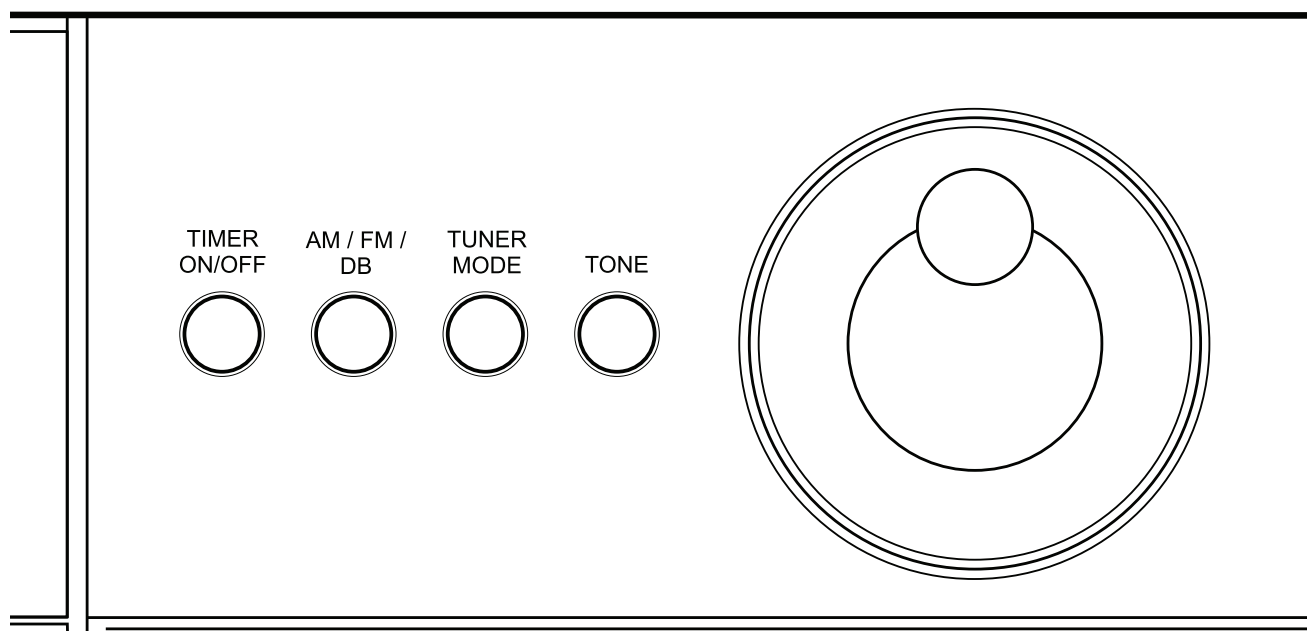


SERVICE MANUAL



Before SN A9YVISOTWO06301

VISO TWO
DVD Receiver

VISO TWO
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.

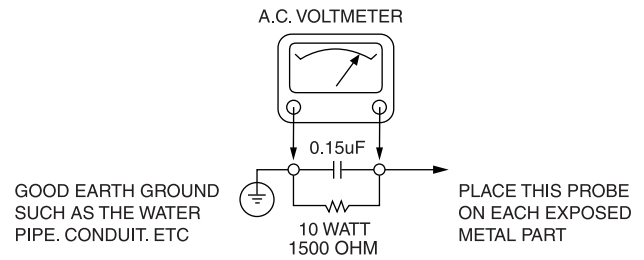
SAFETY CHECKS

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 MILLIAMPER 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 COMMERCIAL 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 2 x 50W

IHF dynamic power; 8 Ω 2 x 70W

IHF dynamic power; 4 Ω 2 x 100W

Total harmonic distortion at rated power 0.08%

IM distortion at rated power 0.08%

Damping factor, 8 Ω >60

Input sensitivity and impedance 300mV/47kohms

Frequency response 20 to 20,000 Hz \pm 0.5dB

Signal/noise ratio >100dB(ref rated power / 8ohms A-WTD)

Signal/noise ratio >85dB(ref 1W / 8ohms A-WTD)

TUNER SECTION

AM SECTION

Tuning range

522kHz -1620kHz(Europe version, 9kHz steps)

530kHz -1710kHz(North America version, 10kHz steps)

Usable sensitivity 60dBu

S/N ratio 40dB

Total Harmonic Distortion 1.5%

FM SECTION

Tuning range 87.5MHz ~ 108MHz

Usable sensitivity, MONO 10dBu

S/N Ratio MONO 70dB

S/N Ratio STEREO 65dB

Total Harmonic Distortion, MONO 0.3%

Total Harmonic Distortion, STEREO 0.3%

Channel Separation 50dB

RDS decode sensitivity 0.2%

DVD SECTION

SYSTEM Signal system PAL/NTSC/Auto

Laser Two wavelength laser diode

CD Wavelength 790nm

DVD Wavelength 650nm

Frequency response 20 to 20,000 Hz \pm 0.5dB

Signal-to-noise ratio (audio) 100dB(A-WTD)

Dynamic range (audio) 95dB(A-WTD)

Total Harmonic Distortion 0.02%

OUTPUT Video out 1Vp-p/ 75ohms

S-video (Y signal) 1Vp-p/ 75ohms

S-video (C signal) 0.286 Vp-p/ 75ohms

Component (Y signal) 1Vp-p/ 75ohms

Component (Cb/Cr signal) 0.7Vp-p/ 75ohms

SCART (RGB signal) 0.7Vp-p/ 75ohms

HDMI Video Out Ver 1.0 x 1

Digital out (coaxial) Coaxial x 1 (0.5 Vp-p/75ohms)

Digital out (optical) Optical x 1 (-15dBm~-21dBm)

Digital out (HDMI) Ver 1.0 x 1

Audio Out Video x 1, Monitor x 1

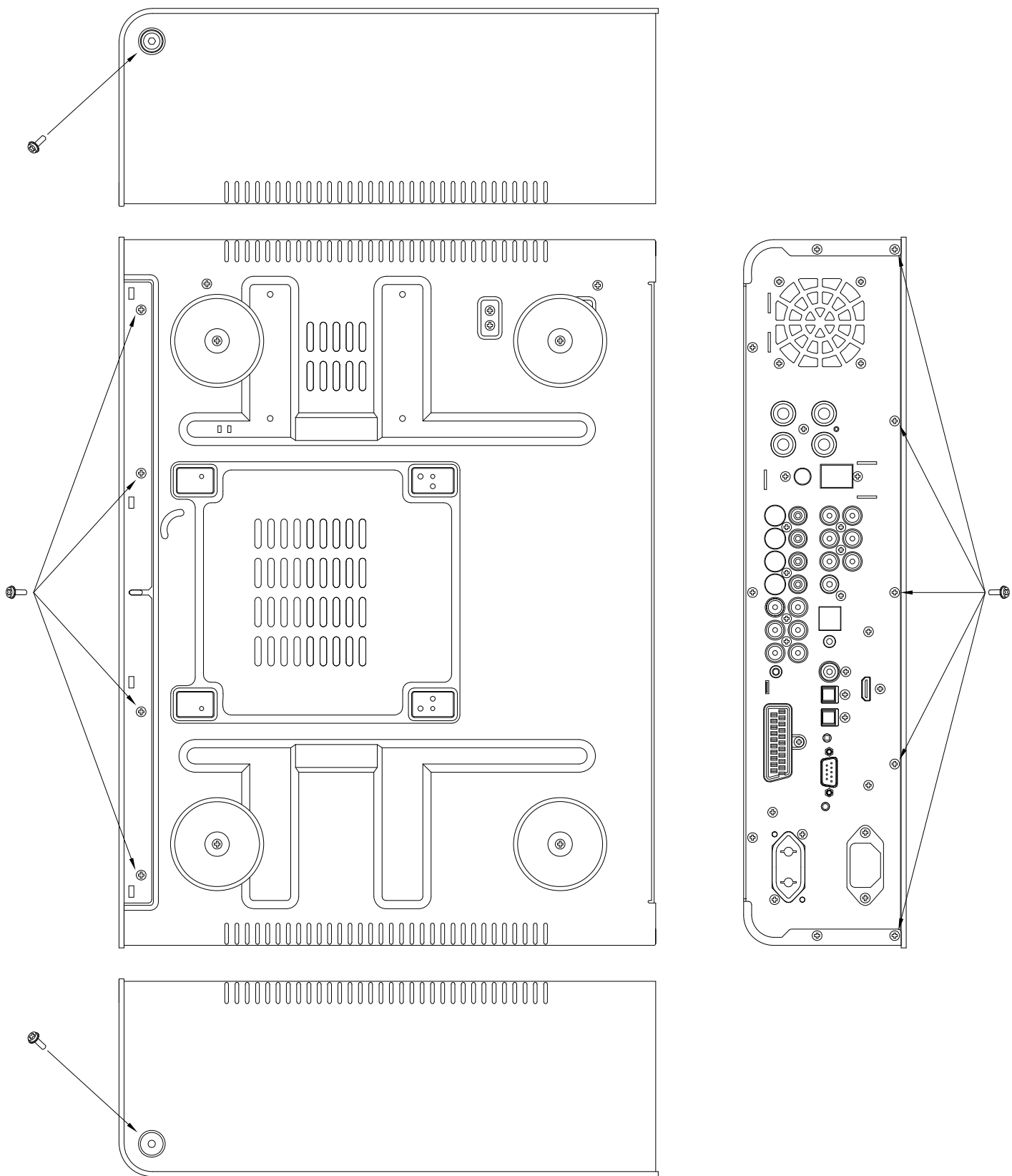
PHYSICAL SPECIFICATIONS

Unit Dimensions (W x H x D) 435 x 115 x 370mm

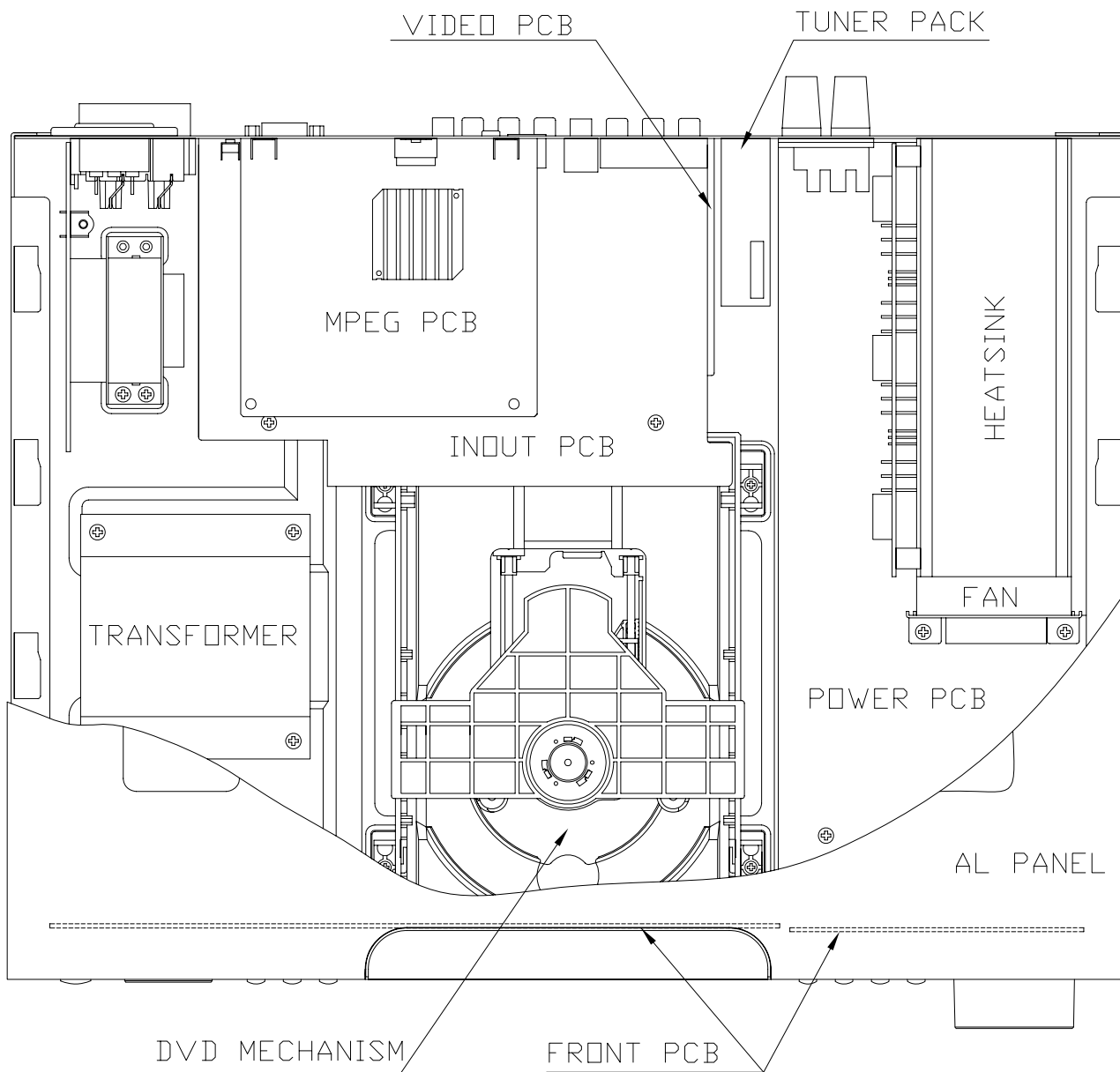
Net Weight 9.9Kg

Shipping Weight 12.5Kg

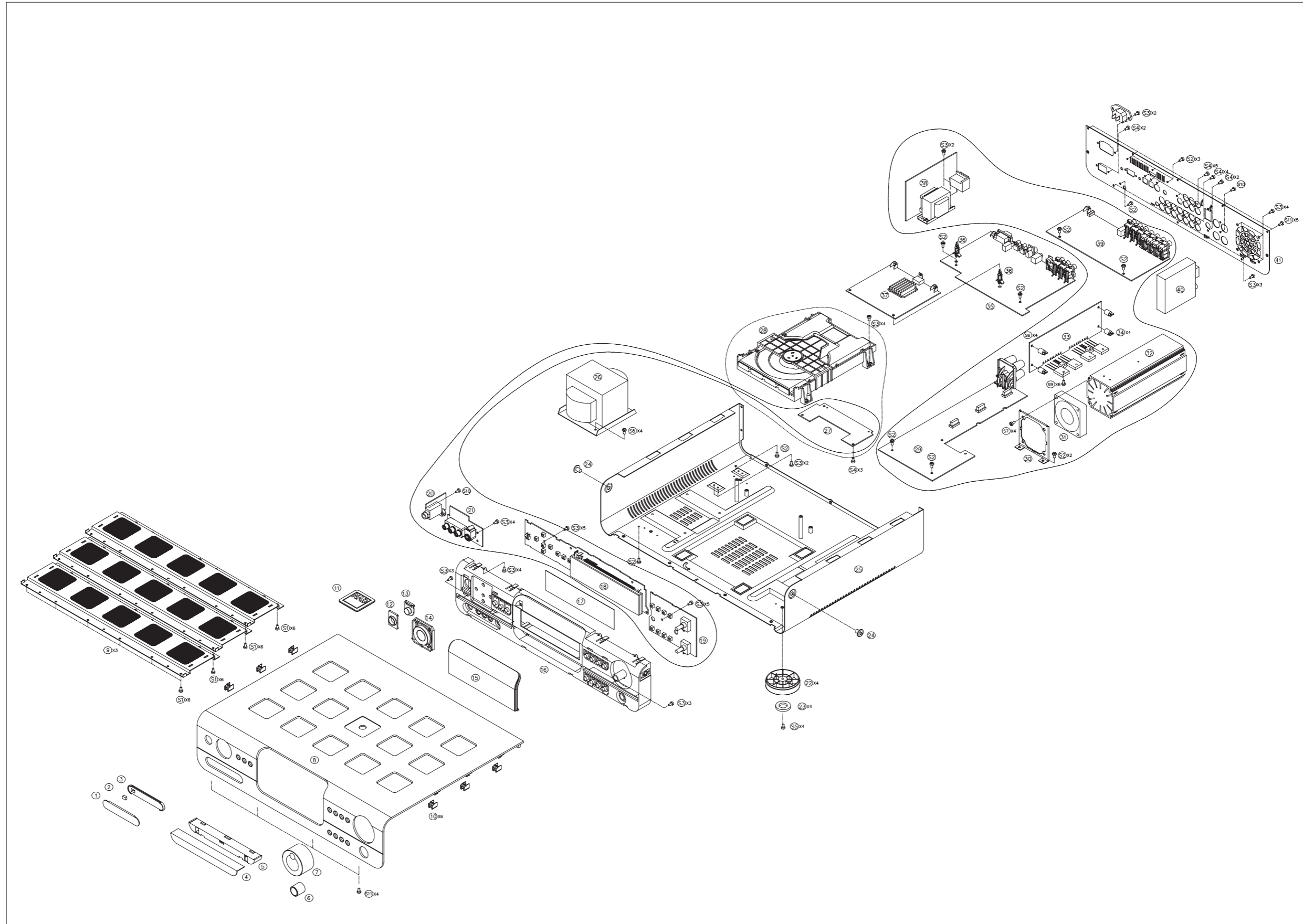
DISASSEMBLY



PRINCIPAL PARTS LOCATION



EXPLODED VIEW (AH VER.) before SN A9YVISOTWO06301



VISOTWOAH EXPLODED VIEW PARTS LIST

No.	PARTS No.	DESCRIPTION	Q'TY
1	CGX1A397ZC64	ORNAMENT, COVER	1
2	CJC1A008	MAGNET	1
3	CGR1A439B29	COVER, JACK	1
4	CGX1A396C69	ORNAMENT, DOOR	1
5	CGR1A438B29	DOOR	1
6	CGK1A127ZA	VOLUME KNOB ASS'Y	1
7	CGK1A132ZA	ROTARY KNOB ASS'Y	1
8	CKM1A192ZC64	AL PANEL	1
9	CGG1A024ZA	GRILL ASS'Y	3
10	CMH1A283	SUPPORT, AL PANEL	6
11	CGB1A204Z	BADGE, NAD	1
12	CGL1A267Z	INDICATOR, POWER	1
13	CBT1A1058ZA	POWER KNOB ASS'Y	1
14	CGK1A126ZA	FUNCTION KNOB ASS'Y	1
15	CGU1A411UA28	WINDOW	1
16	CGW1A449B34	PANEL, SUB	1
17	CMZ1A131Z	FILTER	1
18	CUP12046-1	FIP BOARD	
19	CUP12046-2	ENCODER BOARD	
20	CUP12046-4	HEADPHONE BOARD	
21	CUP12046-3	INPUT BOARD	
22	CKL1A095H61	FOOT	4
23	CHG1A297	CUSHION, FOOT	4
24	CHD1A062GFC	SCREW, SPECIAL	2
25	CUA1A284B36	CHASSIS	1
26	CLT5R039ZU	TRNAS , POWER	1
27	CUP12046-5	CONNECT BOARD	
28	CADL77ZA	MECHANISM ASS'Y	1
29	CUP12048-1	POWER BOARD	
30	CMD1A456	BRACKET, FAN	1
31	CFNCF12615S	DC FAN	1
32	CMY2A194	HEATSINK	1
33	CUP12048-3	AMP BOARD	
34	CMH1A119	SUPPORT, HEATSINK	4
35	CUP12048-2	VIDEO BOARD	
36	CRE1A072	SUPPORT, PCB	2
37	COP11958DA	MPEG PCB ASS'Y	1
38	CUP12048-4	SUB TRANS BOARD	
39	COP12047C	MCU PCB ASS'Y	1
40	CNVMB014MA0J8LS	TUNER MODULE	1
41	CKF2A382YK1	PANEL, REAR	1

No.	PARTS No.	DESCRIPTION	Q'TY
S1	CTB3+6JR	SCREW	24
S2	CTB3+6FFZR	SCREW	12
S3	CTB3+8JFZR	SCREW	41
S4	CTB3+10JFZR	SCREW	16
S5	CTW3+8JFZR	SCREW	4
S6	CTW3+16JR	SCREW	4
S7	CTW3+20JR	SCREW	4
S8	CHD1A023R	SCREW, SPECIAL	4
S9	CHD1A012R	SCREW, SPECIAL	6
S10	CTWS3+10GR	SCREW	1
S11	CTBD3+8JFZR	SCREW, DOT	10

No.	PARTS No.	DESCRIPTION	Q'TY
	COP12046C-A	FRONT PCB ASS'Y	1
18	CUP12046-1	FIP BOARD	
19	CUP12046-2	ENCODER BOARD	
20	CUP12046-4	HEADPHONE BOARD	
21	CUP12046-3	INPUT BOARD	
27	CUP12046-5	CONNECT BOARD	

39	COP12047C-A	MCU PCB ASS'Y	1
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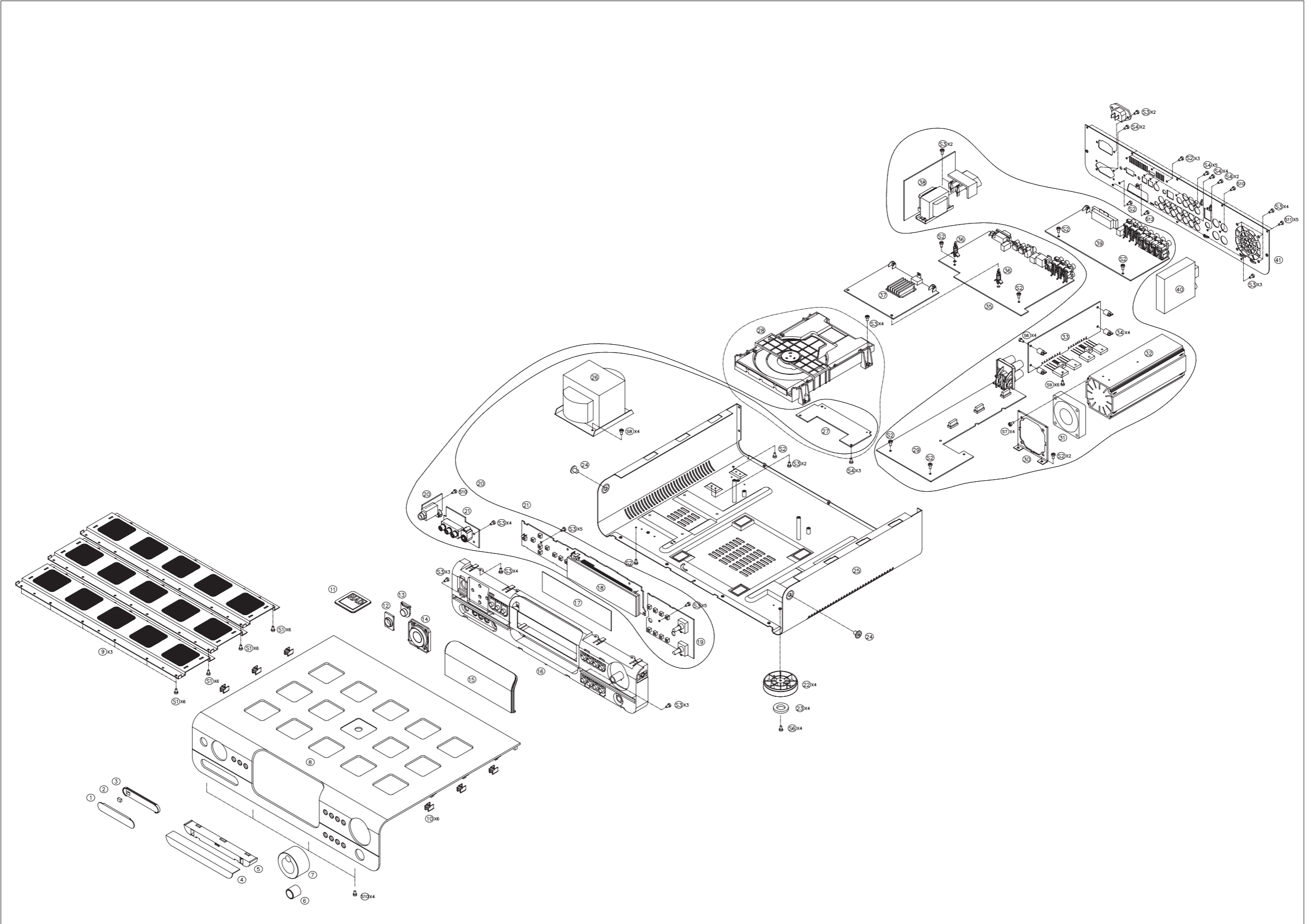
No.	PARTS No.	DESCRIPTION	Q'TY
	COP12048C-A	AMP PCB ASS'Y	1
29	CUP12048-1	POWER BOARD	
33	CUP12048-3	AMP BOARD	
35	CUP12048-2	VIDEO BOARD	
38	CUP12048-4	SUB TRANS BOARD	

37	COP11958DA	MPEG PCB ASS'Y	1
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New Part Numbers Non-1W Versions

COP12046B-A
 VISO TWO FRONT PCB ASSY C version NON-1W with the TIMER button
 COP12046C
 VISO TWO FRONT PCB ASSY AH version NON-1W with the TIMER button
 COP12047B-A
 VISO TWO INPUT PCB ASSY C version NON-1W
 COP12047C
 VISO TWO INPUT PCB ASSY AH version NON-1W
 COP12048B-A
 VISO TWO AMP & VIDEO & POWER PCB ASSY C version NON-1W will ship with standby supply
 COP12048C
 VISO TWO AMP & VIDEO & POWER PCB ASSY AH version NON-1W will ship with standby supply

EXPLODED VIEW (C VER.) before SN A9YVISOTWO06301



VISOTWOC EXPLODED VIEW PARTS LIST

No.	PARTS No.	DESCRIPTION	Q'TY
1	CGX1A397ZC64	ORNAMENT, COVER	1
2	CJC1A008	MAGNET	1
3	CGR1A439B29	COVER, JACK	1
4	CGX1A396C69	ORNAMENT, DOOR	1
5	CGR1A438B29	DOOR	1
6	CGK1A127ZA	VOLUME KNOB ASS'Y	1
7	CGK1A132ZA	ROTARY KNOB ASS'Y	1
8	CKM1A192ZC64	AL PANEL	1
9	CGG1A024ZA	GRILL ASS'Y	3
10	CMH1A283	SUPPORT, AL PANEL	6
11	CGB1A204Z	BADGE, NAD	1
12	CGL1A267Z	INDICATOR, POWER	1
13	CBT1A1058ZA	POWER KNOB ASS'Y	1
14	CGK1A126ZA	FUNCTION KNOB ASS'Y	1
15	CGU1A411VA28	WINDOW	1
16	CGW1A449B34	PANEL, SUB	1
17	CMZ1A131Z	FILTER	1
18	CUP12046-1	FIP BOARD	
19	CUP12046-2	ENCODER BOARD	
20	CUP12046-4	HEADPHONE BOARD	
21	CUP12046-3	INPUT BOARD	
22	CKL1A095H61	FOOT	4
23	CHG1A297	CUSHION, FOOT	4
24	CHD1A062GFC	SCREW, SPECIAL	2
25	CUA1A284B36	CHASSIS	1
26	CLT5R039ZE	TRANS, POWER	1
27	CUP12046-5	CONNECT BOARD	
28	CADL77ZA	MECHANISM ASS'Y	1
29	CUP12048-1	POWER BOARD	
30	CMD1A456	BRACKET, FAN	1
31	CFNCF12615S	DC FAN	1
32	CMY2A194	HEATSINK	1
33	CUP12048-3	AMP BOARD	
34	CMH1A119	SUPPORT, HEATSINK	4
35	CUP12048-2	VIDEO BOARD	
36	CRE1A072	SUPPORT, PCB	2
37	COP11958DC	MPEG PCB ASS'Y	1
38	CUP12048-4	SUB TRANS BOARD	
39	COP12047B	MCU PCB ASS'Y	1
40	CNVMB014MA1J8L	TUNER MODULE	1
41	CKF1A382ZK1	PANEL, REAR	1

No.	PARTS No.	DESCRIPTION	Q'TY
S1	CTB3+6JR	SCREW	24
S2	CTB3+6FFZR	SCREW	12
S3	CTB3+8JFZR	SCREW	41
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S5	CTW3+8JFZR	SCREW	4
S6	CTW3+16JR	SCREW	4
S7	CTW3+20JR	SCREW	4
S8	CHD1A023R	SCREW, SPECIAL	4
S9	CHD1A012R	SCREW, SPECIAL	6
S10	CTWS3+10GR	SCREW	1
S11	CTBD3+8JFZR	SCREW, DOT	10
S12	CHD1A055R	SCREW, SPECIAL	1

No.	PARTS No.	DESCRIPTION	Q'TY
	COP12046B-A	FRONT PCB ASS'Y	1
18	CUP12046-1	FIP BOARD	
19	CUP12046-2	ENCODER BOARD	
20	CUP12046-4	HEADPHONE BOARD	
21	CUP12046-3	INPUT BOARD	
27	CUP12046-5	CONNECT BOARD	

39	COP12047B-A	MCU PCB ASS'Y	1
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No.	PARTS No.	DESCRIPTION	Q'TY
	COP12048B-A	AMP PCB ASS'Y	1
29	CUP12048-1	POWER BOARD	
33	CUP12048-3	AMP BOARD	
35	CUP12048-2	VIDEO BOARD	
38	CUP12048-4	SUB TRANS BOARD	

37	COP11958DC	MPEG PCB ASS'Y	1
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New Part Numbers Non-1W Versions

COP12046B-A
 VISO TWO FRONT PCB ASSY C version NON-1W with the TIMER button
 COP12046C
 VISO TWO FRONT PCB ASSY AH version NON-1W with the TIMER button
 COP12047B-A
 VISO TWO INPUT PCB ASSY C version NON-1W
 COP12047C
 VISO TWO INPUT PCB ASSY AH version NON-1W
 COP12048B-A
 VISO TWO AMP & VIDEO & POWER PCB ASSY C version NON-1W will ship with standby supply
 COP12048C
 VISO TWO AMP & VIDEO & POWER PCB ASSY AH version NON-1W will ship with standby supply

SECTION 2

ELECTRICAL CONTENTS

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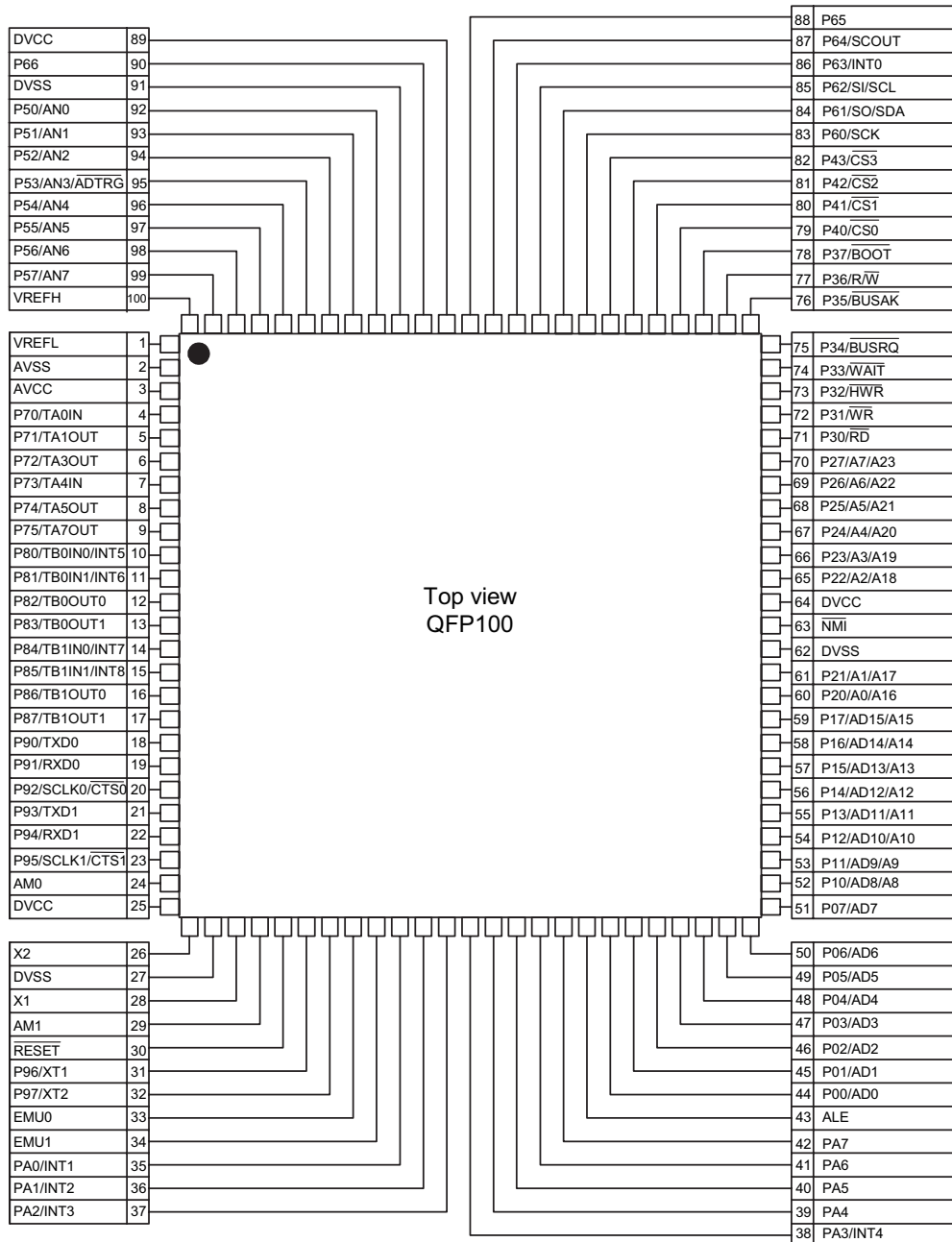
IC BLOCK DIAGRAMS & PIN DESCRIPTION

MCU(T5CC1) : IC21

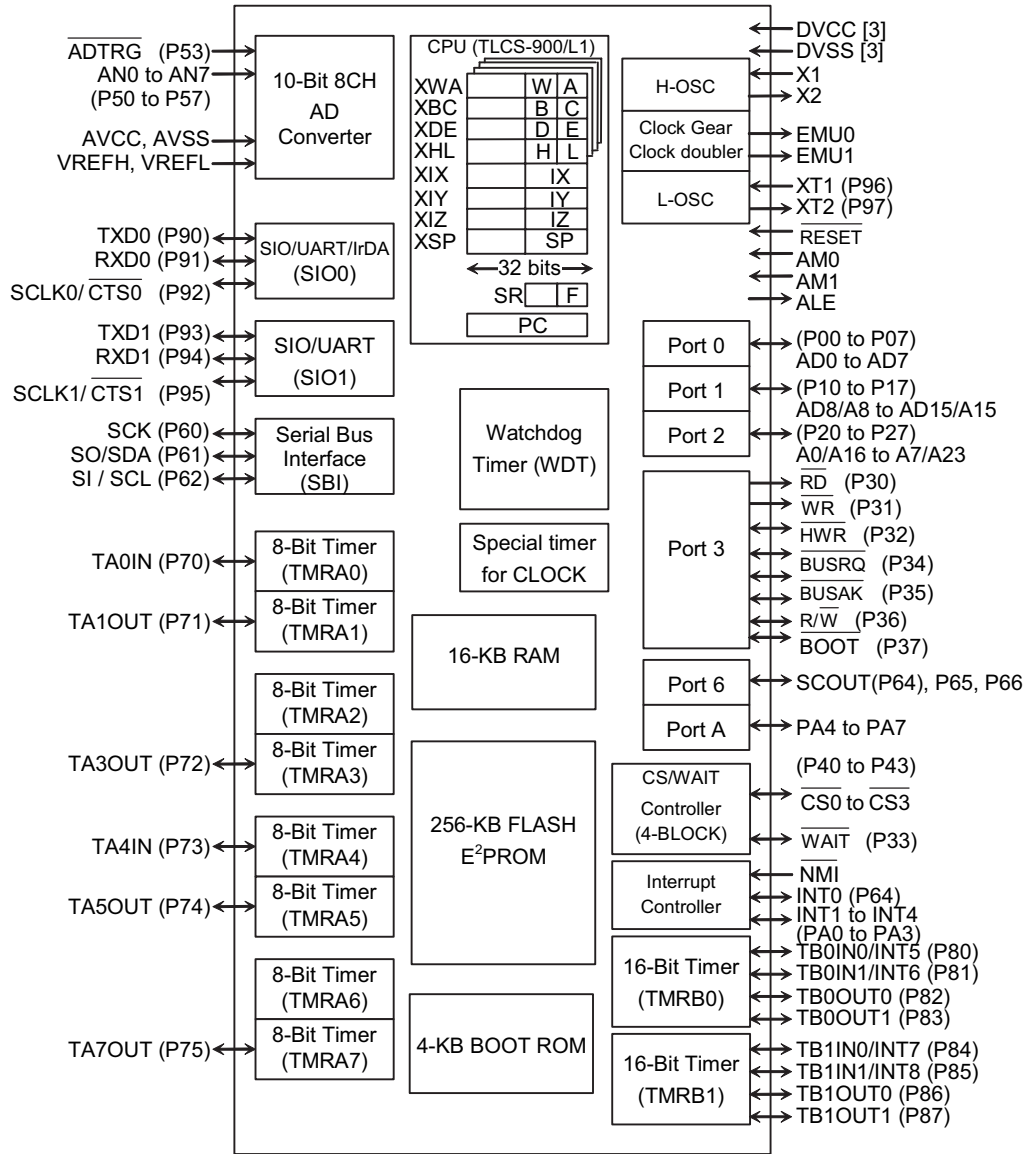
Pin Assignment and Pin Functions

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

PIN ASSIGNMENT



BLOCK DIAGRAM



(): Initial function after reset

I.C PIN DESCRIPTION (IC , FLASH-u COM : T5CC1)			
PIN NO	PIN NAME	I/O	FUNCTION
1	GND	-	GND
2	AVSS	-	GND
3	AVCC	-	Power Supply port
4	VFD_DOUT	0	VFD Display Data out port
5	VFD_CLK	0	VFD Display Clock out port
6	VFD_BLK	0	VFD Display Blank out port
7	VFD_CS	0	VFD Display Chip selector port
8	HP_IN	I	Headphone in port (Active "H")
9	FUNCTION_MUTE	0	Function Mute port (Active "L")
10	AMP_MUTE1	0	AMP Mute port (Active "H")
11	AMP_MUTE2	0	AMP Mute port (Active "H")
12	CNT_OFF	0	Center Mute port (Active "H")
13	SURR_OFF	0	Surround Mute port (Active "H")
14	SUB_OFF	0	SUB Mute port (Active "H")
15	DVD_CS (FPC_STB)	I	DVD Chip selector port
16	REC_MUTE	0	REC out Mute port (Active "L")
17	iPod_DET	I	iPod Detect port (Active "H")
18	XM & DAB_TX	0	XM & DAB Data out port
19	XM & DAB_RX	I	XM & DAB Data input port
20	TUNER_MUTE	0	TUNER Mute port (Active "H")
21	RS232_TX	0	RS232 Interface Data out port
22	RS232_RX	I	RS232 Interface Data in port
23	BUFFER_CS	0	Buffer IC Chip selector port
24	DVCC	-	Power Supply port
25	DVCC	-	Power Supply port
26	OSC_OUT	0	27MHz Crystal connection port
27	DVSS	-	GND
28	OSC_IN	I	27MHz Crystal connection port
29	DVCC	-	Power Supply port
30	RESET	I	Reset port
31	OSC_IN	I	32.768MHz Crystal connection port
32	OSC_OUT	0	32.768MHz Crystal connection port
33	NO USE	-	No connection
34	NO USE	-	No connection
35	REMOTE_IN	I	System Remote Data in port
36	RDS_DATA	I	RDS Data port
37	RDS_CLK	I	RDS Clock port
38	BACK-UP	I	Back Up port
39	PLL_CE	0	PLL Chip enable port
40	PLL_DATA	0	PLL Data in port
41	PLL_CLK	0	PLL Clock port
42	PLL_DOUT	I	PLL Data out port
43	NO USE	-	No connection
44	STEREO	I	Tuner Module STEREO Control port
45	TUNED	I	Tuner Module TUNED Control port
46	PROTECT_IN	I	Protection port (Active "L")
47	OPTION	I	Option port (H : FM 50KHz step,L : FM 100KHz step)
48	OPTION	I	Option port (H : AM 9K step,L : AM 10K step)
49	AMP_FAN	0	Main FAN operation port (Active "H")

50	SPK_ON	0	Speaker on port (Active "H")
51	FLASH_ADDR18	0	Flash IC Control port
52	BUFFER_CLK	0	Buffer IC Clock port
53	EP_SDA	I/O	EPROM Data port
54	EP_SCL	0	EPROM Clock port
55	DSP_AB_INTREQ	I	DSP Interrupt request port
56	DSP_AB_CS	0	DSP AB Chip selector port
57	DSP/CODEC_D_OUT	I	DSP/CODEC Data in port
58	DSP/CODEC_CLK	0	DSP/CODEC Clock port
59	DSP/CODEC_DATA	0	DSP/CODEC Data out port
60	DSP_C_INTREQ	I	DSP Interrupt request port
61	DSP_RESET	0	DSP Reset port
62	DVSS	-	GND
63	DVCC	-	Power Supply port
64	DVCC	-	Power Supply port
65	CODEC_CS	0	CODEC Chip selector port
66	CODEC_RESET	0	CODEC Reset port
67	DSP_C_CS	0	DSP Chip selector port
68	XM_DAC_RESET	0	XM DAC Reset port
69	XM_DAC_MUTE	0	XM Dac Mute port
70	EVOL_MUTE	0	EVOL Mute port
71	EVOL_CLK	0	EVOL Clock port
72	EVOL_DATA	0	EVOL Data port
73	DVD_RESET (RESET)	0	DVD Reset port
74	XM_RESET	0	XM Reset port
75	EXP_DATA	0	EXP IC Data port
76	EXP_CE1	0	EXP IC Chip enable port
77	EXP_CLK	0	EXP Clock port
78	BOOT MODE	I	BOOT Mode port (Active "L")
79	DVD_ON (MPEG ON)	I	DVD ON port
80	MODEL_OPTION	0	Model option
81	SMALL_FAN_ON	0	Small FAN operation port (Active "H")
82	DVDA_SEL	0	DVD-Audio selector port
83	DVD_CLK (FPC_CLK)	0	DVD Clock port
84	DVD_DOUT (IRRCV)	0	DVD Data out port
85	DVD_DATA (FPC_DOUT)	I	DVD Data in port
86	UART_RESET	0	Uart IC Reset port
87	POWER_ON	0	Power ON port
88	BUFFER_DATA_OUT	I	Buffer IC Data out port
89	DVCC	-	Power Supply port
90	BUFFER_DATA_IN	0	Buffer IC Data in port
91	DVSS	-	GND
92	KEY_IN3	I	KEY Data in port
93	KEY_IN2	I	KEY Data in port
94	KEY_IN1	I	KEY Data in port
95	JOG A2 (FUN-UP)	I	Function A Control port
96	JOG A2 (FUN-DOWN)	I	Function B Control port
97	JOG A1 (VOL-UP)	I	Volume Data in port
98	JOG A1 (VOL-DOWN)	I	Volume Data in port
99	BUFFER_IRQ	I	Buffer IC Interrupt request port
100	DVCC	I	Power Supply port

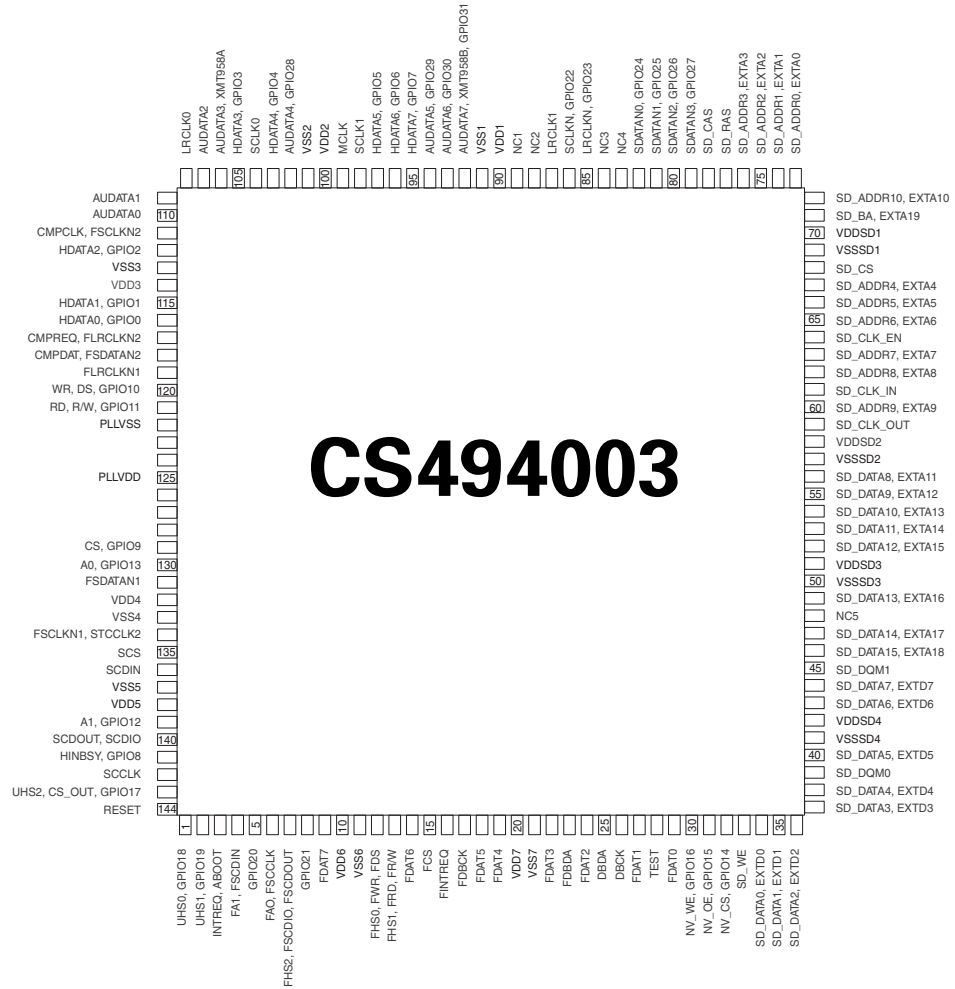
I.C PIN DESCRIPTIONS (IC45 : AUDIO DSP : CS494003)

PIN No	PIN Name	I/O	Function
1	UHS0	O	DSP C Control Mode Select BIT 0
2	HUS1	O	DSP C Control Mode Select BIT 0
3	$\overline{\text{INTREQ,ABODY}}$	O	Open-drain interrupt-request output
4	FA1,FSCDIN	I	Host Address Bit One or SPI Serial Control data input
5	GPIO20	O	General Purpose output
6	FA0,FSCCLK	I	Host parallel Address Bit Zero or Serial Control Port Clock
7	FHS2,FSCDIO	O	DSP AB Control port mode select bit2
8	GPIO21	O	General Purpose output
9	FDAT7	I	DSP AB Bidirectional data bus
10	VDD6		2.5V Supply Voltage
11	VSS6		2.5V Ground
12	FWR,FDS	I	Host write Strobe or Host data strobe
13	FRD,FR/W	O	Host Parallel Output Enable or
14	FDAT6	I	DSP AB Bidirectional data bus
15	$\overline{\text{FCS}}$	I	Host Parallel Chip Select , Host Serial SPI Chip Select
16	$\overline{\text{FINTREQ}}$	O	Open-drain interrupt-request output
17	FDBCK	I	Reserved
18	FDAT5	I	DSP AB Bidirectional data bus
19	FDAT4	I	DSP AB Bidirectional data bus
20	VDD7		2.5V Supply Voltage
21	VSS7		2.5V Ground
22	FDAT3	I	DSP AB Bidirectional data bus
23	FDBDA	I	Reserved
24	FDAT2	I	DSP AB Bidirectional data bus
25	DBDA	I	Debug Data
26	DBCK	I	Debug Clock
27	FDAT1	I	DSP AB Bidirectional data bus
28	TEST	I	Reserved
29	FDAT0	I	DSP AB Bidirectional data bus
30	$\overline{\text{NV_WE}}$	O	SRAM Write Enable
31	$\overline{\text{NV_OE}}$	O	SRAM Output Enable
32	$\overline{\text{NV_CS}}$	O	SRAM Chip Select
33	$\overline{\text{SD_WE}}$	O	SDRAM Write Enable
34	SD_DATA0	O	SDRAM Data Bus 0
35	SD_DATA1	O	SDRAM Data Bus 1
36	SD_DATA2	O	SDRAM Data Bus 2
37	SD_DATA3	O	SDRAM Data Bus 3
38	SD_DATA4	O	SDRAM Data Bus 4
39	SD_DQM0	O	SDRAM Data Mask 0
40	SD_DATA5	O	SDRAM Data Bus 5
41	VSSSD4		SDRAM Ground
42	VDDSD4		SDRAM Power Supply
43	SD_DATA6	O	SDRAM Data Bus 6
44	SD_DATA7	O	SDRAM Data Bus 7
45	SD_DQM1	O	SDRAM Data Mask 1
46	SD_DATA15	O	SDRAM Data Bus 15

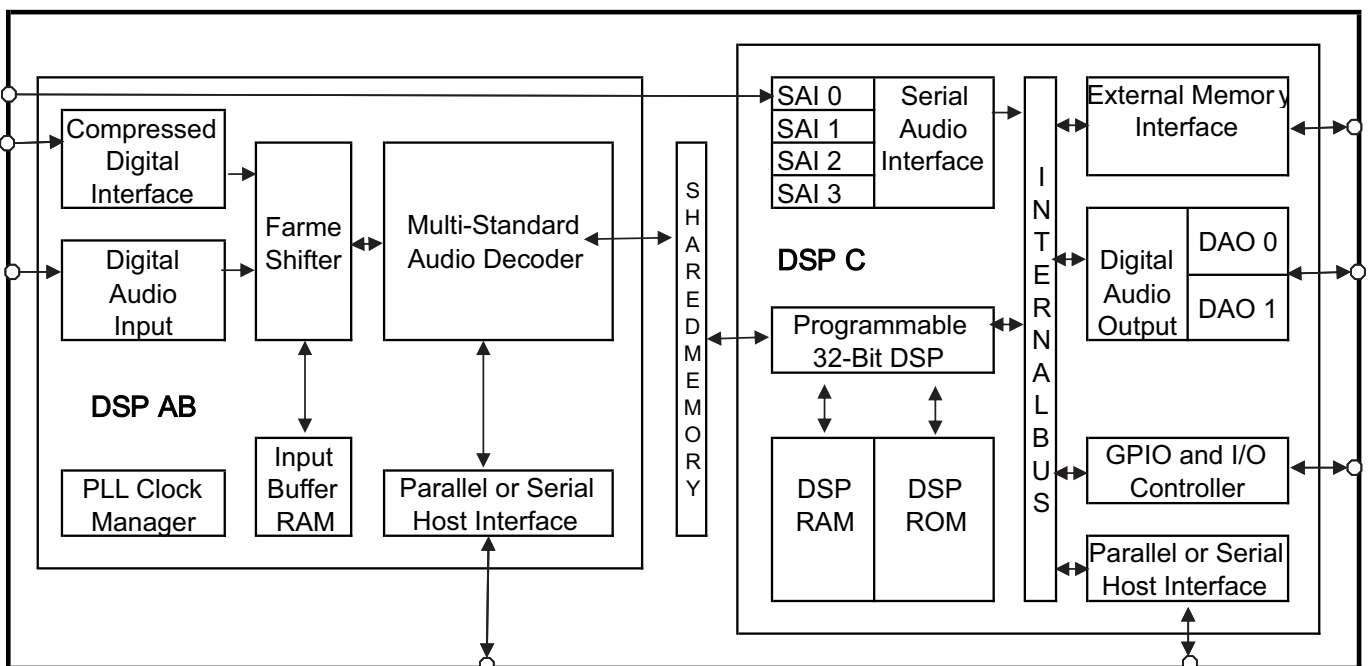
PIN No	PIN Name	I/O	Function
47	SD_DATA14	O	SDRAM Data Bus 14
48	NC5		No Connect (Ground)
49	SD_DATA13	O	SDRAM Data Bus 13
50	VSSSD3		SDRAM Ground
51	VDDSD3		SDRAM Power Supply
52	SD_DATA12	O	SDRAM Data Bus 12
53	SD_DATA11	O	SDRAM Data Bus 11
54	SD_DATA10	O	SDRAM Data Bus 10
55	SD_DATA9	O	SDRAM Data Bus 9
56	SD_DATA8	O	SDRAM Data Bus 8
57	VSSSD2		SDRAM Ground
58	VDDSD2		SDRAM Power Supply
59	SD_CLK_OUT	O	SDRAM CLOCK DATA OUT
60	SD_ADR9	O	SDRAM Address Bus
61	SD_CLK_IN	I	SDRAM CLOCK DATA IN
62	SD_ADR8	O	SDRAM Address Bus 8
63	SD_ADR7	O	SDRAM Address Bus 7
64	SD_CLK_EN	I	SDRAM Ground
65	SD_ADR6	O	SDRAM Address Bus 6
66	SD_ADR5	O	SDRAM Address Bus 5
67	SD_ADR4	O	SDRAM Address Bus 4
68	SD_CS	I	SDRAM Chip Select
69	VSSSD1		SDRAM Ground
70	VDDSD1		SDRAM Power Supply
71	SD_BA	O	SDRAM Bank Address Select
72	SD_ADR10	O	SDRAM Address Bus 10
73	SD_ADR0	O	SDRAM Address Bus 0
74	SD_ADR1	O	SDRAM Address Bus 1
75	SD_ADR2	O	SDRAM Address Bus 2
76	SD_ADR3	O	SDRAM Address Bus 3
77	SD_RAS	O	SDRAM Row Address Strobe
78	SD_CAS	O	SDRAM Column Address Strobe
79	SDATAN3	I	PCM Audio input Data 3
80	SDATAN2	I	PCM Audio input Data 2
81	SDATAN1	I	PCM Audio input Data 1
82	SDATAN0	I	PCM Audio input Data 0
83	NC4		No Connect (Ground)
84	NC3		
85	LRCLKN	I	PCM audio input sample rate clock
86	SCLKN	I	PCM audio input bit clock
87	LRCLK1	O	Audio Output Sample Rate Clock
88	NC2		No Connect (Ground)
89	NC1		
90	VDD1		2.5V Supply Voltage
91	VSS1		2.5V Ground
92	XMT958,AUDATA7	O	Digital Audio Output 7 , S/PDIF Transmitter
93	AUDATA6	O	Digital Audio Output 6
94	AUDATA5	O	Digital Audio Output 5
95	HDATA7	O	DSP C Bidirectional data bus 7

PIN No	PIN Name	I/O	Function
96	HDATA6	O	DSP C Bidirectional data bus 6
97	HDATA5	O	DSP C Bidirectional data bus 5
98	SCLK1	O	Audio output bit clock
99	MCLK	I	Audio Master clock
100	VDD2		2.5V Supply Voltage
101	VSS2		2.5V Ground
102	AUDATA4	O	Digital Audio Output 4
103	HDATA4	O	DSP C Bidirectional data bus 4
104	SCLK0	O	Audio output bit clock
105	HDATA3	O	DSP C Bidirectional data bus 3
106	AUDATA3	O	Digital Audio Output 3
107	AUDATA2	O	Digital Audio Output 2
108	LRCLK0	O	Audio Output Sample Rate Clock
109	AUDATA1	O	Digital Audio Output 1
110	AUDATA0	O	Digital Audio Output 0
111	CMPCLK,SCLKN2	I	PCM audio input bit clock
112	HDATA2	O	DSP C Bidirectional data bus 2
113	VSS3		2.5V Ground
114	VDD3		2.5V Supply Voltage
115	HDATA1	O	DSP C Bidirectional data bus 1
116	HDATA0	O	DSP C Bidirectional data bus 0
117	CMPREQ,FLRCLK2	I	PCM Audio Data input bit clock
118	CMPDAT,FSDATA2	I	PCM Audio data input Number two
119	FLRCLKN1	I	PCM audio data input one
120	WR,DS	I	DSP AB Control port mode select bit 0
121	RD,R/W	I	DSP AB Control port mode select bit 1
122	PLL VSS		PLL Ground voltage
123	FILT2		Phase-Locked Loop Filter
124	FILT1		Phase-Locked Loop Filter
125	PLL VDD		PLL supply voltage
126	XTALO	O	Crystal OSC Output
127	XTAL,1CLKIN	I	External Clock input/Crystal OSC input
128	CLKSEL	I	DSP Clock select
129	CS	O	Host parallel Chip Select
130	A0	O	Host Parallel Address bit 0
131	FSDATAN1	I	PCM Audio Data input one
132	VDD4		2.5V Supply Voltage
133	VSS4		2.5V Ground
134	FSCLKN1,STCLK2	I	PCM audio input bit clock
135	\overline{SCS}	I	Host Serial SPI Chip Select (Active "L")
136	SCDIN	I	SPI Serial control data input
137	VSS5		2.5V Ground
138	VDD5		2.5V Supply Voltage
139	A1	O	Host Address bit 1
140	SCDOUT	O	Serial control port data
141	HNBSY	I	Input Host Message status
142	SCCLK	O	Serial control port clock
143	UHS2,CS_OUT	O	DSP C Control Mode Select BIT 2
144	RESET	I	Master Reset Input

PIN ASSIGNMENT(IC45: CS494003)

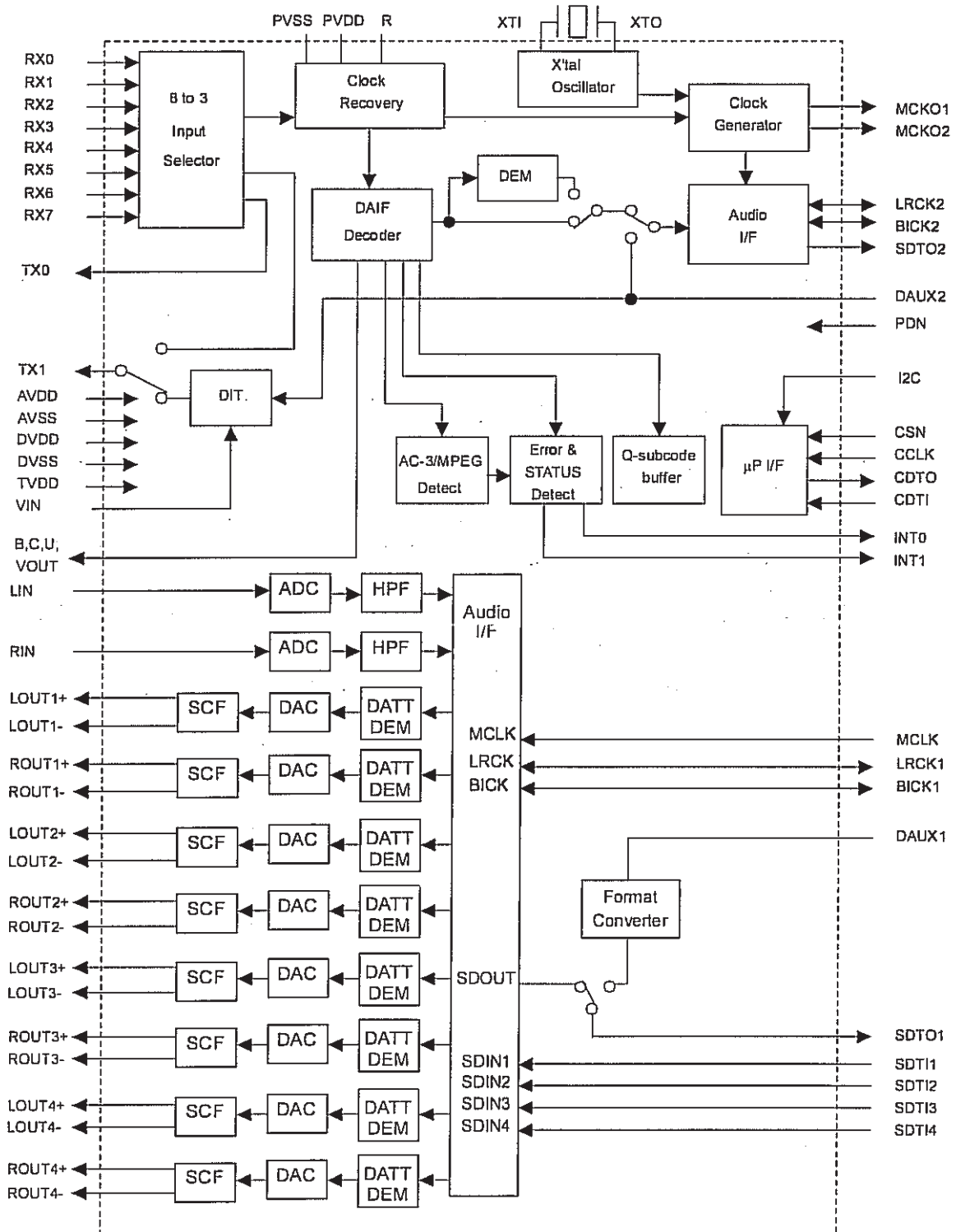


BLOCK DIAGRAM(IC45: CS494003)



CODEC+DIR (AK4589) : IC44

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 frames.
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	COU	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

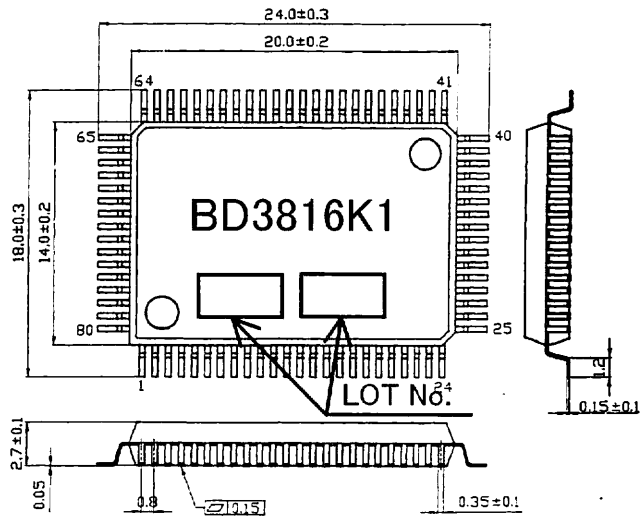
No.	Pin Name	I/O	Function	
31	PDN	I	Power-Down Mode Pin When "L", the AK4589 is powered-down, all digital output pins go "L", all registers are reset. When CAD1/0 pins are changed, the AK4589 should be reset by PDN pin.	
32	MASTER	I	Master Mode Select Pin "H": Master mode, "L": Slave mode	
33	DZF2	O	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 12k Ω +/-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 ² C 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

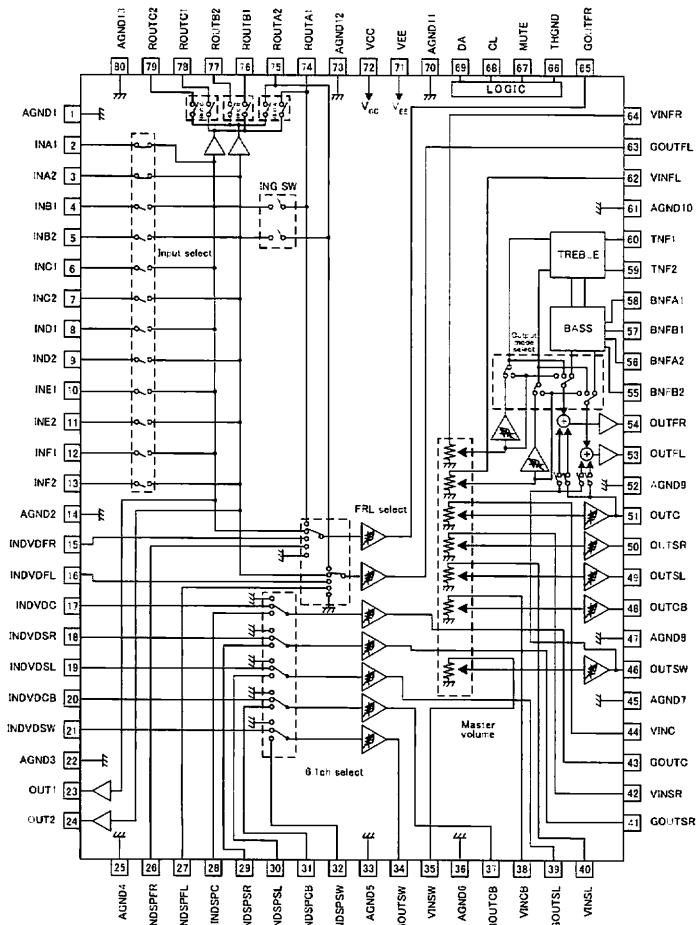
VOLUME&FUNCTION (BD3816K1) : IC31

Outline dimension • Marking dimension



QFP80 (Unit: mm)

Block diagram



Pin number*Pin name

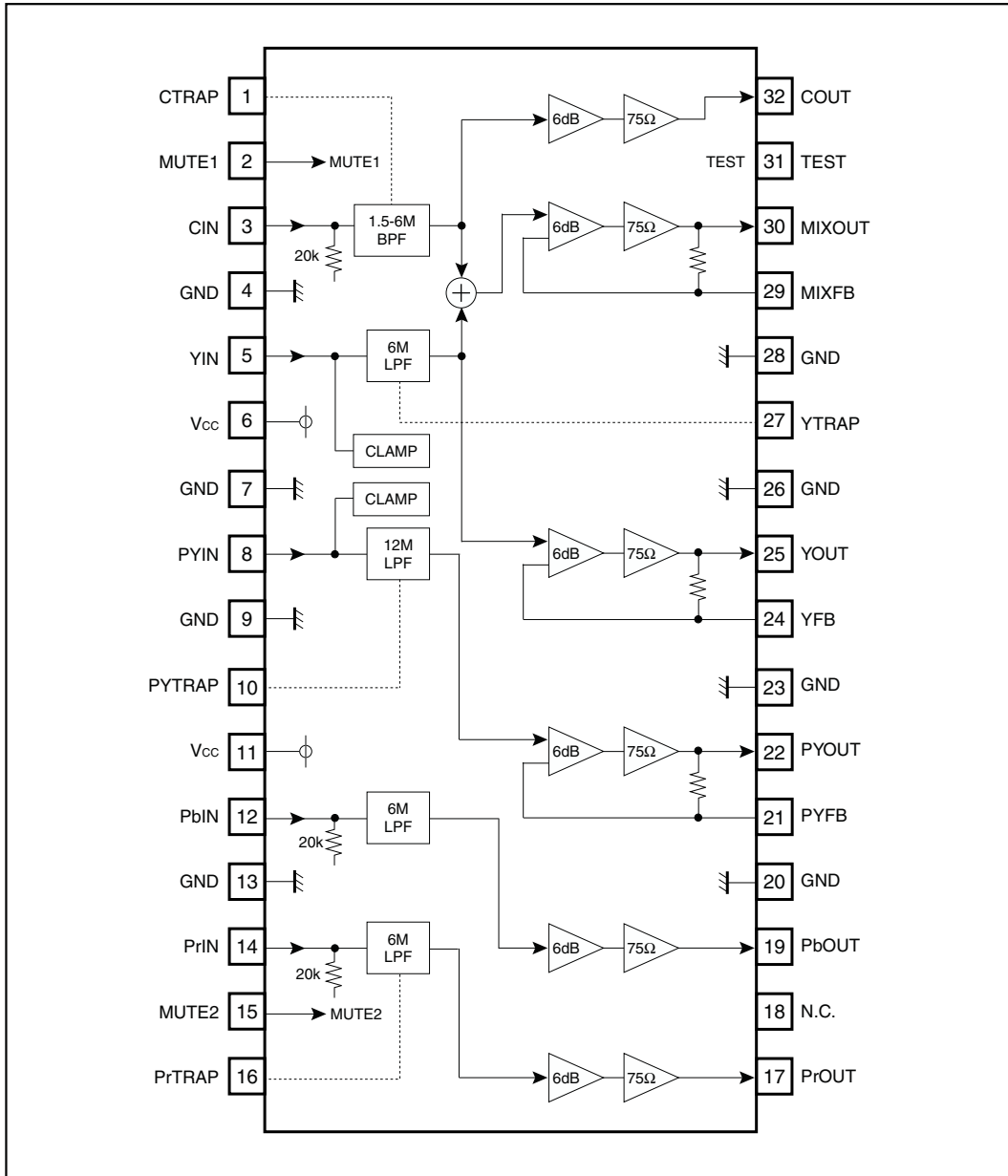
Pin number	Pin name	Pin number	Pin name	Pin number	Pin name	Pin number	Pin name
1	AGND1	21	INDVDSW	41	GOUTSR	61	AGND10
2	INA1	22	AGND3	42	VINSR	62	VINFL
3	INA2	23	OUT1	43	GOUTC	63	GOUTFL
4	INB1	24	OUT2	44	VINC	64	VINFR
5	INB2	25	AGND4	45	AGND7	65	GOUTFR
6	INC1	26	INDSPFR	46	OUTSW	66	THGND
7	INC2	27	INDSPFL	47	AGND8	67	MUTE
8	IND1	28	INDSPC	48	OUTCB	68	CL
9	IND2	29	INDSPSR	49	OUTSL	69	DA
10	INE1	30	INDSPSL	50	OUTSR	70	AGND11
11	INE2	31	INDSPCB	51	OUTC	71	VEE
12	INF1	32	INDSPSW	52	AGND9	72	VCC
13	INF2	33	AGND5	53	OUTFL	73	AGND12
14	AGND2	34	GOUTSW	54	OUTFR	74	ROUTA1
15	INDVDFR	35	VINSW	55	BNFB2	75	ROUTA2
16	INDVDFL	36	AGND6	56	BNFA2	76	ROUTB1
17	INDVDC	37	GOUTCB	57	BNFB1	77	ROUTB2
18	INDVDSR	38	VINCB	58	BNFA1	78	ROUTC1
19	INDVDSL	39	GOUTSL	59	TNF2	79	ROUTC2
20	INDVDCB	40	VINSL	60	TNF1	80	AGND13

Cautions on use

1. Operating power supply voltage range
Basic circuit function and operation can be guaranteed within the operating temperature range and within the operating power supply voltage range. Upon use, check those ranges carefully and specify the constant, element, voltage and temperature.
2. Operating temperature range
Circuit function and operation can be guaranteed for the time being within the operating temperature range and within the operating voltage range. Please note that the conditions of allowable dissipation interlock with the temperature.
Although specified value cannot be guaranteed under any conditions other than those specified by the electrical characteristics within this range, the original function is maintained.
3. About power ON/OFF
 - (1) When the power supply voltage is about $\pm 1V$, this IC occurs abnormal oscillation from output pins. Therefore, please use mute at set side.
 - (2) At power ON/OFF, a shock sound will be generated and, therefore, MUTE shall be applied on the set.
 - (3) When turning on power supplies, VEE and VCC should be powered on simultaneously or VEE first; then followed by VCC. If the VCC side is started up first, an excessive current may pass VCC through VEE.
4. About serial control
For the CL and DA terminals, the patterned and other wirings should be routed not to cause interference with the analog-signal-related lines.
5. About function switching
For the functions except Master Volume, Treble, and Bass Gain Settings, MUTE shall be applied on the set.

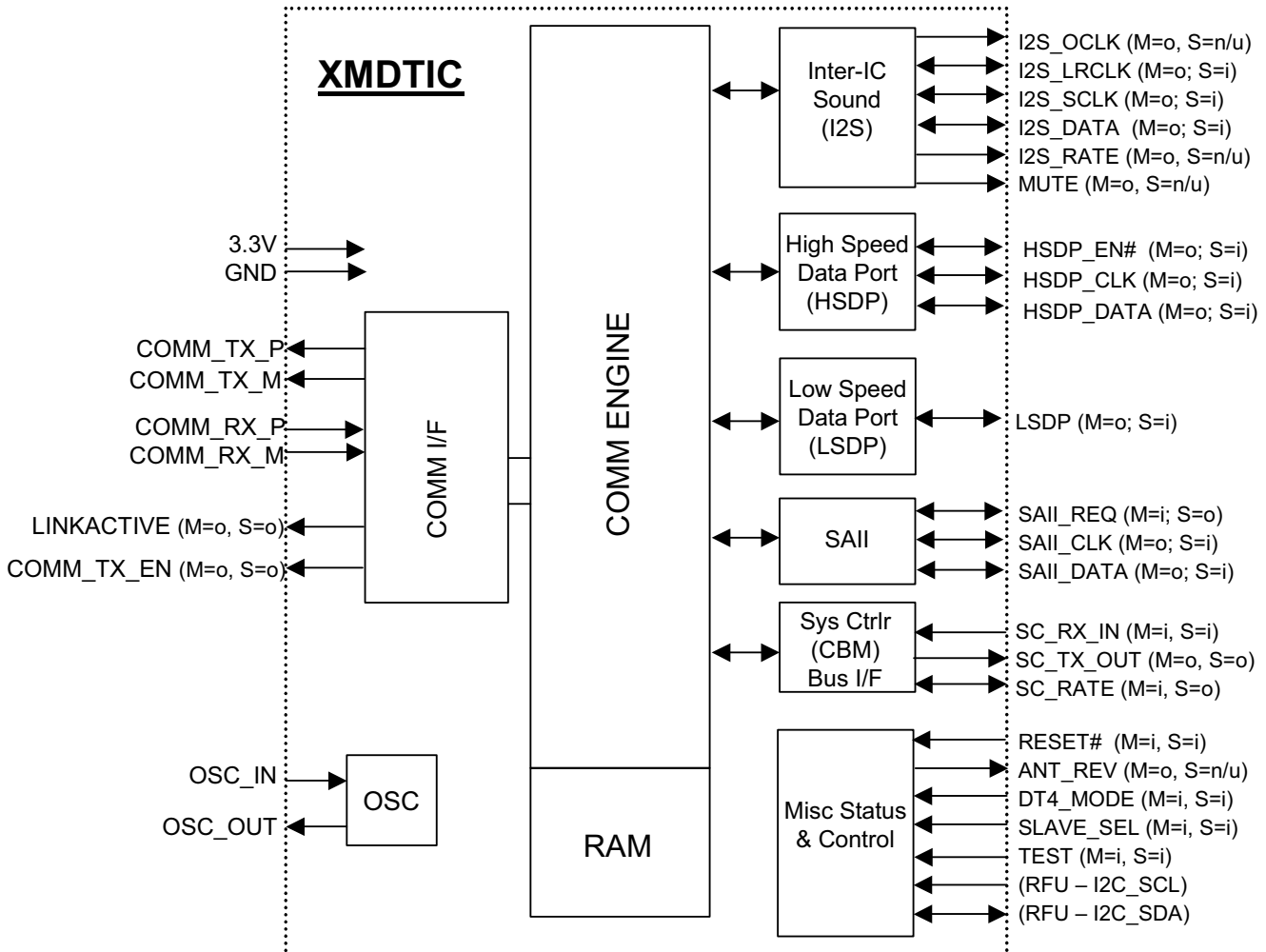
VIDEO DRIVER IC : IC55

●Block diagram

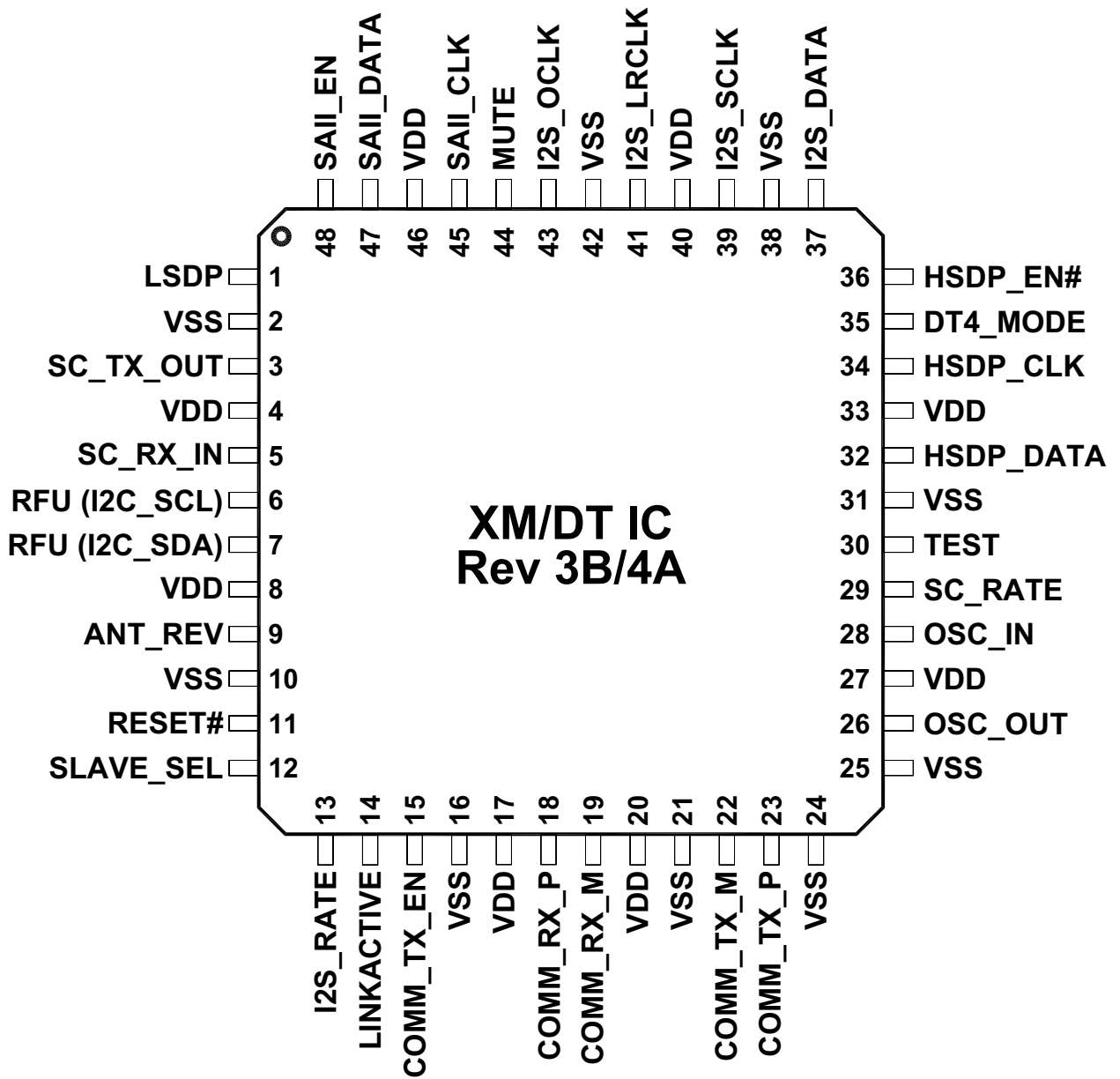


XM : IC70

Functional Description



Device Pin-out



Pin Descriptions

Table 3.2 Pin Descriptions

Pin #	Pin Name	Direction	Function in Slave Mode	Function in Master Mode	Notes
1	LSDP	S=In M=Out	Low Speed Data Port Input	Low Speed Data Port Output	Out= 4mA, SLC In=LVTTL S/T
3	SC_TX_OUT	S=Out M=Out	System Controller Bus (CBM) Transmit Data Out	System Controller Bus (CBM) Transmit Data Out	4mA, SLC
5	SC_RX_IN	S=In M=In	System Controller Bus (CBM) Receive Data In	System Controller Bus (CBM) Receive Data In	LVTTL S/T
6	RFU (I2C-SCL)	S=In M=In	Reserved for Future Use (pull down with a 100k resistor to Ground)	Reserved for Future Use (pull down with a 100k resistor to Ground)	LVTTL S/T
7	RFU (I2C-SDA)	S=In M=In	Reserved for Future Use (pull down with a 100k resistor to Ground)	Reserved for Future Use (pull down with a 100k resistor to Ground)	LVTTL S/T
9	ANT_REV	S=n/u M=Out	Not used in Slave mode, leave unconnected	Indication of incompatible antenna (refer to section 4.3.2 for usage)	4mA, SLC
11	RESET#	S=In M=In	Asynchronous Reset In, (Active Low)	Asynchronous Reset In, (Active Low)	LVTTL S/T
12	SLAVE_SEL	S=In M=In	Master/Slave Mode Select In (High = Slave Mode)	Master/Slave Mode Select In (Low = Master Mode)	LVTTL S/T
13	I2S_RATE	S=Out M=Out	Output driven high, leave unconnected	Indicator of incoming I2S data rate (see section 4.4.2)	4mA, SLC
14	LINKACTIVE	S=Out M=Out	Link Active indicator (High = DT bus link is active and data is flowing)	Link Active indicator (High = DT bus link is active and data is flowing)	4mA, SLC
15	COMM_TX_EN	S=Out M=Out	DT Comm Bus External Transceiver Direction Control Output (0=Tx, 1=Rx)	DT Comm Bus External Transceiver Direction Control Output (0=Tx, 1=Rx)	4mA, SLC
18	COMM_RX_P	S=In M=In	DT Differential Comm Bus Internal Receiver Positive In	DT Differential Comm Bus Internal Receiver Positive In	LVDS in+
19	COMM_RX_M	S=In M=In	DT Differential Comm Bus Internal Receiver Negative In	DT Differential Comm Bus Internal Receiver Negative In	LVDS in-
22	COMM_TX_M	S=Out M=Out	DT Differential Comm Bus Internal Transmitter Negative Out	DT Differential Comm Bus Internal Transmitter Negative Out	LVDS out-
23	COMM_TX_P	S=Out M=Out	DT Differential Comm Bus Internal Transmitter Positive Out	DT Differential Comm Bus Internal Transmitter Positive Out	LVDS out+
26	OSC_OUT	S=Out M=Out	Crystal Driver Output	Crystal Driver Output	
28	OSC_IN	S=In M=In	Crystal/ Ext. Clock Input	Crystal/ Ext. Clock Input	
29	SC_RATE (Rev 4A only, pull down for rev 3B)	S=Out M=In	SC interface baud rate Output (High = DT4_MODE is high and the Master DTIC is operating at 115.2K baud)	SC interface baud rate select Input (High = 115.2K baud, Low = 9600 baud)	Out= 4mA, SLC In=LVTTL S/T
30	TEST	S=In M=In	Factory Test Mode Select (1=Test, 0= Normal Oper.)	Factory Test Mode Select (1=Test, 0= Normal Oper.)	LVTTL S/T

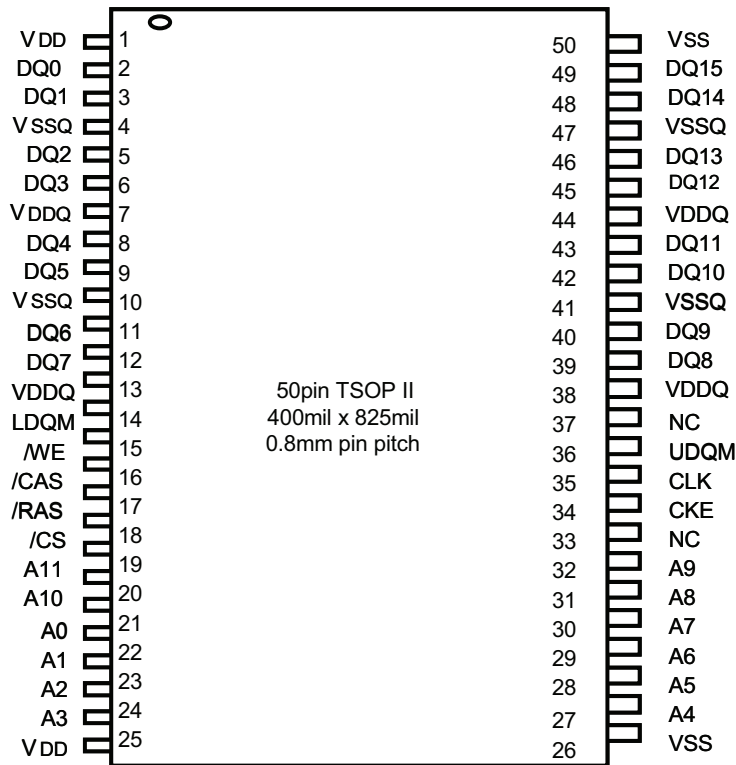
Pin #	Pin Name	Direction	Function in Slave Mode	Function in Master Mode	Notes
32	HSDP_DATA	S=In M=Out	High Speed Data Port Data Input	High Speed Data Port Data Output	Out= 4mA, SLC In=LVTTL S/T
34	HSDP_CLK	S=In M=Out	High Speed Data Port Clock Input	High Speed Data Port Clock Output	Out= 4mA, SLC In=LVTTL S/T
35	DT4_MODE	S=In M=In	Enables/Disables driver on SC_RATE and ANT_REV (High = enable driver) This pin was VSS on rev 3 XM/DT IC	Enables/Disables drivers on MUTE and ANT_REV (High = enable drivers) This pin was VSS on rev 3 XM/DT IC	In=LVTTL S/T
36	HSDP_EN#	S=In M=Out	High Speed Data Port Enable Input (Active low)	High Speed Data Port Enable Output (Active low)	Out= 4mA, SLC In=LVTTL S/T
37	I2S_DATA	S=In M=Out	I2S Digital Audio Port Data In	I2S Digital Audio Port Data Out	Out= 4mA, SLC In=LVTTL S/T
39	I2S_SCLK	S=In M=Out	I2S Digital Audio Port Bit Clock In	I2S Digital Audio Port Bit Clock Out	Out= 4mA, SLC In=LVTTL S/T
41	I2S_LRCLK	S=In M=Out	I2S Digital Audio Port Left/Right Clock In	I2S Digital Audio Port Left/Right Clock Out	Out= 4mA, SLC In=LVTTL S/T
43	I2S_OCLK	S=In M=Out	I2S Digital Audio Port Oversample Clock (not used, leave unconnected)	I2S Digital Audio Port Oversample Clock Out	Out= 4mA, SLC
44	MUTE	S=n/u M=Out	Not used in Slave mode, leave unconnected	Provides a mechanism for muting the audio during an I2S rate change (High=mute)	Out= 4mA, SLC
45	SAII_CLK	S=Out M=In	SAII Port Clock Output	SAII Port Clock Input	Out= 4mA, SLC In=LVTTL S/T
47	SAII_DATA	S=Out M=In	SAII Port Data Output	SAII Port Data Input	Out= 4mA, SLC In=LVTTL S/T
48	SAII_REQ	S=In M=Out	SAII Port Request Input	SAII Port Request Output	Out= 4mA, SLC In=LVTTL S/T

Pin#	Pin Name	Type	Function in Slave Mode	Function in Master Mode	Notes
4, 8, 17, 20, 27, 33, 40, 46	VDD	PWR	+3.3V Supply Voltage	+3.3V Supply Voltage	
2, 10, 16, 21, 24, 25, 31, 38, 42	VSS	GND	Digital Ground	Digital Ground	

Notes: All Inputs are 3.3V LVTTL compatible; S/T = Schmitt Trigger inputs; SLC = Slew Rate Controller Output

SD RAM : IC47

PIN CONFIGURATION

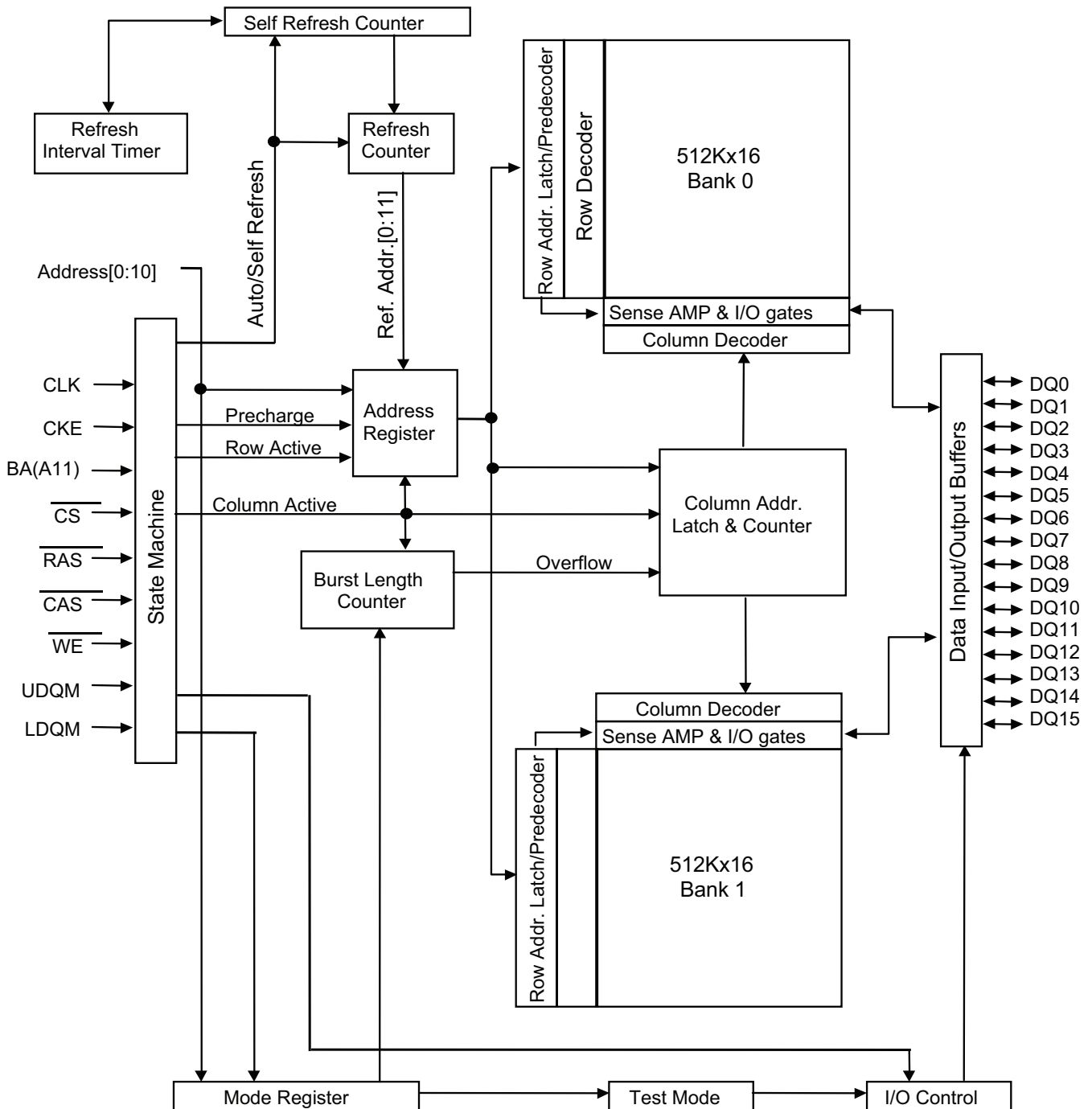


PIN DESCRIPTION

PIN	PIN NAME	DESCRIPTION
CLK	Clock	The system clock input. All other inputs are referenced to the SDRAM on the rising edge of CLK.
CKE	Clock Enable	Controls internal clock signal and when deactivated, the SDRAM will be one of the states among power down, suspend or self refresh.
$\overline{\text{CS}}$	Chip Select	Command input enable or mask except CLK, CKE and DQM
BA	Bank Address	Select either one of banks during both $\overline{\text{RAS}}$ and $\overline{\text{CAS}}$ activity.
A0 ~ A10	Address	Row Address : RA0 ~ RA10, Column Address : CA0 ~ CA7 Auto-precharge flag : A10
$\overline{\text{RAS}}$, $\overline{\text{CAS}}$, $\overline{\text{WE}}$	Row Address Strobe, Column Address Strobe, Write Enable	$\overline{\text{RAS}}$, $\overline{\text{CAS}}$ and $\overline{\text{WE}}$ define the operation. Refer function truth table for details
LDQM, UDQM	Data Input/Output Mask	DQM control output buffer in read mode and mask input data in write mode
DQ0 ~ DQ15	Data Input/Output	Multiplexed data input / output pin
VDD/VSS	Power Supply/Ground	Power supply for internal circuit and input buffer
VDDQ/VSSQ	Data Output Power/Ground	Power supply for DQ
NC	No Connection	No connection

FUNCTIONAL BLOCK DIAGRAM

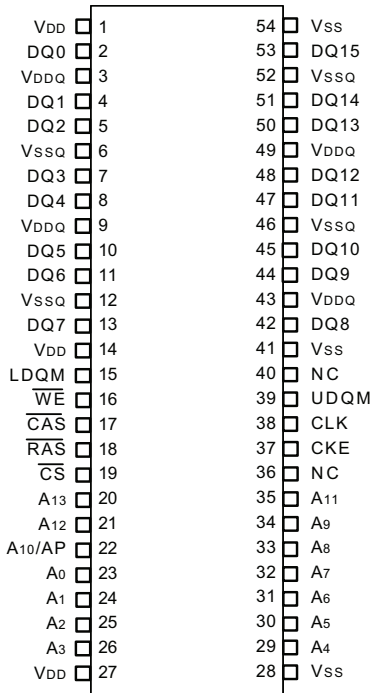
1Mx16 Synchronous DRAM



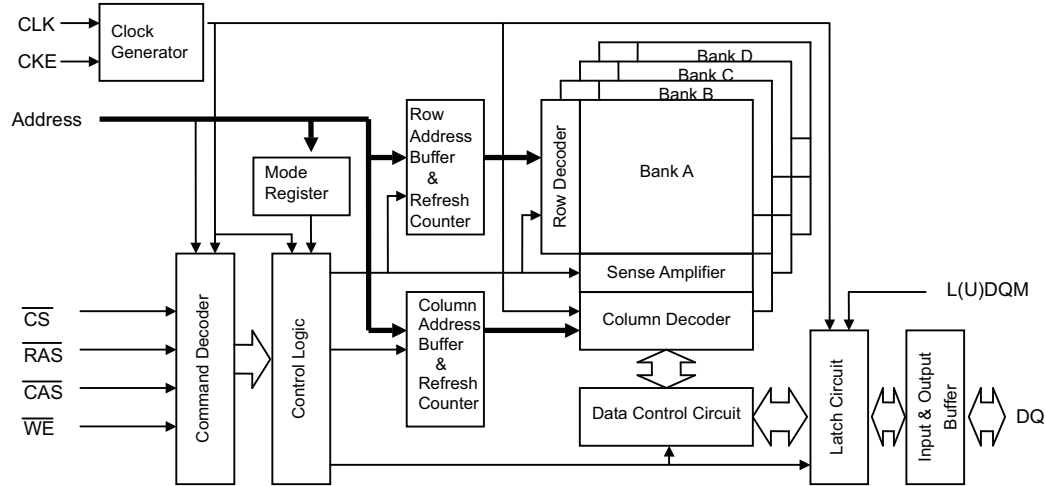
64M SDRAM (M12L64164A) : IC12

PIN ASSIGNMENT

Top View



FUNCTIONAL BLOCK DIAGRAM

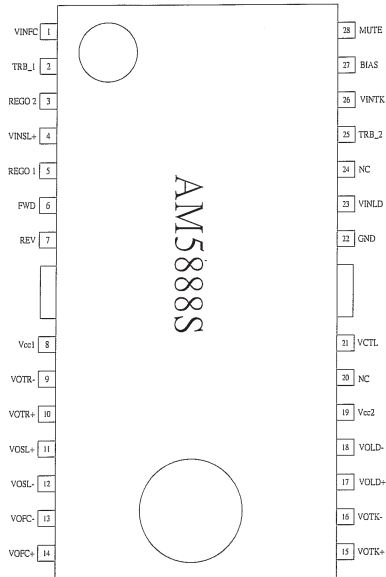


PIN FUNCTION DESCRIPTION

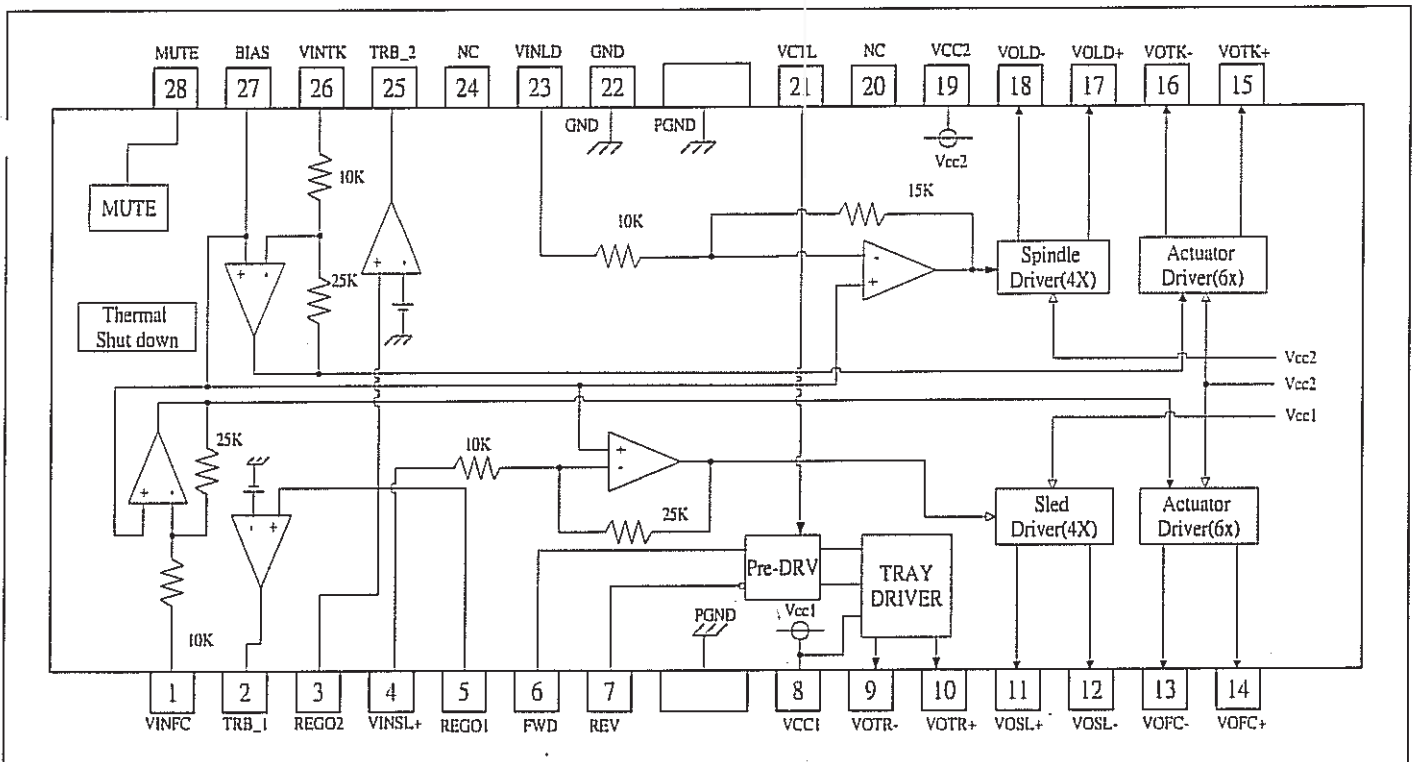
PIN	NAME	INPUT FUNCTION
CLK	System Clock	Active on the positive going edge to sample all inputs
$\overline{\text{CS}}$	Chip Select	Disables or enables device operation by masking or enabling all inputs except CLK , CKE and L(U)DQM
CKE	Clock Enable	Masks system clock to freeze operation by the next clock 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.
$\overline{\text{RAS}}$	Row Address Strobe	Latches row addresses on the positive going edge of the CLK with $\overline{\text{RAS}}$ low. Enables row access & precharge.
$\overline{\text{CAS}}$	Column Address Strobe	Latches column address on the positive going edge of the CLK with $\overline{\text{CAS}}$ low. Enables column access.
$\overline{\text{WE}}$	Write Enable	Enables write operation and row precharge. Latches data in starting from $\overline{\text{CAS}}$, $\overline{\text{WE}}$ 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) : IC16

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

● **Pin description**

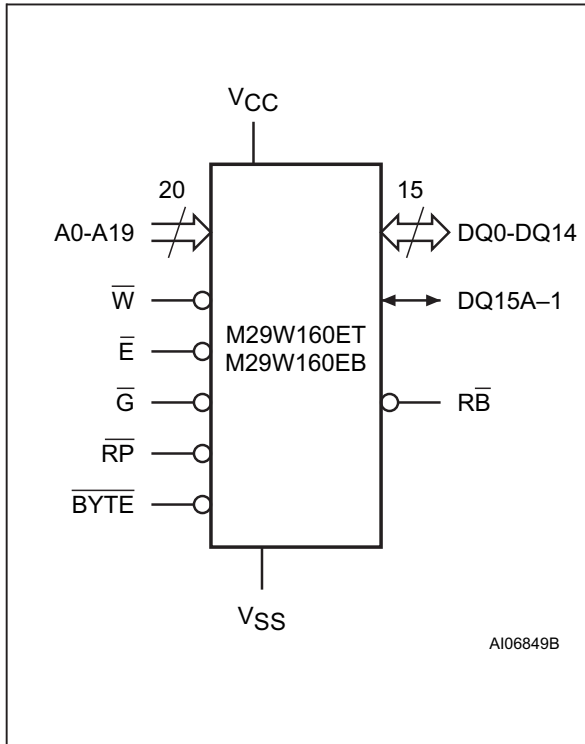
PIN No	Pin Name	Function
1	VINFC	Input for focus driver
2	TRB_1	Connect to external transistor base
3	REGO2	Regulator voltage output, connect to external transistor collector
4	VINSL+	Input for the sled driver
5	REGO1	Regulator voltage output, connect to external transistor collector
6	FWD	Tray driver 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

Notes) Symbol of + and – (output of drivers) means polarity to input pin.

(For example, if voltage of pin1 is high, pin14 is high.)

Flash Memory (M29W160ET) : IC11

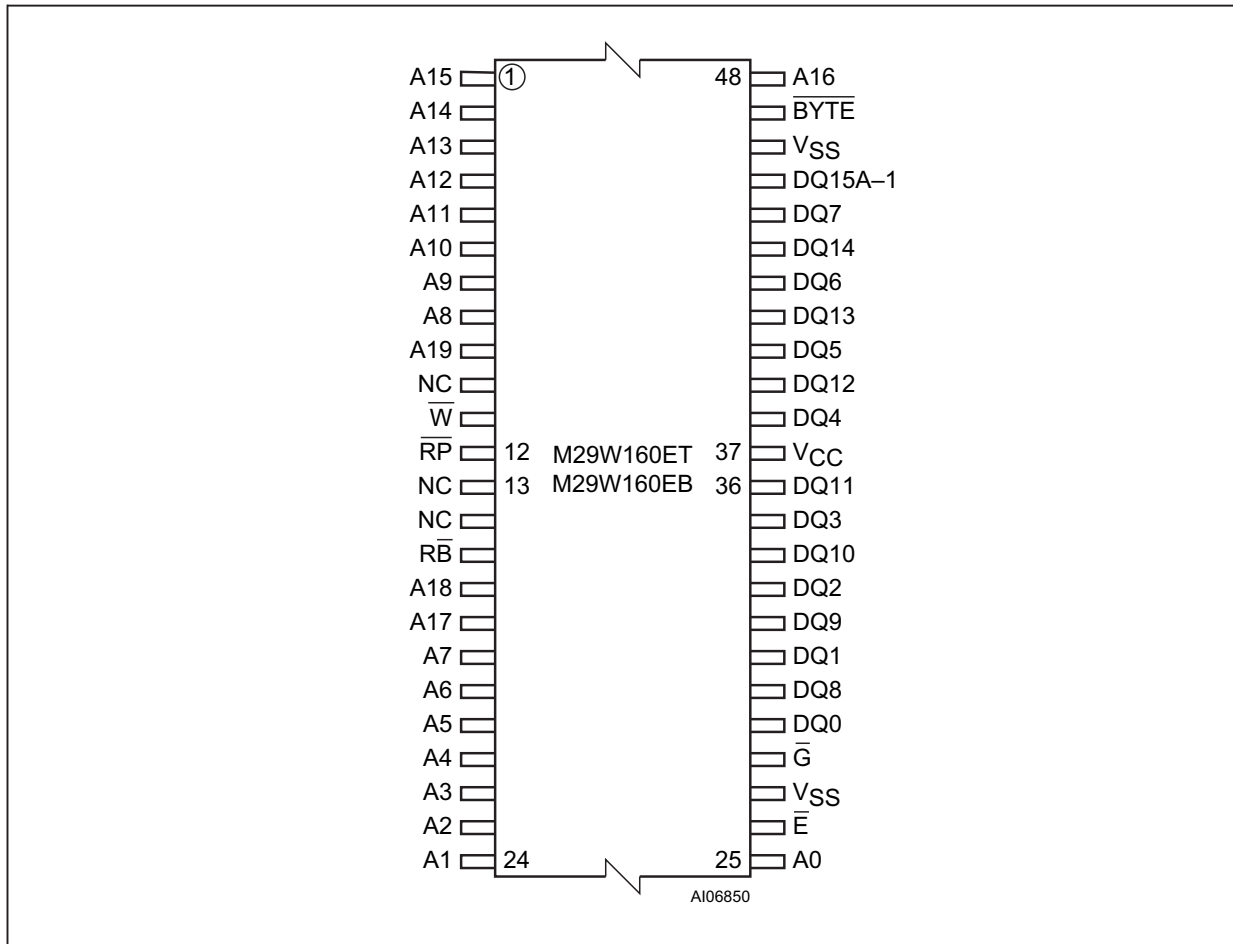
Logic Diagram



Signal Names

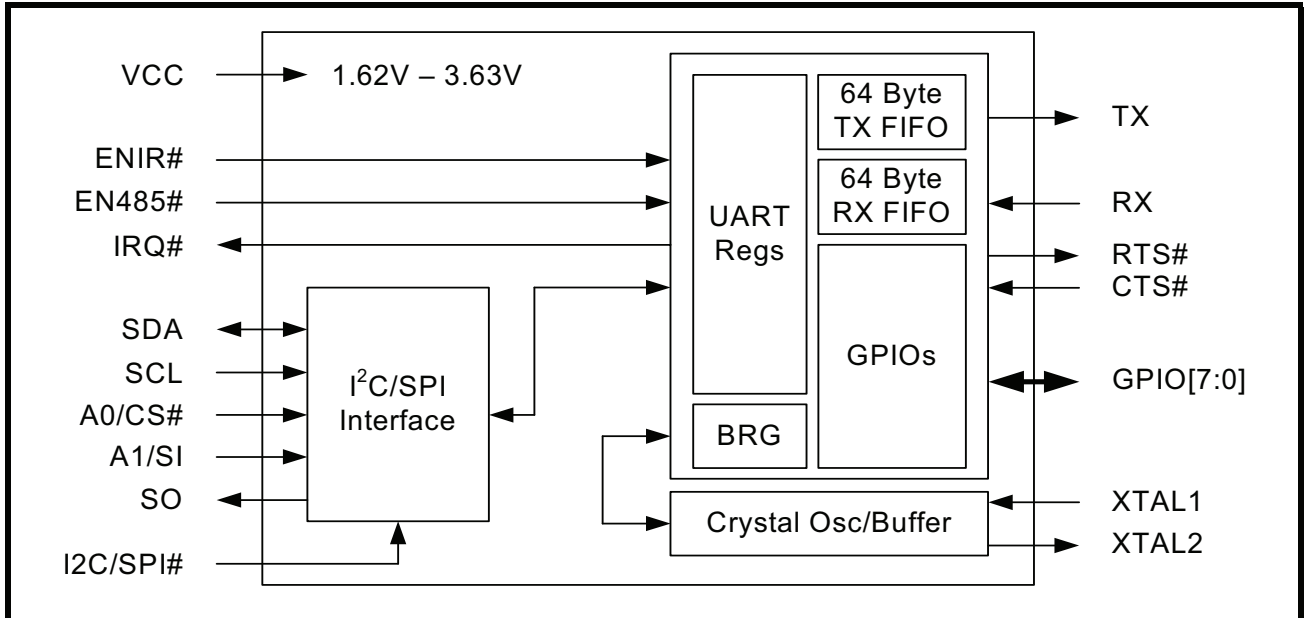
A0-A19	Address Inputs
DQ0-DQ7	Data Inputs/Outputs
DQ8-DQ14	Data Inputs/Outputs
DQ15A-1	Data Input/Output or Address Input
\bar{E}	Chip Enable
\bar{G}	Output Enable
\bar{W}	Write Enable
\bar{RP}	Reset/Block Temporary Unprotect
\bar{RB}	Ready/Busy Output
\bar{BYTE}	Byte/Word Organization Select
V _{CC}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

TSOP Connections



UART IC : IC39

XR20M1170 BLOCK DIAGRAM

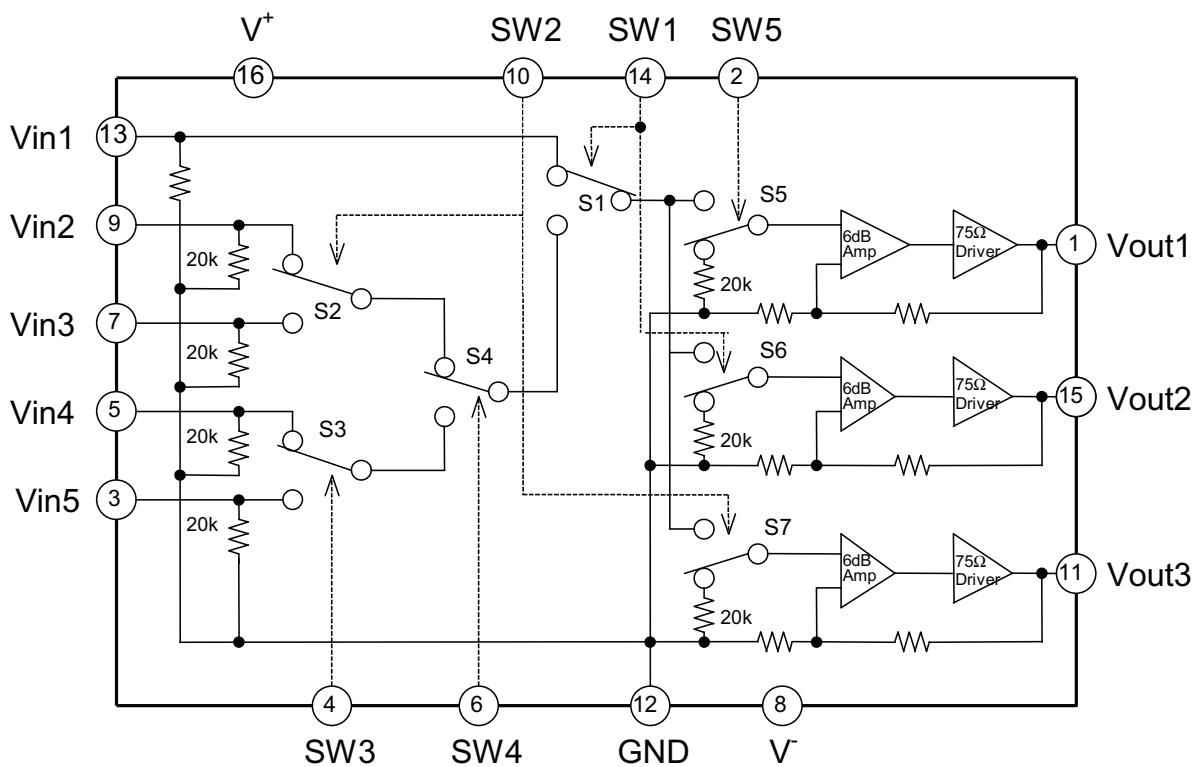


VIDEO SW IC (NJM2595) : IC51, IC52, IC53

5-INPUT 3-OUTPUT VIDEO SWITCH

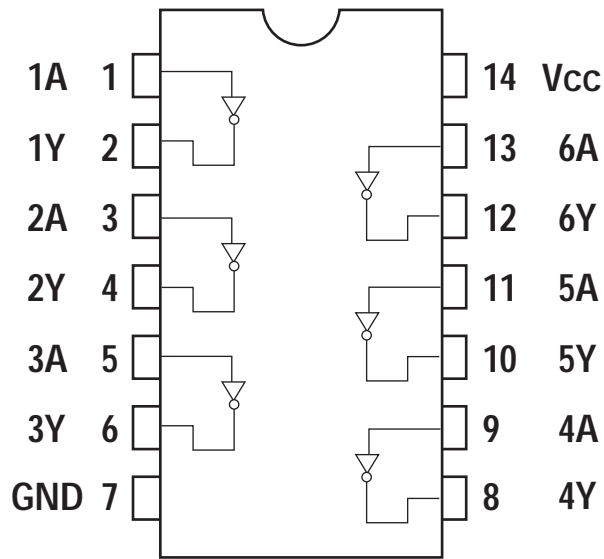
- FEATURES
 - 5-input 3-output
 - Operating Voltage ± 4.0 to $\pm 6.5V$
 - Operating current $\pm 15mA_{typ.}$ at $V_{cc}=\pm 5V$
 - Crosstalk $-65dB_{typ.}$
 - Internal 6dB Amplifier
 - Internal 75Ω Driver
 - Bipolar Technology
 - Package Outline DIP16,DMP16

- PIN CONFIGURATION and BLOCK DIAGRAM

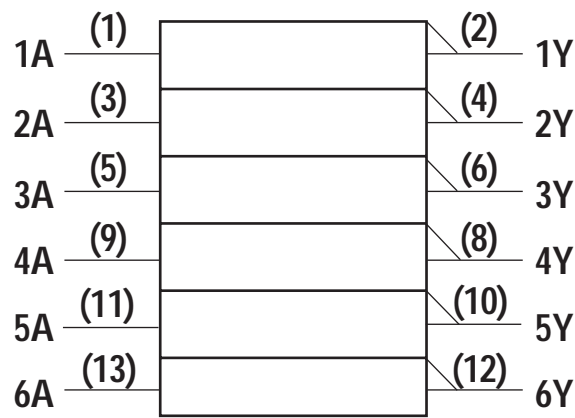


INVERTER IC (TC74HCU04AFN) : IC50

PIN ASSIGNMENT



LOGIC SYMBOL

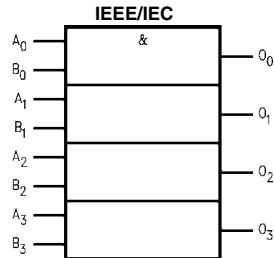


TRUTH TABLE

A	Y
L	H
H	L

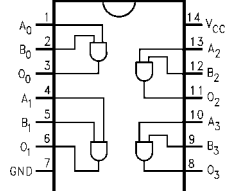
LOGIC IC : IC30 / IC38 (74LCX08MX)

Logic Symbol

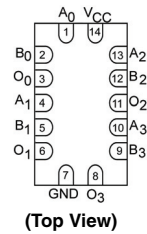


Connection Diagrams

Pin Assignments for SOIC, SOP, and TSSOP



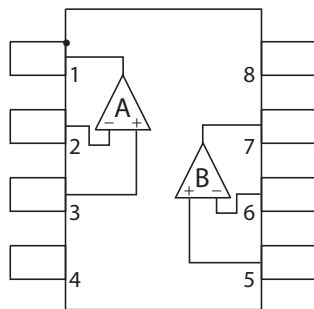
Pad Assignments for DQFN



Pin Descriptions

Pin Names	Description
A_n, B_n	Inputs
O_n	Outputs

NJM 2068MD (OP AMP) : IC32, IC33, IC34

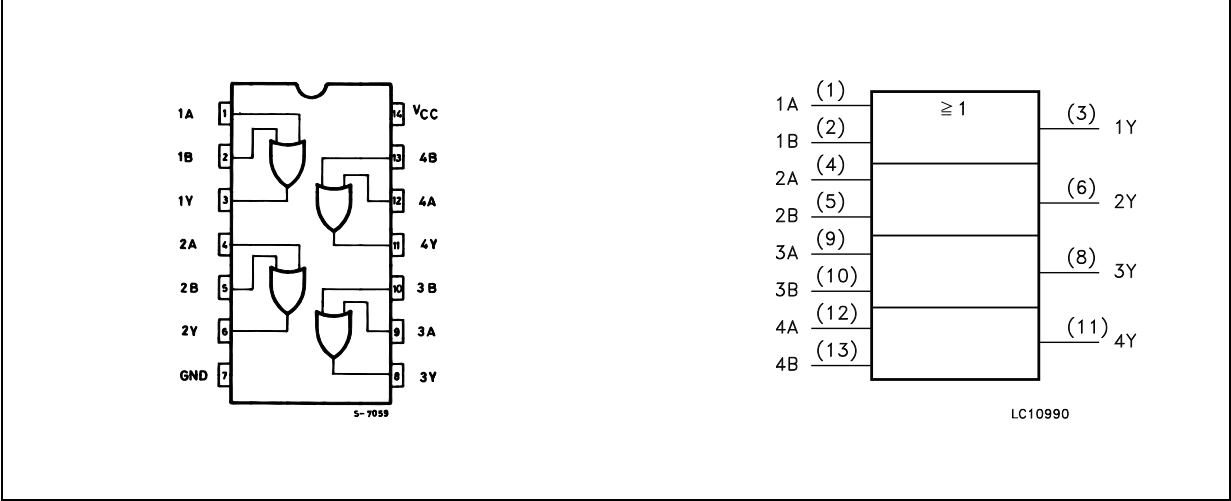


PIN FUNCITON

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

OR GATE : IC48(74LCX32TTR)

Pin Connection And IEC Logic Symbols



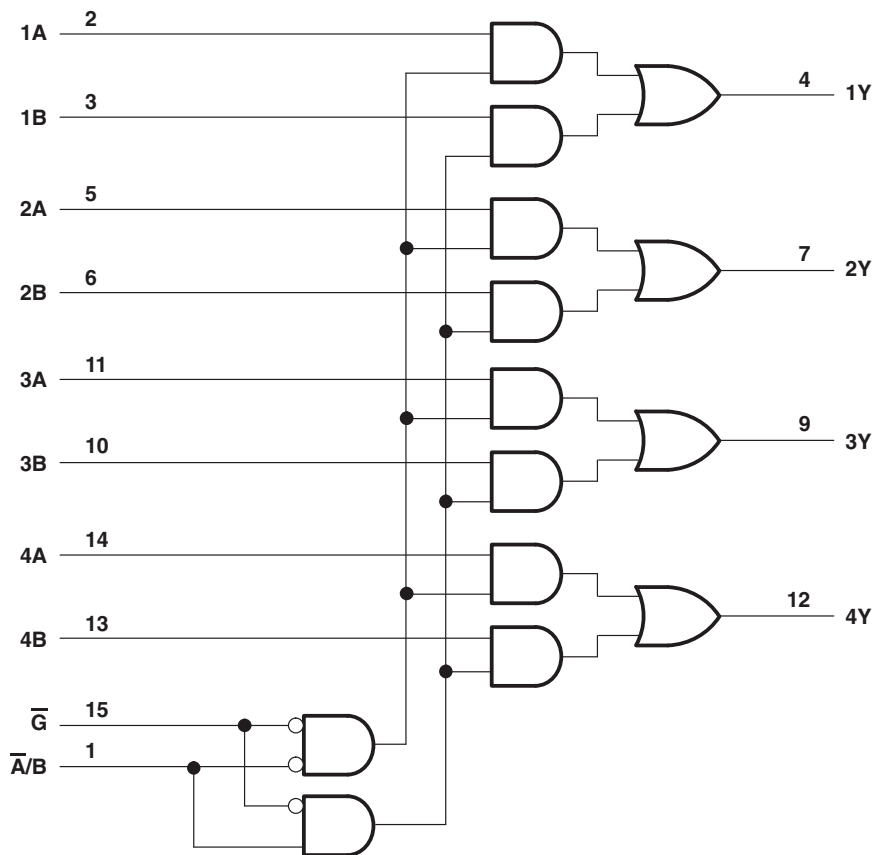
MULTIPLEXERS : IC49(74VHC157FT)

Inputs can be driven from either 3.3-V or 5-V devices. This feature allows the use of these devices as translators in a mixed 3.3-V/5-V system environment.

FUNCTION TABLE

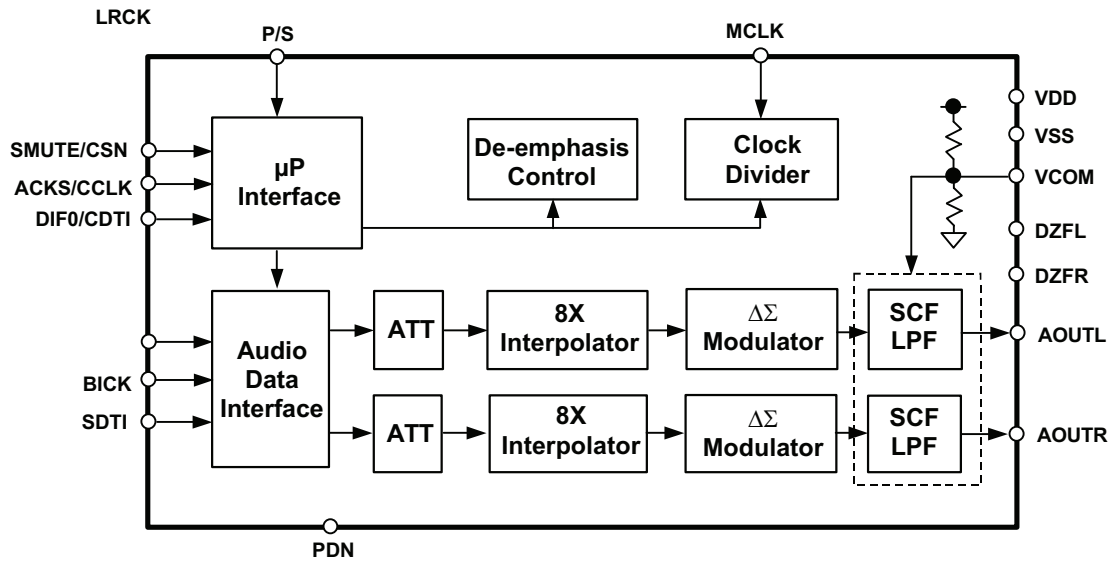
INPUTS				OUTPUT
\bar{G}	\bar{A}/B	A	B	Y
H	X	X	X	L
L	L	L	X	L
L	L	H	X	H
L	H	X	L	L
L	H	X	H	H

logic diagram (positive logic)

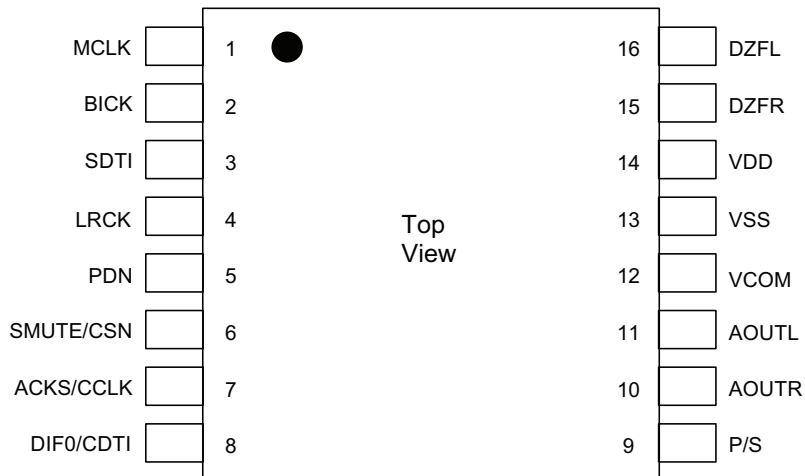


Pin numbers shown are for the D, DB, J, NS, PW, RGY, and W packages.

2CH DAC : IC71(AK4384)



■ Pin Layout

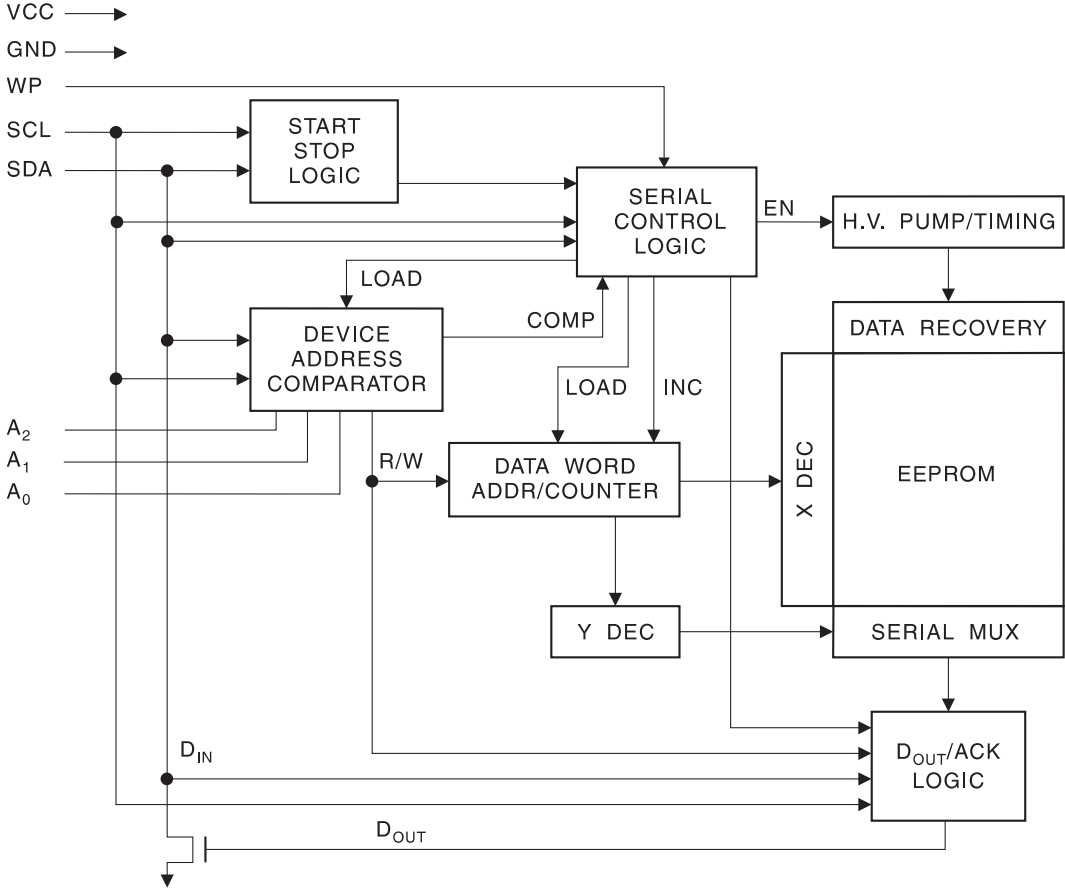


PIN/FUNCTION

No.	Pin Name	I/O	Function
1	MCLK	I	Master Clock Input Pin An external TTL clock should be input on this pin.
2	BICK	I	Audio Serial Data Clock Pin
3	SDTI	I	Audio Serial Data Input Pin
4	LRCK	I	L/R Clock Pin
5	PDN	I	Power-Down Mode Pin When at “L”, the AK4384 is in the power-down mode and is held in reset. The AK4384 should always be reset upon power-up.
6	SMUTE	I	Soft Mute Pin in parallel mode “H”: Enable, “L”: Disable
	CSN	I	Chip Select Pin in serial mode
7	ACKS	I	Auto Setting Mode Pin in parallel mode “L”: Manual Setting Mode, “H”: Auto Setting Mode
	CCLK	I	Control Data Clock Pin in serial mode
8	DIF0	I	Audio Data Interface Format Pin in parallel mode
	CDTI	I	Control Data Input Pin in serial mode
9	P/S	I	Parallel/Serial Select Pin (Internal pull-up pin) “L”: Serial control mode, “H”: Parallel control mode
10	AOUTR	O	Rch Analog Output Pin
11	AOUTL	O	Lch Analog Output Pin
12	VCOM	O	Common Voltage Pin, VDD/2 Normally connected to VSS with a 0.1μF ceramic capacitor in parallel with a 10μF electrolytic cap.
13	VSS	-	Ground Pin
14	VDD	-	Power Supply Pin
15	DZFR	O	Rch Data Zero Input Detect Pin
16	DZFL	O	Lch Data Zero Input Detect Pin

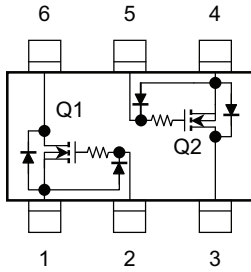
Note: All input pins except pull-up pin should not be left floating.

EEPROM : IC22(AT24C08N10SC)

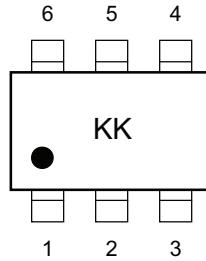


FET : IC14(HN1K05FU)

Equivalent Circuit (top view)



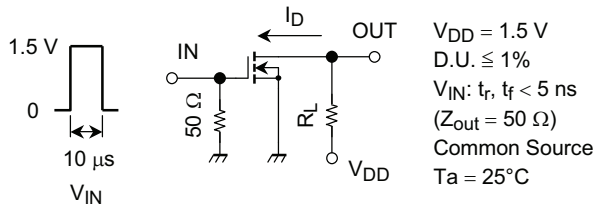
Marking



(Q1, Q2 common)

Switching Time Test Circuit

(a) Test circuit

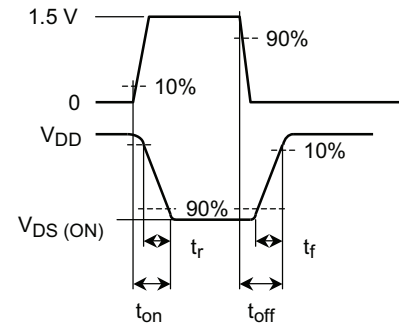


(b) V_{IN}

V_{GS}

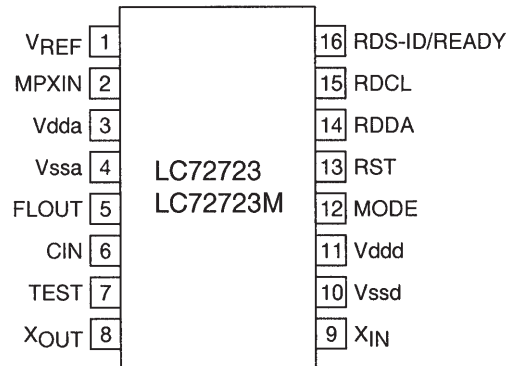
(c) V_{OUT}

V_{DS}

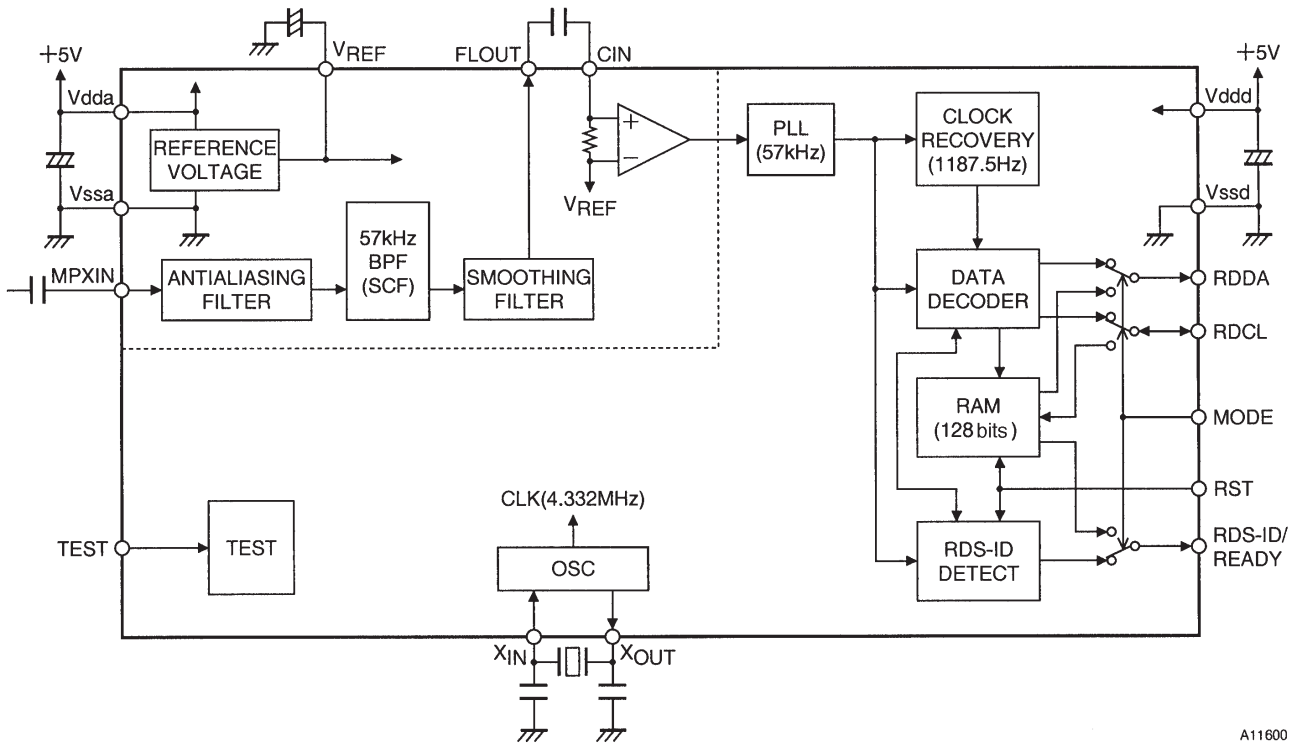


RDS DEMODULATION IC(LC72723M) : IC29

Pin Assignment



Block Diagram



A11600

VIDEO SW IC(PI5V330) : IC56, IC59

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 ($0.1\mu\text{A}$ typical)
- Single supply operation: $+5.0\text{V}$
- 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)

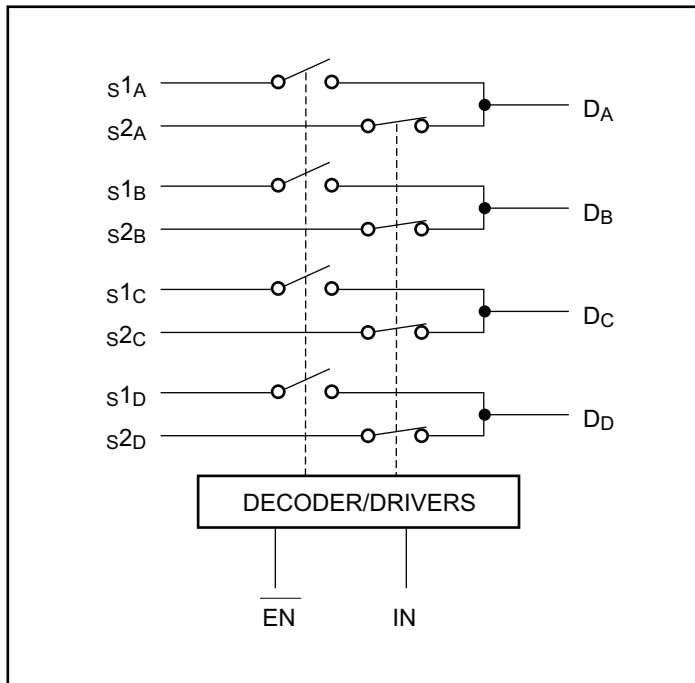
Description

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.

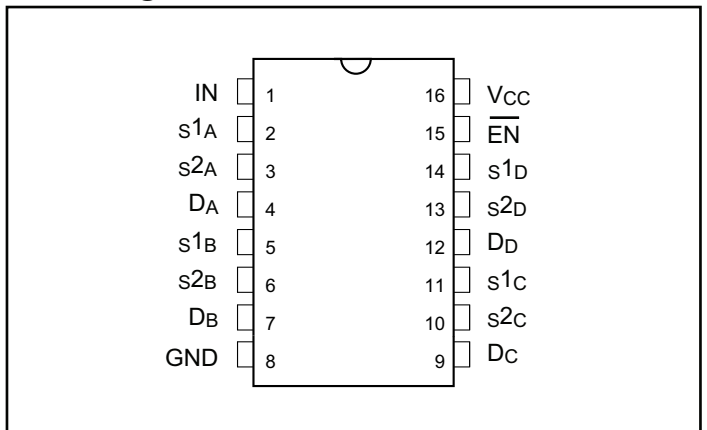
Block Diagram



Truth Table

$\overline{\text{EN}}$	IN	ON Switch
0	0	s1A, s1B, s1C, s1D
0	1	s2A, s2B, s2C, s2D
1	X	Disabled

Pin Configuration

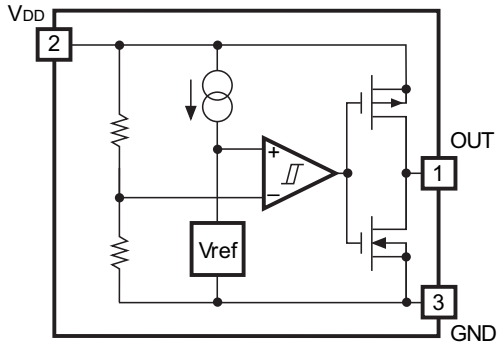


Pin Description

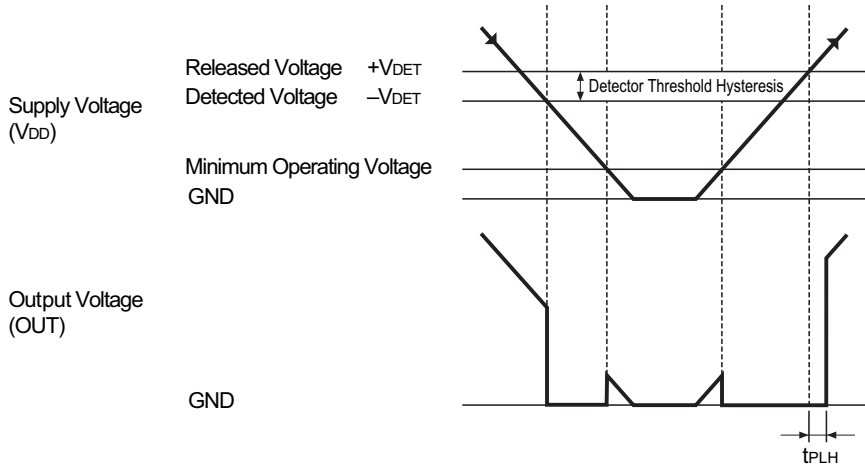
Pin Name	Description
s1A, s1B, s1C, s1D s2A, s2B, s2C, s2D	Analog Video I/O
IN	Select Input
$\overline{\text{EN}}$	Enable
DA, DB DC, DD	Analog Video I/O
GND	Ground
VCC	Power

RESET IC(RH5VT18C) : IC25

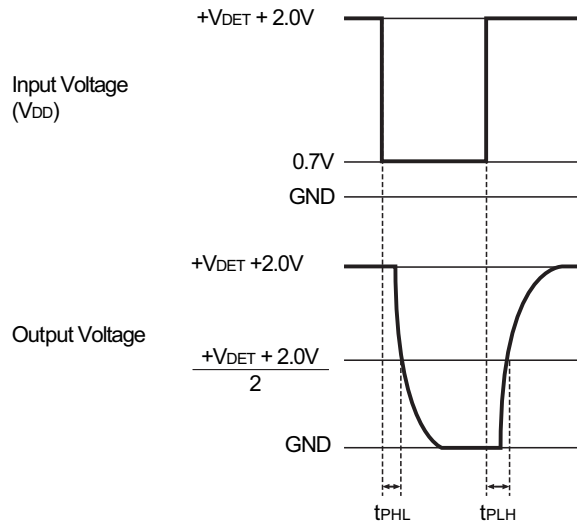
BLOCK DIAGRAMS



TIME CHART

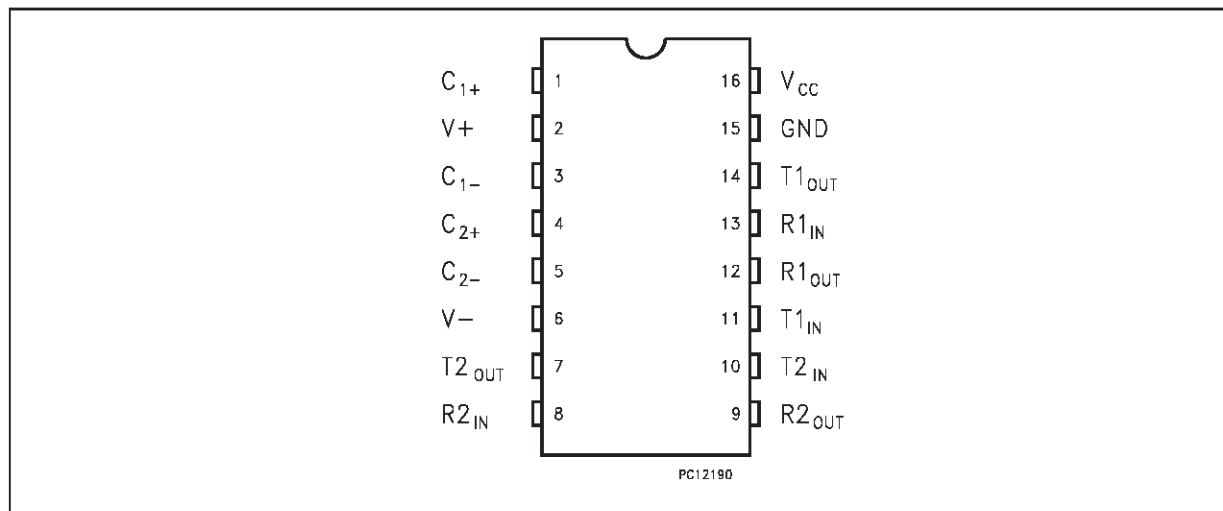


DEFINITION OF OUTPUT DELAY TIME t_{PLH}



RS232 TRANSCEIVER : IC28

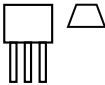
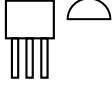

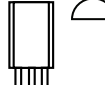


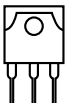


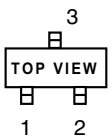
PIN CONFIGURATION



PIN DESCRIPTION

PIN No	SYMBOL	NAME AND FUNCTION
1	C ₁₊	Positive Terminal for the first Charge Pump Capacitor
2	V+	Doubled Voltage Terminal
3	C ₁₋	Negative Terminal for the first Charge Pump Capacitor
4	C ₂₊	Positive Terminal for the second Charge Pump Capacitor
5	C ₂₋	Negative Terminal for the second Charge Pump Capacitor
6	V-	Inverted Voltage Terminal
7	T _{2OUT}	Second Transmitter Output Voltage
8	R _{2IN}	Second Receiver Input Voltage
9	R _{2OUT}	Second Receiver Output Voltage
10	T _{2IN}	Second Transmitter Input Voltage
11	T _{1IN}	First Transmitter Input Voltage
12	R _{1OUT}	First Receiver Output Voltage
13	R _{1IN}	First Receiver Input Voltage
14	T _{1OUT}	First Transmitter Output Voltage
15	GND	Ground
16	V _{CC}	Supply Voltage

TRANSISTOR, REGULATOR IC BLOCK DIAGRAM

<p>TO-92S</p>  <p>1. Emitter 2. Collector 3. Base</p> <p>123</p> <p>KRA102M KRC102M KSC2785Y KSA1175Y</p>	<p>TO-92</p>  <p>1. Emitter 2. Collector 3. Base</p> <p>123</p> <p>KTC3200GR KSB811Y KTA1271Y KTA1268GR</p>	<p>TO-220</p>  <p>1. INPUT 2. OUTPUT 3. GND</p> <p>123</p>	<p>TO-92L</p>  <p>1. Emitter 2. Collector 3. Base</p> <p>123</p> <p>KSC2316Y</p>
<p>TO-126</p>  <p>1. Emitter 2. Collector 3. Base</p> <p>123</p> <p>KTC3114A KTA1360Y KTC3423Y</p>	<p>TO-220</p>  <p>1. INPUT 2. GND 3. OUTPUT</p> <p>123</p> <p>KIA7806</p>	<p>TO-3P</p>  <p>1. Base 2. Collector 3. Emitter</p> <p>1 2 3</p> <p>2SB1559 2SD2389</p>	<p>TO-220</p>  <p>1. INPUT 2. OUTPUT 3. GND 4. CONTROL</p> <p>1234</p> <p>KIA78R05 KIA278R05 KIA278R12 KIA278R08</p>
<p>TO-220</p>  <p>1. Base 2. Collector 3. Emitter</p> <p>123</p> <p>KTB1369Y KTD2061Y</p>	<p>SOT-23</p>  <p>1. Base 2. Emitter 3. Collector</p> <p>1 2 3</p> <p>KRA102S KRC102S KTD1304</p>		

SPECIAL FUNTION KEY

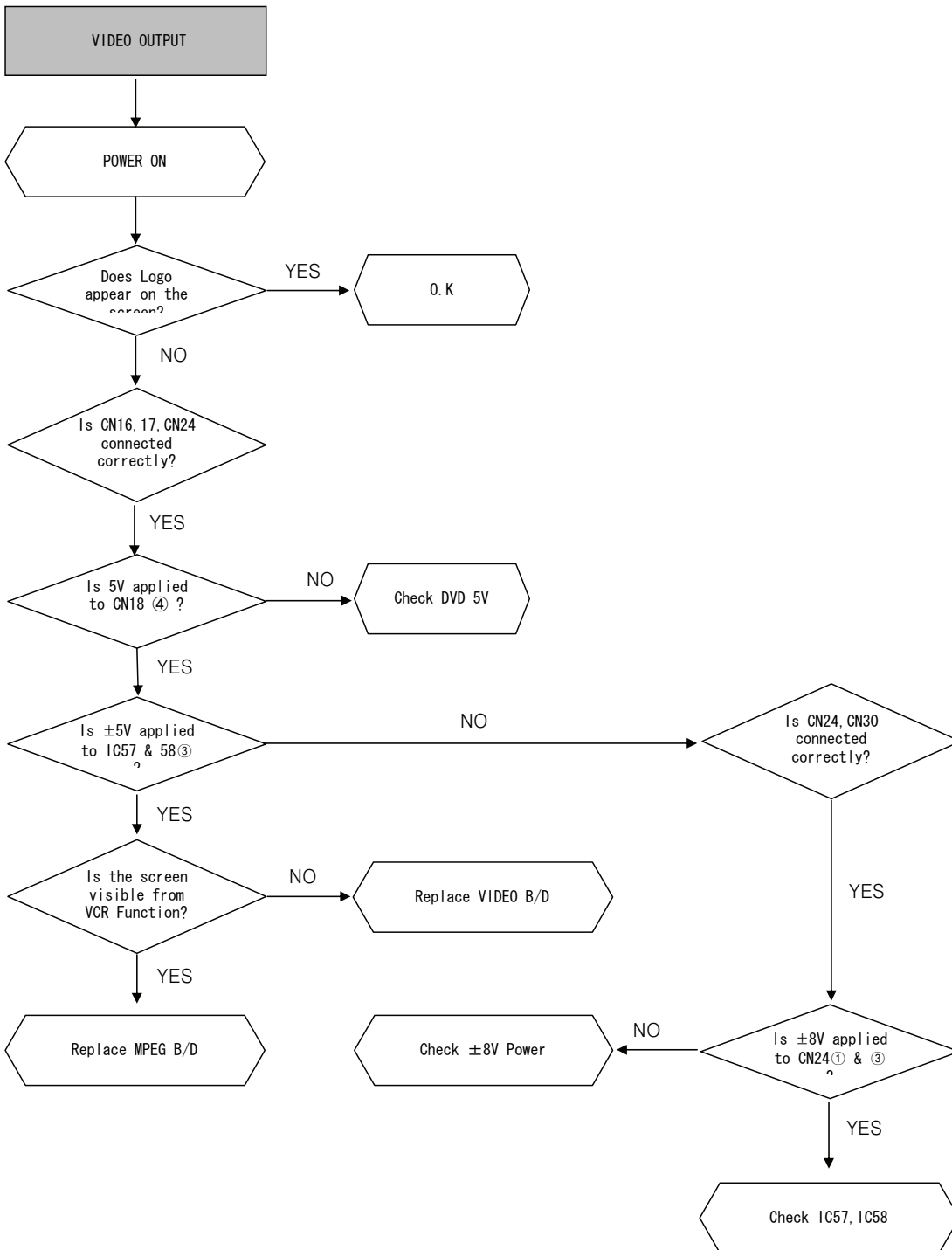
FEATURE	REMOTE KEY OPERATING	FRONT KEY OPERATING
Micom Reset(Host+Mpeg)	-	AM FUNCTION STATE PLAY KEY(SHORT) -> STOP(SHORT) KEY-> DISPLAY(LONG) KEY
HOST Soft version Display	-	AM FUNCTION STATE PLAY KEY(SHORT)-> STOP(SHORT) KEY-> TUNER MODE(LONG) KEY
MPEG Soft version&Region Display	SET UP ON STATE NURBER "2" + "5" + "8" + "0" KEY	-
XM Test Tone Check	-	XM FUNCTION STATE TUNER MODE (LONG) KEY(five second)
Turn on all VFD dots and icons Check	-	AM FUNTION STATE MENU(LONG)KEY(five second)
Station/preset naming Methord	-	FM/AM FUNCTION STATE -. DISPLAY (LONG) KEY -. UP/DOWN KEY(character change) -. LEFT/RIGHT(cursor move) -. MEMORY KEY (memory seg blinking) -. MEMORY KEY (save)
Auto-preset Methord	-	MEMORY (LONG) KEY
Tuner freq for factory testing	-	TUNER MODE(LONG) KEY (five second)
XM signal strength Check	-	XM FUNCTION STATE MENU (LONG) KEY
Region Change	Press DEVICE SELECTOR "DVD" Key OPEN Press Remocon Key: 2->5->8->0 Press Remocon number key. ex) region free:0 , region2: 2	-
Resolution Change	display long key (2 sec) -> right cursor	display long key (2 sec) -> memory key
NTSC<-->PAL Change	-	memory long key (5 sec)
Preset Delete	-	(Preset Mode) 1.Display key + Memory SHORT key -->1 Preset Delete 2.Display key + Memory LONG key --> ALL Preset Delete
AM Frequency STEP Change	-	(AM funtion) TUNER MODE key + Memory key Push more than 5sec AM Step 9kHz<-->10kHz toggle change

<ELECTRICAL TROUBLESHOOTING GUIDE>

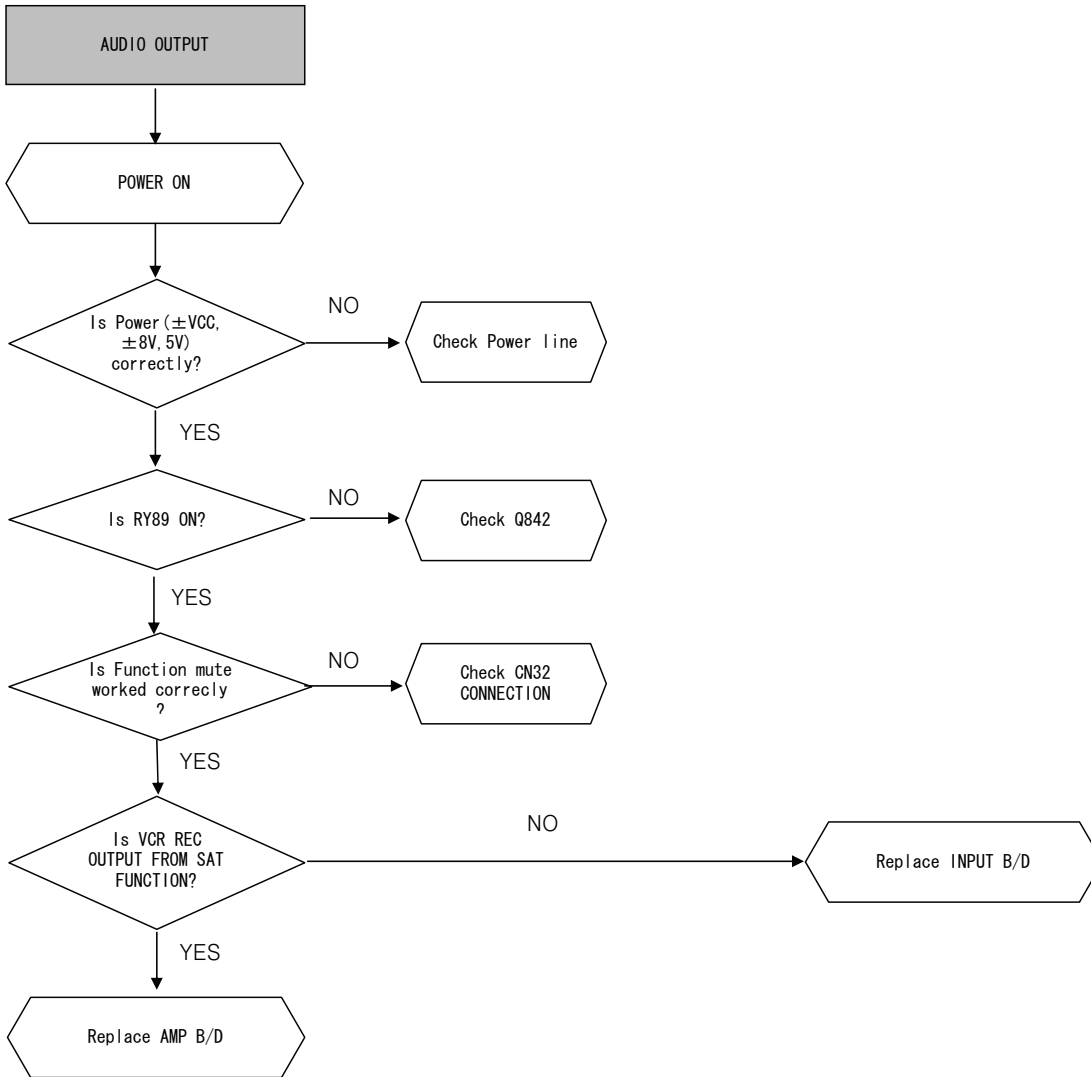
1. POWER CHECK



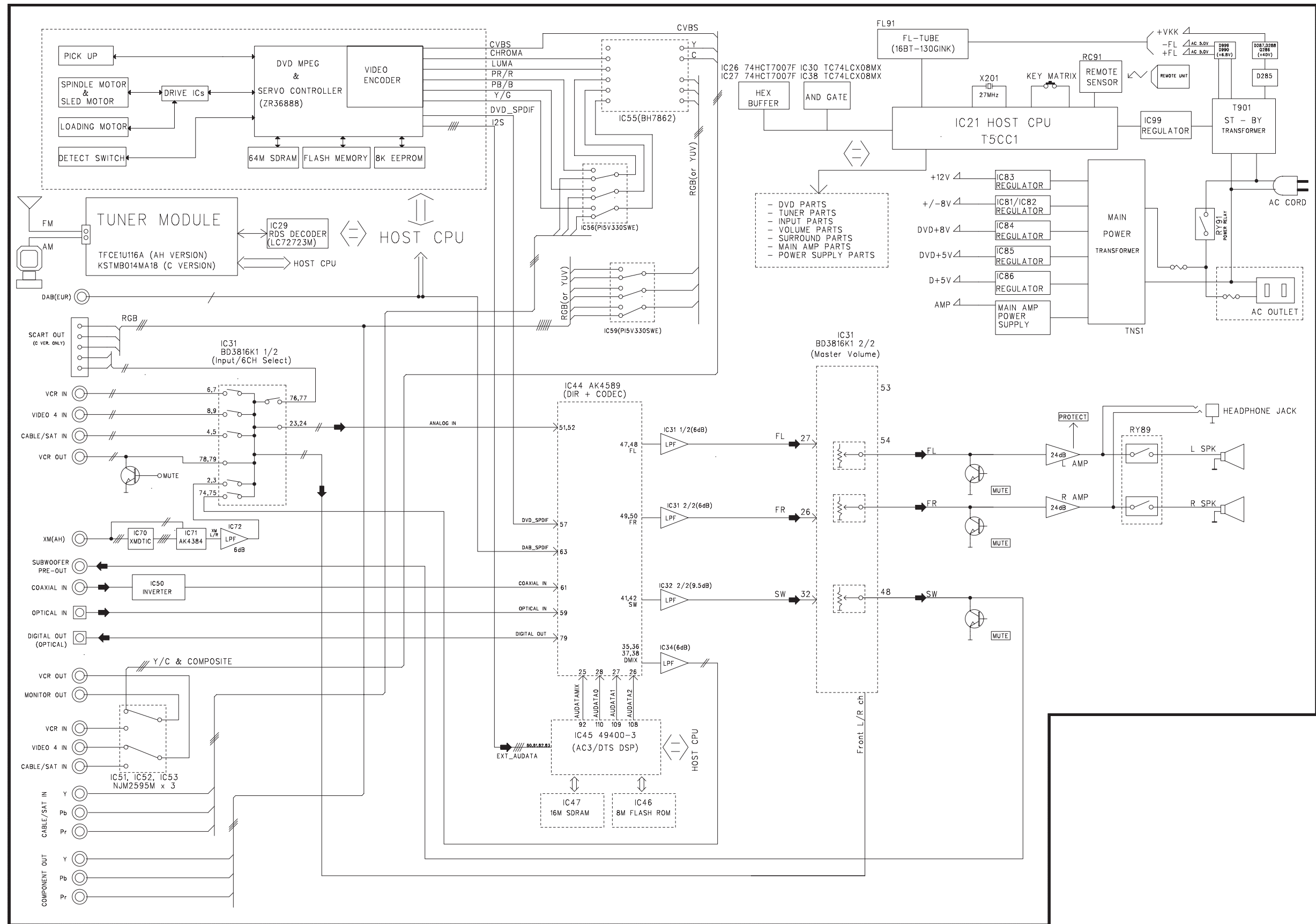
2. VIDEO PART CHECK



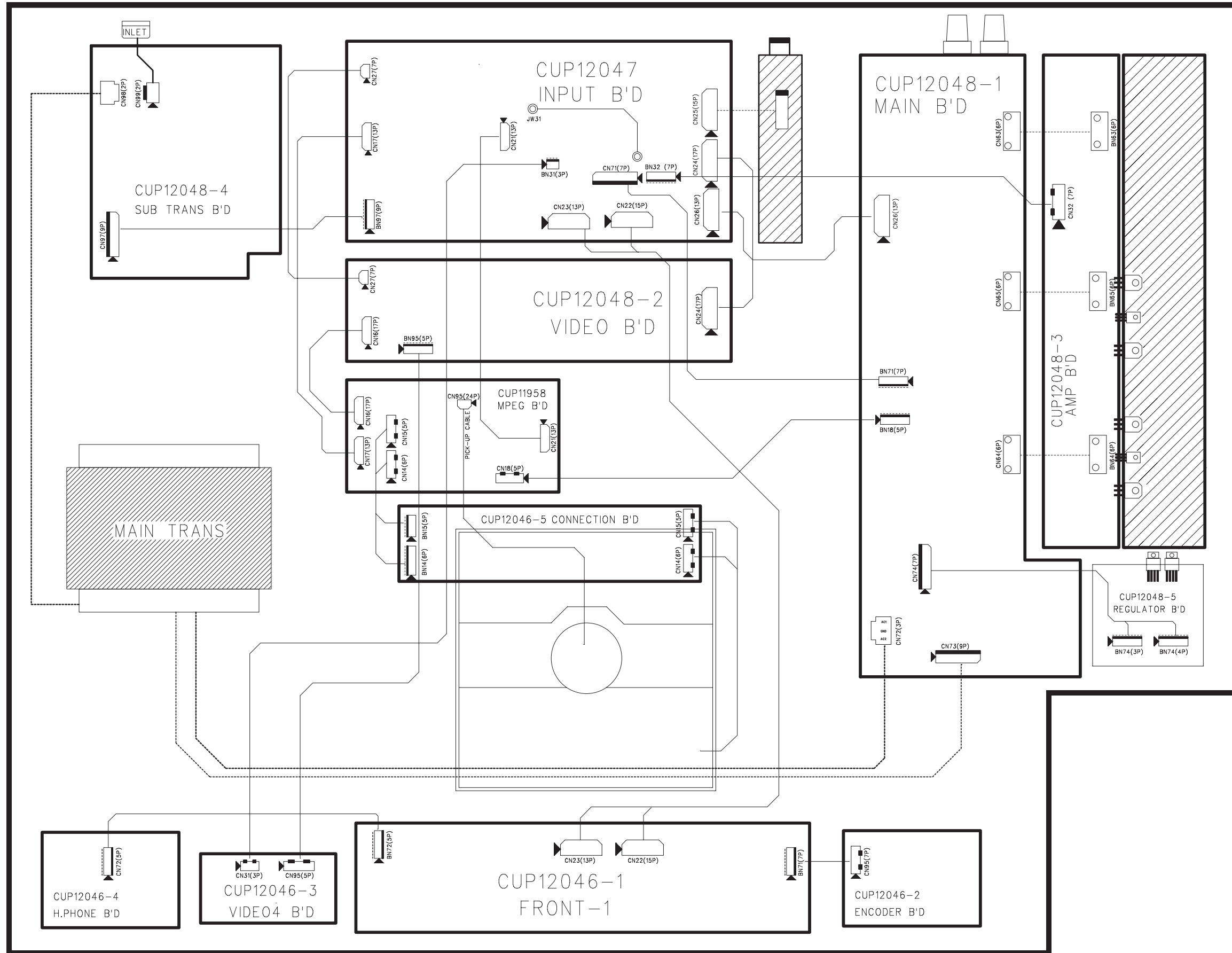
3. AUDIO PART CHECK



1. BLOCK DIAGRAM

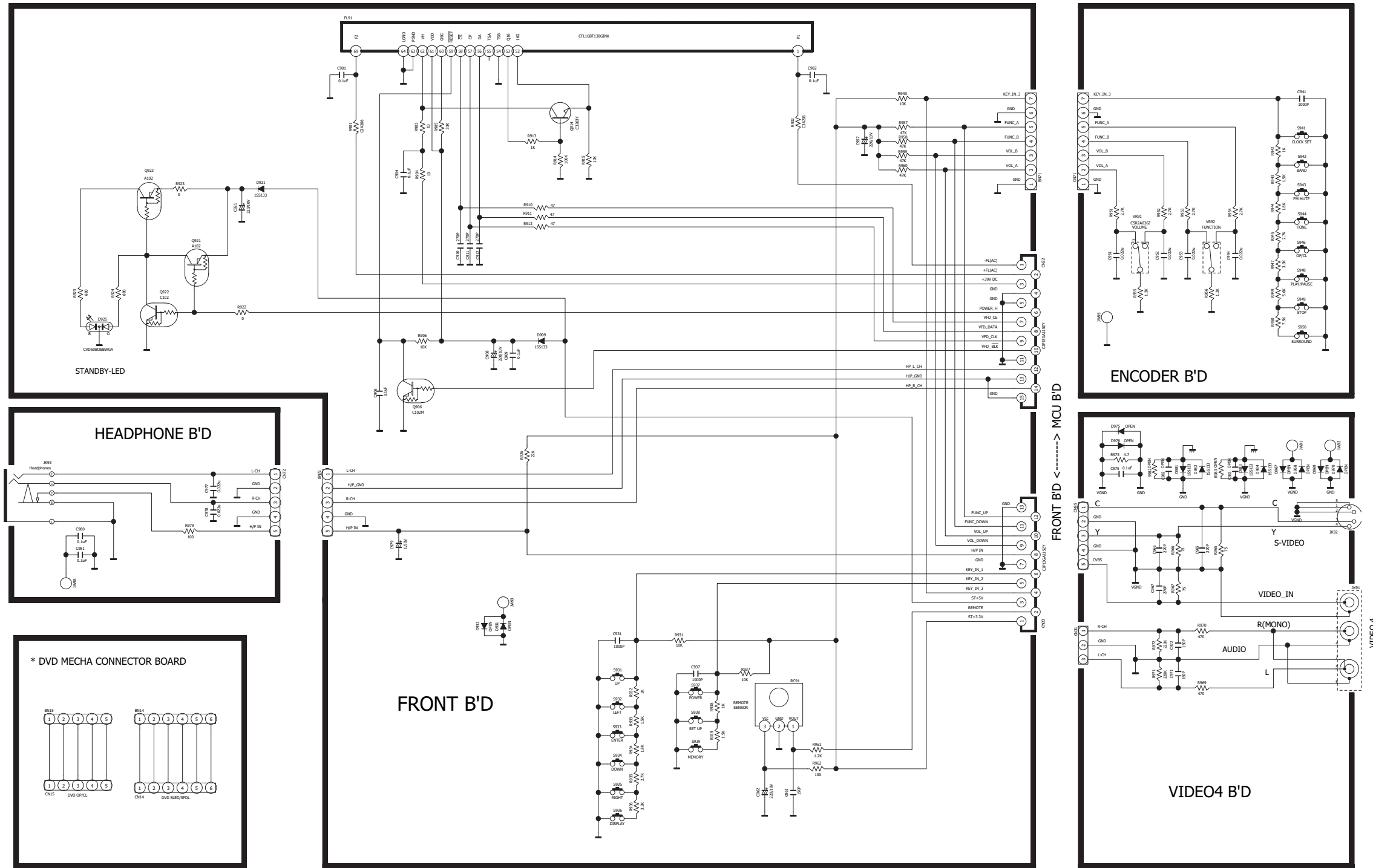


2. WIRING DIAGRAM before SN A9YVISOTWO06301



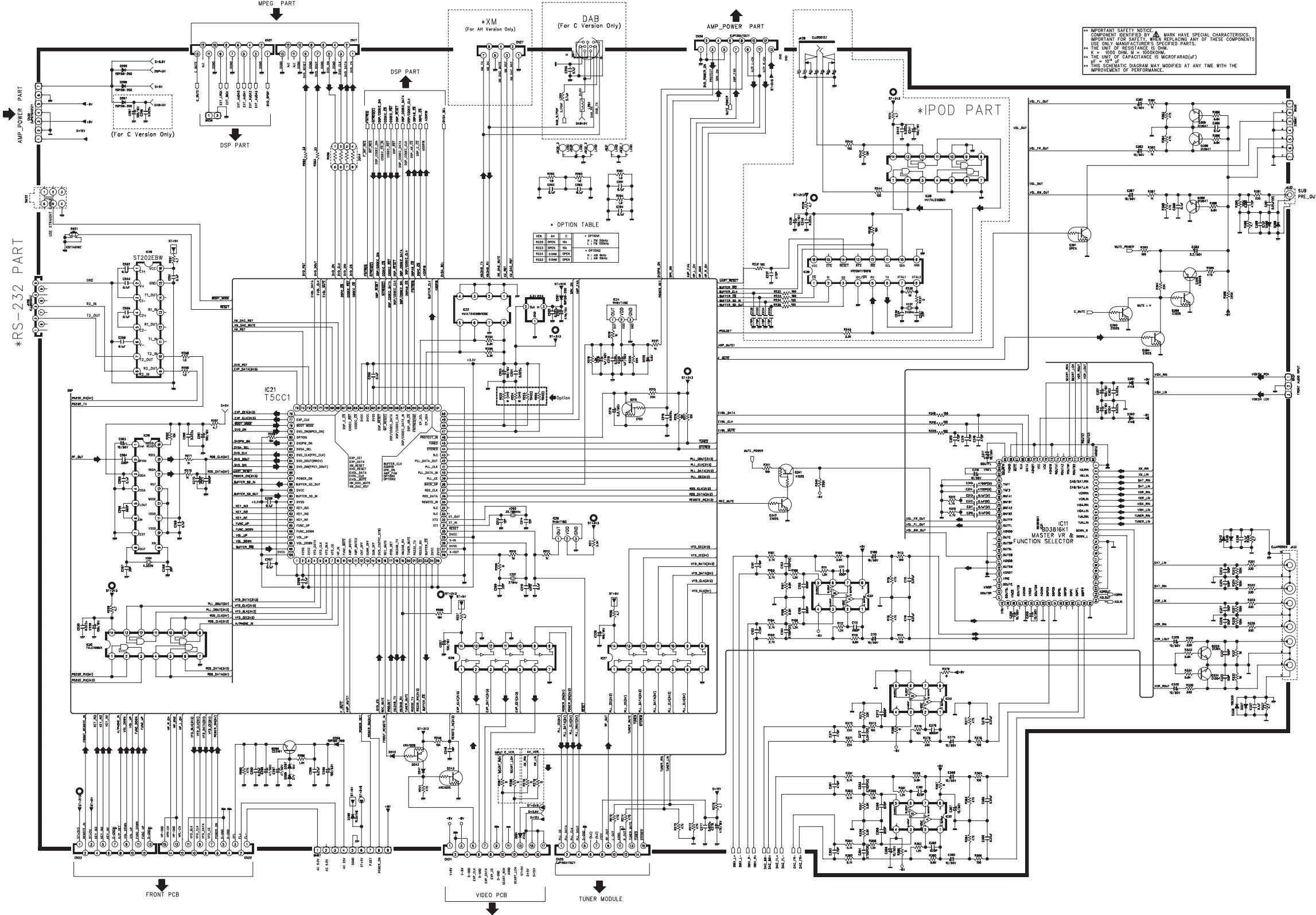
3. SCHEMATIC DIAGRAM before SN A9YVISOTWO06301

FRONT PART

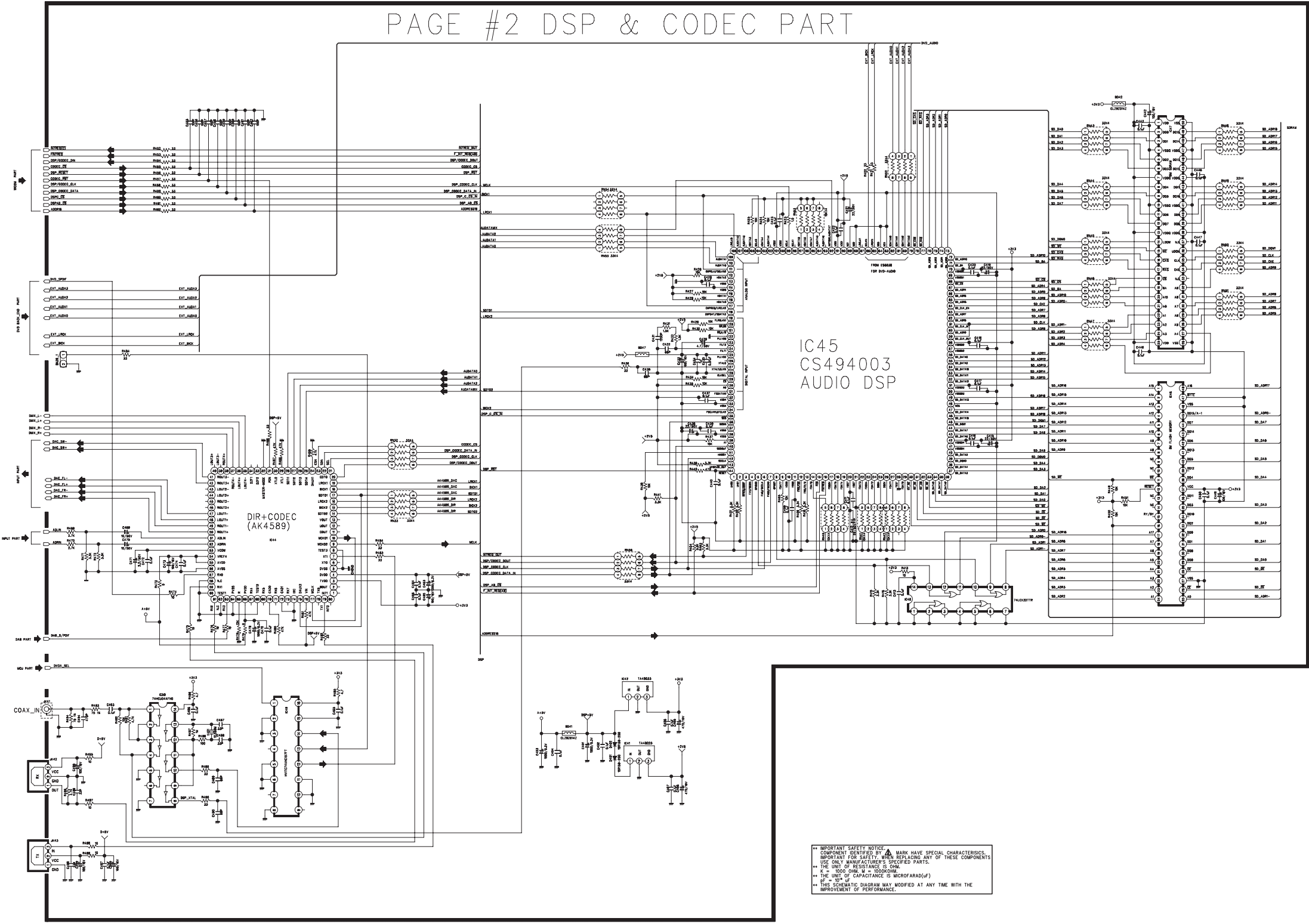


**** IMPORTANT SAFETY NOTICE.**
 COMPONENT IDENTIFIED BY MARK HAVE SPECIAL CHARACTERISTICS.
 IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS
 USE ONLY MANUFACTURER'S SPECIFIED PARTS.
 ** THE UNIT OF RESISTANCE IS OHM.
 K = 1000 OHM, M = 1000000 OHM.
 ** THE UNIT OF CAPACITANCE IS MICROFARAD(uF)
 pF = 10⁻⁶ uF
 ** THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE
 IMPROVEMENT OF PERFORMANCE.

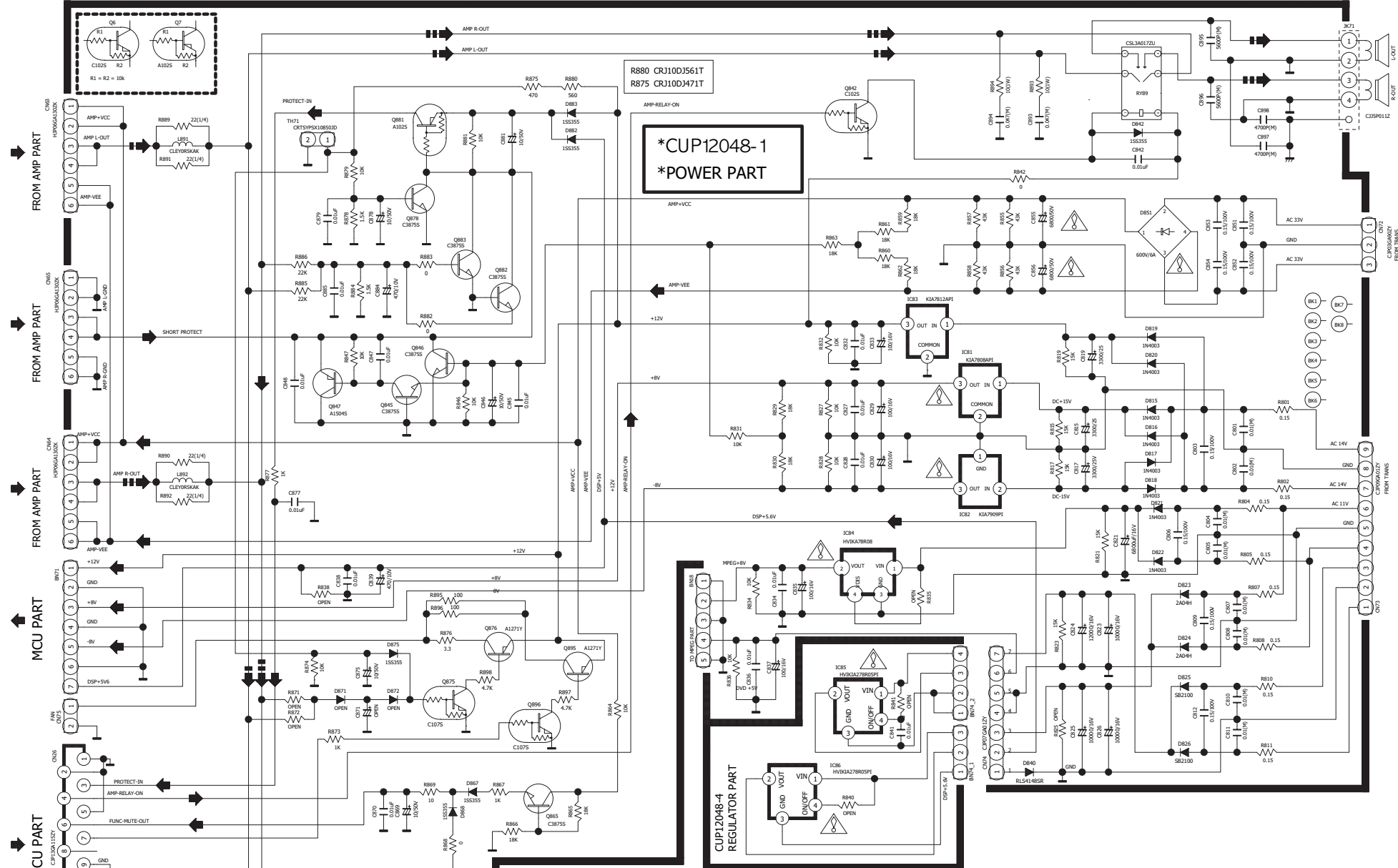
MCU & INPUT PART before SN A9YVISOTWO06301



DSP & CODEC PART

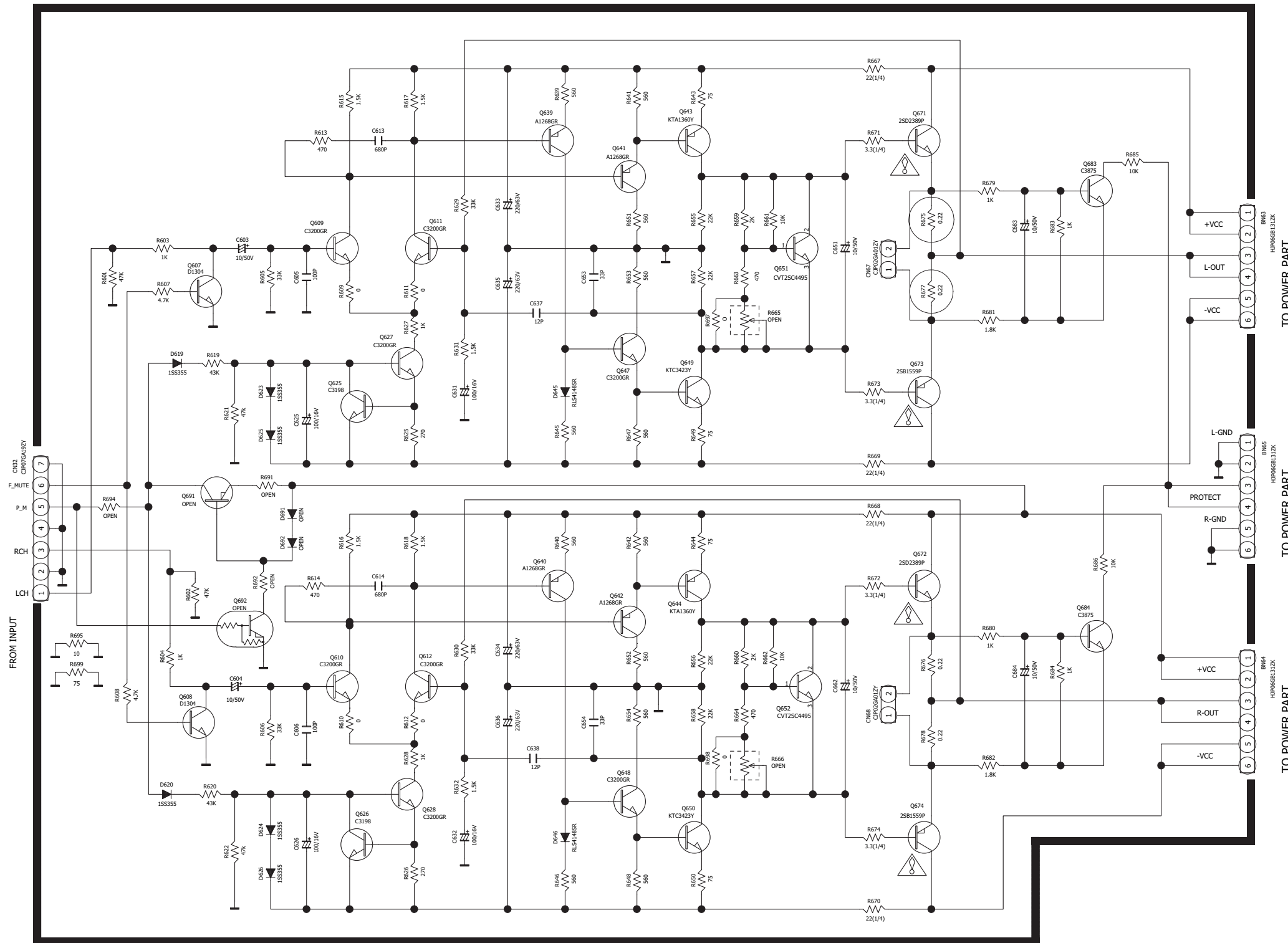



POWER PART before SN A9YVISOTWO06301



****IMPORTANT SAFETY NOTICE.**
 COMPONENTS IDENTIFIED BY MARK HAVE SPECIAL CHARACTERISTICS.
 IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS,
 USE ONLY MANUFACTURER'S SPECIFIED PARTS.
 **THE UNIT OF RESISTANCE IS OHM. K=1000 OHM, M=1000 KOHM
 **THE UNIT OF CAPACITANCE IS MICROFARAD (uF) 1pF = 10 uF * 6
 **THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANYTIME
 WITH THE IMPROVEMENT OF PERFORMANCE

AMP PART

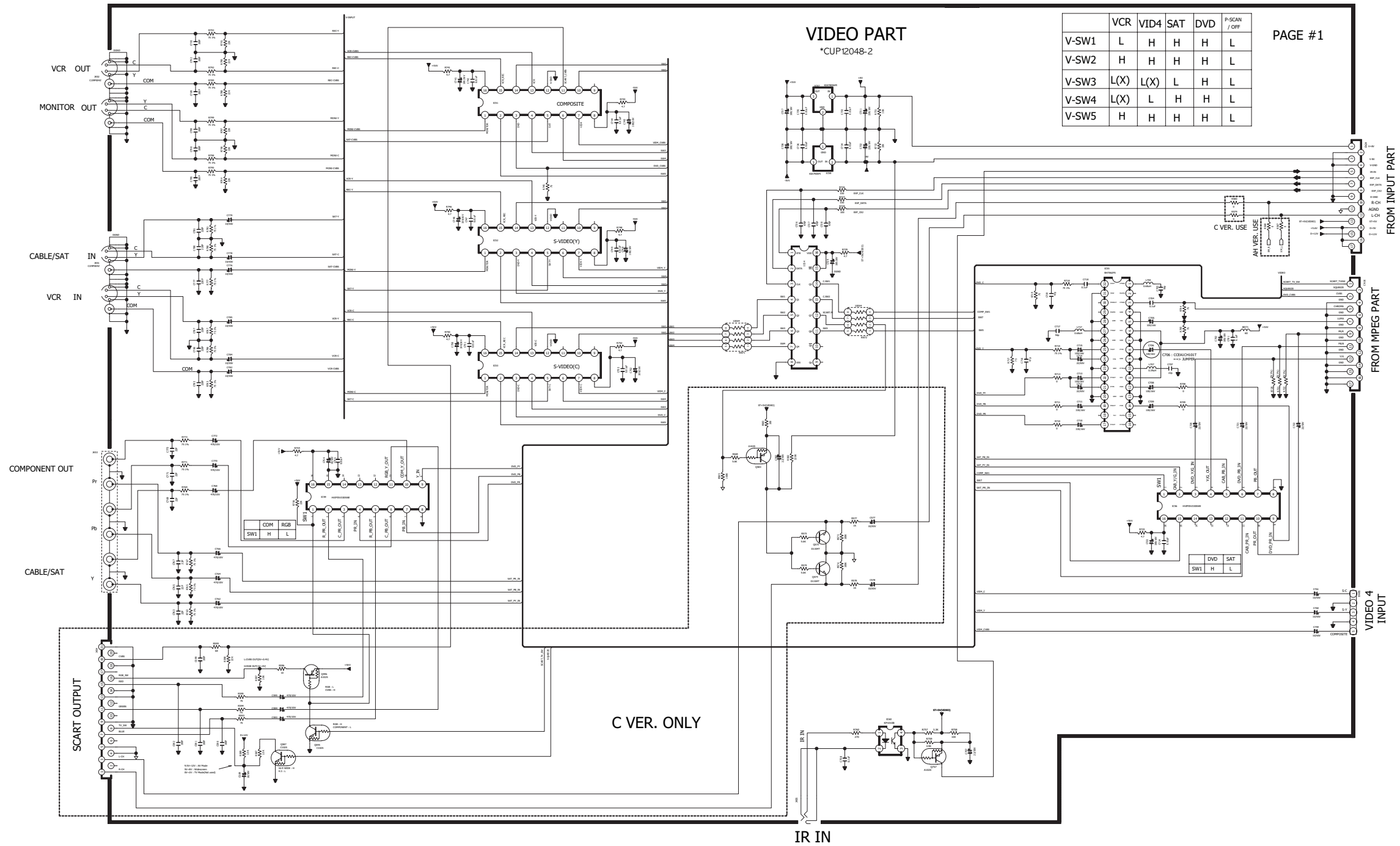


**IMPORTANT SAFETY NOTICE.
COMPONENTS IDENTIFIED BY  MARK HAVE SPECIAL CHARACTERISTICS.
IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS.
USE ONLY MANUFACTUREY'S SPECIFIED PARTS.
**THE UNIT OF RESISTANCE IS OHM.
K=1000 OHM, M=1000 KOHM

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

*CUP12048-3
*AMP PART

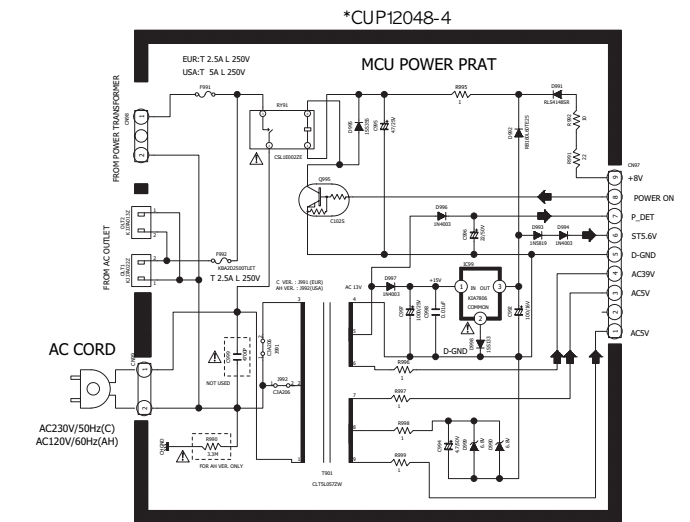
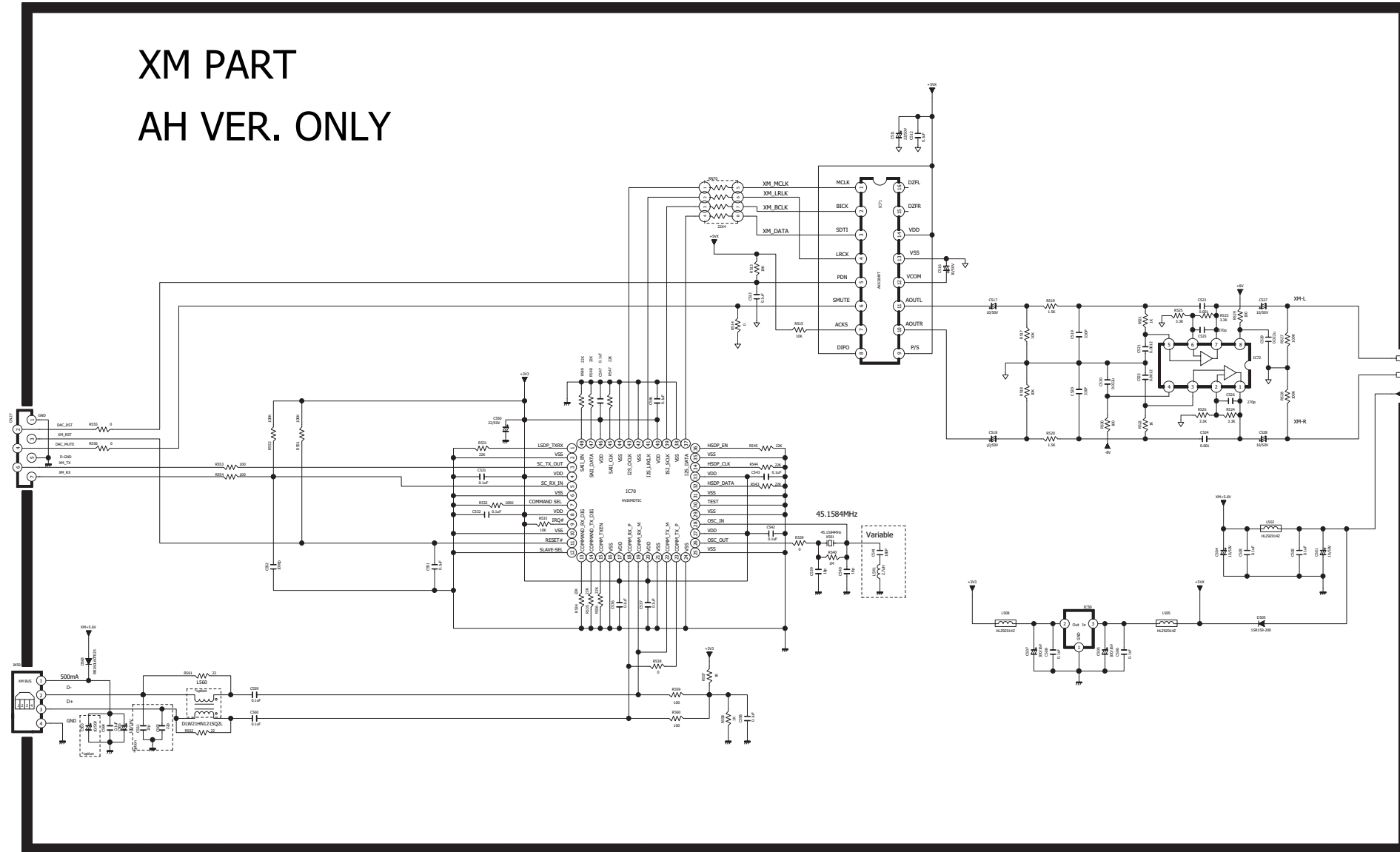
VIDEO PART



** IMPORTANT SAFETY NOTICE:
 COMPONENT IDENTIFIED BY MAY HAVE SPECIAL CHARACTERISTICS.
 IMPORTANT FOR SAFETY: WHEN REPLACING ANY OF THESE COMPONENTS
 USE ONLY MANUFACTURER'S SPECIFIED PARTS.
 ** THE UNIT OF RESISTANCE IS OHM.
 K = 1000 OHM, M = 1000000 OHM.
 ** THE UNIT OF CAPACITANCE IS MICROFARAD (UF).
 P.F. = PICO FARAD.
 ** THIS SCHEMATIC DIAGRAM MAY BE MODIFIED AT ANY TIME WITH THE
 IMPROVEMENT OF PERFORMANCE.

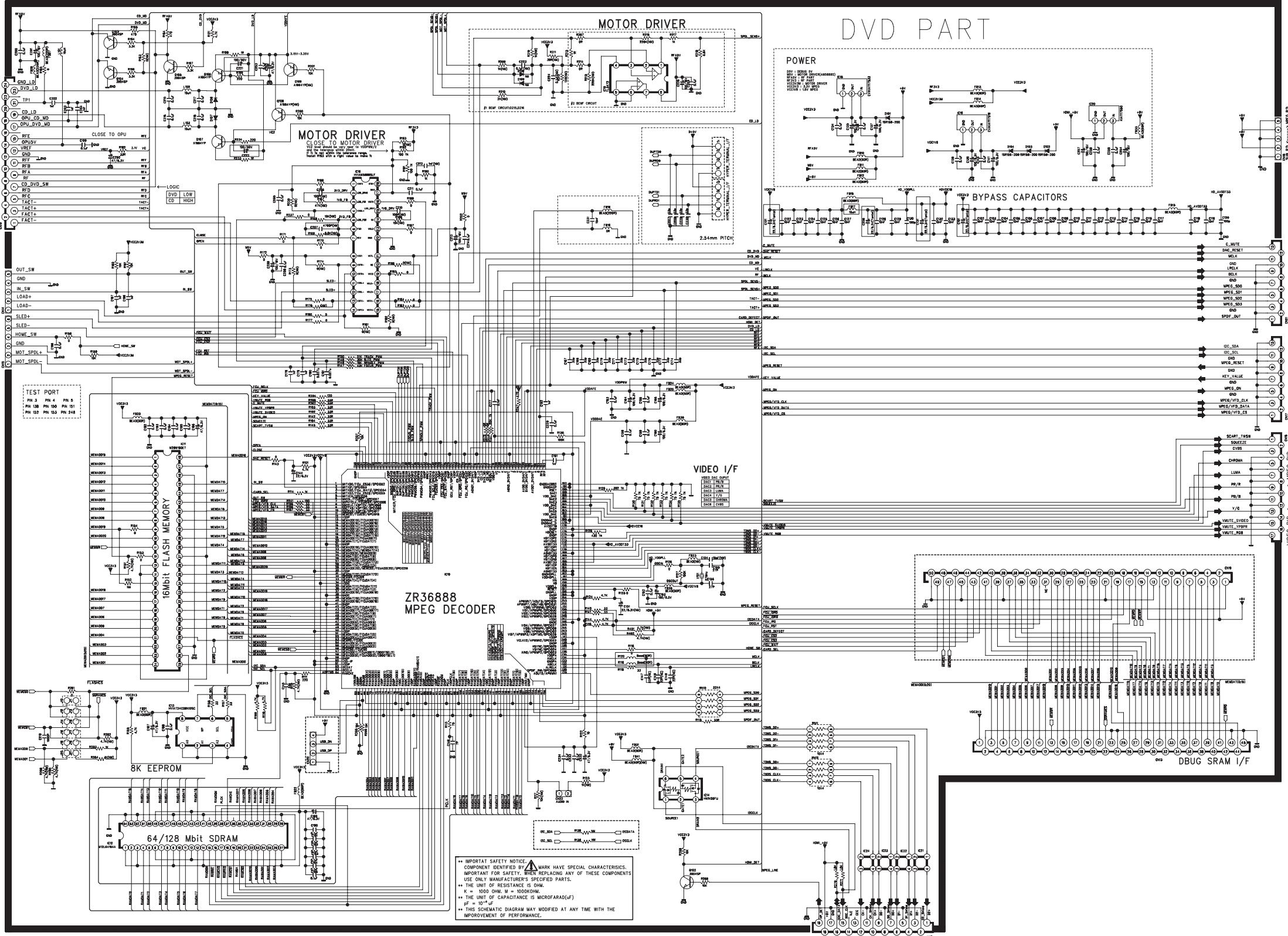
XM & SUB-POWER PART

XM PART AH VER. ONLY



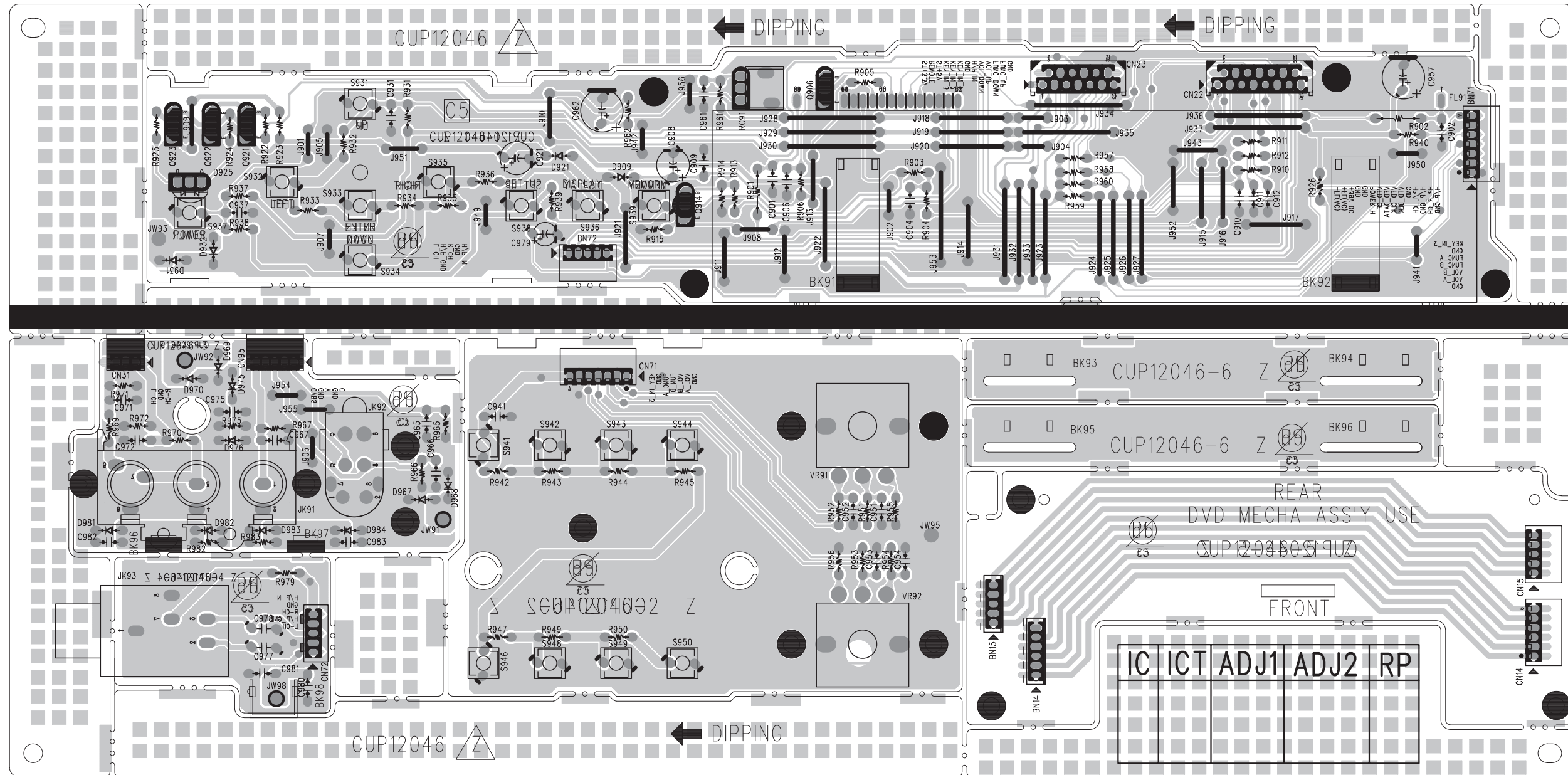
** IMPORTANT SAFETY NOTICE:
COMPONENT IDENTIFIED BY MARK HAVE SPECIAL CHARACTERISTICS.
IMPORTANT FOR SAFETY, WHEN REPLACING ANY OF THESE COMPONENTS
USE ONLY MANUFACTURER'S SPECIFIED PARTS.
** THE UNIT OF RESISTANCE IS OHM.
K = 1000 OHM, M = 10000 OHM.
** THE UNIT OF CAPACITANCE IS MICROFARAD(UF)
pF = 10⁻¹²
** THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE
IMPROVEMENT OF PERFORMANCE.

MPEG PART

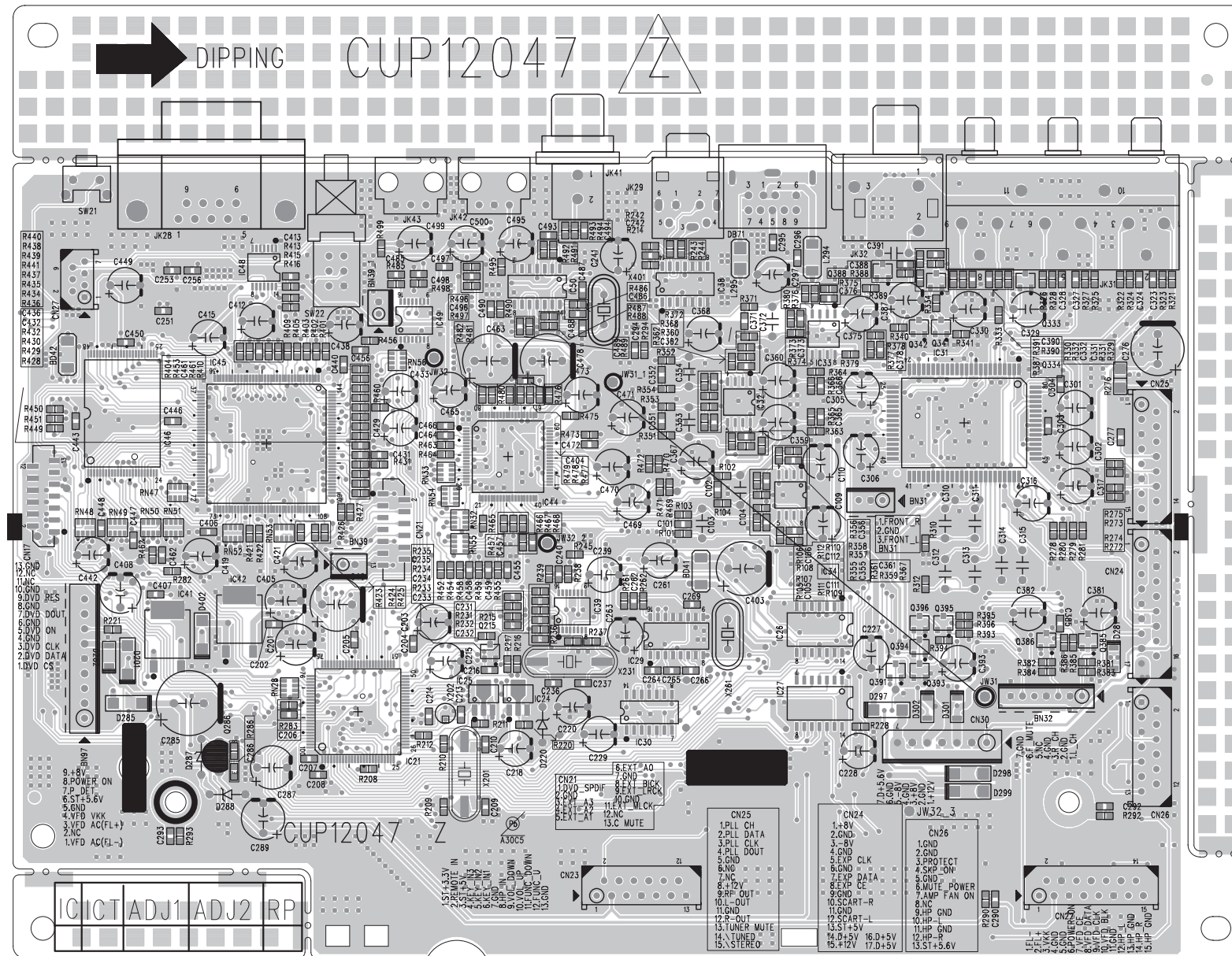


4. PRINTED CIRCUIT BOARDS

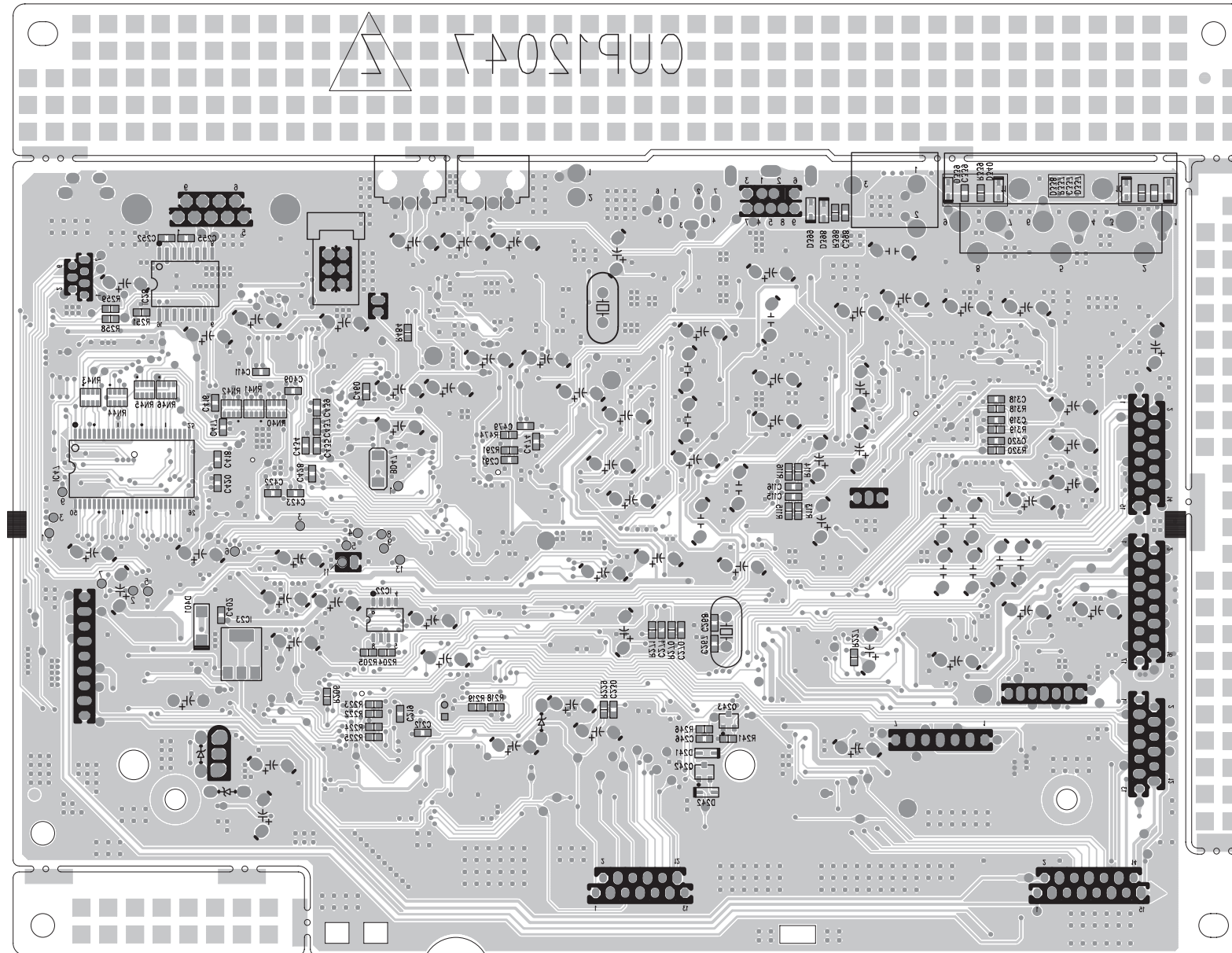
FRONT BOARD before SN A9YVISOTWO06301



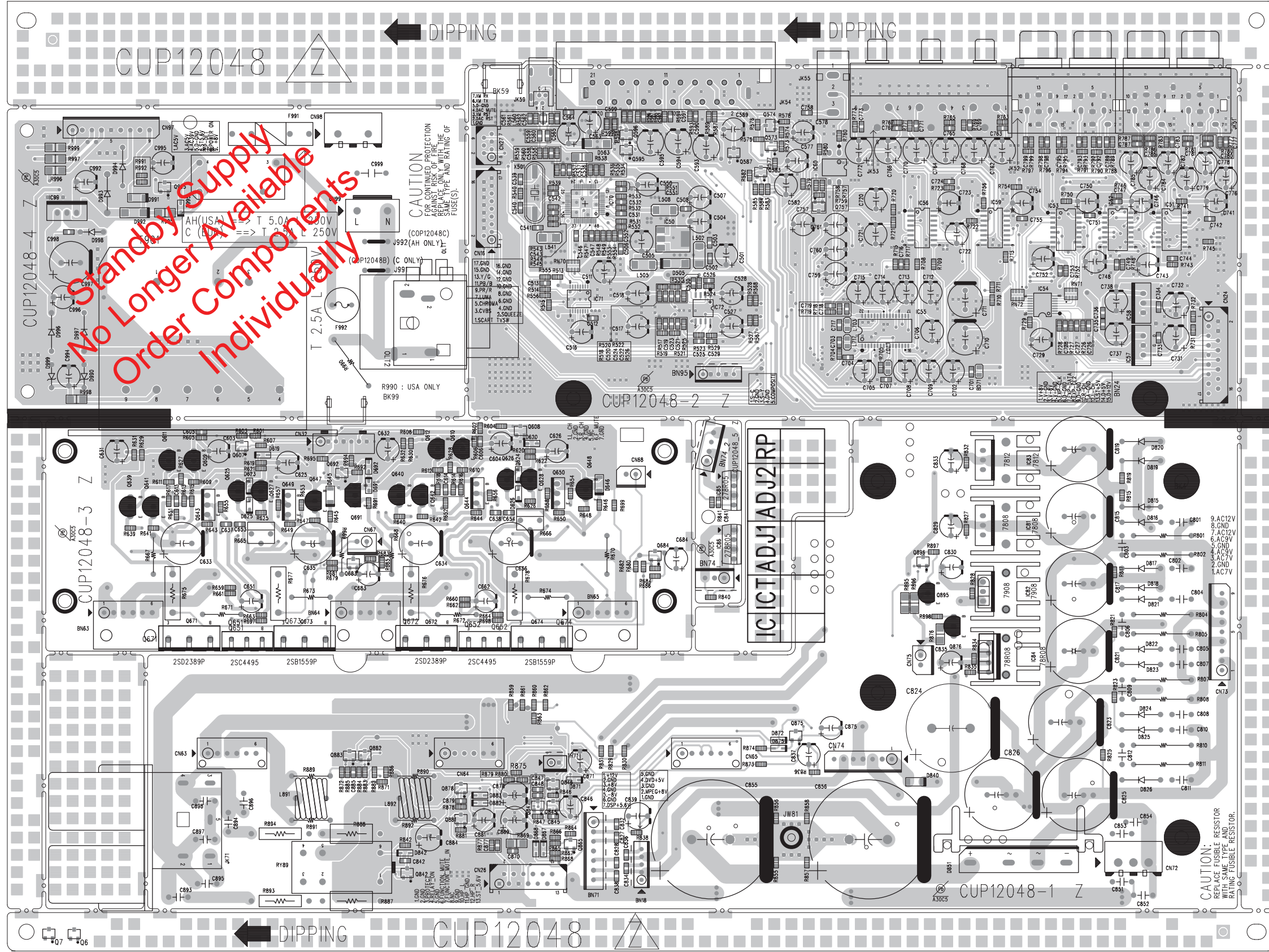
INPUT BOARD (TOP VIEW) before SN A9YVISOTWO06301



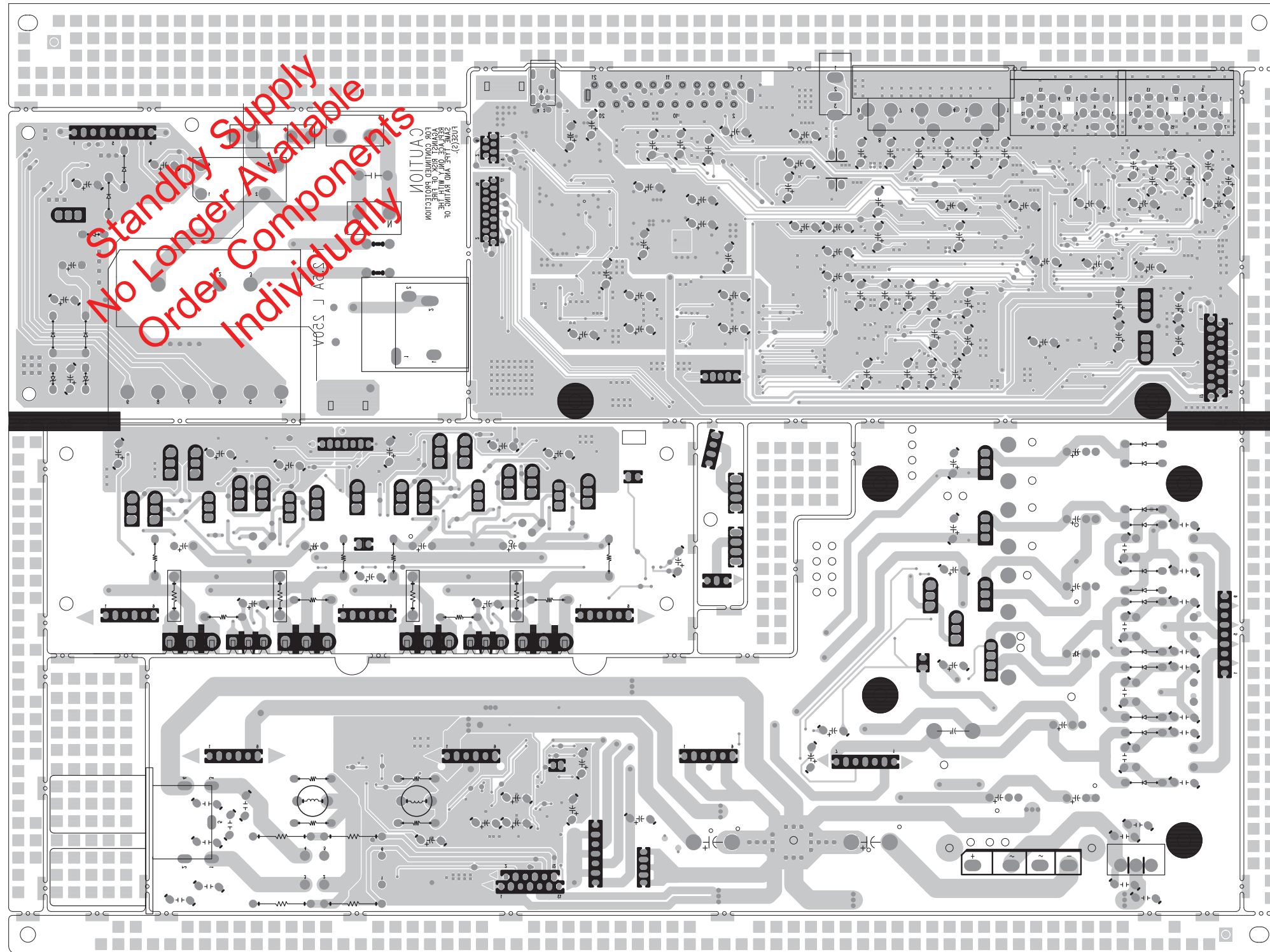
INPUT BOARD (BOTTOM VIEW) before SN A9YVISOTWO06301



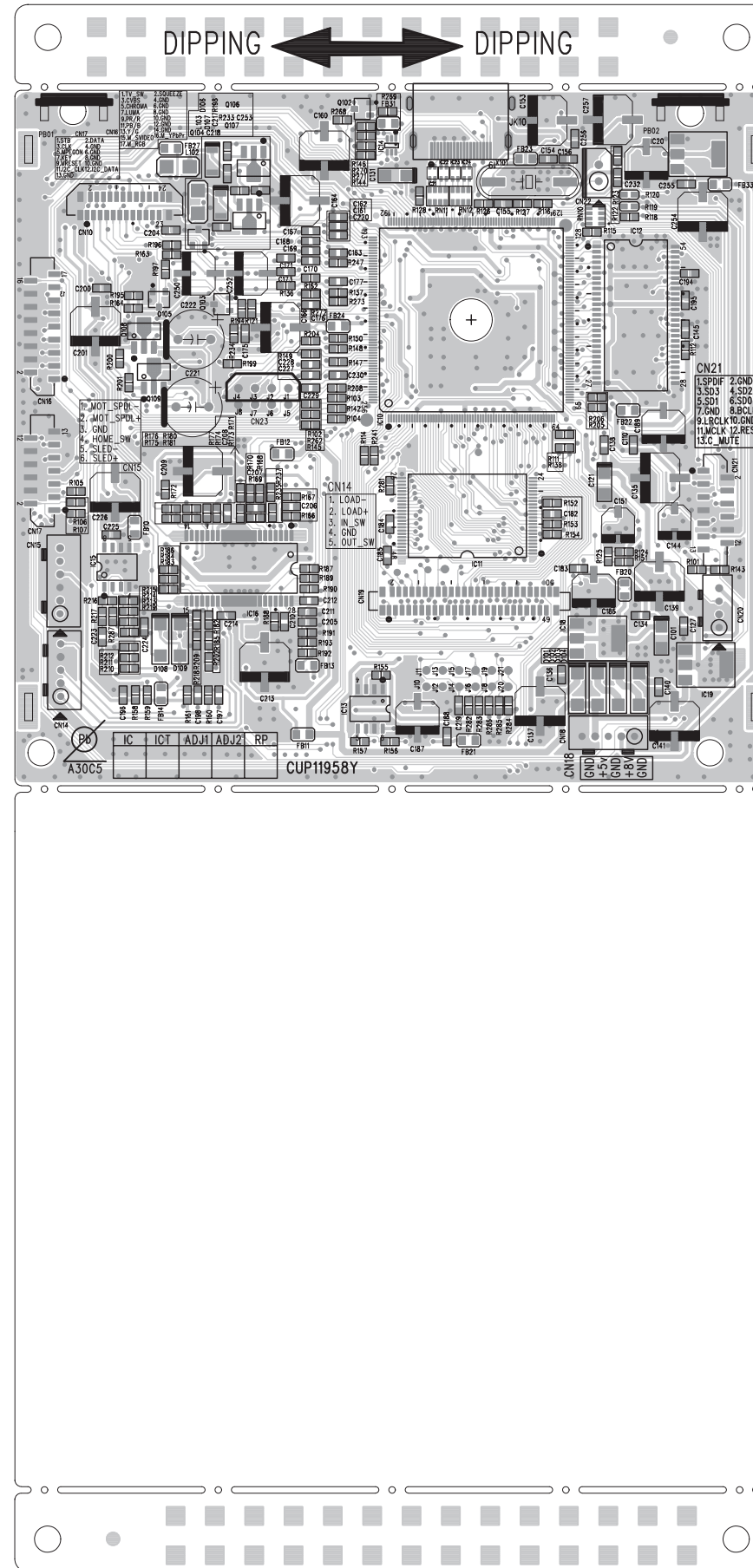
AMP & VIDEO BOARD (TOP VIEW) before SN A9YVISOTWO06301



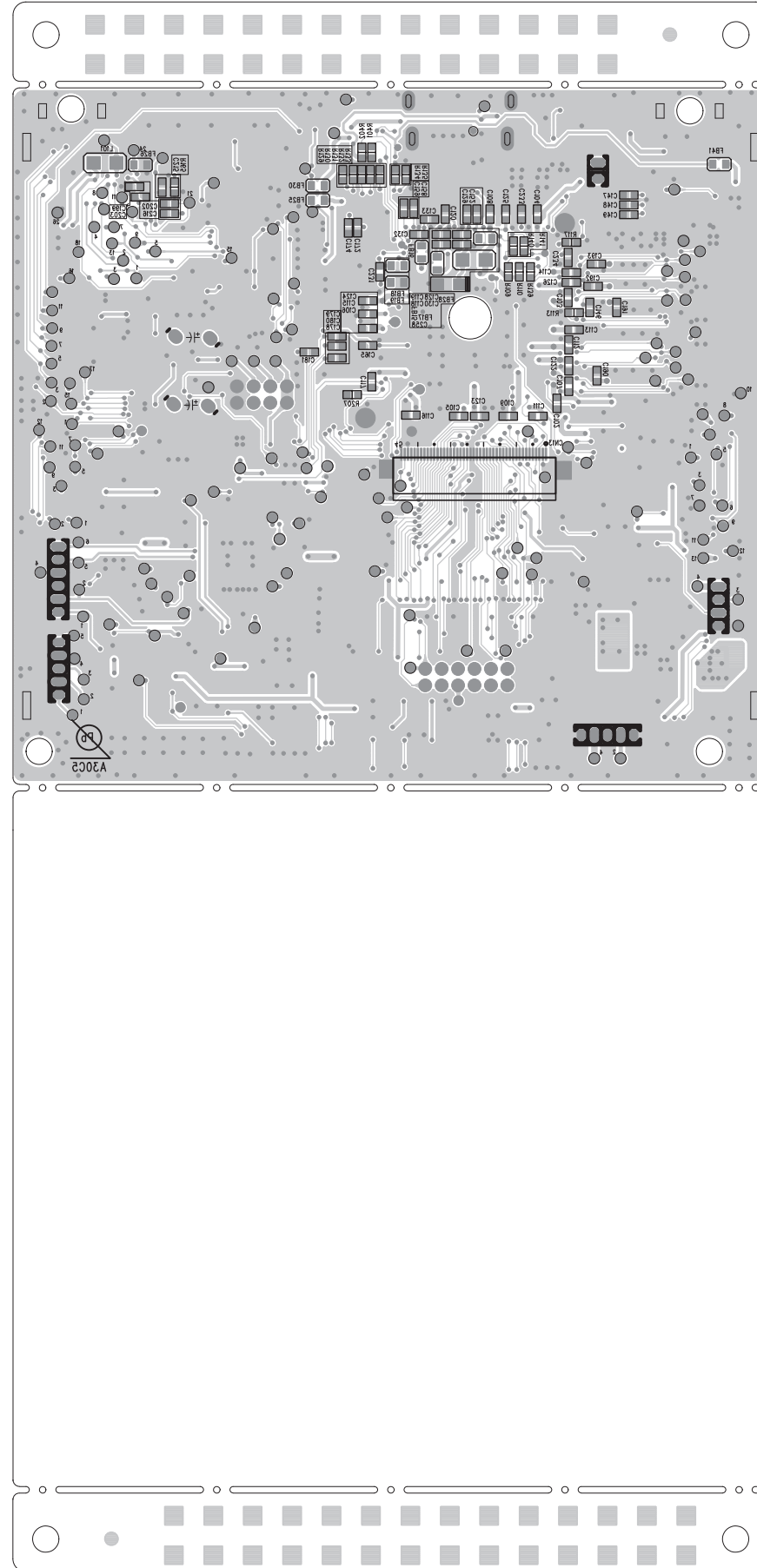
AMP & VIDEO BOARD (BOTTOM VIEW) before SN A9YVISOTWO06301



MPEG BOARD (TOP VIEW)



MPEG BOARD (BOTTOM VIEW)



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 (K Ω)

- The unit of capacitance is MICROFARAD (μ F)

P=10 -6 μ F

*** Numbering System of Resistor**

Type		Wattage	Tolerance
C (H) RD	Carbon	20 : 1/5W	F : \pm 1% J : \pm 5% K : \pm 10%
		25 : 1/4W	
CRG	Metal Oxide	1 : 1W	
KRQ	Fuse	2 : 2W	
CRF	Cement	5 : 5W	
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	F : \pm 1% J : \pm 5% K : \pm 10%
CCKT	Ceramic , Radial type	1A : 10V	1J : 63V	
HCQI	Polyester	1C : 16V	2A : 100V	
CCEA	Elect	1E : 25V		
HCBS	Ceramic , Axial type	1V : 35V		

CCUS	1H	104	K	G
Type	Voltage	Value	Tolerance	Peculiarity

REF NO.	PART NO.	DESCRIPTION	REMARKS
PCB4	COP12046	VISO TWO FRONT PCB ASS' Y	AH VER. : ~C
	CUP12046	PCB , FRONT VISO TWO (330X163 , FR-1)	
BK91	CMD1A209	BRACKET , FLT	
BK92	CMD1A209	BRACKET , FLT	
BK96	CMC1A347	PLATE , GND	
BK97	CMC1A347	PLATE , GND	
BK98	CMD1A569	BRACKET , PCB	
BN14	CWB1B006180EN	WIRE ASS' Y (6P, 180MM, 2.0MM)	6P, 2.0MM, 180MM
BN15	CWB1B005180EN	WIRE ASS' Y (5P, 180MM, 2.0MM)	5P, 2.0MM, 180MM
BN71	CWB1C007080EW	WIRE ASS' Y	7P, 80MM, 2MM
BN72	CWB1C005120EW	WIRE ASS' Y	5P, 120MM, 2MM
C901	CCBS1H104ZFT	CAP , CERAMIC	0.1 μ F 50V Z
C902	CCBS1H104ZFT	CAP , CERAMIC	0.1 μ F 50V Z
C904	CCBS1H104ZFT	CAP , CERAMIC	0.1 μ F 50V Z
C906	CCBS1H104ZFT	CAP , CERAMIC	0.1 μ F 50V Z
C908	CCEA1AKS221T	CAP , ELECT	220 μ F 10V
C909	CCBS1H104ZFT	CAP , CERAMIC	0.1 μ F 50V Z
C910	CCBS1H271KBT	CAP , CERAMIC (270PF/50V)	CH UP025 B271K-A-B Z
C911	CCBS1H271KBT	CAP , CERAMIC (270PF/50V)	CH UP025 B271K-A-B Z
C912	CCBS1H271KBT	CAP , CERAMIC (270PF/50V)	CH UP025 B271K-A-B Z
C921	CCEA1AKS221T	CAP , ELECT	220 μ F 10V
C931	CCBS1H102KBT	CAP , CERAMIC (1000PF/50V)	CH UP025 B102K-A-B Z
C937	CCBS1H102KBT	CAP , CERAMIC (1000PF/50V)	CH UP025 B102K-A-B Z
C941	CCBS1H102KBT	CAP , CERAMIC (1000PF/50V)	CH UP025 B102K-A-B Z
C951	CCBS1H223ZFT	CAP , CERAMIC (22000PF/50V)	CH UP025 F223Z-A-B J
C952	CCBS1H223ZFT	CAP , CERAMIC (22000PF/50V)	CH UP025 F223Z-A-B J
C953	CCBS1H223ZFT	CAP , CERAMIC (22000PF/50V)	CH UP025 F223Z-A-B J

REF NO.	PART NO.	DESCRIPTION	REMARKS
C954	CCBS1H223ZFT	CAP , CERAMIC (22000PF/50V)	CH UP025 F223Z-A-B J
C957	CCEA1AKS221T	CAP , ELECT	220uF 10V
C961	CCBS1H151KBT	CAP , CERAMIC (150PF/50V)	CH UP025 B151K-A-B Z
C962	CCEA1AKS221T	CAP , ELECT	220uF 10V
C965	CCBS1H271KBT	CAP , CERAMIC (270PF/50V)	CH UP025 B271K-A-B Z
C966	CCBS1H271KBT	CAP , CERAMIC (270PF/50V)	CH UP025 B271K-A-B Z
C967	CCBS1H271KBT	CAP , CERAMIC (270PF/50V)	CH UP025 B271K-A-B Z
C971	CCBS1H151KBT	CAP , CERAMIC (150PF/50V)	CH UP025 B151K-A-B Z
C972	CCBS1H151KBT	CAP , CERAMIC (150PF/50V)	CH UP025 B151K-A-B Z
C975	CCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V Z
C977	HCQ11H223JZT	CAP , MYLAR	0.022uF 50V J
C978	HCQ11H223JZT	CAP , MYLAR	0.022uF 50V J
C979	CCEA1HKS1ROT	CAP , ELECT	1uF 50V SMALL SIZE
C980	CCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V Z
C981	CCBS1H104ZFT	CAP , CERAMIC	0.1uF 50V Z
CN14	CJPO6GB46ZY	WAFER , ANGLE (6PIN)	
CN15	CJPO5GB46ZY	WAFER	
CN22	CJP15GA115ZY	WAFER , CARD CABLE	
CN23	CJP13GA115ZY	WAFER , CARD CABLE	
CN31	CJP03GB46ZY	WAFER , ANGLE (3PIN)	
CN71	CJP07GB46ZY	WAFER , ANGLE, 7PIN	
CN72	CJP05GA19ZY	WAFER , STRAIGHT	
CN95	CJPO5GB46ZY	WAFER	
D909	CVD1SS133MT	DIODE	1SS133
D921	CVD1SS133MT	DIODE	1SS133
D925	CVD1L0593A2B12MA402	LED , 2 COLOR (5MM, AMBER, BLUE)	5MM , 1L0593A2B12M402
D981	CVD1SS133MT	DIODE	1SS133
D982	CVD1SS133MT	DIODE	1SS133
D983	CVD1SS133MT	DIODE	1SS133
D984	CVD1SS133MT	DIODE	1SS133
FL91	CFL16BT130GINK	V. F. D	16-BT-130CINK
J901	C3A206	WIRE , COPPER	
J902	C3A206	WIRE , COPPER	
J903	C3A206	WIRE , COPPER	
J904	C3A206	WIRE , COPPER	
J905	C3A206	WIRE , COPPER	
J906	C3A206	WIRE , COPPER	
J907	C3A206	WIRE , COPPER	
J908	C3A206	WIRE , COPPER	
J909	C3A206	WIRE , COPPER	
J910	C3A206	WIRE , COPPER	
J911	C3A206	WIRE , COPPER	
J912	C3A206	WIRE , COPPER	
J913	C3A206	WIRE , COPPER	
J914	C3A206	WIRE , COPPER	
J915	C3A206	WIRE , COPPER	
J916	C3A206	WIRE , COPPER	
J917	C3A206	WIRE , COPPER	
J918	C3A206	WIRE , COPPER	
J919	C3A206	WIRE , COPPER	
J920	C3A206	WIRE , COPPER	
J921	C3A206	WIRE , COPPER	
J922	C3A206	WIRE , COPPER	
J923	C3A206	WIRE , COPPER	
J924	C3A206	WIRE , COPPER	
J925	C3A206	WIRE , COPPER	
J926	C3A206	WIRE , COPPER	
J927	C3A206	WIRE , COPPER	
J928	C3A206	WIRE , COPPER	
J929	C3A206	WIRE , COPPER	
J930	C3A206	WIRE , COPPER	
J931	C3A206	WIRE , COPPER	
J932	C3A206	WIRE , COPPER	
J933	C3A206	WIRE , COPPER	
J934	C3A206	WIRE , COPPER	

REF NO.	PART NO.	DESCRIPTION	REMARKS
J935	C3A206	WIRE , COPPER	
J936	C3A206	WIRE , COPPER	
J937	C3A206	WIRE , COPPER	
J941	C3A206	WIRE , COPPER	
J942	C3A206	WIRE , COPPER	
J943	C3A206	WIRE , COPPER	
J949	C3A206	WIRE , COPPER	
J950	C3A206	WIRE , COPPER	
J951	C3A206	WIRE , COPPER	
J952	C3A206	WIRE , COPPER	
J953	C3A206	WIRE , COPPER	
J954	C3A206	WIRE , COPPER	
J955	C3A206	WIRE , COPPER	
J956	C3A206	WIRE , COPPER	
JK91	CJJ4S027Z	JACK , RCA (3P, WITH SWITCH)	
JK92	CJJ9M003Y	JACK , S-VIDEO (GOLD)	
JK93	CJJ2E020Z	JACK	
Q906	HVTKRC102MT	T. R	KRC102M
Q914	HVTKTC3203YT	T. R	KTC3203Y
Q921	HVTKRA102MT	T. R	KRA102M
Q922	HVTKRC102MT	T. R	KRC102M
Q923	HVTKRA102MT	T. R	KRA102M
R901	C3A206	WIRE , COPPER	
R902	C3A206	WIRE , COPPER	
R903	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J
R904	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J
R905	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J
R906	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J
R910	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J
R911	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J
R912	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J
R913	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J
R914	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J
R915	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J
R922	C3A206	WIRE , COPPER	
R923	C3A206	WIRE , COPPER	
R924	CRD20TJ681T	RES , CARBON	680 OHM 1/5W J
R925	CRD20TJ681T	RES , CARBON	680 OHM 1/5W J
R926	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J
R931	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J
R932	CRD20TF1001T	RES , CARBON	1K /1/5W /F
R933	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F
R934	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F
R935	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F
R936	CRD20TF3301T	RES , CARBON	3.3K /1/5W/F
R937	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J
R938	CRD20TF1001T	RES , CARBON	1K /1/5W /F
R939	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F
R940	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J
R942	CRD20TF1001T	RES , CARBON	1K /1/5W /F
R943	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F
R944	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F
R945	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F
R947	CRD20TF3301T	RES , CARBON	3.3K /1/5W/F
R949	CRD20TF5601T	RES , CARBON	5.6K/F
R950	CRD20TF7501T	RES , CARBON	7.5K/F
R951	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J
R952	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J
R953	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J
R954	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J
R955	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J
R956	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J
R957	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J
R958	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J
R959	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J

REF NO.	PART NO.	DESCRIPTION	REMARKS
R960	GRD20TJ473T	RES , CARBON	47K OHM 1/5W J
R961	GRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J
R962	GRD20TJ101T	RES , CARBON	100 OHM 1/5W J
R965	GRD20TJ750T	RES , CARBON	75 OHM 1/5W J
R966	GRD20TJ750T	RES , CARBON	75 OHM 1/5W J
R967	GRD20TJ750T	RES , CARBON	75 OHM 1/5W J
R969	GRD20TJ471T	RES , CARBON	470 OHM 1/5W J
R970	GRD20TJ471T	RES , CARBON	470 OHM 1/5W J
R971	CRD20TJ224T	RES , CARBON	220 KOHM 1/5W J
R972	CRD20TJ224T	RES , CARBON	220 KOHM 1/5W J
R975	CRD20TJ4R7T	RES , CARBON	4.7 OHM 1/5W J
R979	CRD20TJ101T	RES , CARBON	100 OHM 1/5W J
RC91	CRVKS603TH2E	SENSOR , REMOCON	KSM603TH2E
S931	GST1A012ZT	SW , TACT	
S932	GST1A012ZT	SW , TACT	
S933	GST1A012ZT	SW , TACT	
S934	GST1A012ZT	SW , TACT	
S935	GST1A012ZT	SW , TACT	
S936	GST1A012ZT	SW , TACT	
S937	GST1A012ZT	SW , TACT	
S938	GST1A012ZT	SW , TACT	
S939	GST1A012ZT	SW , TACT	
S941	GST1A012ZT	SW , TACT	
S942	GST1A012ZT	SW , TACT	
S943	GST1A012ZT	SW , TACT	
S944	GST1A012ZT	SW , TACT	
S946	GST1A012ZT	SW , TACT	
S948	GST1A012ZT	SW , TACT	
S949	GST1A012ZT	SW , TACT	
S950	GST1A012ZT	SW , TACT	
VR91	CSR2A036Z	ENCODER VR	
VR92	CSR2A034Z	VR, ENCODER	
PCB1	COP12047	VISO TWO INPUT PCB ASS'Y	AH VER. : ~C
	CUP12047	PCB , INPUT VISO TWO	(207X160 , FR-4)
BD41	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60
BD42	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60
BD47	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60
BN31	CWZV1SOTWOB31	SHIELD WIRE ASS'Y(3P, 500MM, 2.0MM)	3P, 2.0MM, 500MM
BN32	CWZV1SOTWOB32	SHIELD WIRE ASS'Y(7P, 150MM, 2.0MM)	7P, 2.0MM, 150MM
BN39	CWZV1SOTWOB39	SHIELD WIRE ASS'Y(2P, 70MM)	
BN97	CWB1D009080BM	WIRE ASS'Y	9P, 2.5MM, 80MM
C101	CCUS1H471JA	CAP , CHIP	470PF 50V J
C102	CCUS1H471JA	CAP , CHIP	470PF 50V J
C103	HCQ11H272JZT	CAP , MYLAR	2700PF 50V J
C104	HCQ11H272JZT	CAP , MYLAR	2700PF 50V J
C105	CCUS1H681JA	CAP , CHIP	680PF 50V J
C106	CCUS1H681JA	CAP , CHIP	680PF 50V J
C109	CCEA1HH100T	CAP , ELECT	10uF 50V
C110	CCEA1HH100T	CAP , ELECT	10uF 50V
C111	CCUS1H681JA	CAP , CHIP	680PF 50V J
C112	CCUS1H681JA	CAP , CHIP	680PF 50V J
C115	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C116	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C201	CCEA1AH471T	CAP , ELECT	470uF 10V
C202	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C203	CCEA1CH101T	CAP , ELECT	100uF 16V
C204	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C205	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C206	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C207	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C208	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C209	CCUS1H220JA	CAP , CHIP	22PF 50V J
C210	CCUS1H220JA	CAP , CHIP	22PF 50V J
C212	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C213	CCUS1H120JA	CAP , CHIP(12PF/50V/COG/1608)	12PF 50V J

REF NO.	PART NO.	DESCRIPTION	REMARKS
C214	CCUS1H120JA	CAP , CHIP (12PF/50V/COG/1608)	12PF 50V J
C215	CCEA1HH2R2T	CAP , ELECT	2.2uF 50V
C216	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C218	CCEA1HH1ROT	CAP , ELECT	1uF 50V
C219	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C220	CCEA1HH1ROT	CAP , ELECT	1uF 50V
C227	CCEA1CH101T	CAP , ELECT	100uF 16V
C228	CCEA1CH101T	CAP , ELECT	100uF 16V
C229	CCEA1CH101T	CAP , ELECT	100uF 16V
C230	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C231	CCUS1H471JA	CAP , CHIP	470PF 50V J
C232	CCUS1H471JA	CAP , CHIP	470PF 50V J
C233	CCUS1H471JA	CAP , CHIP	470PF 50V J
C234	CCUS1H471JA	CAP , CHIP	470PF 50V J
C235	CCUS1H471JA	CAP , CHIP	470PF 50V J
C236	CCUS1H220JA	CAP , CHIP	22PF 50V J
C237	CCUS1H220JA	CAP , CHIP	22PF 50V J
C239	CCEA1CH101T	CAP , ELECT	100uF 16V
C240	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C241	CCEA1CH101T	CAP , ELECT	100uF 16V
C242	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C246	CCUS1H100JA	CAP , CHIP	10PF 50V J
C251	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C252	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C253	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C255	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C256	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C261	CCEA1CH101T	CAP , ELECT	100uF 16V
C262	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C263	CCEA1HH100T	CAP , ELECT	10uF 50V
C264	CCUS1H331JA	CAP , CHIP	330PF 50V J
C265	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C266	CCUS1H561JA	CAP , CHIP	560PF 50V J
C267	CCUS1H390JA	CAP , CHIP	39PF 50V J
C268	CCUS1H390JA	CAP , CHIP	39PF 50V J
C269	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C270	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C271	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C276	CCEA1CH471T	CAP , ELECT	470uF 16V
C277	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C285	CCEA1JH101E	CAP , ELECT	100uF 63V
C286	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C287	CCEA1HH470T	CAP , ELECT	47uF 50V
C289	CCEA1HH470T	CAP , ELECT	47uF 50V
C290	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C291	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C292	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C293	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C294	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C295	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C296	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C297	CCEA1CH101T	CAP , ELECT	100uF 16V
C301	CCEA1CH101T	CAP , ELECT	100uF 16V
C302	CCEA1CH101T	CAP , ELECT	100uF 16V
C303	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C304	CCUS1H223KC	CAP , CHIP	0.022uF 50V K
C305	CCEA1HH100T	CAP , ELECT	10uF 50V
C306	CCEA1HH100T	CAP , ELECT	10uF 50V
C310	HCQ11H104JZT	CAP , MYLAR	0.1uF 50V J
C311	HCQ11H104JZT	CAP , MYLAR	0.1uF 50V J
C312	HCQ11H104JZT	CAP , MYLAR	0.1uF 50V J
C313	HCQ11H104JZT	CAP , MYLAR	0.1uF 50V J
C314	HCQ11H472JZT	CAP , MYLAR	4700PF 50V J
C315	HCQ11H472JZT	CAP , MYLAR	4700PF 50V J
C316	CCEA1HH100T	CAP , ELECT	10uF 50V

REF NO.	PART NO.	DESCRIPTION	REMARKS
C317	CCEA1HH100T	CAP , ELECT	10uF 50V
C318	CCUS1H471JA	CAP , CHIP	470PF 50V J
C319	CCUS1H471JA	CAP , CHIP	470PF 50V J
C320	CCUS1H471JA	CAP , CHIP	470PF 50V J
C323	CCUS1H151JA	CAP , CHIP	150PF 50V J
C324	CCUS1H151JA	CAP , CHIP	150PF 50V J
C327	CCUS1H151JA	CAP , CHIP	150PF 50V J
C328	CCUS1H151JA	CAP , CHIP	150PF 50V J
C329	CCEA1HH100T	CAP , ELECT	10uF 50V
C330	CCEA1HH100T	CAP , ELECT	10uF 50V
C331	CCUS1H151JA	CAP , CHIP	150PF 50V J
C332	CCUS1H151JA	CAP , CHIP	150PF 50V J
C337	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C339	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C351	CCUS1H471JA	CAP , CHIP	470PF 50V J
C352	CCUS1H471JA	CAP , CHIP	470PF 50V J
C353	HCQ11H272JZT	CAP , MYLAR	2700PF 50V J
C354	HCQ11H272JZT	CAP , MYLAR	2700PF 50V J
C355	CCUS1H821JA	CAP , CHIP	820PF 50V J
C356	CCUS1H821JA	CAP , CHIP	820PF 50V J
C359	CCEA1HH100T	CAP , ELECT	10uF 50V
C360	CCEA1HH100T	CAP , ELECT	10uF 50V
C361	CCUS1H821JA	CAP , CHIP	820PF 50V J
C362	CCUS1H821JA	CAP , CHIP	820PF 50V J
C365	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C366	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C367	CCEA1HH100T	CAP , ELECT	10uF 50V
C368	CCEA1HH100T	CAP , ELECT	10uF 50V
C371	CCUS1H471JA	CAP , CHIP	470PF 50V J
C372	HCQ11H473JZT	CAP , MYLAR	0.047uF 50V J
C373	CCUS1H682KC	CAP , CHIP	6800PF 50V K
C375	CCEA1HH100T	CAP , ELECT	10uF 50V
C376	CCUS1H682KC	CAP , CHIP	6800PF 50V K
C378	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C381	CCEA1HH100T	CAP , ELECT	10uF 50V
C382	CCEA1HH100T	CAP , ELECT	10uF 50V
C385	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C387	CCEA1HH100T	CAP , ELECT	10uF 50V
C388	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C390	CCUS1H471JA	CAP , CHIP	470PF 50V J
C391	HCQ11H103JZT	CAP , MYLAR	0.01uF 50V J
C393	CCEA1HH2R2T	CAP , ELECT	2.2uF 50V
C398	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C401	CCEA0JH102T	CAP , ELECT	1000uF 6.3V
C402	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C403	CCEA0JH102T	CAP , ELECT	1000uF 6.3V
C404	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C405	CCEA1AH471T	CAP , ELECT	470uF 10V
C406	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C407	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C408	CCEA1AH471T	CAP , ELECT	470uF 10V
C409	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C411	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C412	CCEA1HH220T	CAP , ELECT	22uF 50V
C413	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C415	CCEA1HH220T	CAP , ELECT	22uF 50V
C416	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C417	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C418	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C419	CCEA1HH220T	CAP , ELECT	22uF 50V
C420	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C421	CCEA1HH220T	CAP , ELECT	22uF 50V
C422	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C423	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C428	CCUS1H104KC	CAP , CHIP	0.1uF 50V K

REF NO.	PART NO.	DESCRIPTION	REMARKS
C429	CCEA1HH4R7T	CAP , ELECT	4. 7uF 50V
C431	CCUS1H122KC	CAP , CHIP	1200PF 50V K
C432	CCUS1H680JA	CAP , CHIP	68PF 50V J
C433	CCEA1CH101T	CAP , ELECT	100uF 16V
C434	CCUS1A105KC	CAP , CHIP	1uF 10V K
C435	CCUS1H103KC	CAP , CHIP	0. 01uF 50V K
C436	CCUS1H680JA	CAP , CHIP	68PF 50V J
C437	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C438	CCEA1HH220T	CAP , ELECT	22uF 50V
C439	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C440	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C442	CCEA1CH101T	CAP , ELECT	100uF 16V
C443	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C446	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C447	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C448	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C449	CCEA1CH101T	CAP , ELECT	100uF 16V
C450	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C455	CCUS1H101JA	CAP , CHIP	100PF 50V J
C456	CCUS1H101JA	CAP , CHIP	100PF 50V J
C457	CCUS1H101JA	CAP , CHIP	100PF 50V J
C458	CCUS1H101JA	CAP , CHIP	100PF 50V J
C459	CCUS1H101JA	CAP , CHIP	100PF 50V J
C460	CCUS1H101JA	CAP , CHIP	100PF 50V J
C461	CCUS1H101JA	CAP , CHIP	100PF 50V J
C462	CCUS1H101JA	CAP , CHIP	100PF 50V J
C463	CCEAOJH102T	CAP , ELECT	1000uF 6. 3V
C464	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C465	CCEA1CH101T	CAP , ELECT	100uF 16V
C466	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C469	CCEA1HH100T	CAP , ELECT	10uF 50V
C470	CCEA1HH100T	CAP , ELECT	10uF 50V
C471	CCEA1HH2R2T	CAP , ELECT	2. 2uF 50V
C472	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C473	CCEA1CH101T	CAP , ELECT	100uF 16V
C474	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C478	CCEAOJH102T	CAP , ELECT	1000uF 6. 3V
C479	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C485	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C486	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C487	CCUS1H330JA	CAP , CHIP	33PF 50V J
C488	CCUS1H330JA	CAP , CHIP	33PF 50V J
C489	CCUS1H680JA	CAP , CHIP	68PF 50V J
C490	CCUS1H680JA	CAP , CHIP	68PF 50V J
C493	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C494	CCUS1H471JA	CAP , CHIP	470PF 50V J
C495	CCEA1CH101T	CAP , ELECT	100uF 16V
C496	CCUS1H330JA	CAP , CHIP	33PF 50V J
C497	CCUS1H104KC	CAP , CHIP	0. 1uF 50V K
C498	CCUS1H330JA	CAP , CHIP	33PF 50V J
C499	CCEA1CH101T	CAP , ELECT	100uF 16V
C500	CCEA1CH101T	CAP , ELECT	100uF 16V
CN17	CJP13GA193ZY	WAFER , CARD CABLE (SMD)	
CN21	CJP13GA193ZY	WAFER , CARD CABLE (SMD)	
CN22	CJP15GA115ZY	WAFER , CARD CABLE	
CN23	CJP13GA115ZY	WAFER , CARD CABLE	
CN24	CJP17GA115ZY	WAFER , CARD CABLE	
CN25	CJP15GA115ZY	WAFER , CARD CABLE	
CN26	CJP13GA115ZY	WAFER , CARD CABLE	
CN27	CJP07GA117ZY	WAFER	AH VER. ONLY
CN30	CJP07GA01ZY	WAFER , STRAIGHT (7PIN)	
D201	HVD1SR159-200	DIODE , SCHOTTKY BARRIER	
D220	CVDZJ6. 8BT	DIODE , ZENER	ZJ6. 8B 1/2W
D241	CVD1SS355T	DIODE , CHIP	
D242	CVD1SS355T	DIODE , CHIP	

REF NO.	PART NO.	DESCRIPTION	REMARKS
D281	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
D282	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
D285	HVD1SR159-200	DIODE, SCHOTTKY BARRIER	
D287	CVDZJ15BT	DIODE, ZENER	ZJ15B 1/2W
D288	CVDZJ27BT	DIODE, ZENER	ZJ27B 1/2W
D297	HVD1SR159-200	DIODE, SCHOTTKY BARRIER	C VER. ONLY
D298	HVD1SR159-200	DIODE, SCHOTTKY BARRIER	
D299	HVD1SR159-200	DIODE, SCHOTTKY BARRIER	
D301	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
D302	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
D337	CVD1SS355T	DIODE, CHIP	
D338	CVD1SS355T	DIODE, CHIP	
D339	CVD1SS355T	DIODE, CHIP	
D340	CVD1SS355T	DIODE, CHIP	
D398	CVD1SS355T	DIODE, CHIP	
D399	CVD1SS355T	DIODE, CHIP	
D401	HVD1SR159-200	DIODE, SCHOTTKY BARRIER	
D402	HVD1SR159-200	DIODE, SCHOTTKY BARRIER	
DB71	CJS6V001Z	JACK, DIN 9P	DIN-901A1
IC21	CVIT5CC1	I. C, FLASH U-COM	
IC22	HVIAT24C08N10SC	I. C	AT24C08N10SC2.7
IC23	CVIK1A1117S33	I. C, REGULATOR (SOT-223)	KIA1117S/F33, SOT-223
IC24	HVIRH5VT45C	I. C, RESET	RICOH 4.5V
IC25	HVIRH5VT18C	I. C, RESET	RICOH 1.8V
IC26	HVITC74HCT7007F	I. C	TC74HC7007AFEL
IC27	HVITC74HCT7007F	I. C	TC74HC7007AFEL
IC28	HVIST202EBW	IC, RS232C	ST202EBW
IC29	HVILC72723M	IC, PLL (RDS)	
IC30	HVI74LCX08MX	I. C, AND GATE (QUAD/2IN L/V)	74LCX08MX
IC31	HVIBD3816K1	I. C, FUNC + VOL	BD3816K1
IC32	HVINJM2068MDTE1	I. C, OP AMP	NJM2068MD-TE1
IC33	HVINJM2068MDTE1	I. C, OP AMP	NJM2068MD-TE1
IC34	HVINJM2068MDTE1	I. C, OP AMP	NJM2068MD-TE1
IC38	HVI74LCX08MX	I. C, AND GATE (QUAD/2IN L/V)	74LCX08MX
IC39	CVIXR20M1170IG16	I. C, I2C/SPI UART ((16 PIN TSSOP)	XR20M1170IG16 (16 PIN TSSOP)
IC41	HVITA48025FTE16	I. C, REGULATOR	TA48025FTE16
IC42	HVITA48033FTE16	I. C, REGULATOR	TA48033FTE16
IC44	HVIAK4589VQ-T	I. C, CODEC + DIR	AK4589VQ
IC45	HVICS49400-CQ	I. C, DAP	CS49400-CQ
IC46	HVIM29W800DT70N	I. C, 4M FLASH MEMORY	
IC47	HVI57V161610ET7	SDRAM 16M 7NS	HY57V161610ET-7
IC48	HVI74LCX32TTR	I. C, OR-GATE	74LCX32
IC49	HVITC74VHC157FT	I. C, 2-CHANNEL MUX	
IC50	HVI74HCU04AFNG	I. C, INVERTER	TC74HCU04AFNG (TOSHIBA)
JK28	CJJ9W001Z	JACK, 9P D-SUB FEMALE (RS-232C, SEMCO)	
JK29	CJJ2D012Z	JACK, PHONE (3.5mm/GREEN)	PJ-350 (GN)
JK31	CJJ4R020W	JACK, BOARD	
JK32	CJJ4M056W	JACK, BOARD	
JK41	CJJ4M044Z	JACK, BOARD	GOLD PLATE
JK42	HJSTORX177L	MODULE, OPTICAL (RX)	TORX177L
JK43	HJSTOTX177L	MODULE, OPTICAL (TX)	TOTX177L
JW31	CWE7202110AA	WIRE ASS'Y	
L294	CLZ9Z014Z	FERRITE, CHIP BEAD (60ohm, 4516)	HCB4516KF-600T60
L295	CLQ06E2R7KRZ	INDUCTOR, CHIP	C VER. ONLY
Q215	HVTKRC102S	T. R, CHIP	KRC102S
Q242	HVTKRA102S	T. R, CHIP	KRA102S
Q243	HVTKRC102S	T. R, CHIP	KRC102S
Q286	HVTKSC2316YT	T. R	KSC2316Y
Q333	HVTKTD1304T	T. R, CHIP (MUTE)	KTD1304
Q334	HVTKTD1304T	T. R, CHIP (MUTE)	KTD1304
Q341	HVTKRA102S	T. R, CHIP	KRA102S
Q342	HVTKRC102S	T. R, CHIP	KRC102S
Q385	HVTKTD1304T	T. R, CHIP (MUTE)	KTD1304
Q386	HVTKTD1304T	T. R, CHIP (MUTE)	KTD1304
Q388	HVTKTD1304T	T. R, CHIP (MUTE)	KTD1304

REF NO.	PART NO.	DESCRIPTION	REMARKS
Q391	HVTKRC102S	T. R , CHIP	KRC102S
Q393	HVTKRC102S	T. R , CHIP	KRC102S
Q394	HVTKRC102S	T. R , CHIP	KRC102S
Q395	HVTKTA1504SYRTK	T. R , CHIP	KTA1504S Y RTK
Q396	HVTKRC102S	T. R , CHIP	KRC102S
R101	CRJ10DJ272T	RES , CHIP	1608 SIZE
R102	CRJ10DJ272T	RES , CHIP	1608 SIZE
R103	CRJ10DJ272T	RES , CHIP	1608 SIZE
R104	CRJ10DJ272T	RES , CHIP	1608 SIZE
R105	CRJ10DJ122T	RES , CHIP	1608 SIZE
R106	CRJ10DJ122T	RES , CHIP	1608 SIZE
R107	CRJ10DJ562T	RES , CHIP	1608 SIZE
R108	CRJ10DJ562T	RES , CHIP	1608 SIZE
R109	CRJ10DJ562T	RES , CHIP	1608 SIZE
R110	CRJ10DJ562T	RES , CHIP	1608 SIZE
R111	CRJ10DJ122T	RES , CHIP	1608 SIZE
R112	CRJ10DJ122T	RES , CHIP	1608 SIZE
R113	CRJ10DJ101T	RES , CHIP	1608 SIZE
R114	CRJ10DJ101T	RES , CHIP	1608 SIZE
R115	CRJ10DJ473T	RES , CHIP	1608 SIZE
R116	CRJ10DJ473T	RES , CHIP	1608 SIZE
R204	CRJ10DJ332T	RES , CHIP	1608 SIZE
R205	CRJ10DJ332T	RES , CHIP	1608 SIZE
R206	CRJ10DJ103T	RES , CHIP	1608 SIZE
R208	CRJ10DJ103T	RES , CHIP	1608 SIZE
R209	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R210	CRJ10DJ105T	RES , CHIP	1608 SIZE
R211	CRJ10DJ332T	RES , CHIP	1608 SIZE
R212	CRJ10DJ102T	RES , CHIP	1608 SIZE
R214	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R215	CRJ10DJ223T	RES , CHIP	1608 SIZE
R216	CRJ10DJ103T	RES , CHIP	1608 SIZE
R217	CRJ10DJ103T	RES , CHIP	1608 SIZE
R218	CRJ10DJ102T	RES , CHIP	1608 SIZE
R219	CRJ10DJ182T	RES , CHIP	1608 SIZE
R220	CRJ10DJ223T	RES , CHIP	1608 SIZE
R221	CRJ10DJ102T	RES , CHIP	1608 SIZE
R222	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R223	CRJ10DJ103T	RES , CHIP	1608 SIZE
R224	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R225	CRJ10DJ103T	RES , CHIP	1608 SIZE
R227	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R228	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R229	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R231	CRJ10DJ101T	RES , CHIP	1608 SIZE
R232	CRJ10DJ101T	RES , CHIP	1608 SIZE
R233	CRJ10DJ101T	RES , CHIP	1608 SIZE
R234	CRJ10DJ101T	RES , CHIP	1608 SIZE
R235	CRJ10DJ101T	RES , CHIP	1608 SIZE
R236	CRJ10DJ105T	RES , CHIP	1608 SIZE
R237	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R238	CRJ10DJ103T	RES , CHIP	1608 SIZE
R239	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R241	CRJ10DJ473T	RES , CHIP	1608 SIZE
R242	CRJ10DJ153T	RES , CHIP	1608 SIZE
R243	CRJ10DJ101T	RES , CHIP	1608 SIZE
R244	CRJ10DJ101T	RES , CHIP	1608 SIZE
R245	CRJ10DJ332T	RES , CHIP	1608 SIZE
R246	CRJ10DJ103T	RES , CHIP	1608 SIZE
R251	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R258	CRJ10DJ1R0T	RES , CHIP	1608 SIZE
R259	CRJ10DJ1R0T	RES , CHIP	1608 SIZE
R261	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R262	CRJ10DJ103T	RES , CHIP	1608 SIZE
R270	CRJ10DJ102T	RES , CHIP	1608 SIZE

REF NO.	PART NO.	DESCRIPTION	REMARKS
R271	CRJ10DJ102T	RES , CHIP 1608 SIZE	
R272	CRJ10DJ473T	RES , CHIP 1608 SIZE	
R273	CRJ10DJ473T	RES , CHIP 1608 SIZE	
R274	CRJ10DJ471T	RES , CHIP 1608 SIZE	
R275	CRJ10DJ471T	RES , CHIP 1608 SIZE	
R276	CRJ14CJ4R7T	RES , CHIP 1/4W 3216 SIZE	
R278	CRJ10DJ0R0T	RES , CHIP 1608 SIZE	AH VER. ONLY
R279	CRJ10DJ0R0T	RES , CHIP 1608 SIZE	AH VER. ONLY
R280	CRJ10DJ0R0T	RES , CHIP 1608 SIZE	C VER. ONLY
R281	CRJ10DJ0R0T	RES , CHIP 1608 SIZE	C VER. ONLY
R282	CRJ10DJ330T	RES , CHIP 1608 SIZE	
R283	CRJ10DJ330T	RES , CHIP 1608 SIZE	
R286	CRJ10DJ122T	RES , CHIP 1608 SIZE	
R290	CRJ10DJ473T	RES , CHIP 1608 SIZE	
R291	CRJ10DJ1R0T	RES , CHIP 1608 SIZE	
R292	CRJ10DJ1R0T	RES , CHIP 1608 SIZE	
R293	CRJ10DJ1R0T	RES , CHIP 1608 SIZE	
R294	CRJ10DJ1R0T	RES , CHIP 1608 SIZE	
R310	CRJ10DJ472T	RES , CHIP 1608 SIZE	
R312	CRJ10DJ472T	RES , CHIP 1608 SIZE	
R318	CRJ10DJ101T	RES , CHIP 1608 SIZE	
R319	CRJ10DJ101T	RES , CHIP 1608 SIZE	
R320	CRJ10DJ101T	RES , CHIP 1608 SIZE	
R321	CRJ10DJ331T	RES , CHIP 1608 SIZE	
R322	CRJ10DJ331T	RES , CHIP 1608 SIZE	
R323	CRJ10DJ104T	RES , CHIP 1608 SIZE	
R324	CRJ10DJ104T	RES , CHIP 1608 SIZE	
R325	CRJ10DJ331T	RES , CHIP 1608 SIZE	
R326	CRJ10DJ331T	RES , CHIP 1608 SIZE	
R327	CRJ10DJ104T	RES , CHIP 1608 SIZE	
R328	CRJ10DJ104T	RES , CHIP 1608 SIZE	
R329	CRJ10DJ331T	RES , CHIP 1608 SIZE	
R330	CRJ10DJ331T	RES , CHIP 1608 SIZE	
R331	CRJ10DJ105T	RES , CHIP 1608 SIZE	
R332	CRJ10DJ105T	RES , CHIP 1608 SIZE	
R333	CRJ10DJ562T	RES , CHIP 1608 SIZE	
R334	CRJ10DJ562T	RES , CHIP 1608 SIZE	
R337	CRJ10DJ4R7T	RES , CHIP 1608 SIZE	
R339	CRJ10DJ4R7T	RES , CHIP 1608 SIZE	
R340	CRJ10DJ224T	RES , CHIP 1608 SIZE	
R341	CRJ10DJ101T	RES , CHIP 1608 SIZE	
R351	CRJ10DJ512T	RES , CHIP 1608 SIZE	
R352	CRJ10DJ512T	RES , CHIP 1608 SIZE	
R353	CRJ10DJ512T	RES , CHIP 1608 SIZE	
R354	CRJ10DJ512T	RES , CHIP 1608 SIZE	
R355	CRJ10DJ122T	RES , CHIP 1608 SIZE	
R356	CRJ10DJ122T	RES , CHIP 1608 SIZE	
R357	CRJ10DJ562T	RES , CHIP 1608 SIZE	
R358	CRJ10DJ562T	RES , CHIP 1608 SIZE	
R359	CRJ10DJ562T	RES , CHIP 1608 SIZE	
R360	CRJ10DJ562T	RES , CHIP 1608 SIZE	
R361	CRJ10DJ122T	RES , CHIP 1608 SIZE	
R362	CRJ10DJ122T	RES , CHIP 1608 SIZE	
R363	CRJ10DJ473T	RES , CHIP 1608 SIZE	
R364	CRJ10DJ473T	RES , CHIP 1608 SIZE	
R365	CRJ10DJ101T	RES , CHIP 1608 SIZE	
R366	CRJ10DJ101T	RES , CHIP 1608 SIZE	
R367	CRJ10DJ0R0T	RES , CHIP 1608 SIZE	
R368	CRJ10DJ0R0T	RES , CHIP 1608 SIZE	
R371	CRJ10DJ223T	RES , CHIP 1608 SIZE	
R372	CRJ10DJ223T	RES , CHIP 1608 SIZE	
R373	CRJ10DJ103T	RES , CHIP 1608 SIZE	
R374	CRJ10DJ333T	RES , CHIP 1608 SIZE	
R375	CRJ10DJ333T	RES , CHIP 1608 SIZE	
R376	CRJ10DJ103T	RES , CHIP 1608 SIZE	

REF NO.	PART NO.	DESCRIPTION	REMARKS
R377	CRJ10DJ473T	RES , CHIP	1608 SIZE
R378	CRJ10DJ101T	RES , CHIP	1608 SIZE
R379	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R380	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R381	CRJ10DJ102T	RES , CHIP	1608 SIZE
R382	CRJ10DJ102T	RES , CHIP	1608 SIZE
R383	CRJ10DJ473T	RES , CHIP	1608 SIZE
R384	CRJ10DJ473T	RES , CHIP	1608 SIZE
R385	CRJ10DJ562T	RES , CHIP	1608 SIZE
R386	CRJ10DJ562T	RES , CHIP	1608 SIZE
R387	CRJ10DJ102T	RES , CHIP	1608 SIZE
R388	CRJ10DJ473T	RES , CHIP	1608 SIZE
R389	CRJ10DJ562T	RES , CHIP	1608 SIZE
R390	CRJ10DJ104T	RES , CHIP	1608 SIZE
R391	CRJ10DJ221T	RES , CHIP	1608 SIZE
R393	CRJ10DJ101T	RES , CHIP	1608 SIZE
R394	CRJ10DJ223T	RES , CHIP	1608 SIZE
R395	CRJ10DJ471T	RES , CHIP	1608 SIZE
R396	CRJ10DJ224T	RES , CHIP	1608 SIZE
R398	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R401	CRJ10DJ332T	RES , CHIP	1608 SIZE
R402	CRJ10DJ332T	RES , CHIP	1608 SIZE
R403	CRJ10DJ332T	RES , CHIP	1608 SIZE
R404	CRJ10DJ332T	RES , CHIP	1608 SIZE
R405	CRJ10DJ103T	RES , CHIP	1608 SIZE
R409	CRJ10DJ332T	RES , CHIP	1608 SIZE
R410	CRJ10DJ332T	RES , CHIP	1608 SIZE
R413	CRJ10DJ100T	RES , CHIP	1608 SIZE
R415	CRJ10DJ332T	RES , CHIP	1608 SIZE
R416	CRJ10DJ332T	RES , CHIP	1608 SIZE
R421	CRJ10DJ330T	RES , CHIP	1608 SIZE
R422	CRJ10DJ330T	RES , CHIP	1608 SIZE
R423	CRJ10DJ1R0T	RES , CHIP	1608 SIZE
R424	CRJ10DJ103T	RES , CHIP	1608 SIZE
R425	CRJ10DJ103T	RES , CHIP	1608 SIZE
R426	CRJ10DJ103T	RES , CHIP	1608 SIZE
R427	CRJ10DJ103T	RES , CHIP	1608 SIZE
R428	CRJ10DJ103T	RES , CHIP	1608 SIZE
R429	CRJ10DJ103T	RES , CHIP	1608 SIZE
R430	CRJ10DJ103T	RES , CHIP	1608 SIZE
R431	CRJ10DJ152T	RES , CHIP	1608 SIZE
R432	CRJ10DJ152T	RES , CHIP	1608 SIZE
R434	CRJ10DJ103T	RES , CHIP	1608 SIZE
R435	CRJ10DJ103T	RES , CHIP	1608 SIZE
R436	CRJ10DJ330T	RES , CHIP	1608 SIZE
R437	CRJ10DJ103T	RES , CHIP	1608 SIZE
R438	CRJ10DJ332T	RES , CHIP	1608 SIZE
R439	CRJ10DJ103T	RES , CHIP	1608 SIZE
R440	CRJ10DJ471T	RES , CHIP	1608 SIZE
R441	CRJ10DJ332T	RES , CHIP	1608 SIZE
R449	CRJ10DJ103T	RES , CHIP	1608 SIZE
R450	CRJ10DJ103T	RES , CHIP	1608 SIZE
R451	CRJ10DJ103T	RES , CHIP	1608 SIZE
R452	CRJ10DJ330T	RES , CHIP	1608 SIZE
R453	CRJ10DJ330T	RES , CHIP	1608 SIZE
R454	CRJ10DJ330T	RES , CHIP	1608 SIZE
R455	CRJ10DJ330T	RES , CHIP	1608 SIZE
R456	CRJ10DJ330T	RES , CHIP	1608 SIZE
R457	CRJ10DJ330T	RES , CHIP	1608 SIZE
R458	CRJ10DJ330T	RES , CHIP	1608 SIZE
R459	CRJ10DJ330T	RES , CHIP	1608 SIZE
R460	CRJ10DJ330T	RES , CHIP	1608 SIZE
R461	CRJ10DJ330T	RES , CHIP	1608 SIZE
R462	CRJ10DJ330T	RES , CHIP	1608 SIZE
R463	CRJ10DJ330T	RES , CHIP	1608 SIZE

REF NO.	PART NO.	DESCRIPTION	REMARKS
R464	CRJ10DJ330T	RES , CHIP	1608 SIZE
R465	CRJ10DJ473T	RES , CHIP	1608 SIZE
R466	CRJ10DJ473T	RES , CHIP	1608 SIZE
R467	CRJ10DJ473T	RES , CHIP	1608 SIZE
R468	CRJ10DJ330T	RES , CHIP	1608 SIZE
R469	CRJ10DJ272T	RES , CHIP	1608 SIZE
R470	CRJ10DJ272T	RES , CHIP	1608 SIZE
R471	CRJ10DJ332T	RES , CHIP	1608 SIZE
R472	CRJ10DJ332T	RES , CHIP	1608 SIZE
R473	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R474	CRJ10DJ100T	RES , CHIP	1608 SIZE
R475	CRJ10DJ100T	RES , CHIP	1608 SIZE
R476	CRJ10DJ100T	RES , CHIP	1608 SIZE
R477	CRJ10DJ100T	RES , CHIP	1608 SIZE
R478	CRJ10DJ123T	RES , CHIP	1608 SIZE
R479	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R480	CRJ10DJ473T	RES , CHIP	1608 SIZE
R481	CRJ10DJ473T	RES , CHIP	1608 SIZE
R482	CRJ10DJ330T	RES , CHIP	1608 SIZE
R484	CRJ10DJ330T	RES , CHIP	1608 SIZE
R485	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R486	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R487	CRJ10DJ105T	RES , CHIP	1608 SIZE
R488	CRJ10DJ101T	RES , CHIP	1608 SIZE
R489	CRJ10DJ330T	RES , CHIP	1608 SIZE
R490	CRJ10DJ330T	RES , CHIP	1608 SIZE
R491	CRJ10DJ472T	RES , CHIP	1608 SIZE
R492	CRJ10DJ103T	RES , CHIP	1608 SIZE
R493	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R494	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R495	CRJ10DJ100T	RES , CHIP	1608 SIZE
R496	CRJ10DJ472T	RES , CHIP	1608 SIZE
R497	CRJ10DJ100T	RES , CHIP	1608 SIZE
R498	CRJ10DJ100T	RES , CHIP	1608 SIZE
R499	CRJ10DJ100T	RES , CHIP	1608 SIZE
RN28	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN32	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN33	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN40	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K (1608)
RN41	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K (1608)
RN42	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K (1608)
RN43	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN44	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN45	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN46	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN47	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN48	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN49	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN50	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN51	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN52	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN53	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K (1608)
RN54	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN55	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN56	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
SW21	CST1A010Z	SW , TACT	
SW22	HSH2B018Z	SW , PUSH	SPUJ19XSM011
X201	HOX27000E180S	CRYSTAL , CHIP (27MHZ, SMD)	HC-49/US
X202	HOX00032K120I	CRYSTAL , 32.768KHZ	TUNING FORK
X231	COX24000E200S	CRYSTAL , CHIP (24MHZ, HC-49/SMD)	24MHZ, HC-49/SMD
X261	HOX04332A200C	CRYSTAL	
X401	HOX12288E320C	CRYSTAL 12.288MHz	
PCB2	COP12048	VISO TWO AMP/VIDEO PCB ASS'Y	AH VER. : ~C
	CUP12048	PCB , AMP/VIDEO VISO TWO	(330X247 , FR-4)
BD71	GLZ9R001Z	FERRITE , CHIP BEAD (60ohm, 2012)	HCB2012KF-600T40

REF NO.	PART NO.	DESCRIPTION	REMARKS
BK59	CMD1A569	BRACKET , PCB	
BK99	CMD1A569	BRACKET , PCB	
BN18	CWB1C005200EN	WIRE ASS' Y (5P, 200MM, 2.0MM)	5P, 2.0MM, 200MM
BN63	HJPO6GB131ZK	CONNECTOR (PLUG)	
BN64	HJPO6GB131ZK	CONNECTOR (PLUG)	
BN65	HJPO6GB131ZK	CONNECTOR (PLUG)	
BN71	CWB1D007150BM	WIRE ASS' Y (7P, 150MM, 2.50MM)	7P, 2.5MM, 150MM
BN74	CWZV1S0TW0BN74	WIRE ASS' Y (7P, 180MM, 2.50MM)	7P, 2.5MM, 150/180MM
BN95	CWZV1S0TW0BN95	SHIELD WIRE ASS' Y (5P, 450MM, 2.0MM)	5P, 2.0MM, 450MM
C501	CCEA1HH100T	CAP , ELECT	10uF 50V AH VER. ONLY
C502	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C503	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C504	CCEA1HH100T	CAP , ELECT	10uF 50V AH VER. ONLY
C505	CCEA1CH101T	CAP , ELECT	100uF 16V AH VER. ONLY
C506	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C507	CCEA1CH101T	CAP , ELECT	100uF 16V AH VER. ONLY
C508	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C511	CCEA1HH220T	CAP , ELECT	22uF 50V AH VER. ONLY
C512	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C513	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C516	CCEA1HH100T	CAP , ELECT	10uF 50V AH VER. ONLY
C517	CCEA1HH100T	CAP , ELECT	10uF 50V AH VER. ONLY
C518	CCEA1HH100T	CAP , ELECT	10uF 50V AH VER. ONLY
C519	CCUS1H331JA	CAP , CHIP	330PF 50V J AH VER. ONLY
C520	CCUS1H331JA	CAP , CHIP	330PF 50V J AH VER. ONLY
C521	CCUS1H122KC	CAP , CHIP	1200PF 50V K AH VER. ONLY
C522	CCUS1H122KC	CAP , CHIP	1200PF 50V K AH VER. ONLY
C523	CCUS1H102KC	CAP , CHIP	1000PF 50V K AH VER. ONLY
C524	CCUS1H102KC	CAP , CHIP	1000PF 50V K AH VER. ONLY
C525	CCUS1H271JA	CAP , CHIP	270PF 50V J AH VER. ONLY
C526	CCUS1H271JA	CAP , CHIP	270PF 50V J AH VER. ONLY
C527	CCEA1HH100T	CAP , ELECT	10uF 50V AH VER. ONLY
C528	CCEA1HH100T	CAP , ELECT	10uF 50V AH VER. ONLY
C529	CCUS1H223KC	CAP , CHIP	0.022uF 50V K AH VER. ONLY
C530	CCUS1H223KC	CAP , CHIP	0.022uF 50V K AH VER. ONLY
C531	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C532	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C536	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C537	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C539	CCUS1H180JA	CAP , CHIP (18PF/50V)	18PF 50V J AH VER. ONLY
C540	CCUS1H180JA	CAP , CHIP (18PF/50V)	18PF 50V J AH VER. ONLY
C541	CCUS1H181JA	CAP , CHIP	180PF 50V J AH VER. ONLY
C542	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C543	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C546	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C547	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C550	CCEA1HH220T	CAP , ELECT	22uF 50V AH VER. ONLY
C551	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C552	CCUS1H102KC	CAP , CHIP	1000PF 50V K AH VER. ONLY
C558	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C559	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C560	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C561	CCUS1H220JA	CAP , CHIP	22PF 50V J AH VER. ONLY
C562	CCUS1H220JA	CAP , CHIP	22PF 50V J AH VER. ONLY
C563	CCEA1HH100T	CAP , ELECT	10uF 50V AH VER. ONLY
C564	CCUS1H104KC	CAP , CHIP	0.1uF 50V K AH VER. ONLY
C565	CCEA1CH101T	CAP , ELECT	100uF 16V AH VER. ONLY
C577	CCEA1HH100T	CAP , ELECT	10uF 50V C VER. ONLY
C578	CCEA1HH100T	CAP , ELECT	10uF 50V C VER. ONLY
C582	CCEA1HH2R2T	CAP , ELECT	2.2uF 50V C VER. ONLY
C589	CCEA1HH100T	CAP , ELECT	10uF 50V C VER. ONLY
C590	CCUS1H101JA	CAP , CHIP	100PF 50V J C VER. ONLY
C591	CCUS1H101JA	CAP , CHIP	100PF 50V J C VER. ONLY
C592	CCUS1H101JA	CAP , CHIP	100PF 50V J C VER. ONLY
C593	CCEA1AH471T	CAP , ELECT	470uF 10V C VER. ONLY

REF NO.	PART NO.	DESCRIPTION	REMARKS	
C594	CCEA1AH471T	CAP , ELECT	470uF 10V	C VER. ONLY
C595	CCEA1AH471T	CAP , ELECT	470uF 10V	C VER. ONLY
C599	CCUS1H101JA	CAP , CHIP	100PF 50V J	C VER. ONLY
C603	CCEA1HH100T	CAP , ELECT	10uF 50V	
C604	CCEA1HH100T	CAP , ELECT	10uF 50V	
C605	CCUS1H101JA	CAP , CHIP	100PF 50V J	
C606	CCUS1H101JA	CAP , CHIP	100PF 50V J	
C613	CCUS1H681JA	CAP , CHIP	680PF 50V J	
C614	CCUS1H681JA	CAP , CHIP	680PF 50V J	
C625	CCEA1CH101T	CAP , ELECT	100uF 16V	
C626	CCEA1CH101T	CAP , ELECT	100uF 16V	
C631	CCEA1CH101T	CAP , ELECT	100uF 16V	
C632	CCEA1CH101T	CAP , ELECT	100uF 16V	
C633	CCEA1JH221E	CAP , ELECT	220uF 63V	
C634	CCEA1JH221E	CAP , ELECT	220uF 63V	
C635	CCEA1JH221E	CAP , ELECT	220uF 63V	
C636	CCEA1JH221E	CAP , ELECT	220uF 63V	
C637	CCUS1H120JA	CAP , CHIP (12PF/50V/COG/1608)	12PF 50V J	
C638	CCUS1H120JA	CAP , CHIP (12PF/50V/COG/1608)	12PF 50V J	
C651	CCEA1HH100T	CAP , ELECT	10uF 50V	
C653	CCUS1H330JA	CAP , CHIP	33PF 50V J	
C654	CCUS1H330JA	CAP , CHIP	33PF 50V J	
C662	CCEA1HH100T	CAP , ELECT	10uF 50V	
C683	CCEA1HH100T	CAP , ELECT	10uF 50V	
C684	CCEA1HH100T	CAP , ELECT	10uF 50V	
C701	CCUS1H104KC	CAP , CHIP	0.1uF 50V K	
C702	CCEA1CH101T	CAP , ELECT	100uF 16V	
C703	CCUS1H560JA	CAP , CHIP	56PF 50V J	
C704	CCUS1H104KC	CAP , CHIP	0.1uF 50V K	
C705	CCEA1CH101T	CAP , ELECT	100uF 16V	
C706	C3A206	WIRE , COPPER	SN95/PB5 , 0.6	
C707	CCUS1H220JA	CAP , CHIP	22PF 50V J	
C708	CCEA1CH101T	CAP , ELECT	100uF 16V	
C709	CCEA1CH101T	CAP , ELECT	100uF 16V	
C710	CCEA1CH331T	CAP , ELECT	330uF 16V	
C711	CCEA1CH331T	CAP , ELECT	330uF 16V	
C712	CCEA1HH220T	CAP , ELECT	22uF 50V	
C713	CCEA1CH101T	CAP , ELECT	100uF 16V	
C714	CCEA1HH220T	CAP , ELECT	22uF 50V	
C715	CCEA1CH101T	CAP , ELECT	100uF 16V	
C716	CCUS1H470JA	CAP , CHIP	47PF 50V J	
C717	CCUS1H560JA	CAP , CHIP	56PF 50V J	
C718	CCUS1H104KC	CAP , CHIP	0.1uF 50V K	
C719	CCUS1H470JA	CAP , CHIP	47PF 50V J	
C720	CCEA1HH220T	CAP , ELECT	22uF 50V	
C721	CCEA1HH220T	CAP , ELECT	22uF 50V	
C722	CCEA1HH220T	CAP , ELECT	22uF 50V	
C723	CCEA1CH101T	CAP , ELECT	100uF 16V	
C724	CCUS1H103KC	CAP , CHIP	0.01uF 50V K	
C726	CCUS1H471JA	CAP , CHIP	470PF 50V J	
C727	CCUS1H471JA	CAP , CHIP	470PF 50V J	
C728	CCUS1H471JA	CAP , CHIP	470PF 50V J	
C729	CCEA1CH101T	CAP , ELECT	100uF 16V	
C731	CCEA1CH221T	CAP , ELECT	220uF 16V	
C732	CCEA1CH221T	CAP , ELECT	220uF 16V	
C733	CCUS1H103KC	CAP , CHIP	0.01uF 50V K	
C734	CCUS1H103KC	CAP , CHIP	0.01uF 50V K	
C735	CCUS1H103KC	CAP , CHIP	0.01uF 50V K	
C736	CCUS1H103KC	CAP , CHIP	0.01uF 50V K	
C737	CCEA1CH101T	CAP , ELECT	100uF 16V	
C738	CCEA1CH101T	CAP , ELECT	100uF 16V	
C741	CCEA1CH101T	CAP , ELECT	100uF 16V	
C742	CCUS1H103KC	CAP , CHIP	0.01uF 50V K	
C743	CCEA1CH101T	CAP , ELECT	100uF 16V	
C744	CCUS1H103KC	CAP , CHIP	0.01uF 50V K	

REF NO.	PART NO.	DESCRIPTION	REMARKS
C746	CCEA1CH101T	CAP , ELECT	100uF 16V
C747	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C748	CCEA1CH101T	CAP , ELECT	100uF 16V
C749	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C750	CCEA1CH101T	CAP , ELECT	100uF 16V
C751	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C752	CCEA1CH101T	CAP , ELECT	100uF 16V
C753	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C754	CCEA1HH100T	CAP , ELECT	10uF 50V
C755	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C757	CCEA1HH220T	CAP , ELECT	22uF 50V
C758	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C759	CCEA1HH100T	CAP , ELECT	10uF 50V
C760	CCEA1HH100T	CAP , ELECT	10uF 50V
C761	CCEA1HH100T	CAP , ELECT	10uF 50V
C762	CCEA1AH471T	CAP , ELECT	470uF 10V
C763	CCUS1H220JA	CAP , CHIP	22PF 50V J
C764	CCEA1AH471T	CAP , ELECT	470uF 10V
C765	CCUS1H220JA	CAP , CHIP	22PF 50V J
C766	CCEA1AH471T	CAP , ELECT	470uF 10V
C767	CCUS1H220JA	CAP , CHIP	22PF 50V J
C768	CCEA1AH471T	CAP , ELECT	470uF 10V
C769	CCUS1H220JA	CAP , CHIP	22PF 50V J
C770	CCEA1AH471T	CAP , ELECT	470uF 10V
C771	CCUS1H220JA	CAP , CHIP	22PF 50V J
C772	CCEA1AH471T	CAP , ELECT	470uF 10V
C773	CCUS1H220JA	CAP , CHIP	22PF 50V J
C776	CCEA1HH100T	CAP , ELECT	10uF 50V
C777	CCUS1H221JA	CAP , CHIP	220PF 50V J
C778	CCEA1HH100T	CAP , ELECT	10uF 50V
C779	CCEA1HH100T	CAP , ELECT	10uF 50V
C780	CCUS1H221JA	CAP , CHIP	220PF 50V J
C781	CCUS1H221JA	CAP , CHIP	220PF 50V J
C782	CCEA1HH100T	CAP , ELECT	10uF 50V
C783	CCUS1H221JA	CAP , CHIP	220PF 50V J
C784	CCEA1HH100T	CAP , ELECT	10uF 50V
C785	CCEA1HH100T	CAP , ELECT	10uF 50V
C786	CCUS1H221JA	CAP , CHIP	220PF 50V J
C787	CCUS1H221JA	CAP , CHIP	220PF 50V J
C789	CCUS1H101JA	CAP , CHIP	100PF 50V J
C792	CCUS1H101JA	CAP , CHIP	100PF 50V J
C793	CCUS1H101JA	CAP , CHIP	100PF 50V J
C795	CCUS1H101JA	CAP , CHIP	100PF 50V J
C798	CCUS1H101JA	CAP , CHIP	100PF 50V J
C799	CCUS1H101JA	CAP , CHIP	100PF 50V J
C801	HCQ11H103JZT	CAP , MYLAR	0.01uF 50V J
C802	HCQ11H103JZT	CAP , MYLAR	0.01uF 50V J
C803	CCME2A154JXT	CAP , METALLIZED FILM	0.15uF 100V
C804	HCQ11H103JZT	CAP , MYLAR	0.01uF 50V J
C805	HCQ11H103JZT	CAP , MYLAR	0.01uF 50V J
C806	CCME2A154JXT	CAP , METALLIZED FILM	0.15uF 100V
C807	HCQ11H103JZT	CAP , MYLAR	0.01uF 50V J
C808	HCQ11H103JZT	CAP , MYLAR	0.01uF 50V J
C809	CCME2A154JXT	CAP , METALLIZED FILM	0.15uF 100V
C810	HCQ11H103JZT	CAP , MYLAR	0.01uF 50V J
C811	HCQ11H103JZT	CAP , MYLAR	0.01uF 50V J
C812	CCME2A154JXT	CAP , METALLIZED FILM	0.15uF 100V
C815	CCEA1EH332E	CAP , ELECT	
C817	CCEA1EH332E	CAP , ELECT	
C819	CCEA1EH332E	CAP , ELECT	
C821	CCEA1CH682E	CAP , ELECT	
C823	CCEA1CH103E	CAP , ELECT	
C824	CCEA1CKL5123E	CAP , ELECT	16V, 12000uF
C825	CCEA1CH103E	CAP , ELECT	
C826	CCEA1CH103E	CAP , ELECT	

REF NO.	PART NO.	DESCRIPTION	REMARKS
C827	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C828	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C829	CCEA1CH101T	CAP , ELECT	100uF 16V
C830	CCEA1CH101T	CAP , ELECT	100uF 16V
C832	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C833	CCEA1CH101T	CAP , ELECT	100uF 16V
C834	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C835	CCEA1CH101T	CAP , ELECT	100uF 16V
C836	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C837	CCEA1CH101T	CAP , ELECT	100uF 16V
C838	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C839	CCEA1AH471T	CAP , ELECT	470uF 10V
C841	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C842	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C845	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C846	CCEA1HH100T	CAP , ELECT	10uF 50V
C847	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C848	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C851	CCME2A154JXT	CAP , METALLIZED FILM	0.15uF 100V
C852	CCME2A154JXT	CAP , METALLIZED FILM	0.15uF 100V
C853	CCME2A154JXT	CAP , METALLIZED FILM	0.15uF 100V
C854	CCME2A154JXT	CAP , METALLIZED FILM	0.15uF 100V
C855	CCET50VKL4682NK	CAP , ELECT	6800uF/50V
C856	CCET50VKL4682NK	CAP , ELECT	6800uF/50V
C869	CCEA1HKS100T	CAP , ELECT	10uF 50V SMALL SIZE
C870	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C875	CCEA1HH100T	CAP , ELECT	10uF 50V
C877	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C878	CCEA1HKS100T	CAP , ELECT	10uF 50V SMALL SIZE
C879	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C881	CCEA1HH100T	CAP , ELECT	10uF 50V
C884	CCEA1AH471T	CAP , ELECT	470uF 10V
C885	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C893	HCQ11H473JZT	CAP , MYLAR	0.047uF 50V J
C894	HCQ11H473JZT	CAP , MYLAR	0.047uF 50V J
C895	HCQ11H562JZT	CAP , MYLAR	5600PF 50V J
C896	HCQ11H562JZT	CAP , MYLAR	5600PF 50V J
C897	HCQ11H472JZT	CAP , MYLAR	4700PF 50V J
C898	HCQ11H472JZT	CAP , MYLAR	4700PF 50V J
C992	CCEA1CH101T	CAP , ELECT	100uF 16V
C994	CCEA1HH4R7T	CAP , ELECT	4.7uF 50V
C995	CCEA1EH470T	CAP , ELECT	47uF 25V
C996	CCEA1HH220T	CAP , ELECT	22uF 50V
C997	CCEA1EH102E	CAP , ELECT	1000uF 25V
C998	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C999	KCKDKS472ME	CAP , CERAMIC (X1/Y2/SC)	0.0047uF/2.5KV
CN16	CJP17GA117ZY	WAFER	
CN24	CJP17GA115ZY	WAFER , CARD CABLE	
CN26	CJP13GA115ZY	WAFER , CARD CABLE	
CN27	CJP07GA117ZY	WAFER	AH VER. ONLY
CN32	CJP07GA19ZY	WAFER , STRAIGHT (7PIN)	
CN63	HJP06GA130ZK	CONNECTOR (SOCKET)	
CN64	HJP06GA130ZK	CONNECTOR (SOCKET)	
CN65	HJP06GA130ZK	CONNECTOR (SOCKET)	
CN72	CJP03GA90ZY	WAFER	
CN73	CJP09GA01ZY	CON WAFER YMW025-09R	
CN74	CJP07GA01ZY	WAFER , STRAIGHT (7PIN)	
CN75	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN	
CN97	CJP09GA01ZY	CON WAFER YMW025-09R	
CN98	CJP02GA89ZY	WAFER	
CN99	CJP02KA060ZY	WAFER	
D505	HVD1SR159-200	DIODE , SCHOTTKEY BARRIER	AH VER. ONLY
D563	HVDRB160L60TE25	DIODE , SCHOTTKEY BARRIER HK	RB160L-60TE25 AH VER. ONLY
D619	CVD1SS355T	DIODE , CHIP	
D620	CVD1SS355T	DIODE , CHIP	

REF NO.	PART NO.	DESCRIPTION	REMARKS
D623	CVD1SS355T	DIODE , CHIP	
D624	CVD1SS355T	DIODE , CHIP	
D625	CVD1SS355T	DIODE , CHIP	
D626	CVD1SS355T	DIODE , CHIP	
D645	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
D646	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
D815	CVD1N4003ST	DIODE , RECT	1N4003
D816	CVD1N4003ST	DIODE , RECT	1N4003
D817	CVD1N4003ST	DIODE , RECT	1N4003
D818	CVD1N4003ST	DIODE , RECT	1N4003
D819	CVD1N4003ST	DIODE , RECT	1N4003
D820	CVD1N4003ST	DIODE , RECT	1N4003
D821	CVD1N4003ST	DIODE , RECT	1N4003
D822	CVD1N4003ST	DIODE , RECT	1N4003
D823	HVD2A04H	DIODE , RECT (2A)	
D824	HVD2A04H	DIODE , RECT (2A)	
D825	HVDSB2100	DIODE , SCHOTTKY	
D826	HVDSB2100	DIODE , SCHOTTKY	
D840	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
D842	CVD1SS355T	DIODE , CHIP	
D851	! HVDGBJ606	DIODE , BRIDGE	
D867	CVD1SS355T	DIODE , CHIP	
D868	CVD1SS355T	DIODE , CHIP	
D875	CVD1SS355T	DIODE , CHIP	
D882	CVD1SS355T	DIODE , CHIP	
D883	CVD1SS355T	DIODE , CHIP	
D990	CVDZJ6. 8BT	DIODE , ZENER	ZJ6. 8B 1/2W
D991	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
D992	HVDRB160L60TE25	DIODE , SCHOTTKY BARRIER HK	RB160L-60TE25
D993	HVD1N5819T	DIODE , SCHOTTKY	1N5819
D994	CVD1N4003ST	DIODE , RECT	1N4003
D995	CVD1SS355T	DIODE , CHIP	
D996	CVD1N4003ST	DIODE , RECT	1N4003
D997	CVD1N4003ST	DIODE , RECT	1N4003
D998	CVD1SS133MT	DIODE	1SS133
D999	CVDZJ6. 8BT	DIODE , ZENER	ZJ6. 8B 1/2W
F991	KJCF5S	HOLDER , FUSE	
F992	! KBA2D2500TLET	FUSE	
FAN1	CFNCF12615S	FAN , DC 12V	CF-12615S
IC50	CVIK1A1117S33	I. C , REGULATOR (SOT-223)	KIA1117S/F33, S
IC51	CVINJM2595MTE1	I. C , VIDEO S/W	
IC52	CVINJM2595MTE1	I. C , VIDEO S/W	
IC53	CVINJM2595MTE1	I. C , VIDEO S/W	
IC54	HVICD4094BPWR	I. C , SHIFT REGISTER	CD4094BPWR (SMD)
IC55	BVIBH7862FS	IC , 6CH VIDEO DRIVER	ROHM (BH7862FS)
IC56	HVIP15V330SWE	IC , VIDEO SW	
IC57	HVIK1A7805API	REGULATOR, +5V	7805API (KEC)
IC58	CVIK1A7905PI	I. C , REGULATOR (-5V)	
IC59	HVIP15V330SWE	IC , VIDEO SW	
IC60	BVIKP1010B	IC, PHOTO COUPLER	
IC70	CVIXMDTIC	I. C , XM V3B	
IC71	CVIAK4384ET	I. C , ADC	
IC72	HVINJM2068MDTE1	I. C , OP AMP	NJM2068MD-TE1
IC81	HVIK1A7808API	I. C , REGULATOR +8V	KIA7808 (KEC)
IC82	CVIK1A7908PI	I. C , REGULATOR (TO-220IS)	KIA7908PI TO-220IS
IC83	HVIK1A7812API	I. C , REGULATOR	KIA78XXAPI
IC84	CVIK1A78R08PI	I. C , REGULATOR (TO220IS-4)	
IC85	HVIK1A278R05PI	REGULATOR (5V OUTPUT LOW DROP)	KIA278R05PI
IC86	HVIK1A278R05PI	REGULATOR (5V OUTPUT LOW DROP)	KIA278R05PI
IC99	HVIK1A7806API	I. C , REGULATOR +6V	
J991	C3A206	WIRE , COPPER	SN95/PB5 , 0.6
J992	C3A206	WIRE , COPPER	SN95/PB5 , 0.6
JK51	CJJ9P004Z	JACK , RCA/DIN (2P, 220A, YLx2, S-VHSx2, AU PL)	
JK52	CJJ9P004Z	JACK , RCA/DIN (2P, 220A, YLx2, S-VHSx2, AU PL)	
JK53	CJJ4R046Z	JACK , BOARD	

REF NO.	PART NO.	DESCRIPTION	REMARKS
JK54	CJJ6K004Z	JACK , SCART (SHIELD PLATE)	C VER. ONLY
JK55	CJJ2D008Z	JACK , STEREO	
JK59	CJJ9L006Z	JACK , XM	CAM-D96 AH VER. ONLY
JK71	CJJ5P011Z	TERMINAL , SPEAKER	
JW81	CWE8102100RV	WIRE ASS'Y	
L502	CLZ9Z014Z	FERRITE , CHIP BEAD (60ohm, 4516)	HCB4516KF-600T6 AH VER. ONLY
L505	CLZ9Z014Z	FERRITE , CHIP BEAD (60ohm, 4516)	HCB4516KF-600T6 AH VER. ONLY
L508	CLZ9Z014Z	FERRITE , CHIP BEAD (60ohm, 4516)	HCB4516KF-600T6 AH VER. ONLY
L541	CLQ06E2R7KRZ	INDUCTOR , CHIP	AH VER. ONLY
L560	CLZ9R008Z	CHOKE COIL , CHIP	AH VER. ONLY
L703	CLQ08ER68KRZ	COIL , CHIP (0.68uH, 2012)	FC12012F-R68K
L707	CLQ08ER39KRZ	COIL , CHIP (0.39uH, 2012)	FC12012F-R39K
L717	CLQ08ER68KRZ	COIL , CHIP (0.68uH, 2012)	FC12012F-R68K
L891	CLEYOR5KAK	COIL , SPEAKER	0.5UH K
L892	CLEYOR5KAK	COIL , SPEAKER	0.5UH K
OLT1	KJJ7A022Z	OUTLET , AC (EUR/1P)	A302D0061P C VER. ONLY
OLT2	KJJ7A013Z	OUTLET , AC 1 PIN USA	A202D0031P(1P) AH VER. ONLY
Q573	HVTKTD1304T	T. R , CHIP (MUTE)	KTD1304 C VER. ONLY
Q574	HVTKTD1304T	T. R , CHIP (MUTE)	KTD1304 C VER. ONLY
Q583	HVTKRA102S	T. R , CHIP	KRA102S C VER. ONLY
Q587	HVTKRC102S	T. R , CHIP	KRC102S C VER. ONLY
Q595	HVTKRC102S	T. R , CHIP	KRC102S C VER. ONLY
Q596	HVTKRA102S	T. R , CHIP	KRA102S C VER. ONLY
Q607	HVTKTD1304T	T. R , CHIP (MUTE)	KTD1304
Q608	HVTKTD1304T	T. R , CHIP (MUTE)	KTD1304
Q609	HVTKTC3200GRT	T. R	KTC3200GR
Q610	HVTKTC3200GRT	T. R	KTC3200GR
Q611	HVTKTC3200GRT	T. R	KTC3200GR
Q612	HVTKTC3200GRT	T. R	KTC3200GR
Q625	HVTKTC3198YT	T. R	KTC3198Y
Q626	HVTKTC3198YT	T. R	KTC3198Y
Q627	HVTKTC3200GRT	T. R	KTC3200GR
Q628	HVTKTC3200GRT	T. R	KTC3200GR
Q639	HVTKTA1268GRT	T. R	KTA1268GR
Q640	HVTKTA1268GRT	T. R	KTA1268GR
Q641	HVTKTA1268GRT	T. R	KTA1268GR
Q642	HVTKTA1268GRT	T. R	KTA1268GR
Q643	HVTKTA1360Y	T. R , PRE DRIVE	KTA1360Y
Q644	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
Q651	CVT2SC4495	T. R (FM20-T0220F)	FM20 (T0-220F)
Q652	CVT2SC4495	T. R (FM20-T0220F)	FM20 (T0-220F)
Q671	⚠ HVT2SD2389P-OKM	TR , POWER (DARLINGTON TYPE)	
Q672	⚠ HVT2SD2389P-OKM	TR , POWER (DARLINGTON TYPE)	
Q673	⚠ HVT2SB1559P-OKM	TR , POWER (DARLINGTON TYPE)	
Q674	⚠ HVT2SB1559P-OKM	TR , POWER (DARLINGTON TYPE)	
Q683	HVTKTC3875SYRTK	T. R , CHIP	KTC3875S Y RTK
Q684	HVTKTC3875SYRTK	T. R , CHIP	KTC3875S Y RTK
Q757	HVTKRA102S	T. R , CHIP	KRA102S
Q842	HVTKRC102S	T. R , CHIP	KRC102S
Q845	HVTKTC3875SYRTK	T. R , CHIP	KTC3875S Y RTK
Q846	HVTKTC3875SYRTK	T. R , CHIP	KTC3875S Y RTK
Q847	HVTKTA1504SYRTK	T. R , CHIP	KTA1504S Y RTK
Q865	HVTKTC3875SYRTK	T. R , CHIP	KTC3875S Y RTK
Q875	HVTKRC107S	T. R , CHIP	
Q876	HVTKTA1271YT	T. R	KTA1271Y
Q878	HVTKTC3875SYRTK	T. R , CHIP	KTC3875S Y RTK
Q881	HVTKRA102S	T. R , CHIP	KRA102S
Q882	HVTKTC3875SYRTK	T. R , CHIP	KTC3875S Y RTK
Q883	HVTKTC3875SYRTK	T. R , CHIP	KTC3875S Y RTK
Q895	HVTKTA1271YT	T. R	KTA1271Y
Q896	HVTKRC107S	T. R , CHIP	

REF NO.	PART NO.	DESCRIPTION	REMARKS
Q995	HVTKRC102S	T. R , CHIP	KRC102S
R513	CRJ10DJ103T	RES , CHIP	1608 SIZE
R514	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R515	CRJ10DJ103T	RES , CHIP	1608 SIZE
R517	CRJ10DJ103T	RES , CHIP	1608 SIZE
R518	CRJ10DJ103T	RES , CHIP	1608 SIZE
R519	CRJ10DJ152T	RES , CHIP	1608 SIZE
R520	CRJ10DJ152T	RES , CHIP	1608 SIZE
R521	CRJ10DJ102T	RES , CHIP	1608 SIZE
R522	CRJ10DJ102T	RES , CHIP	1608 SIZE
R523	CRJ10DJ332T	RES , CHIP	1608 SIZE
R524	CRJ10DJ332T	RES , CHIP	1608 SIZE
R525	CRJ10DJ332T	RES , CHIP	1608 SIZE
R526	CRJ10DJ332T	RES , CHIP	1608 SIZE
R527	CRJ10DJ104T	RES , CHIP	1608 SIZE
R528	CRJ10DJ104T	RES , CHIP	1608 SIZE
R529	CRJ10DJ101T	RES , CHIP	1608 SIZE
R530	CRJ10DJ101T	RES , CHIP	1608 SIZE
R531	CRJ10DJ223T	RES , CHIP	1608 SIZE
R532	CRJ10DJ104T	RES , CHIP	1608 SIZE
R533	CRJ10DJ103T	RES , CHIP	1608 SIZE
R534	CRJ10DJ223T	RES , CHIP	1608 SIZE
R535	CRJ10DJ223T	RES , CHIP	1608 SIZE
R536	CRJ10DJ223T	RES , CHIP	1608 SIZE
R538	CRJ14CJ0R0T	RES , CHIP 1/4W	3216 SIZE
R539	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R540	CRJ10DJ105T	RES , CHIP	1608 SIZE
R543	CRJ10DJ223T	RES , CHIP	1608 SIZE
R544	CRJ10DJ223T	RES , CHIP	1608 SIZE
R545	CRJ10DJ223T	RES , CHIP	1608 SIZE
R547	CRJ10DJ223T	RES , CHIP	1608 SIZE
R548	CRJ10DJ223T	RES , CHIP	1608 SIZE
R549	CRJ10DJ223T	RES , CHIP	1608 SIZE
R551	CRJ10DJ104T	RES , CHIP	1608 SIZE
R552	CRJ10DJ104T	RES , CHIP	1608 SIZE
R553	CRJ10DJ101T	RES , CHIP	1608 SIZE
R554	CRJ10DJ101T	RES , CHIP	1608 SIZE
R555	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R556	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R557	CRJ10DJ102T	RES , CHIP	1608 SIZE
R558	CRJ10DJ102T	RES , CHIP	1608 SIZE
R559	CRJ10DJ101T	RES , CHIP	1608 SIZE
R560	CRJ10DJ101T	RES , CHIP	1608 SIZE
R561	CRJ10DJ220T	RES , CHIP	1608 SIZE
R562	CRJ10DJ220T	RES , CHIP	1608 SIZE
R567	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R568	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R573	CRJ10DJ562T	RES , CHIP	1608 SIZE
R574	CRJ10DJ562T	RES , CHIP	1608 SIZE
R575	CRJ10DJ104T	RES , CHIP	1608 SIZE
R576	CRJ10DJ104T	RES , CHIP	1608 SIZE
R577	CRJ10DJ102T	RES , CHIP	1608 SIZE
R578	CRJ10DJ102T	RES , CHIP	1608 SIZE
R579	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R580	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R582	CRJ10DJ224T	RES , CHIP	1608 SIZE
R583	CRJ10DJ101T	RES , CHIP	1608 SIZE
R584	CRJ10DJ562T	RES , CHIP	1608 SIZE
R585	CRJ10DJ104T	RES , CHIP	1608 SIZE
R587	CRJ10DJ152T	RES , CHIP	1608 SIZE
R589	CRJ10DJ152T	RES , CHIP	1608 SIZE
R593	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R594	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R595	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R596	CRJ10DJ100T	RES , CHIP	1608 SIZE

REF NO.	PART NO.	DESCRIPTION	REMARKS	
R597	CRJ10DJ103T	RES , CHIP	1608 SIZE	C VER. ONLY
R598	CRJ10DJ223T	RES , CHIP	1608 SIZE	C VER. ONLY
R599	CRJ10DJ680T	RES , CHIP	1608 SIZE	C VER. ONLY
R601	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R602	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R603	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R604	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R605	CRJ10DJ333T	RES , CHIP	1608 SIZE	
R606	CRJ10DJ333T	RES , CHIP	1608 SIZE	
R607	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R608	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R609	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R610	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R611	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R612	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R613	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R614	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R615	CRJ10DJ152T	RES , CHIP	1608 SIZE	
R616	CRJ10DJ152T	RES , CHIP	1608 SIZE	
R617	CRJ10DJ152T	RES , CHIP	1608 SIZE	
R618	CRJ10DJ152T	RES , CHIP	1608 SIZE	
R619	CRJ10DJ433T	RES , CHIP	1608 SIZE	
R620	CRJ10DJ433T	RES , CHIP	1608 SIZE	
R621	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R622	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R625	CRJ10DJ271T	RES , CHIP	1608 SIZE	
R626	CRJ10DJ271T	RES , CHIP	1608 SIZE	
R627	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R628	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R629	CRJ10DJ333T	RES , CHIP	1608 SIZE	
R630	CRJ10DJ333T	RES , CHIP	1608 SIZE	
R631	CRJ10DJ152T	RES , CHIP	1608 SIZE	
R632	CRJ10DJ152T	RES , CHIP	1608 SIZE	
R639	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R640	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R641	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R642	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R643	CRJ10DJ750T	RES , CHIP	1608 SIZE	
R644	CRJ10DJ750T	RES , CHIP	1608 SIZE	
R645	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R646	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R647	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R648	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R649	CRJ10DJ750T	RES , CHIP	1608 SIZE	
R650	CRJ10DJ750T	RES , CHIP	1608 SIZE	
R651	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R652	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R653	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R654	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R655	CRJ10DJ223T	RES , CHIP	1608 SIZE	
R656	CRJ10DJ223T	RES , CHIP	1608 SIZE	
R657	CRJ10DJ223T	RES , CHIP	1608 SIZE	
R658	CRJ10DJ223T	RES , CHIP	1608 SIZE	
R659	CRJ10DJ202T	RES , CHIP	1608 SIZE	
R660	CRJ10DJ202T	RES , CHIP	1608 SIZE	
R661	CRJ10DJ822T	RES , CHIP	1608 SIZE	
R662	CRJ10DJ822T	RES , CHIP	1608 SIZE	
R663	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R664	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R667	CRD25FJ220T	RES , CARBON	22 OHM 1/4W J	
R668	CRD25FJ220T	RES , CARBON	22 OHM 1/4W J	
R669	CRD25FJ220T	RES , CARBON	22 OHM 1/4W J	
R670	CRD25FJ220T	RES , CARBON	22 OHM 1/4W J	
R671	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	
R672	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	

REF NO.	PART NO.	DESCRIPTION	REMARKS
R673	GRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J
R674	GRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J
R675	GRF5EKR22	RES , CEMENT	
R676	GRF5EKR22	RES , CEMENT	
R677	GRF5EKR22	RES , CEMENT	
R678	GRF5EKR22	RES , CEMENT	
R679	CRJ10DJ102T	RES , CHIP	1608 SIZE
R680	CRJ10DJ102T	RES , CHIP	1608 SIZE
R681	CRJ10DJ182T	RES , CHIP	1608 SIZE
R682	CRJ10DJ182T	RES , CHIP	1608 SIZE
R683	CRJ10DJ102T	RES , CHIP	1608 SIZE
R684	CRJ10DJ102T	RES , CHIP	1608 SIZE
R685	CRJ10DJ103T	RES , CHIP	1608 SIZE
R686	CRJ10DJ103T	RES , CHIP	1608 SIZE
R695	CRJ10DJ100T	RES , CHIP	1608 SIZE
R697	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R698	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R699	CRJ10DJ750T	RES , CHIP	1608 SIZE
R704	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R705	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R708	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R709	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R710	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R711	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R713	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R715	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R717	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R718	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R719	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R720	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R721	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R722	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R723	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R726	CRJ10DJ101T	RES , CHIP	1608 SIZE
R727	CRJ10DJ101T	RES , CHIP	1608 SIZE
R728	CRJ10DJ101T	RES , CHIP	1608 SIZE
R729	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R731	CRJ10DJ103T	RES , CHIP	1608 SIZE
R732	CRJ10DJ103T	RES , CHIP	1608 SIZE
R741	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R743	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R745	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R746	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R748	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R750	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R752	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R754	CRJ10DJ4R7T	RES , CHIP	1608 SIZE
R756	CRJ10DJ223T	RES , CHIP	1608 SIZE
R757	CRJ10DJ332T	RES , CHIP	1608 SIZE
R758	CRJ10DJ101T	RES , CHIP	1608 SIZE
R759	CRJ10DJ392T	RES , CHIP	1608 SIZE
R760	CRJ10DJ271T	RES , CHIP	1608 SIZE
R763	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R765	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R767	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R769	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R771	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R773	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R777	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R780	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R781	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R783	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R786	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R787	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	75 OHM, 1%
R788	CRJ10DJ223T	RES , CHIP	1608 SIZE

REF NO.	PART NO.	DESCRIPTION	REMARKS
R789	CRJ10DF75ROT	RES, CHIP 1% 75 OHM	75 OHM, 1%
R790	CRJ10DJ223T	RES, CHIP	1608 SIZE
R791	CRJ10DJ223T	RES, CHIP	1608 SIZE
R792	CRJ10DF75ROT	RES, CHIP 1% 75 OHM	75 OHM, 1%
R793	CRJ10DF75ROT	RES, CHIP 1% 75 OHM	75 OHM, 1%
R794	CRJ10DJ223T	RES, CHIP	1608 SIZE
R795	CRJ10DF75ROT	RES, CHIP 1% 75 OHM	75 OHM, 1%
R796	CRJ10DJ223T	RES, CHIP	1608 SIZE
R797	CRJ10DJ223T	RES, CHIP	1608 SIZE
R798	CRJ10DF75ROT	RES, CHIP 1% 75 OHM	75 OHM, 1%
R799	CRJ10DF75ROT	RES, CHIP 1% 75 OHM	75 OHM, 1%
R801	KRQ1AJR15H	RES, FUSE	0.15 OHM, 1W J
R802	KRQ1AJR15H	RES, FUSE	0.15 OHM, 1W J
R804	KRQ1AJR15H	RES, FUSE	0.15 OHM, 1W J
R805	KRQ1AJR15H	RES, FUSE	0.15 OHM, 1W J
R807	KRQ1AJR15H	RES, FUSE	0.15 OHM, 1W J
R808	KRQ1AJR15H	RES, FUSE	0.15 OHM, 1W J
R810	KRQ1AJR15H	RES, FUSE	0.15 OHM, 1W J
R811	KRQ1AJR15H	RES, FUSE	0.15 OHM, 1W J
R815	CRJ10DJ153T	RES, CHIP	1608 SIZE
R817	CRJ10DJ153T	RES, CHIP	1608 SIZE
R819	CRJ10DJ153T	RES, CHIP	1608 SIZE
R821	CRJ10DJ153T	RES, CHIP	1608 SIZE
R823	CRJ10DJ153T	RES, CHIP	1608 SIZE
R827	CRJ10DJ103T	RES, CHIP	1608 SIZE
R828	CRJ10DJ103T	RES, CHIP	1608 SIZE
R829	CRJ10DJ183T	RES, CHIP	1608 SIZE
R830	CRJ10DJ183T	RES, CHIP	1608 SIZE
R831	CRJ10DJ103T	RES, CHIP	1608 SIZE
R832	CRJ10DJ103T	RES, CHIP	1608 SIZE
R834	CRJ10DJ103T	RES, CHIP	1608 SIZE
R836	CRJ10DJ103T	RES, CHIP	1608 SIZE
R842	CRJ10DJOROT	RES, CHIP	1608 SIZE
R846	CRJ10DJ103T	RES, CHIP	1608 SIZE
R847	CRJ10DJ103T	RES, CHIP	1608 SIZE
R855	CRJ10DJ433T	RES, CHIP	1608 SIZE
R856	CRJ10DJ433T	RES, CHIP	1608 SIZE
R857	CRJ10DJ433T	RES, CHIP	1608 SIZE
R858	CRJ10DJ433T	RES, CHIP	1608 SIZE
R859	CRJ10DJ183T	RES, CHIP	1608 SIZE
R860	CRJ10DJ183T	RES, CHIP	1608 SIZE
R861	CRJ10DJ183T	RES, CHIP	1608 SIZE
R862	CRJ10DJ183T	RES, CHIP	1608 SIZE
R863	CRJ10DJ183T	RES, CHIP	1608 SIZE
R864	CRJ10DJ103T	RES, CHIP	1608 SIZE
R865	CRJ10DJ183T	RES, CHIP	1608 SIZE
R866	CRJ10DJ183T	RES, CHIP	1608 SIZE
R867	CRJ10DJ102T	RES, CHIP	1608 SIZE
R868	CRJ10DJOROT	RES, CHIP	1608 SIZE
R869	CRJ14CJ100T	RES, CHIP 1/4W	3216 SIZE
R873	CRJ10DJ102T	RES, CHIP	1608 SIZE
R874	CRJ10DJ103T	RES, CHIP	1608 SIZE
R875	CRJ10DJ471T	RES, CHIP	1608 SIZE
R876	CRJ14CJ3R3T	RES, CHIP 1/4W	3216 SIZE
R877	CRJ10DJ102T	RES, CHIP	1608 SIZE
R878	CRJ10DJ152T	RES, CHIP	1608 SIZE
R879	CRJ10DJ103T	RES, CHIP	1608 SIZE
R880	CRJ10DJ561T	RES, CHIP	1608 SIZE
R881	CRJ10DJ103T	RES, CHIP	1608 SIZE
R882	CRJ10DJOROT	RES, CHIP	1608 SIZE
R883	CRJ10DJOROT	RES, CHIP	1608 SIZE
R884	CRJ10DJ152T	RES, CHIP	1608 SIZE
R885	CRJ10DJ223T	RES, CHIP	1608 SIZE
R886	CRJ10DJ223T	RES, CHIP	1608 SIZE
R887	CRG1ANJ331H	RES, METAL OXIDE FILM	330 OHM 1W J

REF NO.	PART NO.	DESCRIPTION	REMARKS
R888	CRG1ANJ331H	RES , METAL OXIDE FILM 330 OHM 1W J	
R889	GRD25FJ220T	RES , CARBON 22 OHM 1/4W J	
R890	GRD25FJ220T	RES , CARBON 22 OHM 1/4W J	
R891	GRD25FJ220T	RES , CARBON 22 OHM 1/4W J	
R892	GRD25FJ220T	RES , CARBON 22 OHM 1/4W J	
R893	CRG1ANJ100H	RES , METAL OXIDE FILM 10 OHM 1W J	
R894	CRG1ANJ100H	RES , METAL OXIDE FILM 10 OHM 1W J	
R895	CRJ14CJ101T	RES , CHIP 1/4W 3216 SIZE	
R896	CRJ14CJ101T	RES , CHIP 1/4W 3216 SIZE	
R897	CRJ10DJ472T	RES , CHIP 1608 SIZE	
R898	CRJ10DJ472T	RES , CHIP 1608 SIZE	
R990	HRDERC12UGK335T	RES , CARBON ERC12UGK 3.3M 0	AH VER. ONLY
R991	CRJ10DJ220T	RES , CHIP 1608 SIZE	
R992	CRJ10DJ100T	RES , CHIP 1608 SIZE	
R995	CRJ14CJ1ROT	RES , CHIP 1/4W 3216 SIZE	
R996	CRJ14CJ1ROT	RES , CHIP 1/4W 3216 SIZE	
R997	CRJ14CJ1ROT	RES , CHIP 1/4W 3216 SIZE	
R998	CRJ14CJ1ROT	RES , CHIP 1/4W 3216 SIZE	
R999	CRJ14CJ1ROT	RES , CHIP 1/4W 3216 SIZE	
RN70	CRJ104DJ220T	RES, 4ARRAY 22X4/2012	AH VER. ONLY
RN71	CRJ104DJ101T	RES , CHIP NETWORK (1/16W, 100ohm, 1608X4) 100R (1608)	
RN72	CRJ104DJ101T	RES , CHIP NETWORK (1/16W, 100ohm, 1608X4) 100R (1608)	
RY89	CSL3A017ZU	RELAY G5PA-28	
RY91	CSL1E002ZE	RELAY , POWER G5PA-1 (DC 6V)	
T901	CLT5L057ZW	TRANS , SUB L57	
TH71	GRTSYPSX10850JD	POSISTOR ASS' Y (120 degree) CYPX10850JD	
X501	COX45158E180S	X-TAL, 45.1584MHz (SMD)	AH VER. ONLY
PCB3	COP11958DC	VISO TWO MPEG PCB ASS' Y	AH VER. : ~DA
	CUP11958	PCB , MPEG DN-V210 (115x239, FR4/2)	
C101	CCSJA0J220B	CAP , CHIP TANTAL (A TYPE, 22uF/6.3V, ELNA)	
C102	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C103	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C104	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C105	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C106	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C107	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C108	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C109	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C110	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C111	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C112	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C113	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C114	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C115	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C116	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C117	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C118	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C119	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C120	CCUS1H101JA	CAP , CHIP 100PF 50V J	
C121	CCSJA0J220B	CAP , CHIP TANTAL (A TYPE, 22uF/6.3V, ELNA)	
C122	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C123	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C124	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C125	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C126	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C127	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C128	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C129	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C130	CCUS1H101JA	CAP , CHIP 100PF 50V J	
C131	CCSJA0J220B	CAP , CHIP TANTAL (A TYPE, 22uF/6.3V, ELNA)	
C132	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C133	CCUS1H103KC	CAP , CHIP 0.01uF 50V K	
C134	CCUS1H104KC	CAP , CHIP 0.1uF 50V K	
C135	HCECOJRV2101T	CAP , CHIP ELECT 100uF/6.3V	
C136	CCUS1H104KC	CAP , CHIP 0.1uF 50V K	

REF NO.	PART NO.	DESCRIPTION	REMARKS
C137	HCECOJRV2101T	CAP , CHIP ELECT	100uF/6.3V
C138	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C139	HCECOJRV2101T	CAP , CHIP ELECT	100uF/6.3V
C140	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C141	HCECOJRV2101T	CAP , CHIP ELECT	100uF/6.3V
C144	HCECOJRV2220T	CAP , CHIP ELECT	22uF/6.3V
C145	CCUS1H330JA	CAP , CHIP	33PF 50V J
C146	CCUS1H070DA	CAP , CHIP	7PF 50V D
C152	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C153	HCECOJRV2101T	CAP , CHIP ELECT	100uF/6.3V
C155	CCUS1H270JA	CAP , CHIP	27PF 50V J
C156	CCUS1H270JA	CAP , CHIP	27PF 50V J
C158	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C159	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C160	HCECOJRV2101T	CAP , CHIP ELECT	100uF/6.3V
C161	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C162	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C163	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C164	HCECOJRV2101T	CAP , CHIP ELECT	100uF/6.3V
C165	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C166	HCECOJRV2101T	CAP , CHIP ELECT	100uF/6.3V
C167	CCUS1H330JA	CAP , CHIP	33PF 50V J
C168	CCUS1H330JA	CAP , CHIP	33PF 50V J
C169	CCUS1H330JA	CAP , CHIP	33PF 50V J
C170	CCUS1H330JA	CAP , CHIP	33PF 50V J
C171	CCUS1H330JA	CAP , CHIP	33PF 50V J
C172	CCUS1H330JA	CAP , CHIP	33PF 50V J
C173	CCUS1H330JA	CAP , CHIP	33PF 50V J
C174	CCUS1H330JA	CAP , CHIP	33PF 50V J
C175	CCUS1H330JA	CAP , CHIP	33PF 50V J
C176	CCUS1H330JA	CAP , CHIP	33PF 50V J
C177	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C178	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C179	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C180	CCUS1H273KC	CAP , CHIP	0.027uF 50V K
C181	CCUS1H273KC	CAP , CHIP	0.027uF 50V K
C182	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C183	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C184	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C185	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C186	HCECOJRV2470T	CAP , CHIP ELECT	47uF/6.3V
C187	HCECOJRV2470T	CAP , CHIP ELECT	47uF/6.3V
C188	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C189	HCECOJRV2470T	CAP , CHIP ELECT	47uF/6.3V
C190	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C191	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C192	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C193	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C194	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C195	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C196	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C197	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C198	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C199	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C200	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C201	HCEC1CRV2101T	CAP , CHIP ELECT	
C202	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C203	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C204	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C205	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C208	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C209	HCEC1CRV2101T	CAP , CHIP ELECT	
C211	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C213	HCEC1CRV2101T	CAP , CHIP ELECT	
C214	CCUS1H104KC	CAP , CHIP	0.1uF 50V K

REF NO.	PART NO.	DESCRIPTION	REMARKS
C215	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C216	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C217	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C218	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C219	CCUS1H102KC	CAP , CHIP	1000PF 50V K
C220	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C221	CCEA1HH101T	CAP , ELECT	100uF 50V
C222	CCEA1HH101T	CAP , ELECT	100uF 50V
C225	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C226	HCEC1CRV2101T	CAP , CHIP ELECT	
C227	CCUS1H330JA	CAP , CHIP	33PF 50V J
C228	CCUS1H330JA	CAP , CHIP	33PF 50V J
C229	CCUS1H330JA	CAP , CHIP	33PF 50V J
C230	CCUS1H330JA	CAP , CHIP	33PF 50V J
C231	CCUS1H103KC	CAP , CHIP	0.01uF 50V K
C232	HCECOJRV2470T	CAP , CHIP ELECT	47uF/6.3V
C233	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C234	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C250	HCECOJRV2470T	CAP , CHIP ELECT	47uF/6.3V
C252	HCECOJRV2470T	CAP , CHIP ELECT	47uF/6.3V
C253	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C254	HCEC1CRV2101T	CAP , CHIP ELECT	
C255	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C256	CCUS1H104KC	CAP , CHIP	0.1uF 50V K
C257	HCEC1CRV2101T	CAP , CHIP ELECT	
C258	GCSJAOJ220B	CAP , CHIP TANTAL (A TYPE, 22uF/6.3V, ELNA)	
CN10	CJP24GA195ZM	SMT FFC/FPC WAFER (0.5MM PITCH)	52559-2472 (PB FREE)
CN14	CJP05GA19ZY	WAFER , STRAIGHT	
CN15	CJP06GA19ZY	WAFER , STRAIGHT (DVD LOADER)	
CN16	CJP17GA193ZY	WAFER, CARD CABLE (SMD)	
CN17	CJP13GA193ZY	WAFER , CARD CABLE (SMD)	
CN18	CJP05GA19ZY	WAFER , STRAIGHT	
CN21	CJP13GA193ZY	WAFER , CARD CABLE (SMD)	
CN23	CJP04GA01ZY	WAFER , STRAIGHT (4PIN)	
D101	HVD1SR159-200	DIODE , SCHOTTKY BARRIER	
D102	HVD1SR159-200	DIODE , SCHOTTKY BARRIER	
D103	HVD1SR159-200	DIODE , SCHOTTKY BARRIER	
D104	HVD1SR159-200	DIODE , SCHOTTKY BARRIER	
D106	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
D107	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11
FB10	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB11	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB12	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB13	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB14	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB15	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB16	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB17	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE
FB18	HLZ9R006Z	BEAD , CHIP	
FB19	GRJ18AJOR0T	RES , CHIP	
FB20	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB21	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB22	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB24	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB25	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB26	HLZ9R006Z	BEAD , CHIP	
FB27	HLZ9R006Z	BEAD , CHIP	
FB28	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB30	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB31	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
FB33	HLZ9R001Z	FB, 2012 (0805) 600E, 1.5A, POWER	600E, 1.5A
IC10	CVIZR36888HLCG	I. C , MPEG	ZR36888HLCG
IC11	HVIM29W160ET70N	IC, 16M FLASH (ST)	M29W160ET-70N6
IC12	HVIM12L64164A7T	IC, 64M SDRAM (4X16)	
IC13	HVIAT24C08N10SC	I. C	AT24C08N10SC2.7

REF NO.	PART NO.	DESCRIPTION	REMARKS
IC14	HVTHN1K05FU	MOS FET	HN1K05FU
IC15	HVITL34721DR	IC, OP AMP 8-SOIC (TI)	
IC16	HVIAM5888SLF	I. C , Motor Driver (AMtek, Pb free)	AM5888S L/F
IC18	CVIK1A1117S33	I. C , REGULATOR (SOT-223)	KIA1117S/F33, SOT-223
IC19	CVIK1A1117S18	I. C , REGULATOR (SOT-223)	KIA1117S/F18, SOT-223
IC20	CVIK1A1117S50	I. C , REGULATOR (SOT-223)	KIA1117S50-RTK/P
IC21	BLZ9R004Z	BEAD CHIP 90 OHM (2012 SIZE)	ACM2012H-900
IC22	BLZ9R004Z	BEAD CHIP 90 OHM (2012 SIZE)	ACM2012H-900
IC23	BLZ9R004Z	BEAD CHIP 90 OHM (2012 SIZE)	ACM2012H-900
IC24	BLZ9R004Z	BEAD CHIP 90 OHM (2012 SIZE)	ACM2012H-900
JK10	HJJ9H003Z	JACK , HDMI (JALCO)	YKF45-7009
L101	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE
L102	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE
L103	HLQ06E100KRZ	INDUCTOR , CHIP	3225 SIZE
PB01	CMD1A569	BRACKET , PCB	
PB02	CMD1A569	BRACKET , PCB	
Q102	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS
Q103	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS
Q104	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS
Q105	HVT2N3904SP	TR, CHIP (KEC)	2N3904S-RTK/PS
Q106	HVTKTA1664YP	T. R	
Q107	HVTKTA1664YP	T. R	
R101	CRJ10DJ472T	RES , CHIP	1608 SIZE
R102	CRJ10DJ330T	RES , CHIP	1608 SIZE
R103	CRJ10DJ330T	RES , CHIP	1608 SIZE
R104	CRJ10DJ330T	RES , CHIP	1608 SIZE
R105	CRJ10DJ330T	RES , CHIP	1608 SIZE
R106	CRJ10DJ330T	RES , CHIP	1608 SIZE
R107	CRJ10DJ330T	RES , CHIP	1608 SIZE
R109	CRJ10DJ472T	RES , CHIP	1608 SIZE
R110	CRJ10DJ472T	RES , CHIP	1608 SIZE
R111	CRJ10DJ221T	RES , CHIP	1608 SIZE
R113	CRJ10DJ750T	RES , CHIP	1608 SIZE
R114	CRJ10DJ102T	RES , CHIP	1608 SIZE
R115	CRJ10DJ330T	RES , CHIP	1608 SIZE
R116	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R118	CRJ10DJ330T	RES , CHIP	1608 SIZE
R119	HLZ9R005Z	BEAD CHIP 60(1608 SIZE)	HH-1M1608-600
R120	HLZ9R005Z	BEAD CHIP 60(1608 SIZE)	HH-1M1608-600
R121	CRJ10DJ472T	RES , CHIP	1608 SIZE
R122	CRJ10DJ100T	RES , CHIP	1608 SIZE
R124	CRJ10DJ472T	RES , CHIP	1608 SIZE
R125	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R126	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R127	CRJ10DJ104T	RES , CHIP	1608 SIZE
R128	CRJ10DF4300T	RES , CHIP	1608 SIZE
R129	CRJ10DF3920T	RES, CHIP (392R 1%)	1608 SIZE
R130	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	1608 SIZE
R131	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	1608 SIZE
R132	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	1608 SIZE
R133	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	1608 SIZE
R134	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	1608 SIZE
R135	CRJ10DF75R0T	RES, CHIP 1% 75 OHM	1608 SIZE
R136	CRJ10DJ104T	RES , CHIP	1608 SIZE
R137	CRJ10DF2002T	RES , CHIP 1%	1608 SIZE
R140	CRJ10DJ330T	RES , CHIP	1608 SIZE
R141	CRJ10DJ330T	RES , CHIP	1608 SIZE
R142	CRJ10DJ330T	RES , CHIP	1608 SIZE
R143	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R144	CRJ10DJ472T	RES , CHIP	1608 SIZE
R145	CRJ10DJ330T	RES , CHIP	1608 SIZE
R146	CRJ10DJ472T	RES , CHIP	1608 SIZE
R147	CRJ10DJ433T	RES , CHIP	1608 SIZE
R148	CRJ10DJ153T	RES , CHIP	1608 SIZE
R149	CRJ10DJ303T	RES , CHIP	1608 SIZE

REF NO.	PART NO.	DESCRIPTION	REMARKS
R150	CRJ10DJ513T	RES , CHIP	1608 SIZE
R153	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R154	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R155	CRJ10DJ472T	RES , CHIP	1608 SIZE
R156	CRJ10DJ330T	RES , CHIP	1608 SIZE
R157	CRJ10DJ330T	RES , CHIP	1608 SIZE
R158	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R159	CRJ10DJ103T	RES , CHIP	1608 SIZE
R160	CRJ10DJ103T	RES , CHIP	1608 SIZE
R161	CRJ10DJ103T	RES , CHIP	1608 SIZE
R162	CRJ10DJ330T	RES , CHIP	1608 SIZE
R164	CRJ10DJ471T	RES , CHIP	1608 SIZE
R165	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R166	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R170	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R171	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R172	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R175	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R177	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R180	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R183	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R184	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R185	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R187	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R189	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R190	CRJ10DJ102T	RES , CHIP	1608 SIZE
R191	CRJ10DF1000T	RES , CHIP 1%	1608 SIZE
R192	CRJ10DF1000T	RES , CHIP 1%	1608 SIZE
R194	CRJ10DJ332T	RES , CHIP	1608 SIZE
R195	CRJ10DJ471T	RES , CHIP	1608 SIZE
R196	CRJ10DJ332T	RES , CHIP	1608 SIZE
R197	CRJ10DJ332T	RES , CHIP	1608 SIZE
R198	CRJ10DJ1R0T	RES , CHIP	1608 SIZE
R199	CRJ10DJ221T	RES , CHIP	1608 SIZE
R200	CRJ10DJ103T	RES , CHIP	1608 SIZE
R201	CRJ10DJ103T	RES , CHIP	1608 SIZE
R202	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R204	CRJ10DJ121T	RES , CHIP	1608 SIZE
R205	CRJ10DJ153T	RES , CHIP	1608 SIZE
R206	CRJ10DJ153T	RES , CHIP	1608 SIZE
R207	CRJ10DJ103T	RES , CHIP	1608 SIZE
R208	CRJ10DJ330T	RES , CHIP	1608 SIZE
R213	CRJ10DJ1R0T	RES , CHIP	1608 SIZE
R214	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R217	CRJ10DJ102T	RES , CHIP	1608 SIZE
R218	CRJ10DJ682T	RES , CHIP	1608 SIZE
R233	CRJ10DJ1R0T	RES , CHIP	1608 SIZE
R234	CRJ10DJ221T	RES , CHIP	1608 SIZE
R237	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R241	CRJ10DJ101T	RES , CHIP	1608 SIZE
R247	CRJ10DJ471T	RES , CHIP	1608 SIZE
R262	CRJ10DJ330T	RES , CHIP	1608 SIZE
R268	CRJ10DJ103T	RES , CHIP	1608 SIZE
R269	CRJ10DJ103T	RES , CHIP	1608 SIZE
R270	CRJ10DJ182T	RES , CHIP	1608 SIZE
R271	CRJ10DJ182T	RES , CHIP	1608 SIZE
R272	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R273	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R281	CRJ10DJOR0T	RES , CHIP	1608 SIZE
R283	CRJ10DJ102T	RES , CHIP	1608 SIZE
R287	CRJ10DJOR0T	RES , CHIP	1608 SIZE
RN10	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4
RN11	CRJ104DJ100T	RES , ARRAY, 10R (1608)	10R(1608)
RN12	CRJ104DJ100T	RES , ARRAY, 10R (1608)	10R(1608)
X101	H0X27000E180S	CRYSTAL , CHIP (27MHZ, SMD)	HC-49/US

REF NO.	PART NO.	DESCRIPTION	REMARKS	
PCB5	CNVMB014MA1J8L	MODULAE , TUNER ASIS	KST-MB014MA1-J8L	C VER. ONLY
TNS1	CLT5R039ZE	TRANS , MAIN VISO TWO		C VER. ONLY
F991	KBA2C2500TLEY	FUSE		
PCB5	CNVMB014MA0J8LS	MODULE , TUNER USA	KST-MB014MA0-J8	AH VER. ONLY
TNS1	CLT5R039ZU	TRANS , MAIN VISO TWO		AH VER. ONLY
F991	KBA2C5000TLEY	FUSE		AH VER. ONLY
CN22	CWC4C4A15B350B	CABLE , CARD (15P, 350MM, 1.25MM)	15P, 1.25MM, 350MM	
CN23	CWC4C4A13B350B	CABLE , CARD (13P, 350MM, 1.25MM)	13P, 1.25MM, 350MM	
	CWC6G2A24G350B	CABLE , CARD SHIELD (24PIN , 350MM, 0.5P)	24PIN , 0.5MM , 350MM	
CN16	CWC4F4A17A120B	CABLE , CARD (17P, 120MM, 1MM)	17P, 1.0MM, 120MM	
CN17	CWC4F4A13A080B	CABLE , CARD (13P, 80mm)		
CN21	CWCV1S0TWOCN21A	CABLE , CARD (13P, 120MM, 1MM)	13P , 120MM , 1MM	
CN24	CWC4C4A17B070B	CABLE , CARD (17PIN, 70MM)		
CN25	CWC4C4A15B080B	CABLE , CARD		
CN26	CWC4C4A13B100B	CABLE , CARD	AVR-5048	
CN27	CWC4F4A07A100B	CARD , CABLE (7P, 100MM)		AH VER. ONLY
	CWZV1S0TWOCN99A	AC INLET WIRE ASS'Y	AC INLET	
	CJA2B054Z	CORD , POWER (DETACHABLE/EUR)	2WIRE 10A/250V	C VER. ONLY
	CJA2A070Z	CORD , POWER (PLUG+SOCKET) UL	032508/12	AH VER. ONLY

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