
C936	HCBS1H271KBT	CAP , CERAMIC	270pF 50V	
C937	HCBS1H271KBT	CAP , CERAMIC	270pF 50V	
C938	HCBS1H271KBT	CAP , CERAMIC	270pF 50V	
C939	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C941	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C942	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
D939	CVD1SS133MT	DIODE	1SS133	
D940	CVD1SS133MT	DIODE	1SS133	
D941	CVD1SS133MT	DIODE	1SS133	
D942	CVD1SS133MT	DIODE	1SS133	
JK91	CJJ4S027Z	JACK , RCA(3P, WITH SWITCH)		
JK92	CJJ9M003Y	JACK , S-VIDEO(GOLD)		
L942	KLZ9H001Z	BEAD , CORE		
R932	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R933	CRD20TJ224T	RES , CARBON	220 KOHM 1/5W J	
R934	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R935	CRD20TJ224T	RES , CARBON	220 KOHM 1/5W J	
R936	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R937	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R938	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R939	CRD20TJ4R7T	RES , CARBON	4.7 OHM 1/5W J	
R941	CRD20TJ4R7T	RES , CARBON	4.7 OHM 1/5W J	
	CMC1A214	PLATE , EARTH		
CUP11961-4	HEADPHONE BOARD			
BN95	CWB2B905450EN	WIRE ASS'Y		
C943	HCQI1H122JZT	CAP , MYLAR	0.0012uF 50V	
C945	HCQI1H122JZT	CAP , MYLAR	0.0012uF 50V	
C946	CCEA1HKS2R2T	CAP , ELECT	2.2UF 50V SMALL SIZE	
JK93	CJJ2E020Z	JACK		
JW92	CWE8102080RV	WIRE(1P)		
JW93	CWE8102080RV	WIRE(1P)		
L943	KLZ9H001Z	BEAD , CORE		
L944	KLZ9H001Z	BEAD , CORE		
L945	KLZ9H001Z	BEAD , CORE		
R946	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J	
CUP11961-5	MAIN TRANS BOARD			
BN96	CWB1C907300BM	WIRE ASS'Y		
C950	HCQI1H103JZT	CAP , MYLAR	0.01uF 50V	
C951	HCQI1H103JZT	CAP , MYLAR	0.01uF 50V	
C952	HCQI1H104JZT	CAP , MYLAR	0.1uF 50V	
C954	HCQI1H103JZT	CAP , MYLAR	0.01uF 50V	
C955	HCQI1H103JZT	CAP , MYLAR	0.01uF 50V	
C956	HCQI1H104JZT	CAP , MYLAR	0.1uF 50V	
C957	HCQI1H103JZT	CAP , MYLAR	0.01uF 50V	
C958	HCQI1H103JZT	CAP , MYLAR	0.01uF 50V	
C959	HCQI1H104JZT	CAP , MYLAR	0.1uF 50V	
C962 ⚠	CCEA1CH332E	CAP , ELECT	3300uF 16V	
D950	CVD1N4003ST	DIODE , RECT	1N4003	
D951	CVD1N4003ST	DIODE , RECT	1N4003	
D952	CVD1N4003ST	DIODE , RECT	1N4003	
D953	CVD1N4003ST	DIODE , RECT	1N4003	
D954	HVD1N5819T	DIODE , SCHOTTKY	1N5819	
D955	HVD1N5819T	DIODE , SCHOTTKY	1N5819	
D957	HVDSB2100	DIODE , SCHOTTKY	SB2100	
D958	HVDSB2100	DIODE , SCHOTTKY	SB2100	
R950 ⚠	KRQ1AJR47H	RES , FUSE	0.47 OHM 1W J	
R951 ⚠	KRQ1AJR47H	RES , FUSE	0.47 OHM 1W J	
R954 ⚠	KRQ1AJR15H	RES , FUSE	0.15 OHM , 1W J	
R955 ⚠	KRQ1AJR15H	RES , FUSE	0.15 OHM , 1W J	
R957 ⚠	KRQ1AJR15H	RES , FUSE	0.15 OHM , 1W J	
R958 ⚠	KRQ1AJR15H	RES , FUSE	0.15 OHM , 1W J	
CUP11961-6	SUB TRANS BOARD			
BN97	CWB2B907080EN	WIRE ASS'Y(7P, 80MM)		
C960	CCEA1EH101T	CAP , ELECT	100uF 25V	
C961	CCEA1HH100T	CAP , ELECT	10uF 50V	
C963	CCEA1EH332E	CAP , ELECT	3300uF 25V	
C965	HCBS1H223ZFT	CAP , CERAMIC	0.022uF 50V	
C966	CCEA1EH101T	CAP , ELECT	100uF 25V	
C968	CCEA1HH4R7T	CAP , ELECT	4.7uF 50V	
C969	HCBS1H103ZFT	CAP , CERAMIC	0.01uF 50V	
C970	CCEA1HH470T	CAP , ELECT	47uF 50V	
C971	CCEA1HH4R7T	CAP , ELECT	4.7uF 50V	
C973	HCBS1H103ZFT	CAP , CERAMIC	0.01uF 50V	
C974	CCEA1JH101E	CAP , ELECT	100uF 63V	
C975	CCEA1CH471T	CAP , ELECT	470uF 16V	
C976 ⚠	KCKDKS472ME	CAP , CERAMIC(X1/Y2/SC)	0.0047uF/2.5KV	
C977 ⚠	HCQE2E104KDE	CAP , LINE ACROSS		
CN92	CJP07GA19ZY	WAFER, STRAIGHT, 7PIN		

REF NO.	PART NO.	DESCRIPTION		REMARKS
CN97	CJP02KA060ZY	WAFER		
CN99	CJP02GA89ZM	WAFER		
D960	CVD1SS133MT	DIODE	1SS133	
D961	CVD1SS133MT	DIODE	1SS133	
D962	HVD1N5819T	DIODE , SCHOTTKY	1N5819	
D963	CVD1N4003SRT	DIODE , RECT	1N4003	
D964	CVD1SS133MT	DIODE	1SS133	
D966	CVD1SS133MT	DIODE	1SS133	
D967	CVD1SS133MT	DIODE	1SS133	
D968	CVDZJ6.2BT	DIODE , ZENER	6.2V	
D969	CVD1N4003SRT	DIODE , RECT	1N4003	
D971	CVDZJ20BT	DIODE , ZENER	20V	
D972	CVDZJ16BT	DIODE , ZENER 16V	16V	
D973	CVD1N4003ST	DIODE , RECT	1N4003	
D975	CVD1N4003ST	DIODE , RECT	1N4003	
F901	KJCFC5S	HOLDER , FUSE		
F902 ⚠	KBA2D2500TLET	FUSE		
IC92 ⚠	HVIKIA7805API	REGULATOR, +5V	KIA7805API (KEC)	
JW94	CWE8102080RV	WIRE(1P)		"AH" VER. ONLY
JW95	CWE8102080RV	WIRE(1P)		
OL91 ⚠	KJJ7A013Z	AC OUTLET , 1PIN USA	A202D0031P(1P)	"AH" VER. ONLY
OL92 ⚠	KJJ7A022Z	OUTLET , AC(EUR/1P)	A302D0061P	"C" VER. ONLY
Q961	HVTKRC102MT	T.R	KRC102M	
Q968	HVTKTA1271YT	T.R	KTA1271Y	
R960	CRD20TJ390T	RESISTOR	39 OHM 1/5W J	
R961	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	
R963 ⚠	KRQ1AJR47H	RES , FUSE	0.47 OHM 1W J	
R968	CRD20TJ560T	RES , CARBON	56 OHM 1/5W J	
R971	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	
R977 ⚠	HRDERC12UGK335T	RES , CARBON	ERC12UGK 3.3M OHM	"AH" VER. ONLY
RY91 ⚠	CSL1E002ZE	RELAY , POWER	G5PA-1 (DC 6V)	
T902 ⚠	CLT5L056ZW	TRANS , SUB DUAL VOLTAGE		
CUP11961-7	VIDEO BOARD			
BK93	CMD1A387	BRACKET , PCB		
BN81	CWB1C905080BM	WIRE ASS'Y		
BN82	CJP15GA98ZY	WAFER		
C801	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C802	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C803	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C804	CCEA1EH101T	CAP , ELECT	100uF 25V	
C805	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C806	CCEA1EH101T	CAP , ELECT	100uF 25V	
C807	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C811	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C812	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C813	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C817	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C818	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C819	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C821	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C822	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C823	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C824	CCEA1HH100T	CAP , ELECT	10uF 50V	
C825	CCEA1HH100T	CAP , ELECT	10uF 50V	
C826	CCEA1HH100T	CAP , ELECT	10uF 50V	
C827	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C831	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C832	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C833	HCBS1H470JT	CAP , CERAMIC	47pF 50V	
C834	CCEA1HH100T	CAP , ELECT	10uF 50V	
C835	CCEA1HH100T	CAP , ELECT	10uF 50V	
C836	CCEA1HH100T	CAP , ELECT	10uF 50V	
C837	CCEA1HH100T	CAP , ELECT	10uF 50V	
C838	CCEA1HH100T	CAP , ELECT	10uF 50V	

REF NO.	PART NO.	DESCRIPTION		REMARKS
C839	CCEA1HH100T	CAP , ELECT	10uF 50V	
C840	HCBS1H221KBT	CAP , CERAMIC	220pF 50V	"C" VER. ONLY
C841	HCBS1H221KBT	CAP , CERAMIC	220pF 50V	"C" VER. ONLY
C842	CCEA1AH471T	CAP , ELECT	470uF 10V	"C" VER. ONLY
C843	HCBS1H221KBT	CAP , CERAMIC	220pF 50V	"C" VER. ONLY
C844	CCEA1AH471T	CAP , ELECT	470uF 10V	"C" VER. ONLY
C845	HCBS1H221KBT	CAP , CERAMIC	220pF 50V	"C" VER. ONLY
C846	CCEA1AH471T	CAP , ELECT	470uF 10V	"C" VER. ONLY
C847	CCEA1AH471T	CAP , ELECT	470uF 10V	"C" VER. ONLY
C850	CCEA1AH471T	CAP , ELECT	470uF 10V	"C" VER. ONLY
C851	CCEA1EH221T	CAP , ELECT	220uF 25V	
C852	CCEA1EH101T	CAP , ELECT	100uF 25V	
C853	CCEA1EH221T	CAP , ELECT	220uF 25V	
C854	CCEA1EH101T	CAP , ELECT	100uF 25V	
C855	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C856	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C857	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C858	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C861	CCEA1EH101T	CAP , ELECT	100UF 25V	
C862	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C872	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C873	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C891	HCBS1H221KBT	CAP , CERAMIC	220pF 50V	
C892	CCEA1AH471T	CAP , ELECT	470uF 10V	
C893	HCBS1H221KBT	CAP , CERAMIC	220pF 50V	
C894	CCEA1AH471T	CAP , ELECT	470uF 10V	
C895	HCBS1H221KBT	CAP , CERAMIC	220pF 50V	
C896	CCEA1AH471T	CAP , ELECT	470uF 10V	
CN36	CJP20GA147ZW	20 DUAL WAFER		
CN98	CJP05GA19ZY	WAFER, STRAIGHT, 5PIN		
D851	CVD1N4003SRT	DIODE , RECT	1N4003	
D853	CVD1N4003SRT	DIODE , RECT	1N4003	
IC80	CVINJM2595MTE1	I.C , VIDEO S/W	NJM2595MTE1	
IC81	CVINJM2595MTE1	I.C , VIDEO S/W	NJM2595MTE1	
IC82	CVINJM2595MTE1	I.C , VIDEO S/W	NJM2595MTE1	
IC84 ⚠	HVIKIA7805API	REGULATOR, +5V	KIA7805API (KEC)	
IC85 ⚠	CVIKIA7905PI	I.C , REGULATOR(-5V)	KIP7905PI	
IC88	HVIPI5V330SWE	IC , VIDEO SW	PI5V330SWE	
JK80	CJJ9N006Z	JACK (S-VIDEO + CVBS) GOLD, 2P		
JK81	CJJ9N006Z	JACK (S-VIDEO + CVBS) GOLD, 2P		
JK82	CJJ9N006Z	JACK (S-VIDEO + CVBS) GOLD, 2P		
JK83	CJJ9N006Z	JACK (S-VIDEO + CVBS) GOLD, 2P		
JK84	CJJ6K004Z	JACK , SCART(SHIELD PLATE)		"C" VER. ONLY
JK89	CJJ4S014Z	JACK , IN/OUT (R.G.B)	RCA-305AG-06	
L801	KLZ9H001Z	BEAD , CORE		
Q848	HVTKTC2874BT	T.R , MUTE	KTC2874B	"C" VER. ONLY
Q849	HVTKTC2874BT	T.R , MUTE	KTC2874B	"C" VER. ONLY
Q884	HVTKRA102MT	T.R	KRA102M	
Q885	HVTKRC102MT	T.R	KRC102M	
Q887	HVTKRC102MT	T.R	KRC102M	
Q888	HVTKRC102MT	T.R	KRC102M	
R801	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R802	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R803	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R804	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
R805	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
R806	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
R811	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R812	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R813	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R814	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
R815	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
R816	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
R821	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R822	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R823	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R831	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R832	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R833	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R840	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	"C" VER. ONLY
R841	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	"C" VER. ONLY
R843	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	"C" VER. ONLY
R845	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	"C" VER. ONLY
R847	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	"C" VER. ONLY
R848	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	"C" VER. ONLY
R849	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	"C" VER. ONLY
R850	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	"C" VER. ONLY
R884	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	
R885	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	
R886	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R887	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R888	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
R891	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R893	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R895	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
INPUT PCB ASS'Y (AH: COP11962B C: COP11962C)				
	CUP11962	PCB , INPUT L54(FR-4 2LAYER, 1	FR-4 2LAYER, 187X261	
BN23	CWZL54BN23	WIRE ASS'Y(20P, 120MM)		
BN24	CJP19GA117ZY	CARD CABLE , WAFER		
BN32	CJP15GB99ZY	WAFER		
BN41	CJP02GA68ZY	WAFER , 2P MOTOR		
BN93	CJP11GA117ZY	WAFER		
C101	CCUS1H221JA	CAP , CHIP	220pF 50V	
C102	CCUS1H221JA	CAP , CHIP	220pF 50V	
C103	CCEA1HH100T	CAP , ELECT	10uF 50V	
C104	CCEA1HH100T	CAP , ELECT	10uF 50V	
C105	CCUS1H221JA	CAP , CHIP	220pF 50V	
C106	CCUS1H221JA	CAP , CHIP	220pF 50V	
C107	CCEA1HH100T	CAP , ELECT	10uF 50V	
C108	CCEA1HH100T	CAP , ELECT	10uF 50V	
C109	CCUS1H221JA	CAP , CHIP	220pF 50V	
C110	CCUS1H221JA	CAP , CHIP	220pF 50V	
C111	CCEA1HH100T	CAP , ELECT	10uF 50V	
C112	CCEA1HH100T	CAP , ELECT	10uF 50V	
C113	CCUS1H221JA	CAP , CHIP	220pF 50V	
C114	CCUS1H221JA	CAP , CHIP	220pF 50V	
C115	CCEA1HH100T	CAP , ELECT	10uF 50V	
C116	CCEA1HH100T	CAP , ELECT	10uF 50V	
C117	CCEA1HH100T	CAP , ELECT	10uF 50V	
C118	CCEA1HH100T	CAP , ELECT	10uF 50V	
C121	CCME2A224JXT	CAP , METALLIZED FLIM(100V/0.2	0.22uF 100V	
C122	CCEA1HH4R7T	CAP , ELECT	4.7uF 50V	
C123	CCEA1HH100T	CAP , ELECT	10uF 50V	
C124	CCEA1HH100T	CAP , ELECT	10uF 50V	
C125	CCUS1H101JA	CAP , CHIP	100pF 50V	
C126	CCUS1H101JA	CAP , CHIP	100pF 50V	
C127	CCUS1H101JA	CAP , CHIP	100pF 50V	
C128	CCEA1HH1R0T	CAP , ELECT	1uF 50V	
C129	CCEA1HH4R7T	CAP , ELECT	4.7uF 50V	
C130	CCME2A224JXT	CAP , METALLIZED FLIM	0.22uF 100V	
C131	HCQI1H472JZT	CAP , MYLAR	4700pF 50V	
C134	HCQI1H472JZT	CAP , MYLAR	4700pF 50V	
C135	CCEA1EH101T	CAP , ELECT	100uF 25V	
C136	CCEA1EH101T	CAP , ELECT	100uF 25V	
C137	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C138	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C141	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C142	CCEA1AH471T	CAP , ELECT	470uF 10V	

REF NO.	PART NO.	DESCRIPTION		REMARKS
C143	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C144	CCEA1AH471T	CAP , ELECT	470uF 10V	
C145	CCUS1H220JA	CAP , CHIP	22pF 50V	
C146	CCUS1H220JA	CAP , CHIP	22pF 50V	
C147	CCUS1H220JA	CAP , CHIP	22pF 50V	
C148	CCUS1H220JA	CAP , CHIP	22pF 50V	
C149	CCUS1H220JA	CAP , CHIP	22pF 50V	
C150	CCUS1H220JA	CAP , CHIP	22pF 50V	
C151	CCUS1H103KC	CAP , CHIP	0.01uF 50V	
C152	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C153	CCEA1HH100T	CAP , ELECT	10uF 50V	
C154	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C156	CCEA1HH100T	CAP , ELECT	10uF 50V	
C157	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C158	CCEA0JH102T	CAP , ELECT	1000uF 6.3V	
C159	CCEA1EH101T	CAP , ELECT	100uF 25V	
C161	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C162	CCEA1HH100T	CAP , ELECT	10uF 50V	
C168	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C169	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C172	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C173	CCUS1H220JA	CAP , CHIP	22pF 50V	
C174	CCUS1H220JA	CAP , CHIP	22pF 50V	
C175	CCEA1AH471T	CAP , ELECT	470uF 10V	
C176	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C177	CCUS1H220JA	CAP , CHIP	22pF 50V	
C178	CCUS1H220JA	CAP , CHIP	22pF 50V	
C179	CCUS1H220JA	CAP , CHIP	22pF 50V	
C180	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C181	CCEA1AH471T	CAP , ELECT	470uF 10V	
C182	CCUS1H103KC	CAP , CHIP	0.01uF 50V	
C185	CCUS1H471JA	CAP , CHIP	470pF 50V	
C186	CCEA1HH2R2T	CAP , ELECT	2.2uF 50V	
C187	CCUS1H103KC	CAP , CHIP	0.01uF 50V	
C191	CCEA1AH471T	CAP , ELECT	470uF 10V	
C192	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C193	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C194	CCEA1EH101T	CAP , ELECT	100uF 25V	
C195	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C201	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C202	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C203	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C204	CCEA1EH221T	CAP , ELECT	220uF 25V	
C205	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C206	CCEA1EH101T	CAP , ELECT	100uF 25V	
C207	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C208	CCEA1EH221T	CAP , ELECT	220uF 25V	
C209	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C210	CCEA1EH101T	CAP , ELECT	100uF 25V	
C211	CCEA1HH100T	CAP , ELECT	10uF 50V	
C213	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C214	CCUS1H471JA	CAP , CHIP	470pF 50V	
C215	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C216	CCUS1H331JA	CAP , CHIP	330pF 50V	
C218	CCEA1HH100T	CAP , ELECT	10uF 50V	
C221	CCEA1HH100T	CAP , ELECT	10uF 50V	
C223	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C224	CCUS1H471JA	CAP , CHIP	470pF 50V	
C225	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C226	CCUS1H331JA	CAP , CHIP	330pF 50V	
C228	CCEA1HH100T	CAP , ELECT	10uF 50V	
C231	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C232	CCEA1HH100T	CAP , ELECT	10uF 50V	
C233	CCUS1H104KC	CAP , CHIP	0.1uF 50V	

REF NO.	PART NO.	DESCRIPTION		REMARKS
C234	CCEA1HH100T	CAP , ELECT	10uF 50V	
C235	CCUS1H330JA	CAP , CHIP	33pF 50V	
C236	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C237	CCEA1HH100T	CAP , ELECT	10uF 50V	
C238	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C241	CCEA1HH220T	CAP , ELECT	22uF 50V	
C242	CCUS1H100JA	CAP , CHIP	10pF 50V	
C243	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C246	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C252	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C253	CCUS1H101JA	CAP , CHIP	100pF 50V	
C254	CCEA1HH100T	CAP , ELECT	10uF 50V	
C255	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C257	CCME2A224JXT	CAP , METALLIZED FLIM(100V/0.2	0.22uF 100V	
C258	HCQI1H473JZT	CAP , MYLAR	0.047uF 50V	
C259	CCEA1HH100T	CAP , ELECT	10uF 50V	
C261	CCEA1HH100T	CAP , ELECT	10uF 50V	
C262	CCUS1H151JA	CAP , CHIP	150pF 50V	
C263	CCEA1HH100T	CAP , ELECT	10uF 50V	
C265	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C271	CCEA1HH100T	CAP , ELECT	10uF 50V	
C272	CCUS1H151JA	CAP , CHIP	150pF 50V	
C273	CCEA1HH100T	CAP , ELECT	10uF 50V	
C275	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C279	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C281	CCEA1HH100T	CAP , ELECT	10uF 50V	
C282	HCQI1H103JZT	CAP , MYLAR	0.01uF 50V	
C283	CCEA1HH100T	CAP , ELECT	10uF 50V	
C285	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C288	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C291	CCEA1HH100T	CAP , ELECT	10uF 50V	
C292	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C293	CCEA1HH100T	CAP , ELECT	10uF 50V	
C294	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C295	CCUS1H561JA	CAP , CHIP	560pF 50V	
C296	CCUS1H220JA	CAP , CHIP	22pF 50V	
C297	CCUS1H220JA	CAP , CHIP	22pF 50V	
C301	CCUS1H221JA	CAP , CHIP	220pF 50V	
C302	CCUS1H221JA	CAP , CHIP	220pF 50V	
C306	CCEA1EH101T	CAP , ELECT	100uF 25V	
C307	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C311	CCEA1HH2R2T	CAP , ELECT	2.2UF 50V	
C312	CCUS1H220JA	CAP , CHIP	22pF 50V	
C313	CCUS1H220JA	CAP , CHIP	22pF 50V	
C314	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C315	CCEA1AH471T	CAP , ELECT	470uF 10V	
C316	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C317	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C319	CCEA1EH101T	CAP , ELECT	100uF 25V	
C320	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C321	CCEA1EH470T	CAP , ELECT	47uUF 25V	
C322	CCUS1H223KC	CAP , CHIP	0.022uF 50V	"C" VER. ONLY
C325	CCUS1H120JA	CAP , CHIP(12PF/50V/COG/1608)	12pF 50V	
C326	CCUS1H120JA	CAP , CHIP(12PF/50V/COG/1608)	12pF 50V	
C331	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C335	CCUS1H103KC	CAP , CHIP	0.01uF 50V	
C336	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C347	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C354	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C361	CCEA1HH100T	CAP , ELECT	10uF 50V	
C362	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C366	CCEA1EH101T	CAP , ELECT	100uF 25V	
C367	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C391	CCEA1HH100T	CAP , ELECT	10uF 50V	

REF NO.	PART NO.	DESCRIPTION		REMARKS
C392	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C393	CCUS1H101JA	CAP , CHIP	100pF 50V	
C394	CCUS1H101JA	CAP , CHIP	100pF 50V	
C395	CCUS1H101JA	CAP , CHIP	100pF 50V	
CN11	CJP02GA01ZY	WAFER, STRAIGHT, 2PIN		
CN21	CJP15GA115ZY	WAFER , CARD CABLE		
CN35	CJP20GA147ZW	20 DUAL WAFER	JWT	
CN78	CJP07GA19ZY	WAFER, STRAIGHT, 7PIN		
CN94	CJP05GA19ZY	WAFER, STRAIGHT, 5PIN		
CN95	CJP05GA19ZY	WAFER, STRAIGHT, 5PIN		
CN97	CJP07GA19ZY	WAFER, STRAIGHT, 7PIN		
D101	CVD1SS355T	DIODE , CHIP		
D102	CVD1SS355T	DIODE , CHIP		
D169	CVD1SS355T	DIODE , CHIP		
D170	CVD1SS355T	DIODE , CHIP		
D171	CVD1SS355T	DIODE , CHIP		
D172	CVD1SS355T	DIODE , CHIP		
D191	HVD1SR159-200	DIODE , SCHOTTKEY BARRIER		
D201	CVD1SS355T	DIODE , CHIP		
D202	CVD1SS355T	DIODE , CHIP		
D203	HVD1SR159-200	DIODE , SCHOTTKEY BARRIER		
D207	HVD1SR159-200	DIODE , SCHOTTKEY BARRIER		
D241	CVD1SS355T	DIODE , CHIP		
D242	CVD1SS355T	DIODE , CHIP		
D311	CVD1SS355T	DIODE , CHIP		
D312	CVD1SS355T	DIODE , CHIP		
D313	CVD1SS355T	DIODE , CHIP		
D331	CVD1SS355T	DIODE , CHIP		
D344	CVD1SS355T	DIODE , CHIP		"C" VER. ONLY
D446	CVD1SS355T	DIODE , CHIP		
IC11	HVINJW1153FG1	I.C	VOL+FUNC.I.C	
IC17	HVICS493264-CL	I.C , DSP	CS493264	
IC19	CVIKIA1117S33	I.C , REGULATOR(SOT-223)	KIA1117S/F33, SOT-22	
IC20 ⚠	HVIKIA7808API	REGULATOR, +8V	KIA7808 (KEC)	
IC21 ⚠	CVIKIA7908PI	I.C , REGULATOR(TO-220IS)	KIA7908PI TO-220IS	
IC22	HVINJM2068MDTE1	I.C , OP AMP	NJM2068MD-TE1	
IC23	HVI74HCU04AFNG	I.C , INVERTER	TC74HCU04AFNG(TOSHIB	
IC24	BVIKP1010B	IC, PHOTO COUPLER	KP1010B	
IC25	HVINJM2068MDTE1	I.C , OP AMP	NJM2068MD-TE1	
IC26	HVIOPA2134UA	OP AMP	OPA2134UA	
IC28	HVINJM2068MDTE1	I.C , OP AMP	NJM2068MD-TE1	
IC29	HVILC72723M	IC , PLL (RDS)	LC72723M	
IC30	CVIT5CC1	I.C , FLASH U-COM	T5CC1	
IC31	HVIRH5VT18C	I.C , RESET	RICOH 1.8V	
IC32	CVIKIA1117S33	I.C , REGULATOR(SOT-223)	KIA1117S/F33, SOT-22	
IC33	HVIAT24C08N10SC	I.C	AT24C08N10SC2.7	
IC34	HVIAK4589VQ-T	I.C , CODEC + DIR	AK4589VQ	
IC36	HVI74ACT04MTR	I.C , HEX	74ACT04MTR	
IC39	HVI74ACT04MTR	I.C , HEX	74ACT04MTR	
JK11	CJJ4R020W	JACK , BOARD		
JK21	CJJ4M056W	JACK , BOARD		
JK22	HJSTORX177L	MODULE , OPTICAL(RX)	TORX177L	
JK23	HJSTOTX177L	MODULE , OPTICAL(TX)	TOTX177L	
JK24	CJJ2D008Z	JACK , STEREO		
JK25	CJJ4M044Z	JACK , BOARD	GOLD PLATE	
JW11	CWE7202060AA	WIRE ASS'Y		
JW21	CWE7202060AA	WIRE ASS'Y		
L191	HLZ9Z014Z	CHIP , BEAD	HU-1H4516-600JT	
L192	HLZ9Z014Z	CHIP , BEAD	HU-1H4516-600JT	
L193	HLZ9Z014Z	CHIP , BEAD	HU-1H4516-600JT	
L231	HLZ9M011Z	COIL , CHIP(22UH,K)	LEMC3225TYPE	
L301	HLZ9Z014Z	CHIP , BEAD	HU-1H4516-600JT	
Q109	HVTKTD1304T	T.R , CHIP (MUTE)	KTD1304	
Q110	HVTKTD1304T	T.R , CHIP (MUTE)	KTD1304	

REF NO.	PART NO.	DESCRIPTION		REMARKS
Q201	HVTKTD1304T	T.R , CHIP (MUTE)	KTD1304	
Q202	HVTKTD1304T	T.R , CHIP (MUTE)	KTD1304	
Q241	HVTKRA107S	TR, CHIP	KRA107S	
Q242	HVTKRA102S	T.R , CHIP	KRA102S	
Q243	HVTKRC102S	TR , CHIP	KRC102S	
Q246	HVTKRA102S	T.R , CHIP	KRA102S	
Q247	HVTKRC102S	TR , CHIP	KRC102S	
Q311	HVTKRC102S	TR , CHIP	KRC102S	
Q320	HVTKSB811YT	T.R	KSB811Y	
Q324	HVTKRC102S	TR , CHIP	KRC102S	
Q325	HVTKRC102S	TR , CHIP	KRC102S	
Q327	HVTKRC102S	TR , CHIP	KRC102S	
Q341	HVTKRC102S	TR , CHIP	KRC102S	
Q342	HVTKRC102S	TR , CHIP	KRC102S	
Q343	HVTKRC102S	TR , CHIP	KRC102S	
Q344	HVTKRC102S	TR , CHIP	KRC102S	"C" VER. ONLY
Q345	HVTKRA102S	T.R , CHIP	KRA102S	"C" VER. ONLY
Q346	HVTKRC102S	TR , CHIP	KRC102S	"C" VER. ONLY
Q347	HVTKRC102S	TR , CHIP	KRC102S	
Q348	HVTKRA102S	T.R , CHIP	KRA102S	
Q365	HVTKTA1271YT	T.R	KTA1271Y	
Q367	HVTKRC102S	TR , CHIP	KRC102S	
Q448	HVTKRC102S	TR , CHIP	KRC102S	
R101	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R102	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R103	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R104	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R105	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R106	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R107	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R108	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R109	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R110	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R111	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R112	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R113	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R114	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R115	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R116	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R121	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R122	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R123	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R124	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R125	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R130	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R131	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R141	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R142	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R143	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R145	CRJ10DJ105T	RES , CHIP	1608 SIZE	
R146	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R147	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R148	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R149	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R150	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R151	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R152	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R153	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R154	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R155	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R156	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R157	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R158	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R159	CRJ10DJ1R0T	RES , CHIP	1608 SIZE	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R160	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R161	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R162	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R163	CRJ10DJ123T	RES , CHIP	1608 SIZE	
R164	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R165	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R167	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R168	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R169	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R171	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R172	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R173	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R174	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R175	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R176	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R177	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R178	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R179	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R180	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R181	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R182	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R183	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R184	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R185	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R186	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R187	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R189	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R190	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R191	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R192	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R193	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R194	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R195	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R196	CRJ10DJ333T	RES , CHIP	1608 SIZE	
R197	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R198	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R199	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R200	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R201	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R202	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R203	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R204	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R205	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R206	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R207	CRJ10DJ470T	RES , CHIP	1608 SIZE	
R208	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R209	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R210	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R211	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R212	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R213	CRJ10DJ152T	RES , CHIP	1608 SIZE	
R214	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R215	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R216	CRJ10DJ123T	RES , CHIP	1608 SIZE	
R217	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R219	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R221	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R222	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R223	CRJ10DJ152T	RES , CHIP	1608 SIZE	
R224	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R225	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R226	CRJ10DJ123T	RES , CHIP	1608 SIZE	
R227	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R231	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R232	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R233	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R234	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R235	CRJ10DJ750T	RES , CHIP	1608 SIZE	
R236	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R237	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R238	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R239	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R240	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R241	CRJ10DJ271T	RES , CHIP	1608 SIZE	
R242	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R243	CRJ10DJ392T	RES . CHIP	1608 SIZE	
R244	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R245	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R246	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R249	CRJ10DJ334T	RES , CHIP	1608 SIZE	
R250	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R251	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R252	CRJ10DJ273T	RES , CHIP	1608 SIZE	
R253	CRJ10DJ273T	RES , CHIP	1608 SIZE	
R254	CRJ10DJ333T	RES , CHIP	1608 SIZE	
R255	CRJ10DJ153T	RES , CHIP	1608 SIZE	
R256	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R257	CRJ10DJ153T	RES , CHIP	1608 SIZE	
R258	CRJ10DJ153T	RES , CHIP	1608 SIZE	
R261	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R262	CRJ10DJ392T	RES . CHIP	1608 SIZE	
R263	CRJ10DJ123T	RES , CHIP	1608 SIZE	
R264	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R265	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R266	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R271	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R272	CRJ10DJ392T	RES . CHIP	1608 SIZE	
R273	CRJ10DJ123T	RES , CHIP	1608 SIZE	
R274	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R275	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R276	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R279	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R281	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R282	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R283	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R284	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R285	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R286	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R287	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R291	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R292	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R293	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R301	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R302	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R303	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R304	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R305	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R306	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R307	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R309	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R311	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R312	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R313	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R316	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R318	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R320	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R321	CRJ10DJ223T	RES , CHIP	1608 SIZE	
R322	CRJ10DJ223T	RES , CHIP	1608 SIZE	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R323	CRJ10DJ682T	RES , CHIP	1608 SIZE	
R324	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R325	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R326	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R327	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R328	CRJ10DJ103T	RES , CHIP	1608 SIZE	"AH" VER. ONLY
R329	CRJ10DJ103T	RES , CHIP	1608 SIZE	"AH" VER. ONLY
R331	CRJ10DJ103T	RES , CHIP	1608 SIZE	"AH" VER. ONLY
R332	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	"C" VER. ONLY
R333	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	"C" VER. ONLY
R334	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R335	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	"C" VER. ONLY
R336	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R337	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R339	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R340	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R341	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R342	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R343	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R344	CRJ10DJ103T	RES , CHIP	1608 SIZE	"C" VER. ONLY
R345	CRJ10DJ334T	RES , CHIP	1608 SIZE	"C" VER. ONLY
R346	CRJ10DJ332T	RES , CHIP	1608 SIZE	"C" VER. ONLY
R347	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R348	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R349	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R350	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R351	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R352	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R353	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R354	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R355	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R356	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R357	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R358	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R359	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R360	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R361	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R363	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R365	CRJ14CJ101T	RES , CHIP 1/4W	3216 SIZE	
R366	CRJ14CJ101T	RES , CHIP 1/4W	3216 SIZE	
R367	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R368	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R369	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R370	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R395	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R396	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R397	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R398	CRJ10DJ104T	RES , CHIP	1608 SIZE	
X141	H0X12288E220TFB	CRYSTAL(HC-49/S,ATS)		
X291	H0X04332E200C	CRYSTAL		
X301	H0X00032K120I	CRYSTAL , 32.768KHZ	TUNING FORK	
X311	H0X27000E180S	CRYSTAL , CHIP(27MHZ,SMD)	HC-49/US	
AMP PCB ASS'Y (AH: COP11964B C: COP11964C)				
	CUP11964	PCB , AMP L54(FR-1, 330X197)	FR-1, 330X197	
CUP11964-1	**POWER BOARD**			
BN75	CWB2B905080EN	WIRE ASS'Y		
BN76	CWB2B907080EN	WIRE ASS'Y(7P, 80MM)		
C703	HCQI1H473JZT	CAP , MYLAR	0.047uF 50V	
C704	HCQI1H473JZT	CAP , MYLAR	0.047uF 50V	
C705	HCQI1H473JZT	CAP , MYLAR	0.047uF 50V	
C706	HCQI1H473JZT	CAP , MYLAR	0.047uF 50V	
C707 ⚠	CCET63VKL5682NK	CAP , ELECT (30X35)	6800uF 63V	
C708 ⚠	CCET63VKL5682NK	CAP , ELECT (30X35)	6800uF 63V	
C711	CCEA1EH332E	CAP , ELECT	3300uF 25V	

REF NO.	PART NO.	DESCRIPTION		REMARKS
C712	CCEA1EH222E	CAP , ELECT	2200uF 25V	
C713	CCEA1CH471T	CAP , ELECT	470uF 16V	
C714	CCEA1EH101T	CAP , ELECT	100uF 25V	
C715	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C716	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C717	CCEA1CKL5123E	CAP , ELECT	12000uF 16V	
C718	CCEA1EH101T	CAP , ELECT	100uF 25V	
C719	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C720	CCEA1CH332E	CAP , ELECT	3300uF 16V	
C721	CCEA1CH682E	CAP , ELECT	6800uF 16V	
C722	CCEA1AH471T	CAP , ELECT	470uF 10V	
C723	HCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V	
C740	CCEA1HH470T	CAP , ELECT	47uF 50V	
C741	HCBS1H103ZFT	CAP , CERAMIC	0.01uF 50V	
C742	HCBS1H103ZFT	CAP , CERAMIC	0.01uF 50V	
C751	CCEA1AH471T	CAP , ELECT	470uF 10V	
C763	CCEA1HH4R7T	CAP , ELECT	4.7uF 50V	
C764	HCBS1H103ZFT	CAP , CERAMIC	0.01uF 50V	
C773	CCEA1HH220T	CAP , ELECT	22uF 50V	
C793	CCEA1HH100T	CAP , ELECT	10uF 50V	
C794	HCBS1H103ZFT	CAP , CERAMIC	0.01uF 50V	
CN71	CJP03GA90ZY	WAFER		
D701 ⚠	HVDGBJ606	DIODE , BRIDGE		
D754	CVD1SS133MT	DIODE	1SS133	
D761	CVD1SS133MT	DIODE	1SS133	
D762	CVD1SS133MT	DIODE	1SS133	
D771	CVD1SS133MT	DIODE	1SS133	
D794	CVD1SS133MT	DIODE	1SS133	
Q740	HVTKSC2785YT	T.R	KSC2785Y	
Q741	HVTKSC2785YT	T.R	KSC2785Y	
Q742	HVTKSA1175YT	T.R	KSA1175Y(DEAD)	
Q755	HVTKSC2785YT	T.R	KSC2785Y	
Q756	HVTKSC2785YT	T.R	KSC2785Y	
Q757	HVTKRA107MT	T.R	KRA107M	
Q763	HVTKSA1175YT	T.R	KSA1175Y(DEAD)	
Q774	HVTKRA107MT	T.R	KRA107M	
Q775	HVTKRC107MT	T.R	KRC107M	
Q791	HVTKRC107MT	T.R	KRC107M	
Q792	HVTKRA107MT	T.R	KRA107M	
Q793	HVTKRC107MT	T.R	KRC107M	
R707	CRD25TJ393T	RES , CARBON	39K OHM 1/4W J	
R708	CRD25TJ393T	RES , CARBON	39K OHM 1/4W J	
R709	CRD25TJ393T	RES , CARBON	39K OHM 1/4W J	
R710	CRD25TJ393T	RES , CARBON	39K OHM 1/4W J	
R711	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R712	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R713	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R714	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R717	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R718	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R720	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R721	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
R722	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R731	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R732	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R733	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R734	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R735	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R737	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R738	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R739	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R740	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	
R741	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	
R751	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R752	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	
R753	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R754	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R755	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R763	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	
R764	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R771	CRD20TJ822T	RES , CARBON	8.2K OHM 1/5W J	
R772	CRD20TJ202T	RES , CARBON	2K OHM 1/5W J	
R773	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R774	CRD20TJ105T	RES , CARBON	1M OHM 1/5W J	
R794	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	
RY71	CSL3A017ZU	RELAY	G5PA-28	
TH71 ⚠	CRTSYPSX10850JD	POSISTOR ASS'Y(120 degree)	CYPSX10850JD	
CUP11964-2	AMP BOARD			
BK91	CMD1A387	BRACKET , PCB		
BN63	HJP06GB131ZK	CONNECTOR(PLUG)		
BN64	HJP06GB131ZK	CONNECTOR(PLUG)		
BN65	HJP06GB131ZK	CONNECTOR(PLUG)		
C605	CCEA1HH100T	CAP , ELECT	10uF 50V	
C606	CCEA1HH100T	CAP , ELECT	10uF 50V	
C607	CCKT1H102KB	CAP , CERAMIC	1000pF 50V	
C608	CCKT1H102KB	CAP , CERAMIC	1000pF 50V	
C613	CCKT1H681KB	CAP , CERAMIC	680pF 50V	
C614	CCKT1H681KB	CAP , CERAMIC	680pF 50V	
C619	CCEA1EH101T	CAP , ELECT	100uF 25V	
C620	CCEA1EH101T	CAP , ELECT	100uF 25V	
C627	CCEA1EH101T	CAP , ELECT	100uF 25V	
C628	CCEA1EH101T	CAP , ELECT	100uF 25V	
C629	CCEA1JH221E	CAP , ELECT	220uF 63V	
C630	CCEA1JH221E	CAP , ELECT	220uF 63V	
C631	CCEA1JH221E	CAP , ELECT	220uF 63V	
C632	CCEA1JH221E	CAP , ELECT	220uF 63V	
C633	CCCT1H120JC	CAP , CERAMIC	12pF 50V	
C634	CCCT1H120JC	CAP , CERAMIC	12pF 50V	
C635	CCCT1H330JC	CAP , CERAMIC	33pF 50V	
C636	CCCT1H330JC	CAP , CERAMIC	33pF 50V	
C657	CCEA1HH100T	CAP , ELECT	10uF 50V	
C658	CCEA1HH100T	CAP , ELECT	10uF 50V	
C675	CCEA1HH100T	CAP , ELECT	10uF 50V	
C676	CCEA1HH100T	CAP , ELECT	10uF 50V	
C685	HCQI1H473JZT	CAP , MYLAR	0.047uF 50V	
C686	HCQI1H473JZT	CAP , MYLAR	0.047uF 50V	
C687	HCQI1H562JZT	CAP , MYLAR	5600pF 50V	
C688	HCQI1H562JZT	CAP , MYLAR	5600pF 50V	
C689	HCQI1H562JZT	CAP , MYLAR	5600pF 50V	
C690	HCQI1H562JZT	CAP , MYLAR	5600pF 50V	
CN23	CJP07GA19ZY	WAFER, STRAIGHT, 7PIN		
CN24	CJP19GA117ZY	CARD CABLE , WAFER		
CN63	HJP06GA130ZK	CONNECTOR(SOCKET)		
CN64	HJP06GA130ZK	CONNECTOR(SOCKET)		
CN65	HJP06GA130ZK	CONNECTOR(SOCKET)		
CN67	CJP02GA01ZY	WAFER, STRAIGHT, 2PIN		
CN68	CJP02GA01ZY	WAFER, STRAIGHT, 2PIN		
CN81	CJP05GA01ZY	CON WAFER YMW025-05R		
CN96	CJP07GA01ZY	WAFER, STRAIGHT, 7PIN		
D619	CVD1SS133MT	DIODE	1SS133	
D620	CVD1SS133MT	DIODE	1SS133	
D645	CVD1SS133MT	DIODE	1SS133	
D646	CVD1SS133MT	DIODE	1SS133	
D698	CVD1SS133MT	DIODE	1SS133	
D699	CVD1SS133MT	DIODE	1SS133	
IC75 ⚠	HVIKIA78R05PI	REGULATOR (5V OUTPUT LOW DROP)	KIA78R05PI	
JK61	CJJ5P011Z	TERMINAL , SPEAKER		
JW78	CWZQDR1000JW51	WIRE ASS'Y (GND)	JW51	

REF NO.	PART NO.	DESCRIPTION		REMARKS
JW79	CWE8202150AA	WIRE ASS'Y		
L681	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	
L682	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	
Q603	HVTKTC2874BT	T.R , MUTE	KTC2874B	
Q604	HVTKTC2874BT	T.R , MUTE	KTC2874B	
Q609	HVTKTC3200GRT	T.R	KTC3200GR	
Q610	HVTKTC3200GRT	T.R	KTC3200GR	
Q611	HVTKTC3200GRT	T.R	KTC3200GR	
Q612	HVTKTC3200GRT	T.R	KTC3200GR	
Q621	HVTKTC3200GRT	T.R	KTC3200GR	
Q622	HVTKTC3200GRT	T.R	KTC3200GR	
Q623	HVTKTC3198YT	T.R	KTC3198Y	
Q624	HVTKTC3198YT	T.R	KTC3198Y	
Q635	HVTKTA1268GRT	T.R	KTA1268GR	
Q636	HVTKTA1268GRT	T.R	KTA1268GR	
Q637	HVTKTA1268GRT	T.R	KTA1268GR	
Q638	HVTKTA1268GRT	T.R	KTA1268GR	
Q641	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	
Q642	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	
Q647	HVTKTC3200GRT	T.R	KTC3200GR	
Q648	HVTKTC3200GRT	T.R	KTC3200GR	
Q649	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	
Q650	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	
Q657 ⚠	HVTKTC3114A	T.R , BIAS	KTC3114A	
Q658 ⚠	HVTKTC3114A	T.R , BIAS	KTC3114A	
Q663 ⚠	HVT2SD2389P-0KM	TR , POWER (DARLINGTON TYPE)		
Q664 ⚠	HVT2SD2389P-0KM	TR , POWER (DARLINGTON TYPE)		
Q665 ⚠	HVT2SB1559P-0KM	TR , POWER (DARLINGTON TYPE)		
Q666 ⚠	HVT2SB1559P-0KM	TR , POWER (DARLINGTON TYPE)		
Q677	HVTKSC2785YT	T.R	KSC2785Y	
Q678	HVTKSC2785YT	T.R	KSC2785Y	
Q698	HVTKRC107MT	T.R	KRC107M	
Q699	HVTKTA1024YT	T.R	KTA1024Y	
R601	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R602	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R603	CRD20TJ202T	RES , CARBON	2K OHM 1/5W J	
R604	CRD20TJ202T	RES , CARBON	2K OHM 1/5W J	
R605	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	
R606	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	
R609	C3A206	WIRE , COPPER	JUMPER	
R610	C3A206	WIRE , COPPER	JUMPER	
R611	C3A206	WIRE , COPPER	JUMPER	
R612	C3A206	WIRE , COPPER	JUMPER	
R613	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R614	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R615	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R616	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R617	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R618	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R619	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	
R620	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	
R621	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R622	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R623	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	
R624	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	
R625	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	
R626	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	
R627	CRD20TJ202T	RES , CARBON	2K OHM 1/5W J	
R628	CRD20TJ202T	RES , CARBON	2K OHM 1/5W J	
R631	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	
R632	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	
R633	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R634	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R635	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R636	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R637	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R638	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R639	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R640	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R641	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R642	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R643	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	
R644	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	
R645	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R646	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R647	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R648	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	
R649	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R650	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	
R651	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	
R652	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	
R653	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R654	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	
R657	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R658	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	
R659	CRD25FJ180T	RES , CARBON	18 OHM 1/4W F	
R660	CRD25FJ180T	RES , CARBON	18 OHM 1/4W F	
R661	CRD25FJ180T	RES , CARBON	18 OHM 1/4W F	
R662	CRD25FJ180T	RES , CARBON	18 OHM 1/4W F	
R663	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	
R664	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	
R665	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	
R666	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	
R667	CRF5EKR22H	RES , CEMENT	0.22 OHM 5W K	
R668	CRF5EKR22H	RES , CEMENT	0.22 OHM 5W K	
R669	CRF5EKR22H	RES , CEMENT	0.22 OHM 5W K	
R670	CRF5EKR22H	RES , CEMENT	0.22 OHM 5W K	
R671	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R672	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R673	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	
R674	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J	
R675	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R676	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R677	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	
R678	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	
R679	CRD25FJ470T	RES , CARBON	47 OHM 1/4W J	
R680	CRD25FJ470T	RES , CARBON	47 OHM 1/4W J	
R681	CRD25FJ470T	RES , CARBON	47 OHM 1/4W J	
R682	CRD25FJ470T	RES , CARBON	47 OHM 1/4W J	
R683	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	
R684	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	
R685	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	
R686	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	
R690	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	
R691	CRG1ANJ331H	RES , METAL OXIDE FILM	330 OHM 1W J	
R692	CRG1ANJ331H	RES , METAL OXIDE FILM	330 OHM 1W J	
R698	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	
R699	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	
VR67	CVN1RE221B01T	RES , SEMI FIXED (220 OHM)	PA0630N0X0X-VA1-054	
VR68	CVN1RE221B01T	RES , SEMI FIXED (220 OHM)	PA0630N0X0X-VA1-054	
CUP11964-3	REG. BOARD			
C725	CCEA1EH101T	CAP , ELECT	100uF 25V	
CN75	CJP05GA19ZY	WAFER, STRAIGHT, 5PIN		
CN76	CJP07GA19ZY	WAFER, STRAIGHT, 7PIN		
D725	HVDSB2100	DIODE , SCHOTTKY		
IC72 ⚠	HVIKIA7812API	I.C , REGULATOR	KIA78XXAPI	
IC73 ⚠	HVIKIA7912PI	I.C , REGULATOR	KIA79XXPI	
IC74 ⚠	HVIKIA278R05PI	REGULATOR (5V OUTPUT LOW DROP)	KIA278R05PI	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R725	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	
CUP11964-4	CONNECTION BOARD			
BN32	CJP15GB99ZY	WAFER		
CN25	CJP15GA98ZY	WAFER		
CUP11964-5	UPDATE WIRE BOARD			
BN79	CWB2B907250EN	WIRE ASS'Y		
CN78	CJP07HA37ZM	WAFER		
MPEG PCB ASS'Y (ALL: CIP11975BSMD)				
	CUP11975	PCB , MPEG L54(4 LAYER, 132X14	FR-4, 4 LAYER, 132X1	
BN33	CWE8102080RV	WIRE(1P)		
C301	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C302	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C303	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C304	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C305	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C306	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C307	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C308	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C309	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C310	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C311	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C312	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C313	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C314	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C315	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C316	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C317	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C318	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C321	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C322	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C323	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C324	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C325	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C326	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C327	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C328	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C329	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C330	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C331	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C332	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C333	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C334	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C335	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C336	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C337	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C338	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C339	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C340	HCSGA0J220B	CAP , CHIP , TANTAL		
C341	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C342	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C343	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C344	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C345	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C346	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C350	CCUS1H153KC	CAP , CHIP	0.015uF 50V	
C353	CCUS1H150JA	CAP , CHIP	15pF 50V	
C354	CCUS1H150JA	CAP , CHIP	15pF 50V	
C357	CCUS1H220JA	CAP , CHIP	22pF 50V	
C358	CCUS1H330JA	CAP , CHIP	33pF 50V	
C359	CCUS1H220JA	CAP , CHIP	22pF 50V	
C360	HCSGA0J220B	CAP , CHIP , TANTAL		
C361	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C362	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C363	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	

REF NO.	PART NO.	DESCRIPTION		REMARKS
C364	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C365	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C366	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C367	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C368	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C369	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C370	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C372	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C373	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C375	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C382	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
C385	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
C388	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
C391	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
C401	HCEC0JRV2221T	CAP , CHIP ELECT(220UF/6.3V)	220uF 6.3V	
C402	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C403	CCUS1H560JA	CAP , CHIP	56pF 50V	
C404	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C405	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C406	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C407	CCUS1H220JA	CAP , CHIP	22pF 50V	
C408	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C409	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C411	CCUS1H272KC	CAP , CHIP	2700pF 50V	
C412	CCUS1H273KC	CAP , CHIP	0.027uF 50V	
C413	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C414	HCEC0JRV2221T	CAP , CHIP ELECT(220UF/6.3V)	220uF 6.3V	
C415	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C416	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C417	CCUS1H273KC	CAP , CHIP	0.027uF 50V	
C418	CCUS1H561JA	CAP , CHIP	560pF 50V	
C419	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C421	HCEC0JRV2221T	CAP , CHIP ELECT(220UF/6.3V)	220uF 6.3V	
C422	HCEC0JRV2221T	CAP , CHIP ELECT(220UF/6.3V)	220uF 6.3V	
C423	HCEC0JRV2220T	CAP , CHIP ELECT	22uF/6.3V	
C424	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C425	HCEC0JRV2220T	CAP , CHIP ELECT	22uF/6.3V	
C426	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C427	CCUS1H560JA	CAP , CHIP	56pF 50V	
C428	HCEC0JRV2220T	CAP , CHIP ELECT	22uF/6.3V	
C429	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C430	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C431	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C432	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C434	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C435	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C436	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C437	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C438	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C439	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C440	CCUS1H222KC	CAP , CHIP	2200pF 50V	
C441	CCUS1H222KC	CAP , CHIP	2200pF 50V	
C442	CCUS1H222KC	CAP , CHIP	2200pF 50V	
C443	CCUS1H222KC	CAP , CHIP	2200pF 50V	
C444	CCUS1H330JA	CAP , CHIP	33pF 50V	
C445	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C446	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C447	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C448	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C449	CCUS1H682KC	CAP , CHIP	6800pF 50V	
C450	CCUS1H223KC	CAP , CHIP	0.022uF 50V	
C451	CCUS1H221JA	CAP , CHIP	220pF 50V	
C452	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C453	CCUS1H272KC	CAP , CHIP	2700pF 50V	

REF NO.	PART NO.	DESCRIPTION		REMARKS
C454	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C456	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C457	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C458	HCEC1ERV24R7T	CAP , CHIP ELECT	4.7uF 25V	
C460	CCUS1H562KC	CAP , CHIP CERAMIC(1608, 5600p	5600pF 50V	
C461	CCUS1H562KC	CAP , CHIP CERAMIC(1608, 5600p	5600pF 50V	
C462	CCUS1H562KC	CAP , CHIP CERAMIC(1608, 5600p	5600pF 50V	
C465	CCUS1H471JA	CAP , CHIP	470pF 50V	
C467	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C468	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C469	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C470	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C471	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C472	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C473	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C474	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C475	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C476	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C477	CCUS1H333KC	CAP , CHIP	0.033uF 50V	
C478	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C479	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C480	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C481	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C482	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C483	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C484	HCEC0JRV2470T	CAP , CHIP ELECT	47uF/6.3V	
C485	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C486	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C487	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C488	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C489	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C490	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C491	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C492	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C493	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C494	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C495	HCEC0JRV2101T	CAP , CHIP ELECT	100uF/6.3V	
C496	HCEC0JRV2221T	CAP , CHIP ELECT(220UF/6.3V)	220uF 6.3V	
C497	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C498	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C499	CCUS1H104KC	CAP , CHIP	0.1uF 50V	
C520	HCSGA0J220B	CAP , CHIP , TANTAL	1000pF 50V	
C581	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C582	CCUS1H560JA	CAP , CHIP	56pF 50V	
C583	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C584	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C585	CCUS1H102KC	CAP , CHIP	1000pF 50V	
C586	CCUS1H102KC	CAP , CHIP	1000pF 50V	
CN35	CJP20GB163ZW	WAFER		
CN36	CJP20GB163ZW	WAFER		
CN41	CJP05GB46ZY	WAFER		
CN42	CJP06GB46ZY	WAFER , ANGLE , 6PIN		
CN43	CJP24GB197ZM	WAFER , CARD CABLE (SMD)		
D411	HVD1SR159-200	DIODE , SCHOTTKEY BARRIER		
D412	HVD1SR159-200	DIODE , SCHOTTKEY BARRIER		
D413	HVDRB160L60TE25	DIODE , SCHOTTKEY BARRIER HK	RB160L-60TE25	
D431	HVD1SR159-200	DIODE , SCHOTTKEY BARRIER		
D441	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	
D442	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	
IC31	HVIM29W160ET70N	IC,16M FLASH (ST)	M29W160ET-70N6	
IC32	HVIM12L64164A7T	IC, 64M SDRAM (4X16)	M12L64164A7T	
IC33	HVIZR36778	IC,MPEG (ZORAN)	ZR36778	
IC34	HVIAT24C08N10SC	I.C	AT24C08N10SC2.7	
IC41	HVITL3472IDR	IC,OP AMP 8-SOIC (TI)	TL3472IDR	

REF NO.	PART NO.	DESCRIPTION		REMARKS
IC42	HVIAM5888SLF	I. C , Motor Driver(AMtek,Pb f	AM5888S L/F	
IC43	HVIZR36707	IC,RF (ZORAN)	ZR36707	
IC44	BVIBH7862FS	IC , 6CH VIDEO DRIVER	ROHM (BH7862FS)	
IC45	CVIKIA1117S33	I.C , REGULATOR(SOT-223)	KIA1117S/F33, SOT-22	
IC46	CVIKIA1117S18	I.C , REGULATOR(SOT-223)	KIA1117S/F18, SOT-22	
L341	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L351	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L361	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L362	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L363	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L364	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L411	HLQ08ER68KRZ	CHIP FERRITE INDUCTOR	2012-R68UH	
L412	HLQ08ER68KRZ	CHIP FERRITE INDUCTOR	2012-R68UH	
L413	HLQ08ER39KRZ	CHIP FERRITE INDUCTOR	2012-R39UH	
L431	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE	
L432	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE	
L433	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE	
L451	HLZ9Z008Z	CHIP , BEAD		
L482	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L483	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L484	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L491	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L492	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
L493	HLZ9R001Z	FB, 2012(0805)600E, 1.5A,POWER	600E, 1.5A	
Q431	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS	
Q432	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS	
Q433	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS	
Q441	HVTKTA1664YP	tr		
Q442	HVTKTA1664YP	tr		
R301	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R302	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R303	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R304	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R305	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R308	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R309	CRJ10DJ222T	RES , CHIP	1608 SIZE	
R311	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	
R312	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	
R313	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	
R314	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	
R315	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	
R316	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	
R317	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	
R318	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	
R320	CRJ10DJ330T	RES , CHIP	1608 SIZE	
R321	CRJ10DJ330T	RES , CHIP	1608 SIZE	
R322	CRJ10DJ330T	RES , CHIP	1608 SIZE	
R323	CRJ10DJ330T	RES , CHIP	1608 SIZE	
R331	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R334	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R335	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R336	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R337	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R341	CRJ10DJ330T	RES , CHIP	1608 SIZE	
R342	CRJ10DJ750T	RES , CHIP	1608 SIZE	
R343	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R344	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R345	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R346	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R347	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R348	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R349	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R350	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R351	CRJ10DJ750T	RES , CHIP	1608 SIZE	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R352	CRJ10DJ750T	RES , CHIP	1608 SIZE	
R353	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R354	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R355	CRJ10DF3920T	RES. CHIP (392R 1%)	1608 SIZE	
R361	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R362	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R363	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R364	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R365	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R371	CRJ10DJ121T	RES , CHIP	1608 SIZE	
R372	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R373	CRJ10DJ202T	RES , CHIP	1608 SIZE	
R374	CRJ10DJ202T	RES , CHIP	1608 SIZE	
R376	CRJ10DJ121T	RES , CHIP	1608 SIZE	
R377	CRJ10DJ121T	RES , CHIP	1608 SIZE	
R378	CRJ10DJ121T	RES , CHIP	1608 SIZE	
R381	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R382	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R383	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R384	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R401	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R402	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R403	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R404	CRJ10DJ113T	RES , CHIP	1608 SIZE	
R405	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R406	CRJ10DJ223T	RES , CHIP	1608 SIZE	
R407	CRJ10DJ223T	RES , CHIP	1608 SIZE	
R408	CRJ10DJ105T	RES , CHIP	1608 SIZE	
R409	CRJ10DJ332T	RES , CHIP	1608 SIZE	
R410	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R411	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R412	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R413	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R414	CRJ10DJ622T	RES , CHIP	1608 SIZE	
R415	CRJ10DJ113T	RES , CHIP	1608 SIZE	
R416	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R417	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R418	CRJ10DJ113T	RES , CHIP	1608 SIZE	
R419	CRJ10DJ273T	RES , CHIP	1608 SIZE	
R420	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R421	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R422	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R423	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R425	CRJ10DF4700T	RES, CHIP 470 OHM/1608/1%	1608 SIZE	
R426	CRJ10DF4700T	RES, CHIP 470 OHM/1608/1%	1608 SIZE	
R427	CRJ10DF1002T	RES , CHIP 1%	10K /1/10W/F	
R428	CRJ10DF1002T	RES , CHIP 1%	10K /1/10W/F	
R429	CRJ10DF1002T	RES , CHIP 1%	10K /1/10W/F	
R431	CRJ10DJ202T	RES , CHIP	1608 SIZE	
R432	CRJ10DJ202T	RES , CHIP	1608 SIZE	
R433	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R434	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R435	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R436	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R437	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R439	CRJ10DJ151T	RES , CHIP	1608 SIZE	
R441	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R442	CRJ10DJ220T	RES , CHIP	1608 SIZE	
R443	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R444	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R445	CRJ10DJ220T	RES , CHIP	1608 SIZE	
R446	CRJ10DJ133T	RES , CHIP	1608 SIZE	
R447	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R452	CRJ10DJ472T	RES , CHIP	1608 SIZE	

REF NO.	PART NO.	DESCRIPTION		REMARKS
R453	CRJ10DJ912T	RES , CHIP	9.1K OHM/1608	
R460	CRJ10DJ132T	RES , CHIP	1608 SIZE	
R461	CRJ10DJ132T	RES , CHIP	1608 SIZE	
R462	CRJ10DJ272T	RES , CHIP	1608 SIZE	
R465	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R466	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R467	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R468	CRJ10DF1202T	RES , CHIP 1%	1608 SIZE	
R471	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R495	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R496	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R816	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R817	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
R818	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%	
X301	H0X27000E180S	CRYSTAL , CHIP(27MHZ,SMD)	HC-49/US	
Others				
	CABR03P	BATTERY (SIZE 'AAA') 2PCS IN 1		
	CLR001	ANT , FM ADAPTOR BROWN(300-750	P-03P1-002A	
	CQX1A956U	MANUAL , INSTRUCTION L54C		
	CSA1A032Z	ANT , AM LOOP		
	CSA267	ANT , FM.T (LUG TYPE)		
⚠	HDMF410T12L1C01	FAN , MOTOR	BFQ-1	
⚠	CJA2B043ZA	CORD , POWER(EUR)		"C" VER. ONLY
⚠	CJA523FBYA	CORD , POWER		"AH" VER. ONLY
CN93	CWC4F2A11A250B	CABLE , CARD(11P, 250MM)		
CN21	CWC4C4A15B060B	CABLE , CARD(1P, 60MM)		
CN24	CWC4F2A19A080B	CABLE , CARD(19P, 80MM)		
F901 ⚠	KBA2C2500TLEY	FUSE		"C" VER. ONLY
F901 ⚠	KBA2C5000TLEY	FUSE	5A/250V(EUR)	"AH" VER. ONLY
PCB5	CNVMB014MA1J8L	MODULAE , TUNER ASIS	KST-MB014MA1-J8L	"C" VER. ONLY
PCB5	CNVMB014MA0J8LS	MODULE , TUNER USA	KST-MB014MA0-J8LS	"AH" VER. ONLY
T901	CLT5R038ZE	TRANS , MAIN POWER L54C	L54C	"C" VER. ONLY
T901	CLT5R038ZU	TRANS , MAIN POWER L54AH	L54AH	"AH" VER. ONLY