

SERVICE MANUAL



For Original DAB Module up to S/N A86C71512400

C715 & C715 DAB
CD Receiver

C715 & C715 DAB
CD Receiver

SECTION 1

SUMMARY

CONTENTS

PRODUCT SAFETY SERVICING GUIDELINES.....	1-3
SERVICING PRECAUTIONS	1-4
* General Servicing Precautions	
* Insulation checking procedure	
* Electrostatically Sensitive Devices	
SPECIFICATIONS	1-5
DISASSEMBLY.....	1-7
PRINCIPAL PARTS LOCATION.....	1-8
EXPLODED VIEW	1-9

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.

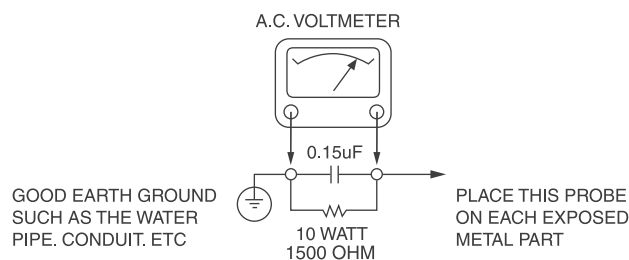
SAFETY CHECKS

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 MILLIAMPS 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 handling 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 (C715)

AMPLIFIER SECTION

Power output Stereo Mode	25W (6 ohms within rated distortion, 1kHz)
IHF dynamic power (6 ohms)	28W
Total harmonic distortion at rated power	0.15%
Damping factor (6 ohms)	>102
Input sensitivity and impedance (Tape IN)	370mV/27kΩ
Frequency response	+1 dB/-3dB (Ref. 1 kHz, 10Hz – 80kHz)
Signal/noise ratio	95dB (Ref. rated power/ 6 ohms A-WTD)
Signal/noise ratio	80dB (Ref. 1W / 6 ohms A-WTD)

TUNER SECTION

AM SECTION

Tuning range	520kHz - 1710kHz (North America version, 10kHz steps) 522kHz - 1629kHz (Europe version, 9kHz steps)
Usable sensitivity	60dBuV
S/N ratio	40dB
Total Harmonic Distortion	1.5%
Selectivity	25dB
Frequency response	-6dB (Ref. 400Hz, 80Hz – 2.2kHz)

FM SECTION

Tuning range	87.50MHz – 108MHz (50kHz steps)
Usable sensitivity, MONO	10dBuV
S/N Ratio MONO	60dB
S/N Ratio STEREO	55dB
Total Harmonic Distortion, MONO	0.3%
Total Harmonic Distortion, STEREO	0.5%
Frequency response	-3dB (Ref. 1 kHz, 30Hz – 12kHz)
Channel Separation	35dB
RDS decode sensitivity	29dBuV

CD SECTION

Output level	1.16V
Frequency response (ref. 0dB 1kHz, 20Hz-20kHz)	+1dB
Total harmonic distortion (ref. 1kHz, VIDEO OUT)	0.04%
Signal/Noise ratio (A-weighted, ref. 1kHz VIDEO OUT)	100dB
Channel balance (ref. 0dB 1kHz)	0.5dB
Dynamic range (A-WTD, VIDEO OUT)	82dB
Channel separation	78dB (1kHz) 78dB (10kHz)

PHYSICAL SPECIFICATIONS

Dimensions (W x H x D)	213 x 103 x 324 mm (Net) 213 x 116 x 362 mm (Gross)
Net weight	4.5kg
Shipping weight	6.0kg

Note: Gross dimensions include feet, extended buttons and rear panel terminals.

Specifications are subject to change without notice. For updated documentation and features, please log onto www.NADelectronics.com for the latest information about C 715.

SPECIFICATIONS (C715 DAB)

AMPLIFIER SECTION

Power output Stereo Mode	25W (6 ohms within rated distortion, 1kHz)
IHF dynamic power (6 ohms)	28W
Total harmonic distortion at rated power	0.15%
Damping factor (6 ohms)	>102
Input sensitivity and impedance (Tape IN)	370mV/27kΩ
Frequency response	+1 dB/-3dB (Ref. 1 kHz, 10Hz – 80kHz)
Signal/noise ratio,	95dB (Ref. rated power/ 6 ohms A-WTD)
Signal/noise ratio	80dB (Ref. 1W / 6 ohms A-WTD)

TUNER SECTION

AM SECTION

Tuning range	520kHz -1710kHz (North America version, 10kHz steps) 522kHz -1629kHz (Europe version, 9kHz steps)
Usable sensitivity	60dBuV
S/N ratio	40dB
Total Harmonic Distortion	1.5%
Selectivity	25dB
Frequency response	-6dB (Ref. 400Hz, 80Hz – 2.2kHz)

FM SECTION

Tuning range	87.50MHz – 108MHz (50kHz steps)
Usable sensitivity, MONO	10dBuV
S/N Ratio MONO	60dB
S/N Ratio STEREO	55dB
Total Harmonic Distortion, MONO	0.3%
Total Harmonic Distortion, STEREO	0.5%
Frequency response	-3dB (Ref. 1 kHz, 30Hz – 12kHz)
Channel Separation	35dB
RDS decode sensitivity	29dBuV

DAB SECTION

Tuning range	Band III 174MHz – 240MHz
Maximum signal	-3dBm
Sensitivity	-96dBm
Adjacent Channel Rejection	-35dB
Audio Output Stereo	2.5Vp-p
Optical S/PDIF	24 bit sample resolution 48kHz sample rate

CD SECTION

Output level	1.16V
Frequency response (ref. 0dB 1kHz, 20Hz-20kHz)	+1dB
Total harmonic distortion (ref. 1kHz, VIDEO OUT)	0.04%
Signal/Noise ratio (A-weighted, ref. 1kHz VIDEO OUT)	100dB
Channel balance (ref. 0dB 1kHz)	0.5dB
Dynamic range (A-WTD, VIDEO OUT)	82dB
Channel separation	78dB (1kHz) 78dB (10kHz)

PHYSICAL SPECIFICATIONS

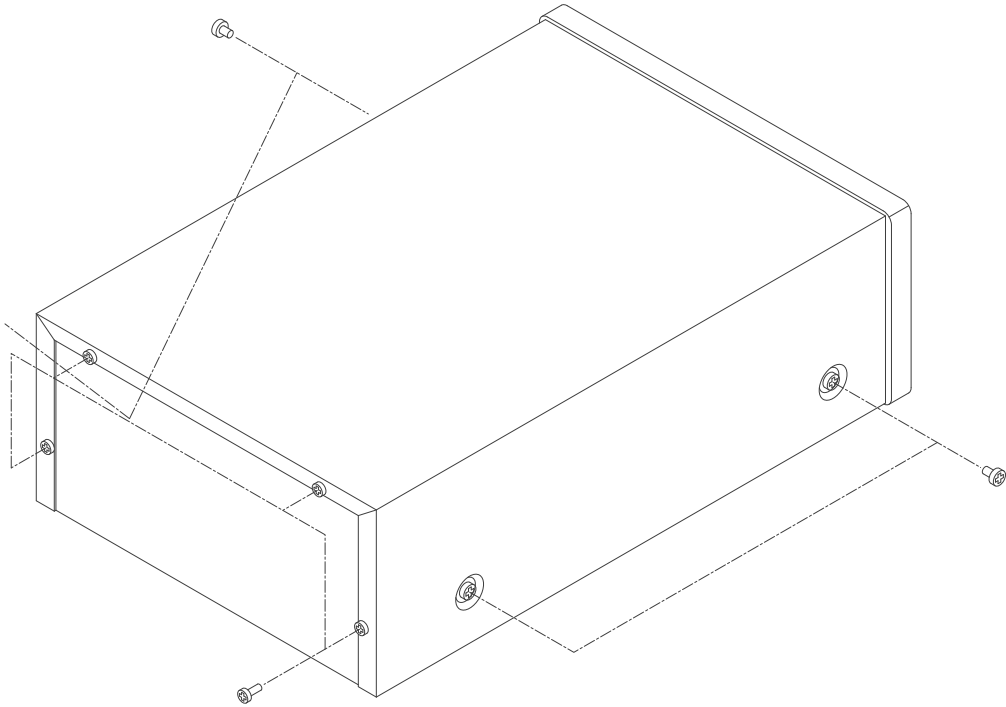
Dimensions (W x H x D)	213 x 103 x 324 mm (Net) 213 x 116 x 362 mm (Gross)
Net weight	4.5kg
Shipping weight	6.0kg

Note: Gross dimensions include feet, extended buttons and rear panel terminals.

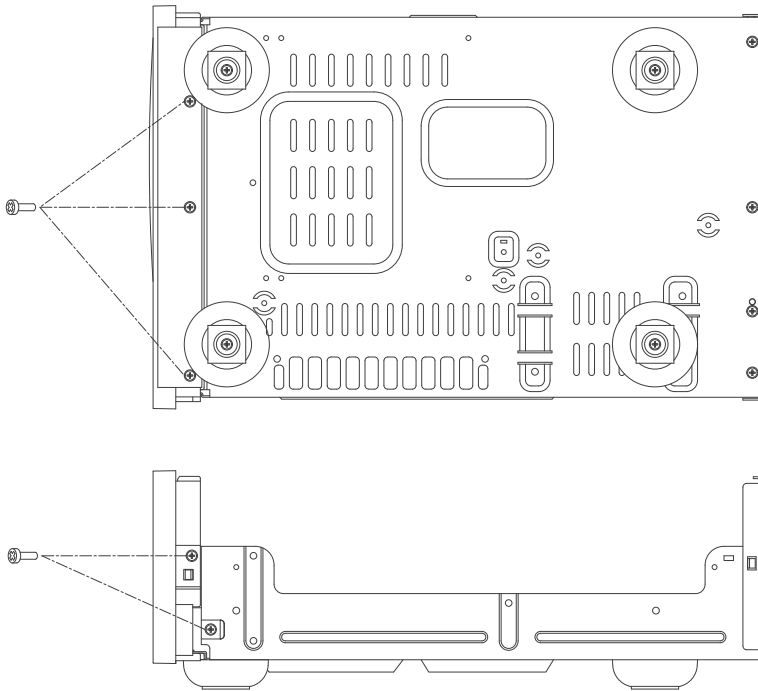
Specifications are subject to change without notice. For updated documentation and features, please log onto www.NADelectronics.com for the latest information about C 715 DAB.

DISASSEMBLY

REMOVAL OF TOP COVER

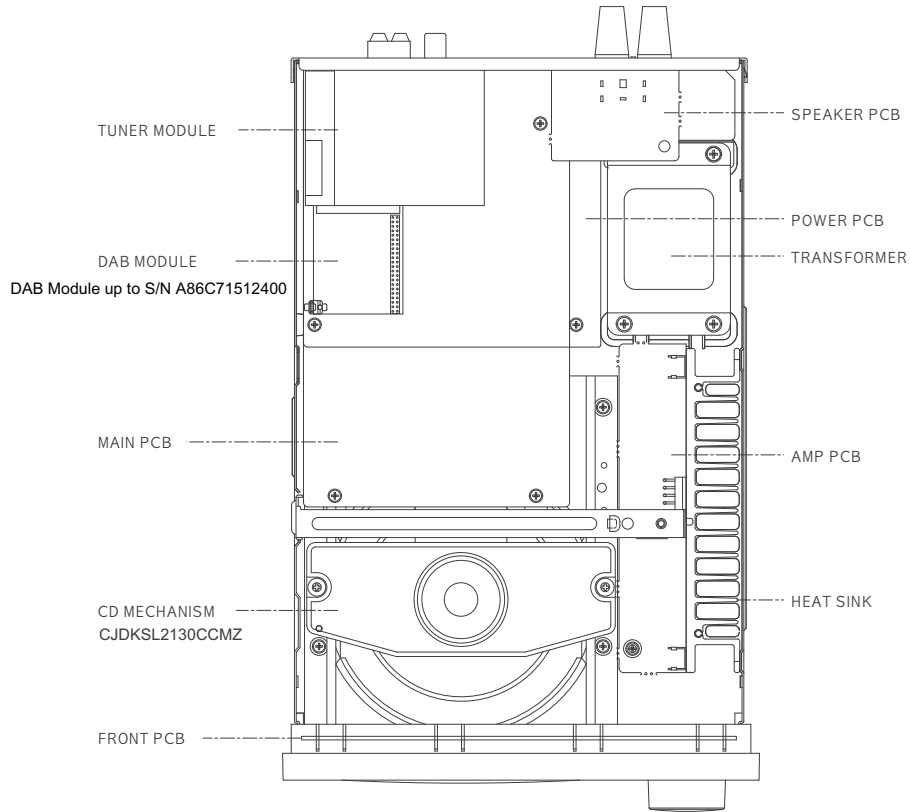


REMOVAL OF FRONT PANEL

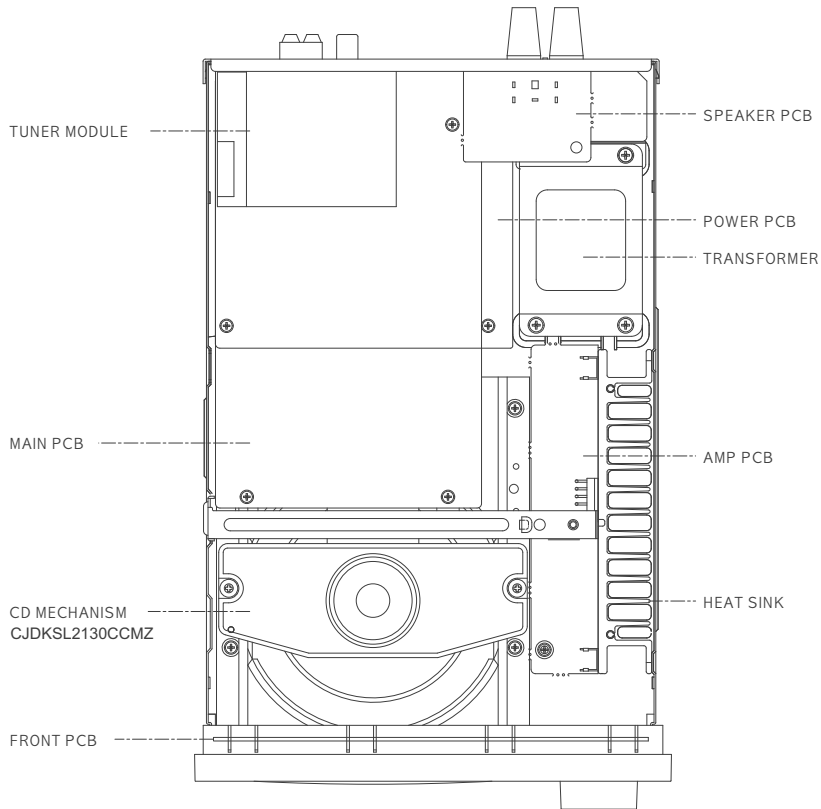


PRINCIPAL PARTS LOCATION

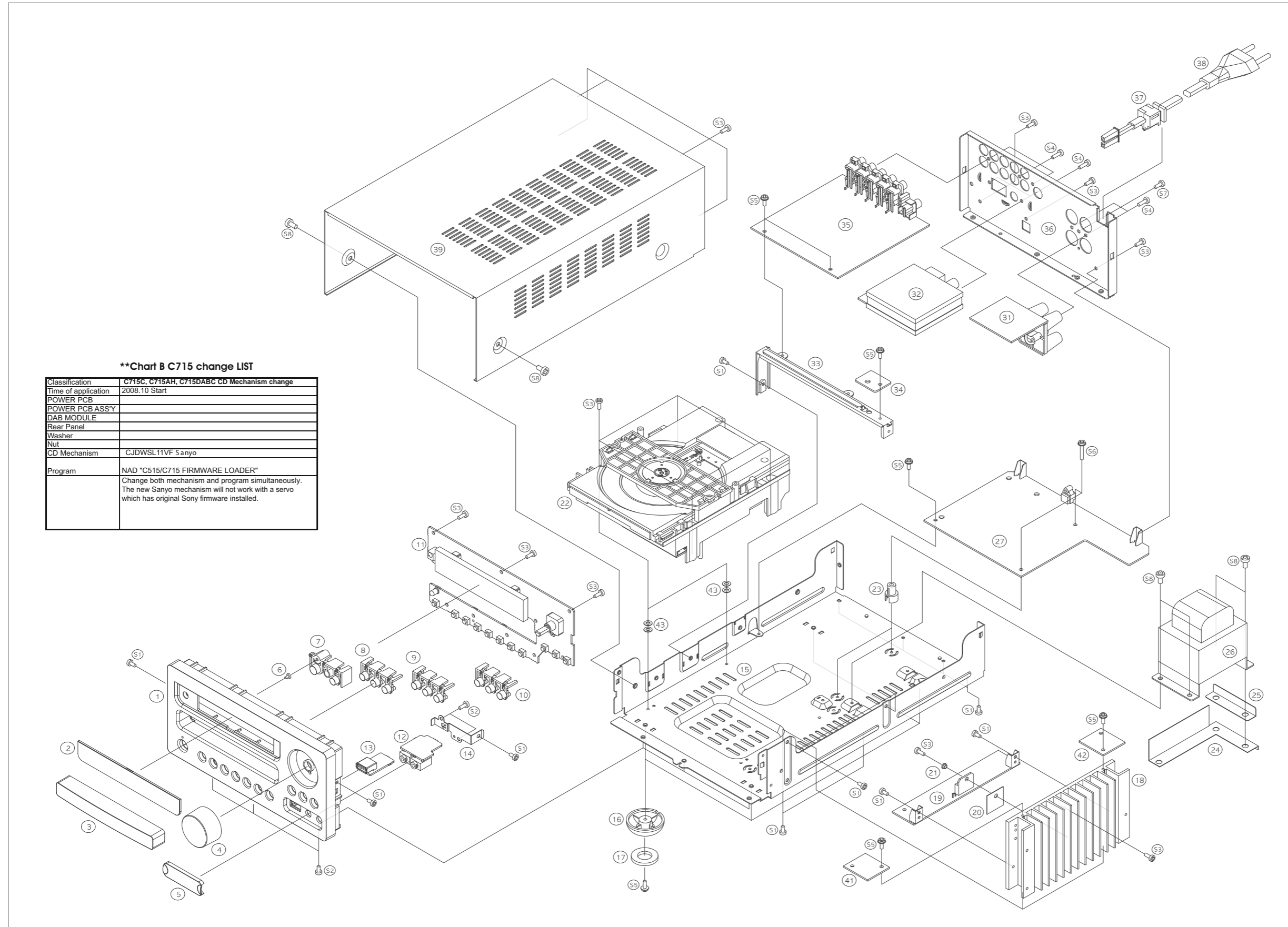
C715DABC



C715AH & C715C



C715AH EXPLODED VIEW (120V North American version)



**Chart B C715 change LIST

Classification	C715C, C715AH, C715DABC CD Mechanism change
Time of application	2008.10 Start
POWER PCB	
POWER PCB ASS'Y	
DAB MODULE	
Rear Panel	
Washer	
Nut	
CD Mechanism	CJDWSL11VF 5 anyo
Program	NAD "C515/C715 FIRMWARE LOADER" Change both mechanism and program simultaneously. The new Sanyo mechanism will not work with a servo which has original Sony firmware installed.

C715AH EXPLODED PART LIST PARTS

NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART
43	CNW2A028	WASHER	4	O.K
42	COP12019D-9	PCB, GUIDE	1	N.A
41	COP12019D-8	PCB, GUIDE	1	N.A
40	CHG1A113	BUBBER	4	O.K
39	CKC1A156B22	CABINET, TOP	1	O.K
38	CJA523FBYA	CORD, POWER	1	O.K
37	KHR1A028	BUSHING, AC CORD	1	O.K
36	CKF1A282MK1	PANEL, REAR	1	O.K
35	COP12018D	MAIN PCB ASS'Y	1	O.K
34	COP12019D-7	PCB, GUIDE	1	N.A
33	CMD1A565	BRACKET, PCB	1	O.K
32	CNVMB014MA08L5	TUNER MODULE USA	1	O.K
31	COP12019D-4	SPEAKER PCB ASS'Y	1	N.A
30				
29				
28				
27	COP12019D-5	POWER PCB ASS'Y	1	O.K
26	CLT5P045ZU	TRANS, POWER	1	O.K
25	CGX1A361	SHEET, HIGH	1	O.K
24	CGX1A406	SHEET, COVER	1	O.K
23	CHE1A030	HOLDER, PCB	2	O.K
22	CJDKSL2130CCMZ	CD Mechanism Sanyo**	1	O.K
21	KMX1A112	BUSHING, TR	1	O.K
20	KMKCM08A	MICA	1	O.K
19	COP12019D-6	AMP PCB ASS'Y	1	N.A
18	CMY1A233	HEAT SINK	1	O.K
17	CHG1A297	CUSHION, FOOT	4	O.K
16	CKL1A086	FOOT	4	O.K
15	CUA1A248	CHASSIS, BOTTOM	1	O.K
14	CMC1A324	BRACKET, JACK	1	O.K
13	COP12019D-1	USB PCB ASS'Y	1	N.A
12	COP12019D-2	PHONE PCB ASS'Y	1	N.A
11	COP12019D-3	FRONT PCB ASS'Y	1	N.A
10	CBT1A1061XB29	KNOB, OPEN	1	O.K
9	CBT1A1061YB29	KNOB, TIME	1	O.K
8	CBT1A1061ZB29	KNOB, BAND	1	O.K
7	CBT1A1060B29	KNOB, POWER	1	O.K
6	CGL1A263	INDICATOR, POWER	1	O.K
5	CGR1A440B29	COVER, JACK	1	O.K
4	CBN1A208B29	KNOB, VOLUME	1	O.K
3	CGR1A433B29	ORNAMENT, DOOR	1	O.K
2	CGU2A406Y	WINDOW, FIP	1	O.K
1	CGW1A442RJZB29	PANEL, FRONT	1	O.K
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

PCB ASS'Y

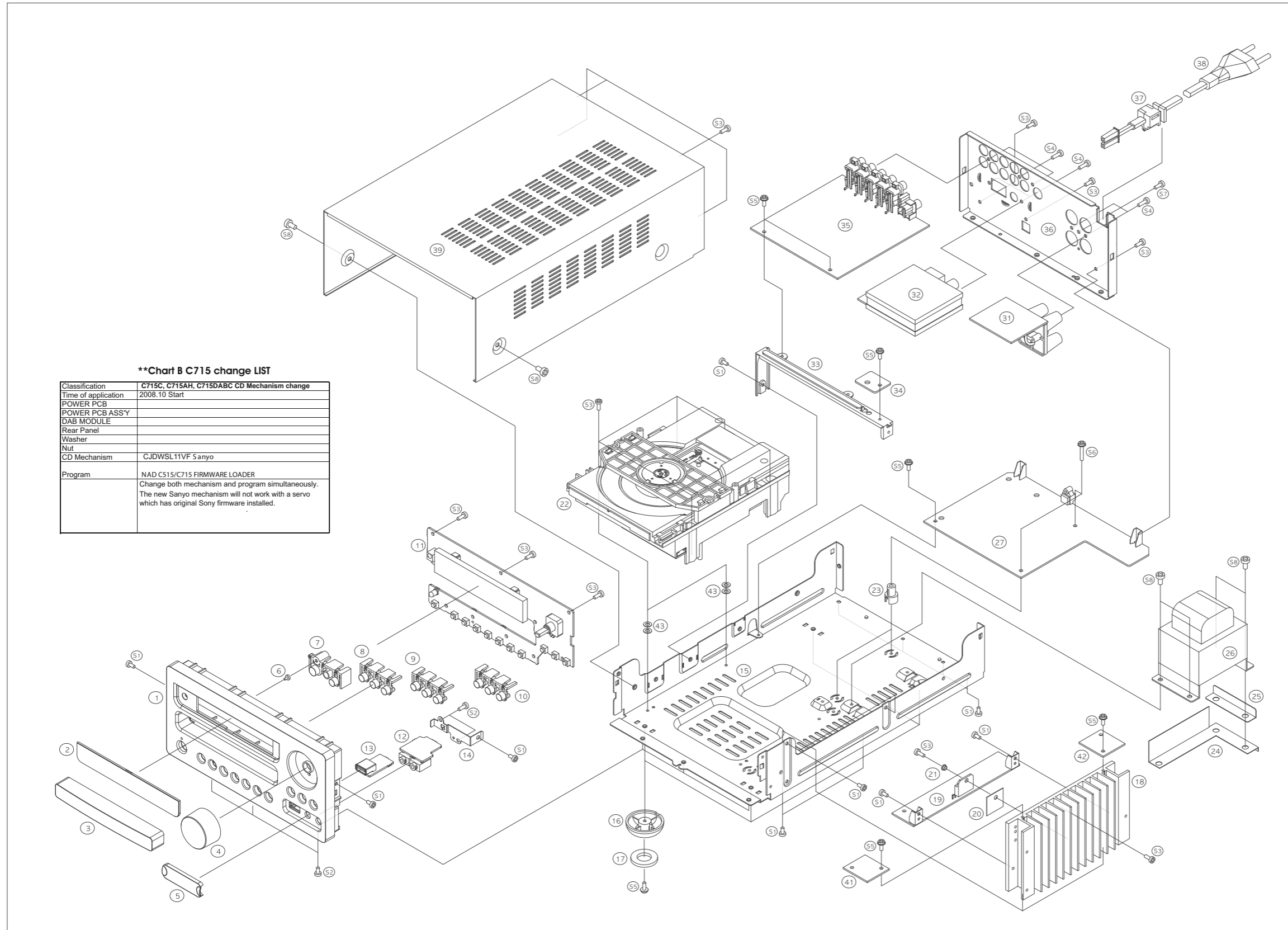
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART
COP12019D	POWER PCB ASS'Y		1	O.K
42	COP12019D-9	PCB, GUIDE	1	N.A
41	COP12019D-8	PCB, GUIDE	1	N.A
34	COP12019D-7	PCB, GUIDE	1	N.A
19	COP12019D-6	AMP PCB ASS'Y	1	N.A
27	COP12019D-5	POWER PCB ASS'Y	1	O.K
31	COP12019D-4	SPEAKER PCB ASS'Y	1	N.A
11	COP12019D-3	FRONT PCB ASS'Y	1	N.A
12	COP12019D-2	PHONE PCB ASS'Y	1	N.A
13	COP12019D-1	USB PCB ASS'Y	1	N.A
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

35	COP12018D	MAIN PCB ASS'Y	1	O.K
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

SCREW

NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART
S8	CTB4+6FFZR	SCREW	6	O.K
S7	CTBD3+8JFZR	SCREW	1	O.K
S6	CTW3+18JR	SCREW	2	O.K
S5	CTW3+8JR	SCREW	10	O.K
S4	CTB3+10JFZR	SCREW	7	O.K
S3	CTB3+8JFZR	SCREW	27	O.K
S2	CTB3+6FFZR	SCREW	3	O.K
S1	CTB3+6JR	SCREW	11	O.K
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

C715C EXPLODED VIEW (230V European version without DAB receiver)



****Chart B C715 change LIST**

Classification	C715C, C715AH, C715DABC CD Mechanism change
Time of application	2008.10 Start
POWER PCB	
POWER PCB ASS'Y	
DAB MODULE	
Rear Panel	
Washer	
Nut	
CD Mechanism	CJDWSL11VF Sanyo
Program	NAD C515/C715 FIRMWARE LOADER Change both mechanism and program simultaneously. The new Sanyo mechanism will not work with a servo which has original Sony firmware installed.

C715C EXPLODED PART LIST

PARTS

NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART
43	CNW2A028	WASHER	4	O.K
42	COP12019C-9	PCB, GUIDE	1	N.A
41	COP12019C-8	PCB, GUIDE	1	N.A
40	CHG1A113	BUBBER	4	O.K
39	CKC1A156B22	CABINET, TOP	1	O.K
38	CJA2B043ZA	CORD, POWER	1	O.K
37	KHR1A028	BUSHING, AC CORD	1	O.K
36	CKF1A2820K1	PANEL, REAR	1	O.K
35	COP12018C	MAIN PCB ASS'Y	1	O.K
34	COP12019C-7	PCB, GUIDE	1	N.A
33	CMD1A565	BRACKET, PCB	1	O.K
32	CNVMB144MA18L	TUNER MODULE USA	1	O.K
31	COP12019C-4	SPEAKER PCB ASS'Y	1	N.A
30				
29				
28				
27	COP12019C-5	POWER PCB ASS'Y	1	O.K
26	CLT5P045ZE	TRANS, POWER	1	O.K
25	CGX1A361	SHEET, HIGH	1	O.K
24	CGX1A406	SHEET, COVER	1	O.K
23	CHE1A030	HOLDER, PCB	2	O.K
22	CJDKSL2130CCMZ	CD Mechanism Sony**	1	O.K
21	KMX1A112	BUSHING, TR	1	O.K
20	KMKCM08A	MICA	1	O.K
19	COP12019C-6	AMP PCB ASS'Y	1	N.A
18	CMY1A233	HEAT SINK	1	O.K
17	CHG1A297	CUSHION, FOOT	4	O.K
16	CKL1A086	FOOT	4	O.K
15	CUA1A248	CHASSIS, BOTTOM	1	O.K
14	CMC1A324	BRACKET, JACK	1	O.K
13	COP12019C-1	USB PCB ASS'Y	1	N.A
12	COP12019C-2	PHONE PCB ASS'Y	1	N.A
11	COP12019C-3	FRONT PCB ASS'Y	1	N.A
10	CBT1A1061XB29	KNOB, OPEN	1	O.K
9	CBT1A1061YB29	KNOB, TIME	1	O.K
8	CBT1A1061ZB29	KNOB, BAND	1	O.K
7	CBT1A1060B29	KNOB, POWER	1	O.K
6	CGL1A263	INDICATOR, POWER	1	O.K
5	CGR1A440B29	COVER, JACK	1	O.K
4	CBN1A208B29	KNOB, VOLUME	1	O.K
3	CGR1A433B29	ORNAMENT, DOOR	1	O.K
2	CGU2A406Y	WINDOW, FIP	1	O.K
1	CGW1A442R1ZB29	PANEL, FRONT	1	O.K
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

PCB ASS'Y

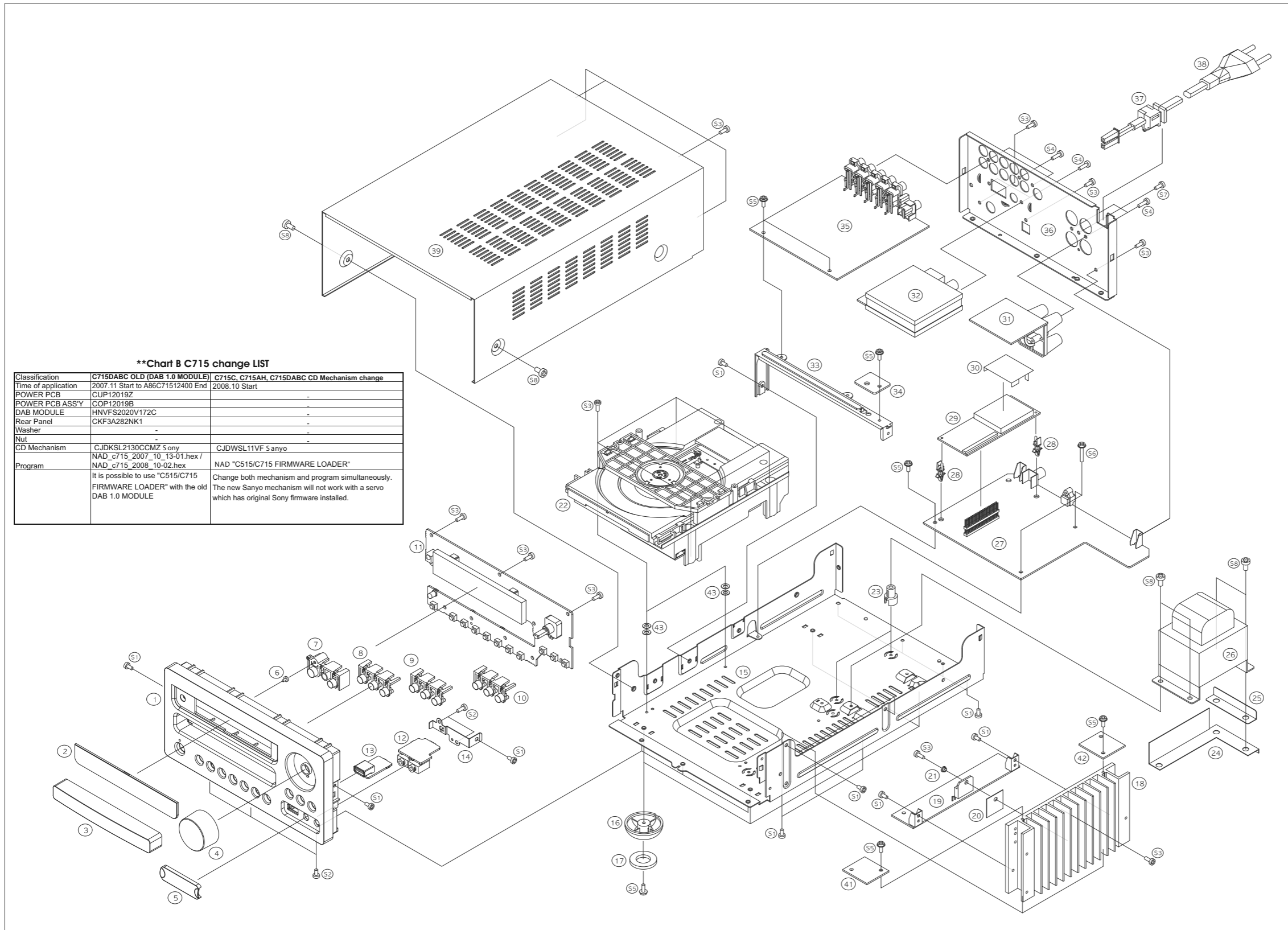
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART
	COP12019C	POWER PCB ASS'Y	1	O.K
42	COP12019C-9	PCB, GUIDE	1	N.A
41	COP12019C-8	PCB, GUIDE	1	N.A
34	COP12019C-7	PCB, GUIDE	1	N.A
19	COP12019C-6	AMP PCB ASS'Y	1	N.A
27	COP12019C-5	POWER PCB ASS'Y	1	O.K
31	COP12019C-4	SPEAKER PCB ASS'Y	1	N.A
11	COP12019C-3	FRONT PCB ASS'Y	1	N.A
12	COP12019C-2	PHONE PCB ASS'Y	1	N.A
13	COP12019C-1	USB PCB ASS'Y	1	N.A
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART
35	COP12018C	MAIN PCB ASS'Y	1	O.K
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

SCREW

NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART
S8	CTB4+6FFZR	SCREW	6	O.K
S7	CTBD3+8JFZR	SCREW	1	O.K
S6	CTW3+18JR	SCREW	2	O.K
S5	CTW3+8JR	SCREW	10	O.K
S4	CTB3+10JFZR	SCREW	7	O.K
S3	CTB3+8JFZR	SCREW	27	O.K
S2	CTB3+6FFZR	SCREW	3	O.K
S1	CTB3+6JR	SCREW	11	O.K
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

C715DABC EXPLODED VIEW (230V European version with DAB receiver)



****Chart B C715 change LIST**

Classification	C715DABC OLD (DAB 1.0 MODULE)	C715C, C715AH, C715DABC CD Mechanism change
Time of application	2007.11 Start to A86C71512400 End	2008.10 Start
POWER PCB	CUP12019Z	-
POWER PCB ASS'Y	COP12019B	-
DAB MODULE	HNVFS2020V172C	-
Rear Panel	CKF3A282NK1	-
Washer	-	-
Nut	-	-
CD Mechanism	CJDKSL2130CCMZ 5ony	CJDWSL11VF 5anyo
Program	NAD_c715_2007_10_13-01.hex / NAD_c715_2008_10-02.hex	NAD "C515/C715 FIRMWARE LOADER"
	It is possible to use "C515/C715 FIRMWARE LOADER" with the old DAB 1.0 MODULE	
	Change both mechanism and program simultaneously. The new Sanyo mechanism will not work with a servo which has original Sony firmware installed.	

C715DABC EXPLODED PART LIST

PARTS

NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART
43	CNW2A028	WASHER	4	O.K
42	COP12019B-9	PCB, GUIDE	1	N.A
41	COP12019B-8	PCB, GUIDE	1	N.A
40	CHG1A113	BUBBER	4	O.K
39	CKC1A156B22	CABINET, TOP	1	O.K
38	CJA2B043ZA	CORD, POWER	1	O.K
37	KHR1A028	BUSHING, AC CORD	1	O.K
36	CKF3A282NK1	PANEL, REAR	1	O.K
35	COP12018B	MAIN PCB ASS'Y	1	O.K
34	COP12019B-7	PCB, GUIDE	1	N.A
33	CMD1A565	BRACKET, PCB	1	O.K
32	CNVMB114MA18L	TUNER MODULE(EUR)	1	O.K
31	COP12019B-4	SPEAKER PCB ASS'Y	1	N.A
30	CMC1A253	PLATE, EARTH	1	O.K
29	HNVFS2020V172C	DAB MODULE W/O F-Connector	1	See chart B
28	CMH1A226	BRACKET, PCB	2	O.K
27	COP12019B-5	POWER PCB ASS'Y	1	O.K
26	CLT5P045ZE	TRANS, POWER	1	O.K
25	CGX1A361	SHEET, HIGH	1	O.K
24	CGX1A406	SHEET, COVER	1	O.K
23	CHE1A030	HOLDER, PCB	2	O.K
22	CJDKSL2130CCMZ	CD Mechanism Sony **	1	See chart B
21	KMX1A112	BUSHING, TR	1	O.K
20	KMKCM08A	MICA	1	O.K
19	COP12019B-6	AMP PCB ASS'Y	1	N.A
18	CMY1A233	HEAT SINK	1	O.K
17	CHG1A297	CUSHION, FOOT	4	O.K
16	CKL1A086	FOOT	4	O.K
15	CUA1A248	CHASSIS, BOTTOM	1	O.K
14	CMC1A324	BRACKET, JACK	1	O.K
13	COP12019B-1	USB PCB ASS'Y	1	N.A
12	COP12019B-2	PHONE PCB ASS'Y	1	N.A
11	COP12019B-3	FRONT PCB ASS'Y	1	N.A
10	CBT1A1061XB29	KNOB, OPEN	1	O.K
9	CBT1A1061YB29	KNOB, TIME	1	O.K
8	CBT1A1061ZB29	KNOB, BAND	1	O.K
7	CBT1A1060B29	KNOB, POWER	1	O.K
6	CGL1A263	INDICATOR, POWER	1	O.K
5	CGR1A440B29	COVER, JACK	1	O.K
4	CBN1A208B29	KNOB, VOLUME	1	O.K
3	CGR1A433B29	ORNAMENT, DOOR	1	O.K
2	CGU2A406Y	WINDOW, FIP	1	O.K
1	CGW1A442RJYB29	PANEL, FRONT	1	O.K
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

PCB ASS'Y

NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART
COP12019B	POWER PCB ASS'Y	1	O.K	
42	COP12019B-9	PCB, GUIDE	1	N.A
41	COP12019B-8	PCB, GUIDE	1	N.A
34	COP12019B-7	PCB, GUIDE	1	N.A
19	COP12019B-6	AMP PCB ASS'Y	1	N.A
27	COP12019B-5	POWER PCB ASS'Y	1	O.K
31	COP12019B-4	SPEAKER PCB ASS'Y	1	N.A
11	COP12019B-3	FRONT PCB ASS'Y	1	N.A
12	COP12019B-2	PHONE PCB ASS'Y	1	N.A
13	COP12019B-1	USB PCB ASS'Y	1	N.A
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

35	COP12018B	MAIN PCB ASS'Y	1	O.K
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

SCREW

S8	CTB4+6FFZR	SCREW	6	O.K
S7	CTBD3+8JFZR	SCREW	1	O.K
S6	CTW3+18JR	SCREW	2	O.K
S5	CTW3+8JR	SCREW	10	O.K
S4	CTB3+10JFZR	SCREW	7	O.K
S3	CTB3+8JFZR	SCREW	27	O.K
S2	CTB3+6FFZR	SCREW	3	O.K
S1	CTB3+6JR	SCREW	11	O.K
NO.	PARTS NO.	DESCRIPTION	QTY	A/S PART

SECTION 2

ELECTRICAL CONTENTS

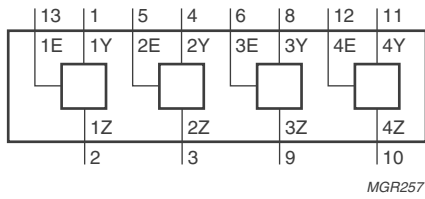
CONTENTS

IC BLOCK DIAGRAMS & PIN DESCRIPTION	2-2
ELECTRICAL TROUBLESHOOTING GUIDE.....	2-35
DIAGRAMS	
1. BLOCK DIAGRAM	2-39
2. WIRING DIAGRAM	2-41
3. SCHEMATIC DIAGRAM	2-43
4. PRINTED CIRCUIT BOARDS	2-47

IC BLOCK DIAGRAMS & PIN DESCRIPTION

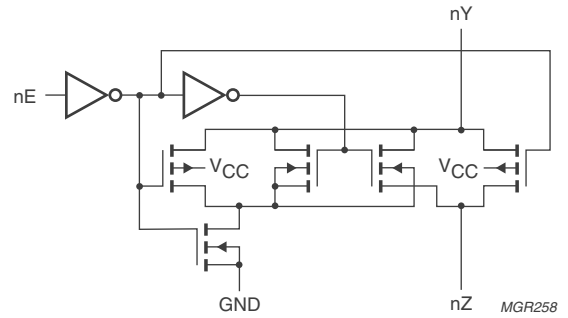
74HC4066D

Quad bilateral switch



MGR257

Fig.5 Functional diagram.

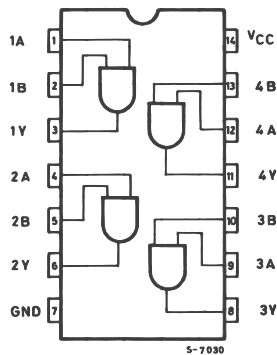


MGR258

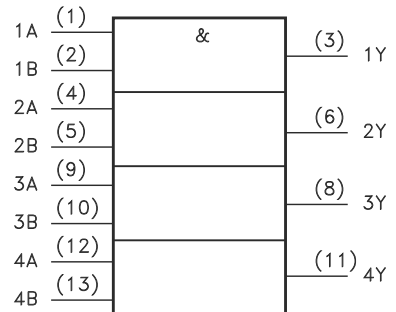
Fig.6 Schematic diagram (one switch).

74VHC08TTR

PIN CONNECTION AND IEC LOGIC SYMBOLS

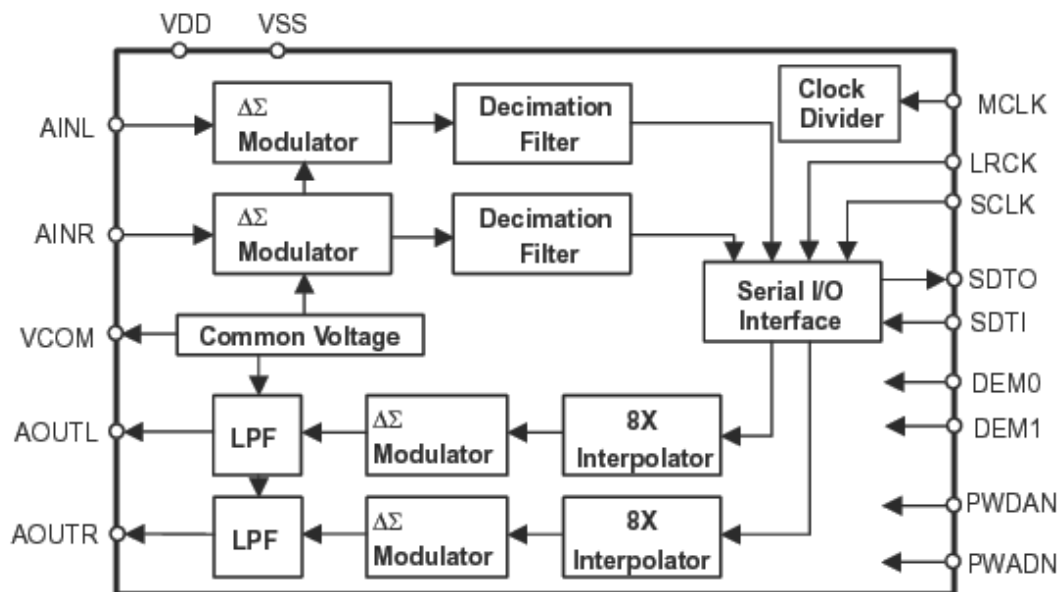


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LC10970

AK4554

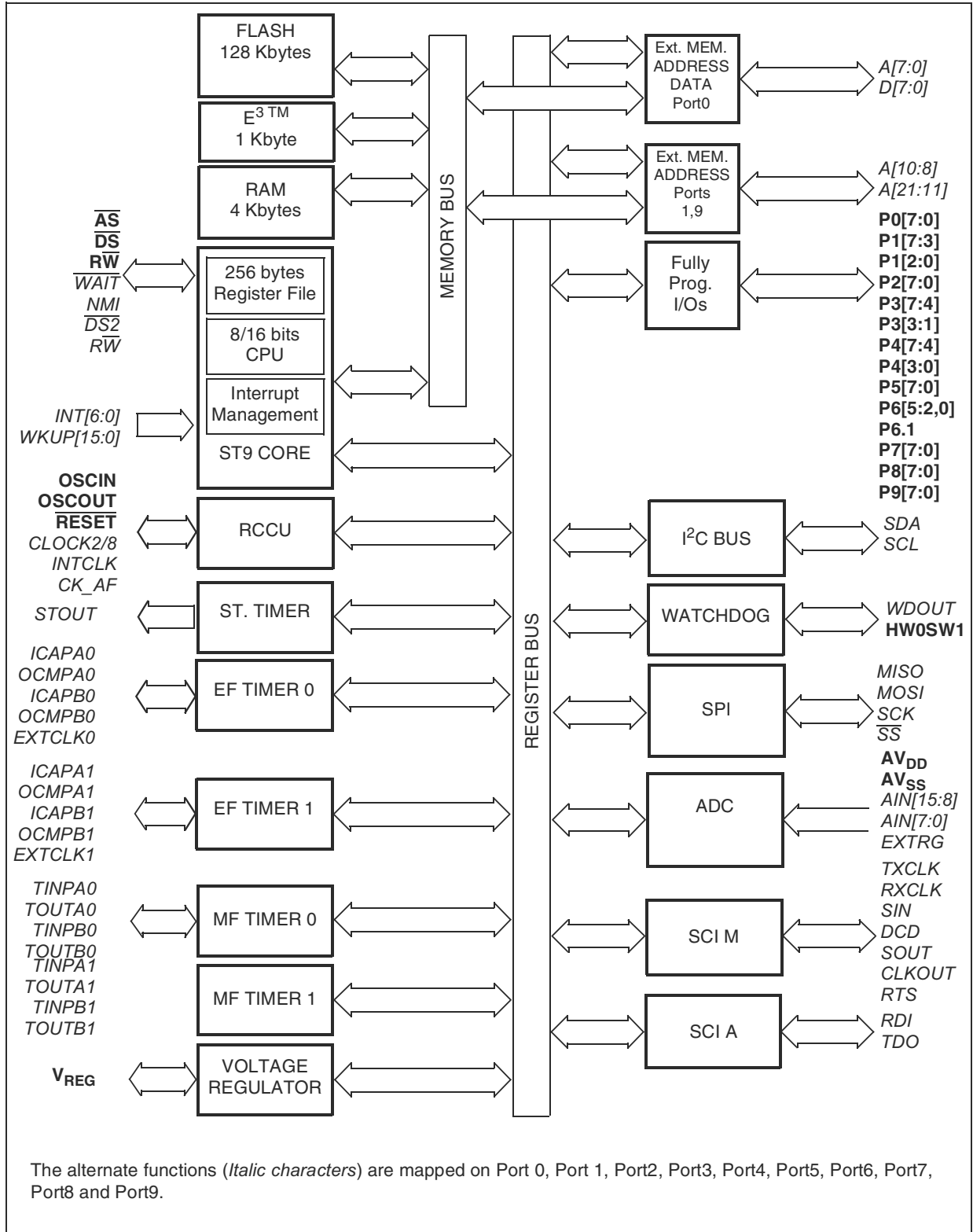


PIN/FUNCTION			
No.	Pin Name	I/O	Function
1	VCOM	O	Common Voltage Output Pin, 0.5 x VDD
2	AINR	I	Rch Analog Input Pin
3	AINL	I	Lch Analog Input Pin
4	VSS	-	Ground Pin
5	VDD	-	Power Supply Pin
6	DEM0	I	De-emphasis Control Pin
7	DEM1	I	De-emphasis Control Pin
8	SDTO	O	Audio Serial Data Output Pin
9	SDTI	I	Audio Serial Data Input Pin
10	LRCK	I	Input/Output Channel Clock Pin
11	MCLK	I	Master Clock Input Pin
12	SCLK	I	Audio Serial Data Clock Pin
13	PWADN	I	ADC Power-Down & Reset Mode Pin “L”: Power down. ADC should always be reset upon power-up.
14	PWDAN	I	DAC Power-Down & Reset Mode Pin “L”: Power down. DAC should always be reset upon power-up.
15	AOUTL	O	Lch Analog Output Pin
16	AOUTR	O	Rch Analog Output Pin

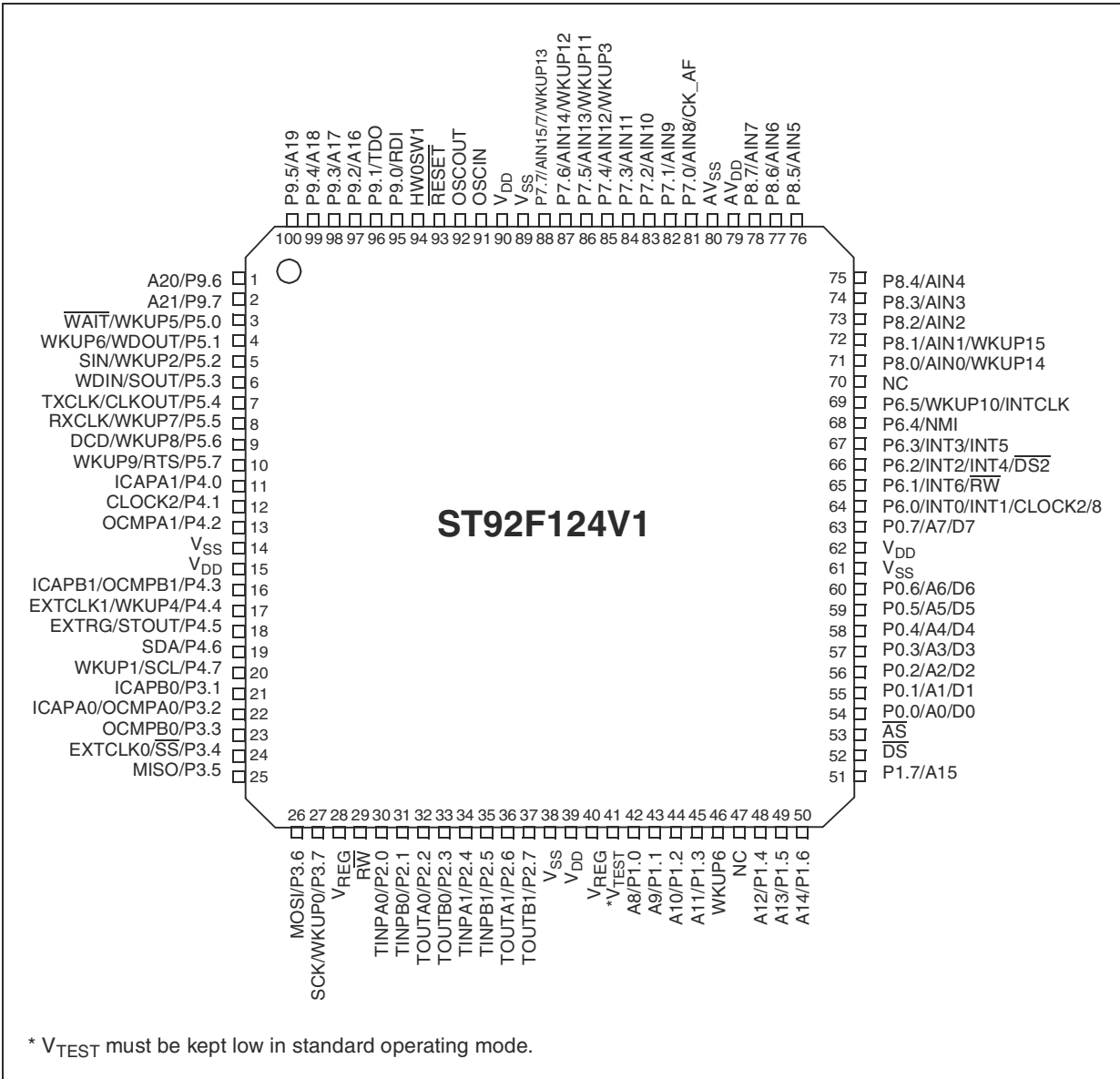
Note: All input pins except analog input pins (AINR and AINL) should not be left floating.

ST92F124V

ST92F124V1: Architectural Block Diagram



ST92F124V1: Pin Configuration (Top-view TQFP100)



pin No	Port Name	I/O	use	Name	Note
1	A20/P9.6	I/O	O	VFD-CE	VFD chip enable pin
2	A21/P9.7	I/O		NC	
3	WAIT/WKUP5/P5.0	I/O	I	DAB-DI	DAB data in
4	WKUP6/WDOOUT/P5.1	I/O	I/O	DAB-CLK	DAB clock
5	SIN/WKUP2/P5.2	I/O	I/O	DAB-DO	DAB data out/update port
6	WDIN/SOUT/P5.3	I/O	I	DAB-ON	update port
7	TXCLK/CLKOUT/P5.4	I/O	I		update port
8	RXCLK/WKUP7/P5.5	I/O	I/O	STANBY	Standby LED on (active "H")/update port
9	DCD/WKUP8/P5.6	I/O	O	F-MUTE	System mute (active "H")
10	WKUP9/RTS/P5.7	I/O	O	TCC-CE	TCC760 chip enable(USB host I.C)
11	ICAPA1/P4.0	I/O	I	Option	FM frequency step (low : 50kHz, high : 100 kHz)
12	CLOCK2/P4.1	I/O	I	Option	AM frequency step (low : 10kHz, high : 9kHz)
13	OCMPA1/P4.2	I/O	I	Option	RDS on,off (low : off, high : on)
14	VSS			GND	GND
15	VDD			VDD	+5V
16	ICAPB1/OCMPB1/P4.3	I/O	I	Option	Real time mode(low : 12 hours, high : 24 hours)
17	EXTCLK1/WKUP4/P4.4	I/O	I/O	R/T SDA	Real time i.c serial data
18	EXTRG/STOUT/P4.5	I/O	I/O	R/T SCL	Real time i.c serial clock
19	SDA/P4.6	I/O	I	R/T IRQ	Real time i.c interrupt output
20	WKUP1/SCL/P4.7	I/O	O	F-STB	Function i.c strobe output
21	ICAPB0/P3.1	I/O	I	Option	DAB on,off (low : off, high : on)
22	ICAPA0/OCMPA0/P3.2	I/O	I	Option	RESERVED
23	OCMPB0/P3.3	I/O	O	TCC-RST	TCC760 i.c reset(USB host I.C), active"L"
24	EXTCLK0/SS/P3.4	I/O	I	GND	GND
25	MISO/P3.5	I/O	O	TCC-DI	TCC760 i.c data in
26	MOSI/P3.6	I/O	I	TCC-DO	TCC760 i.c data out
27	SCK/WKUP0/P3.7	I/O	I/O	TCC-SCLK	TCC760 i.c serial clock
28	VREG			VREG	Stabilization capacitor(s) for internal voltage regulator
29	RW			NC	
30	TINPA0/P2.0	I/O	I	PROTECT	Protect in, active "L"
31	TINPB0/P2.1	I/O	O	SP-ON	Speaker on, active "H"
32	TOUTA0/P2.2	I/O	I	H/P-IN	Headphone in, active "L"
33	TOUTB0/P2.3	I/O		NC	
34	TINPA1/P2.4	I/O	O	T-MUTE	Tuner mute, active "H"
35	TINPB1/P2.5	I/O	O	V-CLK	VFD clock pin
36	TOUTA1/P2.6	I/O	O	V-DATA	VFD serial data
37	TOUTB1/P2.7	I/O	I	BACK-UP	Back-up, active "L"
38	VSS			GND	GND
39	VDD			VDD	+5V
40	VREG			VREG	Stabilization capacitor(s) for internal voltage regulator
41	VTEST			GND	Must be kept low in standard operating mode
42	A8/P1.0	I/O	O	CD-OPEN-M	CD open motor pin
43	A9/P1.1	I/O		NC	
44	A10/P1.2	I/O	O	CD-CCE	communication chip enable with CD DSP
45	A11/P1.3	I/O	O	CD-BUCK	communication clock with CD DSP
46	WKUP6			NC	
47	NC			NC	
48	A12/P1.4	I/O		NC	
49	A13/P1.5	I/O	O	CD-POWER	optical out change of DAB and CD
50	A14/P1.6	I/O	O	MT-STBY	Motor drive i.c standby pin
51	P1.7/A15	I/O	O	CD-RST	CD dsp reset pin
52	DS			NC	
53	AS			NC	
54	P0.0/A0/D0	I/O	I/O	CD-BUS0	receive data or send command for CD DSP
55	P0.1/A1/D1	I/O	I/O	CD-BUS1	receive data or send command for CD DSP
56	P0.2/A2/D2	I/O	I/O	CD-BUS2	receive data or send command for CD DSP
57	P0.3/A3/D3	I/O	I/O	CD-BUS3	receive data or send command for CD DSP
58	P0.4/A4/D4	I/O	I	CD-OPEN-SW	CD open switch pin
59	P0.5/A5/D5	I/O	I	CD-CLOSE-SW	CD close switch pin
60	P0.6/A6/D6	I/O	I	CD-LIMIT-SW	CD inner switch pin
61	VSS			GND	GND
62	VDD			VDD	+5V
63	P0.7/A7/D7	I/O	O	CD-CLOSE-M	CD close motor pin
64	P6.0/INT0/INT1/CLOCK2/8	I/O		NC	
65	P6.1/INT6/RW	I/O	I	REMOTE	Remote in pin
66	P6.2/INT2/INT4/DS2	I/O	I	RDS-CLK	RDS serial clock
67	P6.3/INT3/INT5	I/O	I	MP3-REQ	Request pin for MP3 DSP
68	P6.4/NMI	I/O	O	MP3-STBY	1Mb sram standby pin
69	P6.5/WKUP10/INTCLK	I/O		NC	
70	NC			NC	
71	P8.0/AIN0/WKUP14	I/O	I	KEY2	Key input 2
72	P8.1/AIN1/WKUP15	I/O	I	KEY1	Key input 1

73	P8.2/AIN2	I/O		NC	
74	P8.3/AIN3	I/O	I	JOG1	Volume encoder in +
75	P8.4/AIN4	I/O	I	JOG2	Volume encoder in -
76	P8.5/AIN5	I/O		NC	
77	P8.6/AIN6	I/O		NC	
78	P8.7/AIN7	I/O		NC	
79	AVDD			VDD	+5V
80	AVSS			GND	GND
81	P7.0/AIN8/CK_AF	I/O	O	POWER-H	Power on pin, active "H"
82	P7.1/AIN9	I/O	O	P/F-DATA	Tuner and function i.c serial data
83	P7.2/AIN10	I/O	O	P/F-CLK	Tuner and function i.c serial clock
84	P7.3/AIN11	I/O	I	PLL-DI	Tuner data in pin
85	P7.4/AIN12/WKUP3	I/O	O	PLL-CE	Tuner enable pin
86	P7.5/AIN13/WKUP11	I/O	I	TUNED-IN	Tuned in pin, active"L"
87	P7.6/AIN14/WKUP12	I/O	I	STEREO-IN	Stereo in pin, active"L"
88	P7.7/AIN15/WKUP13	I/O	I	RDS-DATA	RDS serial data
89	VSS			GND	GND
90	VDD			VDD	+5V
91	OSCIN	I	I	OSCIN	Oscillator in
92	OSCOU	O	O	OSCOU	Oscillator out
93	RESET	I	I	RESET	Reset, active "L"
94	HW0SW1	I	I	HW0SW1	watchdog HW/SW enabling selection, active "H"
95	P9.0/RDI	I/O		NC	
96	P9.1/TDO	I/O		NC	
97	P9.2/A16	I/O		NC	
98	P9.3/A17	I/O	O	VFD-DI	VFD serial data out
99	P9.4/A18	I/O	O	VFD-CLK	VFD serial clock out
100	P9.5/A19	I/O	O	VFD-RST	VFD reset, active "L"

FS2020 (Venice) HW Spec 1.2

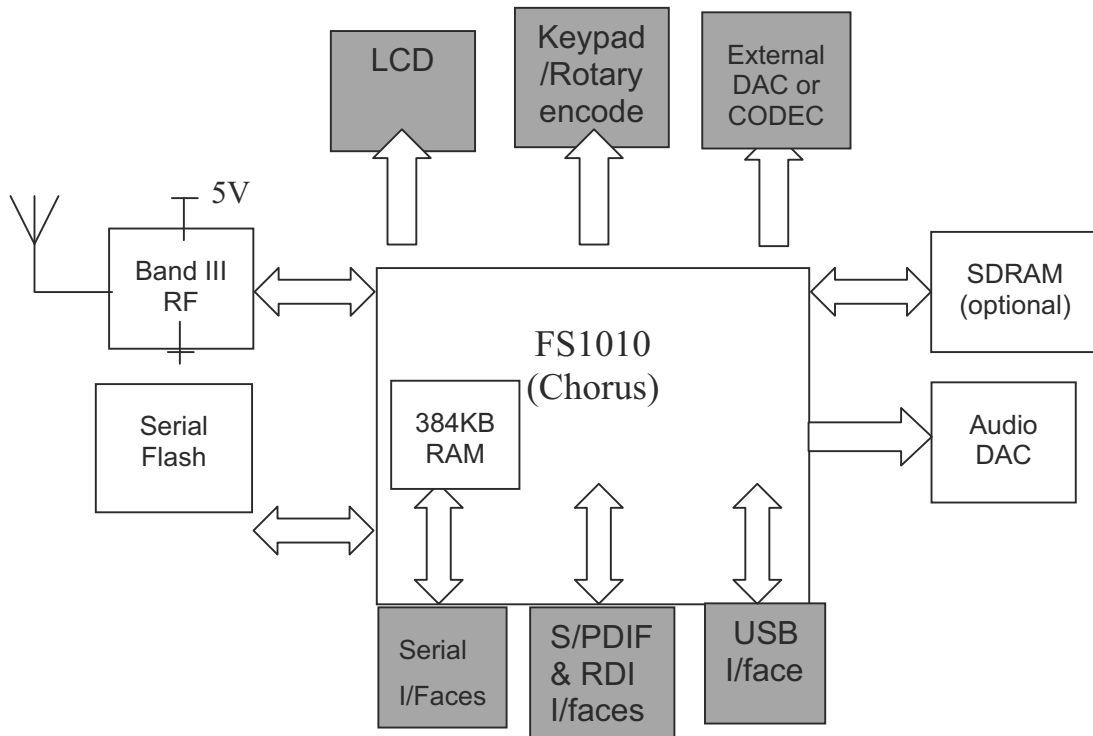


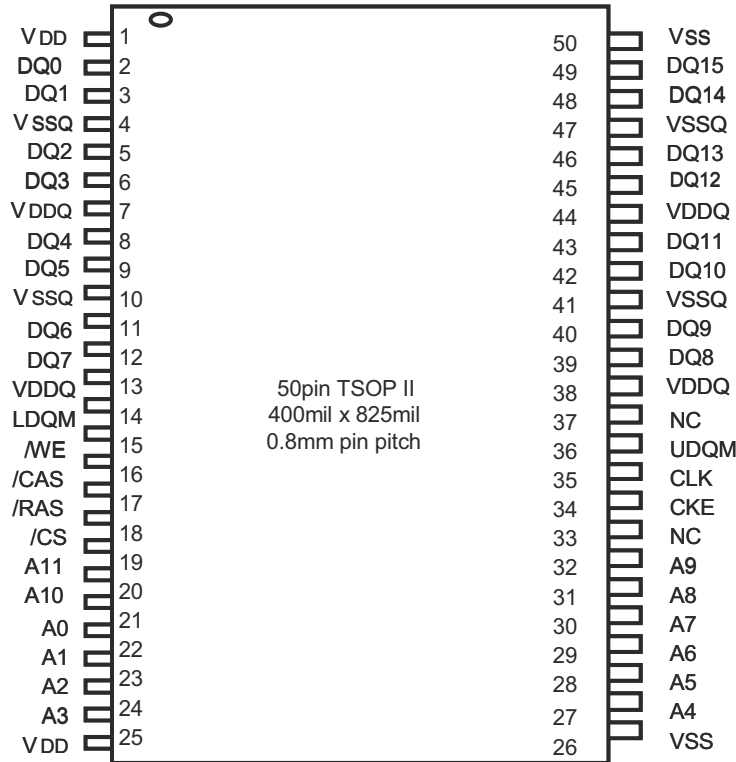
Figure 1 - Venice module block diagram (functions in white are on board, in grey are external)

The pin-out for CN1 is as follows:

Pin	Description	Pin	Description
1	5V	23	AUD_SCLK
2	5V	24	AUD_MCLK
3	Audio Left Out	25	LCD DAT 0
4	Audio Ground	26	LCD DAT 1
5	Audio Right Out	27	LCD DAT 2
6	GND	28	LCD DAT 3
7	GND	29	LCD DAT 4
8	USB DM	30	LCD DAT 5
9	USB DP	31	LCD DAT 6
10	GND	32	LCD DAT 7
11	GND	33	LCD_F
12	SPDIF Out	34	LCD_LRS
13	GND	35	LCD_M
14	GND	36	LCD_PE
15	S1_DIN	37	SPDIF In
16	S1_DOUT	38	RDI Out
17	3.3V	39	SCP_CLK
18	3.3V	40	SCP_DAT
19	3.3V	41	PDM Out
20	GND	42	AUD_SDOUT1
21	AUD_SFR	43	AUD_SDOUT2
22	AUD_SDOU0	44	AUD_SDIN

HY57V161610ET

PIN CONFIGURATION

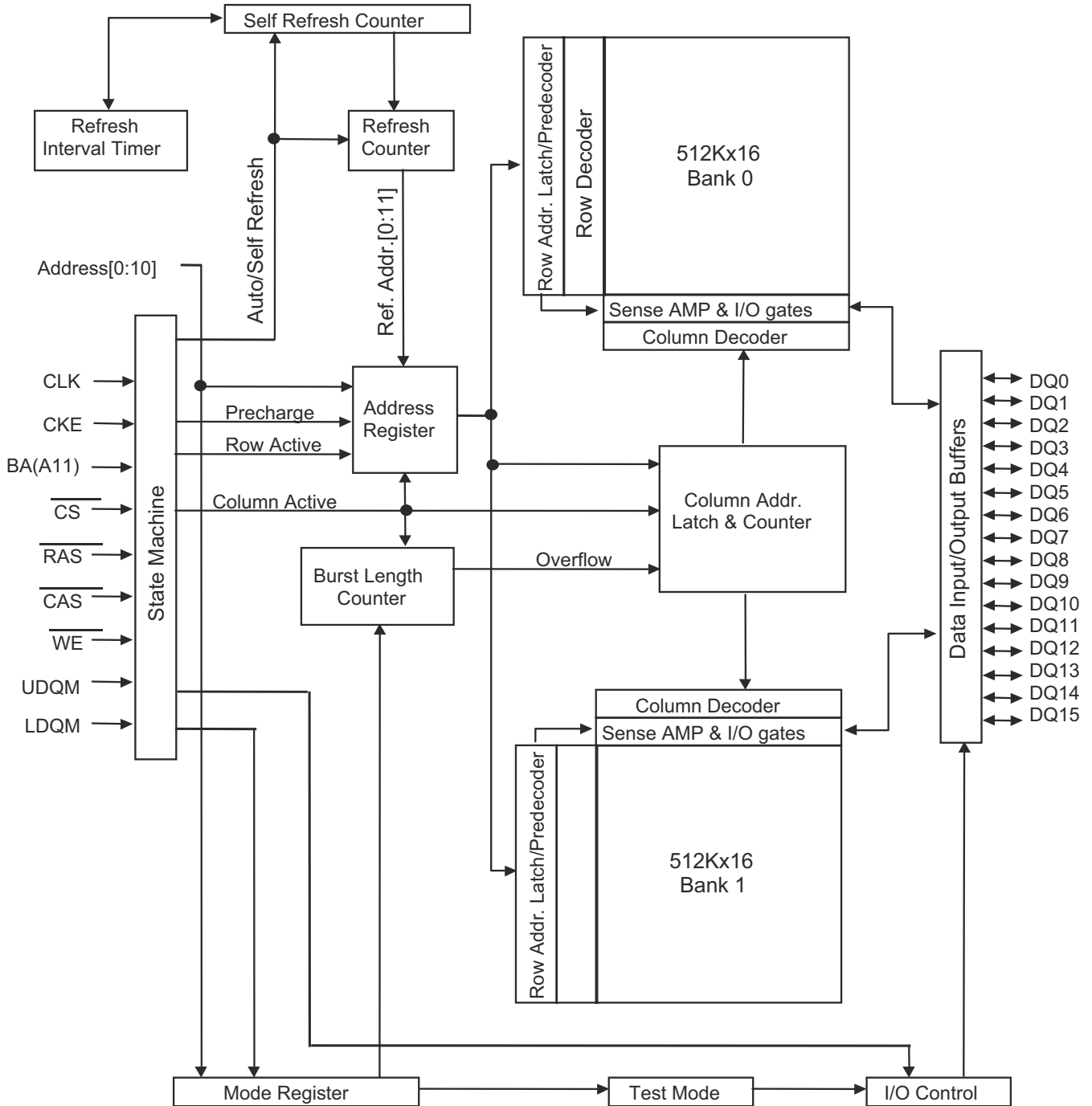


PIN DESCRIPTION

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{CS}	Chip Select	Command input enable or mask except CLK, CKE and DQM
BA	Bank Address	Select either one of banks during both \overline{RAS} and \overline{CAS} activity.
A0 ~ A10	Address	Row Address : RA0 ~ RA10, Column Address : CA0 ~ CA7 Auto-precharge flag : A10
\overline{RAS} , \overline{CAS} , \overline{WE}	Row Address Strobe, Column Address Strobe, Write Enable	\overline{RAS} , \overline{CAS} and \overline{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

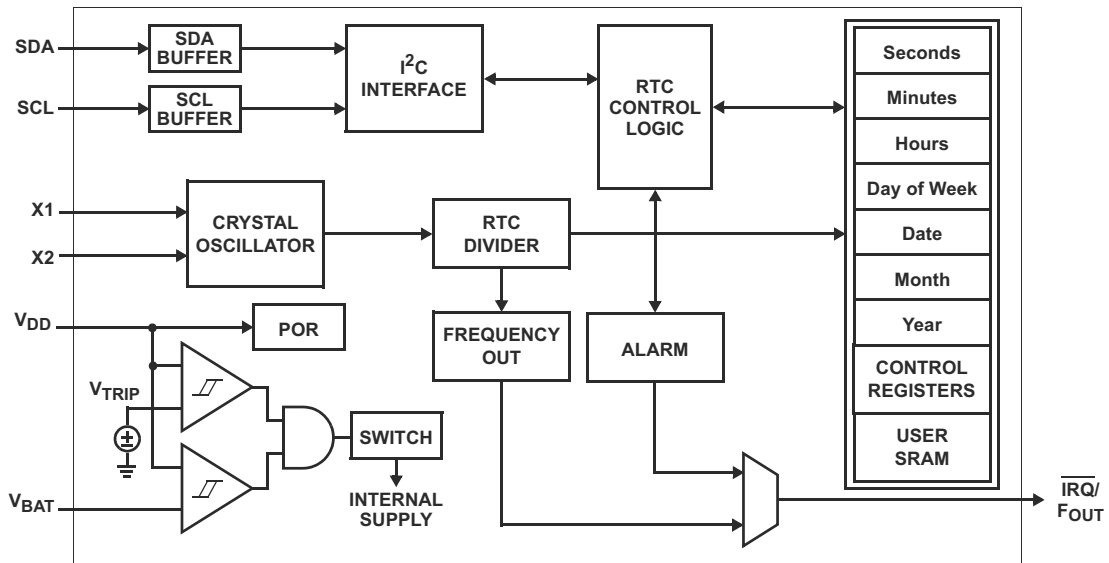
FUNCTIONAL BLOCK DIAGRAM

1Mx16 Synchronous DRAM



ISL 1208

Block Diagram

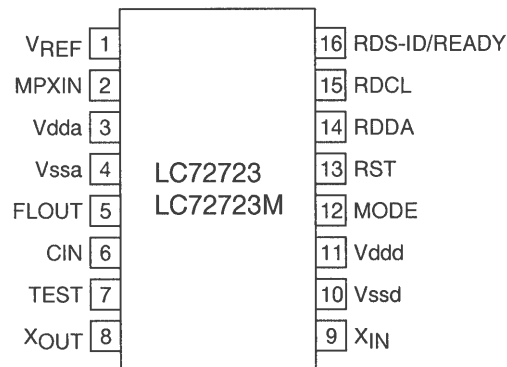


Pin Descriptions

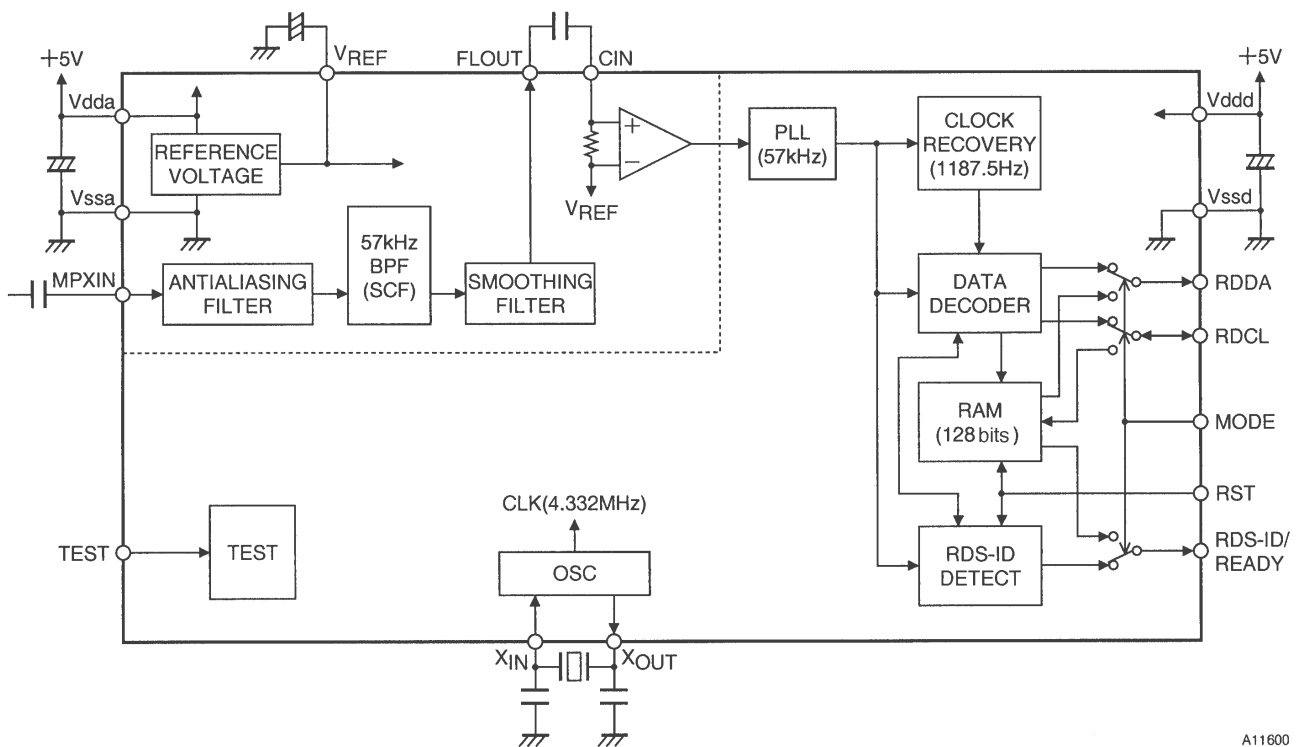
PIN NUMBER	SYMBOL	DESCRIPTION
1	X1	The X1 pin is the input of an inverting amplifier and is intended to be connected to one pin of an external 32.768kHz quartz crystal. X1 can also be driven directly from a 32.768kHz source.
2	X2	The X2 pin is the output of an inverting amplifier and is intended to be connected to one pin of an external 32.768kHz quartz crystal.
3	V _{BAT}	This input provides a backup supply voltage to the device. V _{BAT} supplies power to the device in the event that the V _{DD} supply fails. This pin should be tied to ground if not used.
4	GND	Ground.
5	SDA	Serial Data (SDA) is a bidirectional pin used to transfer serial data into and out of the device. It has an open drain output and may be wire OR'ed with other open drain or open collector outputs.
6	SCL	The Serial Clock (SCL) input is used to clock all serial data into and out of the device.
7	$\overline{\text{IRQ}}/\text{F}_{\text{OUT}}$	Interrupt Output/Frequency Output is a multi-functional pin that can be used as interrupt or frequency output pin. The function is set via the configuration register.
8	V _{DD}	Power supply.

LC72723M

Pin Assignment (DIP16/MFP16)



Block Diagram



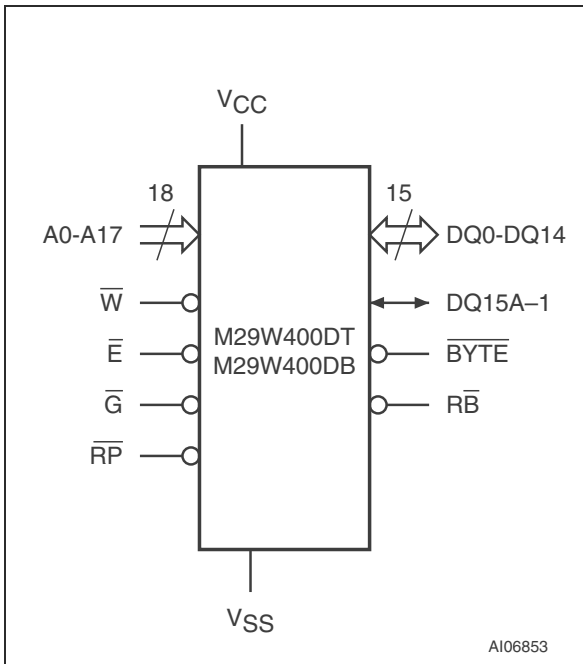
A11600

Pin Descriptions

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

M29W400D

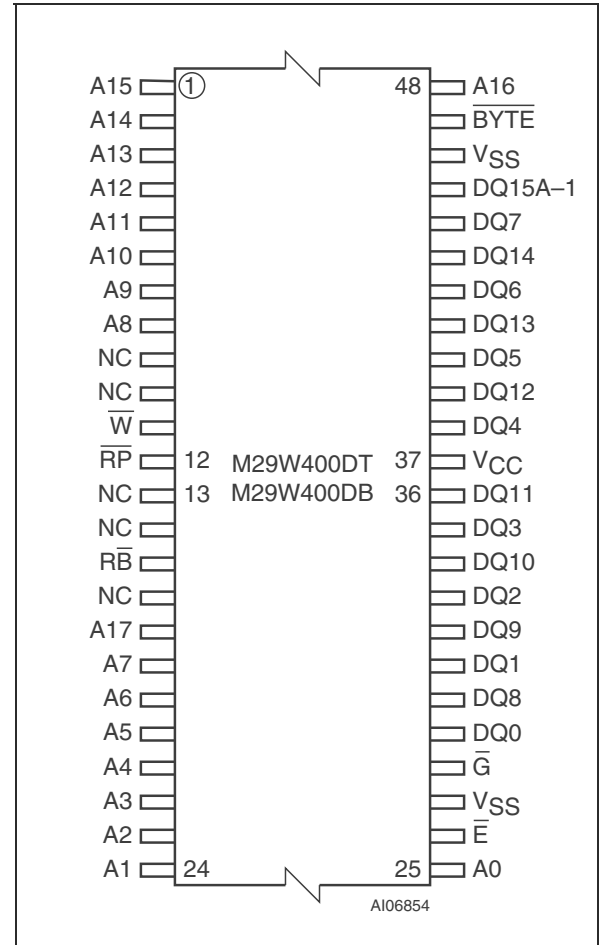
Logic Diagram



Signal Names

A0-A17	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

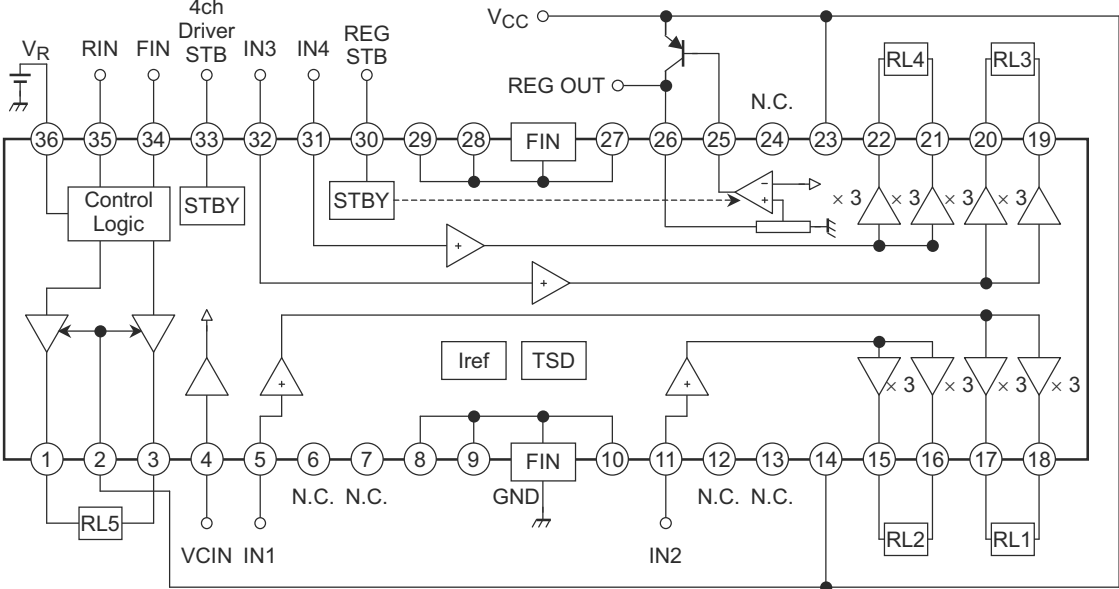
TSOP Connections



Note: 1. NC = Not Connected

TA2125AF

Block Diagram

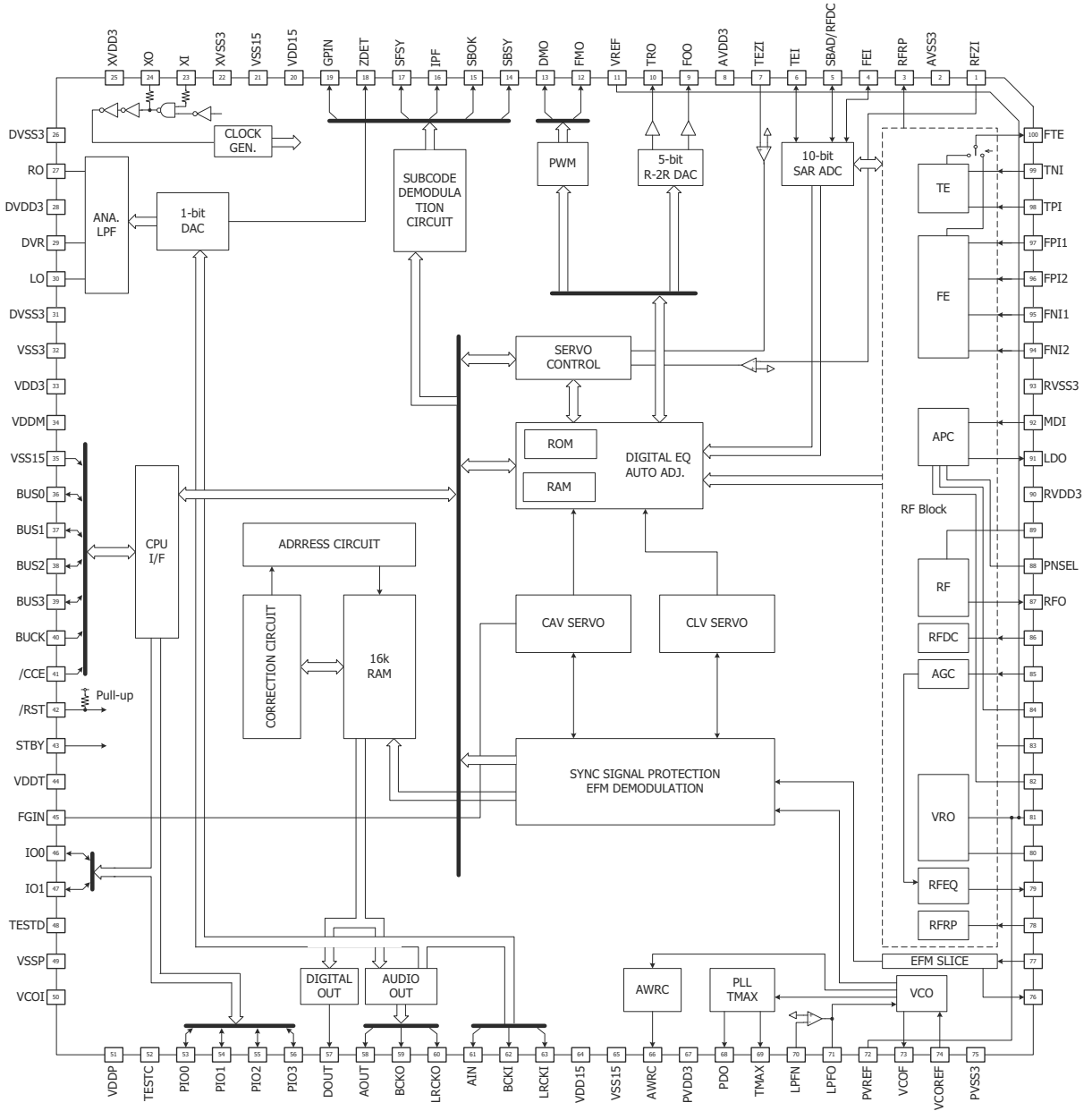


Terminal Explanation

No.	Symbol	Function	
1	OUT5A	Output terminal	H-bridge
2	V _M	Supply voltage terminal for Logic	H-bridge
3	OUT5B	Output terminal	H-bridge
4	V _{CIN}	Input reference voltage	4ch BTL
5	IN1	Input for ch1	4ch BTL
6	N.C.	Open	—
7	N.C.	Open	—
8	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
9	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
10	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
11	IN2	Input for ch2	4ch BTL
12	N.C.	Open	—
13	N.C.	Open	—
14	V _{CC1}	Supply voltage terminal for ch1/ch2	4ch BTL
15	OUT2M	Inverted output for ch2	4ch BTL
16	OUT2P	Non-inverted output for ch2	4ch BTL
17	OUT1M	Inverted output for ch1	4ch BTL
18	OUT1P	Non-inverted output for ch1	4ch BTL
19	OUT3P	Non-inverted output for ch3	4ch BTL
20	OUT3M	Inverted output for ch3	4ch BTL
21	OUT4P	Non-inverted output for ch4	4ch BTL
22	OUT4M	Inverted output for ch4	4ch BTL
23	V _{CC2}	Supply voltage terminal for ch3/ch4	4ch BTL
24	N.C.	Open	—
25	REG	Connection with BASE of PNP Tr	Regulator
26	REG OUT	Output for regulator (5 V)	Regulator
27	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
28	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
29	N.C.	8, 9, 10, 27, 28, 29 are connected to PW GND (FIN)	—
30	REG STBY	Standby control for regulator	Regulator
31	IN4	Input for ch4	4ch BTL
32	IN3	Input for ch3	4ch BTL
33	STBY	Standby control for 4ch BTL	4ch BTL
34	FIN	Logic control input	H-bridge
35	RIN	Logic control input	H-bridge
36	VR	Supply voltage terminal for motor driver	H-bridge

TC94A54MFG

1. Pin Configuration and Block Diagram



3. Pin Functions

Note: 3AI/F : 3 V circuit analog input/output pin

3I/F : 3 V circuit digital input/output pin

1.5AI/F : 1.5 V circuit analog input/output pin

Pin No.	Pin name	I/O	Description	Remark
1	RFZI	I 3AI/F	Input pin for the RF ripple zero-cross signal.	To be connected to the RFRP via 0.033 uF.
2	AVSS3	—	Grounding pin for 3.3 V analog circuits.	—
3	RFRP	O 3AI/F	RF ripple signal output pin.	—
4	FEI	O 3AI/F	Focus error signal input pin.	Monitor pin for various signals.
5	SBAD/RFDC	O 3AI/F	Subbeam addition signal input pin.	
6	TEI	O 3AI/F	Tracking error signal input pin.	
7	TEZI	I 3AI/F	Input pin for tracking error signal zero-cross.	To be connected to the TEI via 0.033 uF.
8	AVDD3	—	Supply voltage pin for 3.3 V analog circuit.	—
9	FOO	O 3AI/F	Focus equalizer output pin.	—
10	TRO	O 3AI/F	Tracking equalizer output pin.	—
11	VREF	O 3AI/F	Analog reference supply voltage pin.	Connected to the VRO and PVREF within the IC. To be connected to 0.1 uF.
12	FMO	O 3AI/F	Speed error/feed equalizer output pin.	PWM ternary output (AVDD3, GND, and VREF).
13	DMO	O 3AI/F	Disc equalizer output pin.	
14	SBSY (SPCK)	O 3I/F	Pin for outputting the subcode block sync signal. It is "H" at position S1 when the subcode sync signal is detected. (CD Processor Status Read Clock(176.4KHz) output)	"H" at S1 when Subcode Sync is detected.
15	SBOK (FOK) (CLCK) (MBOV)	O 3I/F	Pin for outputting the CRCC check result of a subcode Q data check. It is "H" when the check result is OK. (Focus OK signal) (Input/output pin for the clock used in reading the subcode P to W data.) (CD Buffer memory overflow output)	—
16	IPF (SPDA)	O 3I/F	Correction flag output pin. "H" if the AOUT pin outputs an uncorrectable symbol in C2 correction. (CD Processor Status signal output)	—

Pin No.	Pin name	I/O	Description	Remark
17	SFSY (EMPH) (LOCK) (MONIT)	O 3I/F	Pin for outputting the playback frame sync signal. (Emphasis flag output pin. ENPH on: "H". EMPH off: "L". The output polarity can be switched, using a command.) (LOCK signal) (Pin for monitoring signals in the DSP.)	7.35kHz (At this pin, flags in the DSP and PLL-circuit clock can be monitored, using microcontroller commands. The pin also outputs text data serially.)
18	ZDET (DATA) (COFS)	O 3I/F	Output pin for zero detection flag for the 1-bit DAC. (Pin for outputting subcode P to W data) (Error Correction Frame Clock 7.35kHz output)	Valid also for 1-bit DAC external inputs.
19	GPIN	I/O 3I/F	General-purpose I/O (DSP)	General-purpose I/O (input after a reset).
20	VSS1	—	1.5V grounding pin dedicated to the Digital circuit.	—
21	VDD1	—	1.5 V supply voltage pin dedicated to the Digital circuit.	—
22	XVSS3	—	Grounding pin for the system clock oscillation circuit.	—
23	XI	I 3AI/F	Input pin for the system clock oscillation circuit.	—
24	XO	O 3AI/F	Output pin for the system clock oscillation circuit.	Input to the internal MCK.
25	XVDD3	—	3.3 V supply voltage pin for the system clock oscillation circuit.	—
26	DVSS3	—	Grounding pin for the 1-bit DAC.	—
27	RO	O 3AI/F	Output pin for normal R-channel data for the 1-bit DAC.	No capacitor is required at the DVR pin unless the built-in 1-bit DAC is used. 3.3 V must be applied across the DVDD3 and DVSS3 pins, however.
28	DVDD3	—	3.3 V supply voltage pin for the 1-bit DAC.	
29	DVR	O	Reference voltage pin for the 1-bit DAC.	
30	LO	O 3AI/F	Output pin for normal L-channel data for the 1-bit DAC.	—
31	DVSS3	—	Grounding pin for the 1-bit DAC.	—
32	VSS3	—	3.3 V grounding pin dedicated to the I/F circuit.	—
33	VDD3	—	3.3 V supply voltage pin dedicated to the I/F circuit.	—
34	VDDM	—	1.5 V supply voltage pin dedicated to the DSP/1Mbit SRAM circuit.	—
35	VSS1	—	1.5V grounding pin dedicated to the DSP/1Mbit SRAM circuit.	—

Pin No.	Pin name	I/O	Description	Remark			
36	BUS0	I/O 3I/F	Data input/output pin for the microcontroller interface.	To be fixed at "H" or "L" when communication is not in progress, so that the pin will not become HiZ.			
37	BUS1	I/O 3I/F					
38	BUS2	I/O 3I/F					
39	BUS3	I/O 3I/F					
40	BUCK	I 3I/F	Clock input pin for the microcontroller interface.	To be fixed at "H" when communication is not in progress, so that the pin will not become HiZ.			
41	/CCE	I 3I/F	Chip enable signal input pin for the microcontroller interface. BUS3 to BUS0 are active if this pin is "L".	To be connected to 0.1 uF.			
42	/RST	I 3I/F	Reset signal input pin. The internal registers and servo section registers are reset, respectively, when the reset signal is "L" and on the positive-going edge of the reset signal.	—			
43	STBY	I 3I/F	STANBY control pin dedicated to the DSP/1Mbit SRAM circuit.	—			
44	VDDT	—	3.3 V supply voltage pin dedicated to the Digital I/O circuit.	—			
45	FGIN	I 3AI/F	FG signal input pin for CAV. CLV: "L". CAV: FG input.	—			
46	IO0A (/HSO)	I/O 3I/F	General-purpose input/output pins. (Pin for outputting the playback speed mode flag.)	General-purpose I/O (input after a reset). The playback speed mode flag output can be switched, using command bits.			
47	IO1A (/UHSO)	I/O 3I/F			/UHSO	/HSO	Playback speed
					H	H	Normal speed
					H	L	2 times
L	H	4 times					
48	TESTD	I 3I/F	DSP/Test input pin. Usually fixed at "L".	—			
48	VSSP	—	1.5 V grounding pin dedicated to the DSP/VCO circuit.	—			
50	VC0I	O 1.5AI/F	PD output pin dedicated to the DSP/VCO circuit.	—			
51	VDDP	—	1.5 V supply voltage pin dedicated to the DSP/VCO circuit.	—			
52	TESTC	I 3I/F	CD/ Test input pin. Usually fixed at "L".	—			
53	PIO0	I/O 3I/F	General-purpose I/O (CD/DSP)	General-purpose I/O (input after a reset).			
54	PIO1	I/O 3I/F	General-purpose I/O (CD/DSP)				
55	PIO2	I/O 3I/F	General-purpose I/O (DSP)				
56	PIO3	I/O 3I/F	General-purpose I/O (DSP)				

Pin No.	Pin name	I/O	Description	Remark
57	DOUT	O 3I/F	Digital-out output pin. Digital data for up to double speed can be output when a frequency of 16.9344 MHz is used.	As per CP-1201
58	AOUT	O 3I/F	Audio data output pin. Which bit is first (MSB first or LSB first) can be selected, using a command.	—
59	BCK	O 3I/F	Bit clock output pin. 32fs, 48fs, and 64fs can be selected, using a command.	Normal speed : 32fs = 1.4112 MHz
60	LRCK	O 3I/F	LR channel clock output pin. "L" for the L-channel and "H" for the R-channel. The output polarity can be inverted, using a command.	Normal speed: 44.1 kHz
61	AIN	I 3I/F	1-bit DAC external input: AIN	1-bit DAC external input
62	BCKI	I 3I/F	1-bit DAC external input: BCKI	
63	LRCKI	I 3I/F	1-bit DAC external input: LRCKI	
64	VDD1	—	1.5 V supply voltage pin dedicated to the DSP circuit.	
65	VSS1	—	1.5 V grounding pin dedicated to the DSP circuit.	
66	AWRC	O 3AI/F	VCO control pin for active wide range.	Controllable in CLV/CAV.
67	PVDD3	—	3.3 V supply voltage pin dedicated to the PLL circuit.	—
68	PDO	O 3AI/F	Pin for outputting a phase difference signal between the EFM signal and PLCK signal.	Quaternary output (PVDD3, HiZ, VSS, and PVREF).
69	TMAX	O 3AI/F	Pin for outputting the result of TMAX detection. The TMAX pin output the same signal.	Ternary output (PVDD3, VSS, and Hiz).
70	LPFN	I 3AI/F	Pin for receiving an inverted output of the PLL-circuit low-pass filter amp.	The resistance side is connected. See an applicable circuit diagram.
71	LPFO	O 3AI/F	Pin for the PLL-circuit low-pass filter amp output.	The capacitor side is connected. See an applicable circuit diagram.
72	PVREF	—	1.65 V reference supply voltage pin dedicated to the PLL circuit.	Connected to the VREF and PVREF within the IC. A 0.1 uF capacitor is connected.
73	VCOF	O 3AI/F	VCO filter pin.	—
74	VCOREF	I 3AI/F	Input pin for the VCO center frequency reference level.	To be connected to the PVREF if the AWRC is not used.

Pin No.	Pin name	I/O	Description	Remark
75	PVSS3	—	3.3 V grounding pin dedicated to the PLL circuit.	—
76	SLCO	O 3AI/F	EFM slice level output pin. For both analog and digital slice modes, the output impedance $\cong 2.5 \text{ k}\Omega$.	A capacitor to be connected is selected according to the servo operation band.
77	RFI	I 3AI/F	RF signal input pin. The input resistance can be selected, using a command.	Zin: 20k Ω , 10k Ω , 5k Ω
78	RFRPI	I 3AI/F	RF ripple signal input pin.	—
79	RFEQO	O 3AI/F	RF equalizer circuit output pin.	To be connected to the RFRPI via 0.1 μF and to the RFI via 4700 pF or higher.
80	RESIN	I 3AI/F	Pin for connecting a reference current generating resistance.	To be connected to 22 k Ω and 680 pF in parallel.
81	VRO	O 3AI/F	1.65 V reference voltage output pin.	Connected to the V _{REF} and PV _{REF} within the IC. To be connected to 0.1 μF and 100 μF .
82	VMDIR	—	Reference voltage output pin for the APC circuit.	To be connected to 0.1 μF .
83	TESTR	O 3AI/F	LPF pin for RFEQO offset correction.	To be connected to 0.015 μF or higher.
84	INVSEL	I 3AI/F	Test pin, usually fixed at "L".	—
85	AGCI	I 3AI/F	Pin for RF signal amplitude adjustment amp input.	—
86	RFDCI	I 3AI/F	RF signal peak detection input pin.	—
87	RFO	O 3AI/F	RF signal generation amp output pin.	To be connected directly to the RFDCI. To be connected to the AGCI via 0.1 μF .
88	PNSEL	I 3AI/F	Test pin, usually fixed at "H".	—
89	EQSET	O 3AI/F	External connection pin for the RF signal equalizer.	To be kept open when the RFEQ is used.
90	RVDD3	—	3.3V Supply voltage pin for the RFamp core section	—
91	LDO	O 3AI/F	Laser diode amp output pin.	—
92	MDI	I 3AI/F	Monitor photodiode amp input pin.	Reference to 178 mV (typ.)
93	RVSS3	—	3.3 V grounding pin for the RF amp core section.	—

Pin No.	Pin name	I/O	Description	Remark
94	FNI2	I 3AI/F	Main beam input pin. Connected to PIN diode C.	—
95	FNI1	I 3AI/F	Main beam input pin. Connected to PIN diode A.	—
96	FPI2	I 3AI/F	Main beam input pin. Connected to PIN diode D.	—
97	FPI1	I 3AI/F	Main beam input pin. Connected to PIN diode B.	—
98	TPI	I 3AI/F	Subbeam amp input pin. Connected to PIN diode F.	—
99	TNI	I 3AI/F	Subbeam amp input pin. Connected to PIN diode E.	—
100	FTE	O 3AI/F	Focus/tracking signal output. (Test pin for servo characteristic measurement.)	Switchable using a command.

Note: "3AI/F : 3 V circuit analog input/output pin."

"3I/F : 3 V circuit digital input/output pin."

"1.5AI/F : 1.5 V circuit analog input/output pin."

TC9163

PIN CONNECTION (TOP VIEW)

TC9162AN / AF

VSS	1	28	VDD
L-S1	2	27	R-S1
L-S2	3	26	R-S2
L-COM1	4	25	R-COM1
L-S3	5	24	R-S3
L-S4	6	23	R-S4
L-COM2	7	22	R-COM2
L-S5	8	21	R-S5
L-S6	9	20	R-S6
L-COM3	10	19	R-COM3
L-S7	11	18	R-S7
L-COM4	12	17	R-COM4
ST	13	16	DATA
GND	14	15	CK

TC9163AN / AF

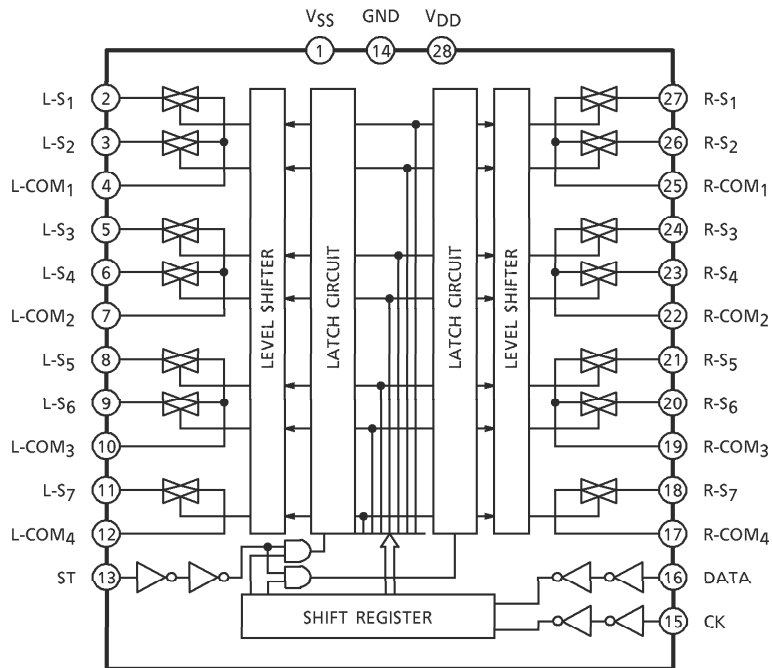
VSS	1	28	VDD
L-S1	2	27	R-S1
L-S2	3	26	R-S2
L-S3	4	25	R-S3
L-COM1	5	24	R-COM1
L-S4	6	23	R-S4
L-S5	7	22	R-S5
L-S6	8	21	R-S6
L-COM2	9	20	R-COM2
L-S7	10	19	R-S7
L-S8	11	18	R-S8
L-COM3	12	17	R-COM3
ST	13	16	DATA
GND	14	15	CK

TC9164AN / AF

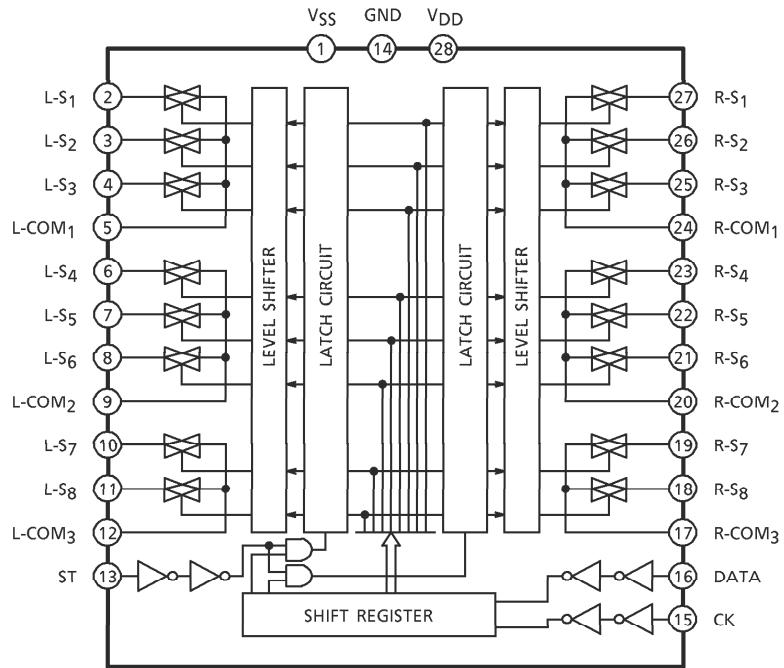
VSS	1	28	VDD
L-S1	2	27	R-S1
L-S2	3	26	R-S2
L-S3	4	25	R-S3
L-S4	5	24	R-S4
L-COM1	6	23	R-COM1
L-S5	7	22	R-S5
L-S6	8	21	R-S6
L-COM2	9	20	R-COM2
L-S7	10	19	R-S7
L-S8	11	18	R-S8
L-COM3	12	17	R-COM3
ST	13	16	DATA
GND	14	15	CK

BLOCK DIAGRAM

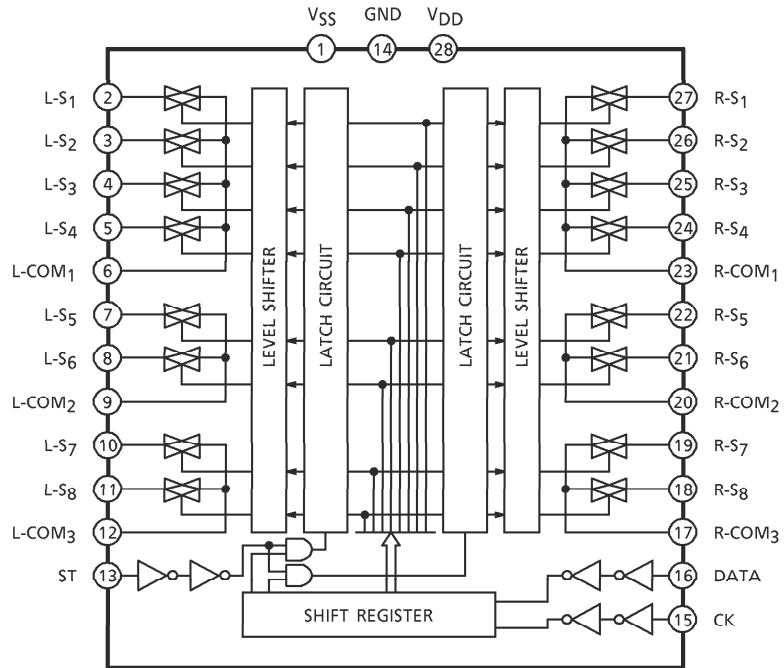
TC9162AN / AF



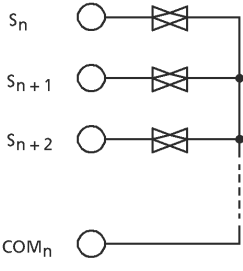
TC9163AN / AF



TC9164AN / AF

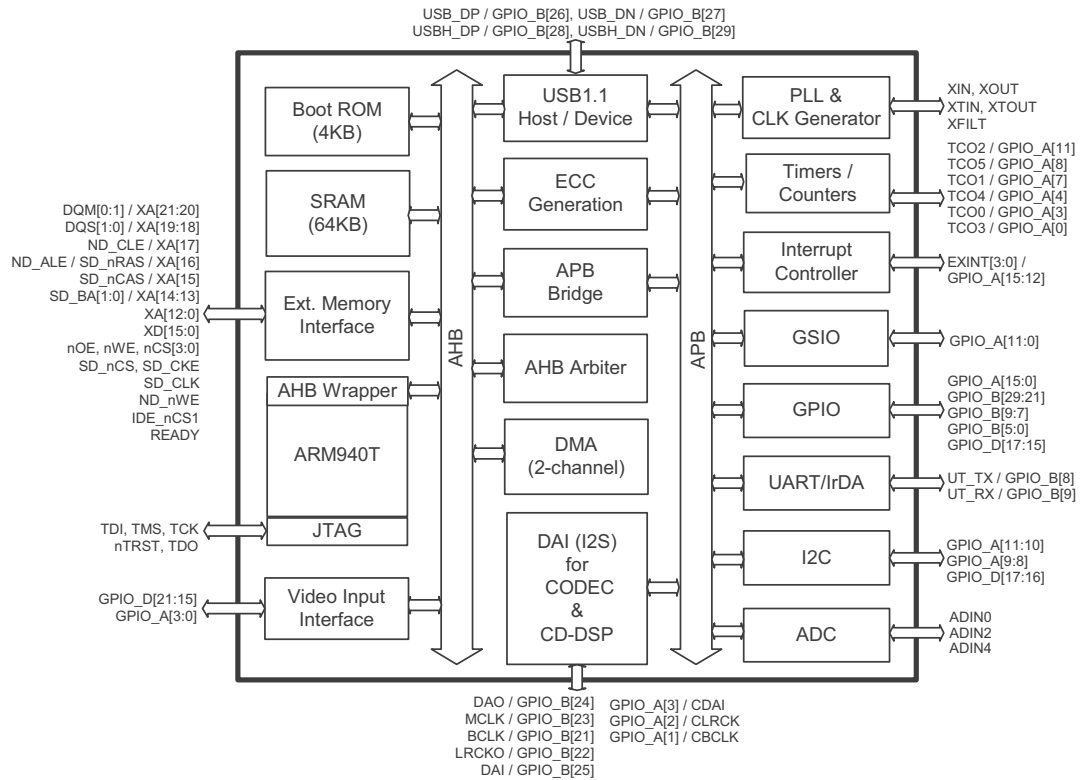


DESCRIPTION OF PIN FUNCTIONS (L-ch / R-ch)

PIN No.			SYMBOL	PIN NAME	FUNCTION & OPERATION	NOTE
TC9162 AN/AF	TC9163 AN/AF	TC9164 AN/AF				
1			V _{SS}	- Power Terminal	Applies Supply Voltage.	—
14			GND	Ground Terminal		
28			V _{DD}	+ Power Terminal		
2 / 27	2 / 27	2 / 27	S ₁	Switch Input Terminal	Input & Output Terminal for Analog Switch 	—
3 / 26	3 / 26	3 / 26	S ₂			
5 / 24	4 / 25	4 / 25	S ₃			
6 / 23	6 / 23	5 / 24	S ₄			
8 / 21	7 / 22	7 / 22	S ₅			
9 / 20	8 / 21	8 / 21	S ₆			
11 / 18	10 / 19	10 / 19	S ₇			
—	11 / 18	11 / 18	S ₈			
4 / 25	5 / 24	6 / 23	COM1	Switch Output Terminal		
7 / 22	9 / 20	9 / 20	COM2			
10 / 19	12 / 17	12 / 17	COM3			
12 / 17	—	—	COM4			
13			ST	Strobe Input Terminal	Strobe Input for Data Interrupt	Low Threshold Input Terminal
15			CK	Clock Input Terminal	Clock Input for Data Transfer	
16			DATA	Data Input Terminal	Serial Data Input for Switch Setting	

TCC760

Block Diagram



Functional Block Diagram of TCC760

Pin Description

The status of the following GPIO pins are latched at the rising edge of nRESET and used to determine the system bus width and boot mode. External devices must not drive output levels onto these pins during reset period.

Pin Name	State during reset	State after reset	During normal function with DAI enabled
GPIO_A[9] / BW[1] GPIO_A[8] / BW[0]	Bus Width Configuration Input	Normal GPIO Input Mode	GPIO Output Mode for 2-Wire Interface Clock and Data
GPIO_B[24] / BM[2] GPIO_B[22] / BM[1] GPIO_B[21] / BM[0]	Boot Mode Configuration Input	Normal GPIO Input Mode	DAO (I2S Digital Audio Output) LRCK (I2S Word Clock Output) BCLK (I2S Bit Clock Output)

Refer to sections "BOOTING PROCEDURE" and "MEMORY CONTROLLER" for detailed description of BW[1:0] and BM[2:0].

In case of the TCC763, TCC764 and TCC766, GPIO_B[22:21]/BM[1:0] signals are connected to internal audio CODEC pins which have on-chip pull-down resistor. If external pull-up resistors are required for these pins, 4.7kΩ is recommended.

The TCC76x is a CMOS device. Floating level on input signals cause unstable device operation and abnormal current consumption. Pull-up or pull-down resistors should be used appropriately for input or bidirectional pins.

Notation

I :	Input
O :	Output
I/O :	Bidirectional
AI :	Analog Input
AO :	Analog Output
PWR :	Power
GND :	Ground

TCC760 Pin Description

Table 1.2 TCC760 Pin Description

Signal Name	Shared Signal	Pin #	Type	Description – TCC760
External Memory Interface Pins				
SD_CKE	GPIO_B[0]	56	I/O	SDRAM Clock Enable signal. Active high. / GPIO_B[0]
SD_CLK	GPO	44	I/O	SDRAM Clock / GPO. SD_CLK can be used as a general purpose output. Refer to section "MEMORY CONTROLLER". (MCFG register Bit[3] and Bit[1])
SD_nCS	SD_nCLK / GPIO_B[1]	46	I/O	Chip select signal for SDRAM, Active low / Inverted SD_CLK for DDR SDRAM / GPIO_B[1]
XA[21:20]	DQM[0:1]	43:42	I/O	External Bus Address Bit [21:20] / Data I/O Mask 0, 1
XA[19:18]	DQS[1:0]	40:39	I/O	External Bus Address Bit [19:18] / DDR SDRAM Data Strobe [1:0]
XA[17]	ND_CLE	38	I/O	External Bus Address Bit [17] / CLE for NAND Flash
XA[16]	SD_nRAS / ND_ALE	37	I/O	External Bus Address Bit [16] / SDRAM RAS signal / ALE for NAND Flash
XA[15]	SD_nCAS	36	I/O	External Bus Address Bit [15] / SDRAM CAS signal
XA[14]	SD_BA[1]	35	I/O	External Bus Address Bit [14] / SDRAM Bank Address 1
XA[13]	SD_BA[0]	34	I/O	External Bus Address Bit [13] / SDRAM Bank Address 0.
XA[12:7]		31:26	I/O	External Bus Address Bits [12:0]
XA[6:0]		23:17		
XD[15:9]		15:9	I/O	External Bus Data Bit [15:0]
XD[8:4]		6:2		

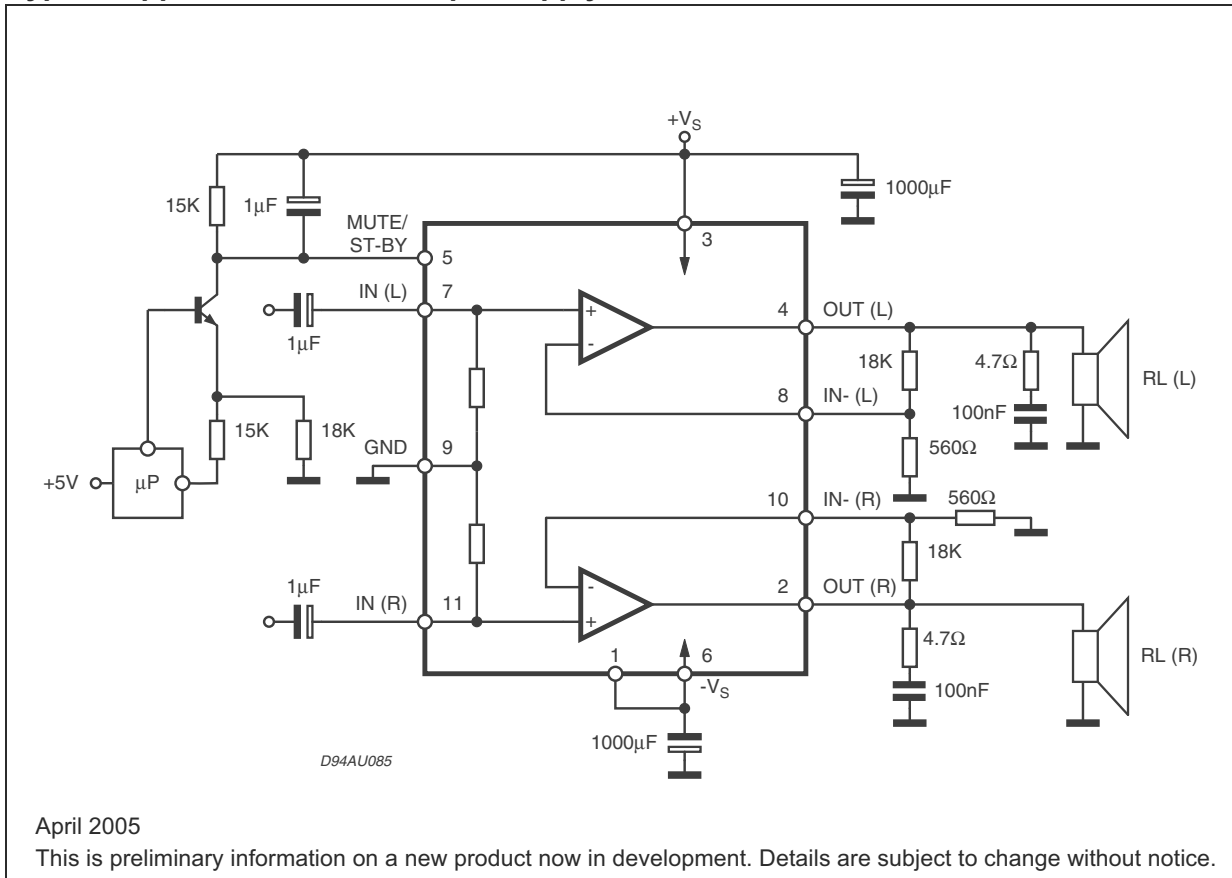
Signal Name	Shared Signal	Pin #	Type	Description – TCC760
XD[3:0]		128:125		
NCS[3:0]	ND_nOE[3:0] / GPIO_B[5:2]	50:47	I/O	External Bus Chip Select [3:0] / NAND Flash Output Enable [3:0] / GPIO_B[5:2]
ND_nWE	GPIO_B[7]	57	I/O	NAND flash WE. Active low. / GPIO_B[7]
nWE		58	I/O	Static Memory Write Enable signal. Active low.
nOE		59	I/O	Static Memory Output Enable signal. Active low.
READY		73	I	Ready information from external device.
USB/UART/IrDA Interface Pins				
USB_DP	GPIO_B[26]	51	I/O	USB Function D+ signal / GPIO_B[26]
USB_DN	GPIO_B[27]	52	I/O	USB Function D- signal / GPIO_B[27]
USBH_DP	GPIO_B[28]	53	I/O	USB Host D+ signal / GPIO_B[28]
USBH_DN	GPIO_B[29]	54	I/O	USB Host D- signal / GPIO_B[29]
UT_TX	GPIO_B[8] / SD_nCS	60	I/O	UART or IrDA TX data / GPIO_B[8] / DDR SDRAM Chip Select
UT_RX	GPIO_B[9] / IDE_nCS1	61	I/O	UART or IrDA RX data / GPIO_B[9] / IDE Chip Select 1
Audio Interface Pins				
BCLK	GPIO_B[21] / BM[0]	62	I/O	I2S Bit Clock / GPIO_B[21] / Boot Mode Bit 0
LRCK	GPIO_B[22] / BM[1]	63	I/O	I2S Word Clock / GPIO_B[22] / Boot Mode Bit 1
MCLK	GPIO_B[23]	66	I/O	I2S System Clock / GPIO_B[23]
DAO	GPIO_B[24] / BM[2]	67	I/O	I2S Digital Audio data Output / GPIO_B[24] / Boot Mode Bit 2
DAI	GPIO_B[25]	68	I/O	I2S Digital Audio data Input / GPIO_B[25]
CD DSP Interface Pins				
CBCLK	GPIO_A[1]	105	I/O	CD Data Bit Clock Input / GPIO_A[1]
CLRCK	GPIO_A[2]	106	I/O	CD Data Word Clock Input / GPIO_A[2]
CDAI	GPIO_A[3]	107	I/O	CD Data Input / GPIO_A[3]
External Interrupt Pins				
EXINT[3]	GPIO_A[15]	124	I/O	External Interrupt Request [3] / GPIO_A[15]
EXINT[2:0]	GPIO_A[14:12] / FGPIO[14:12]	123:121	I/O	External Interrupt Request [2:0] / GPIO_A[14:12] / FGPIO[14:12]
Camera Interface Pins				
CISHS	GPIO_D[17]	92	I/O	Horizontal Sync. Input / GPIO_D[17]
CISVS	GPIO_D[16]	91	I/O	Vertical Sync. Input / GPIO_D[16]
CISCLK	GPIO_D[15]	90	I/O	Clock Input / GPIO_D[15]
CISD[7:4]	GPIO_D[21:18]	96:93	I/O	Data Input[7:0] / GPIO_D[21:18], GPIO_A[3:0]
CISD[3:0]	GPIO_A[3:0]	107:104		
General Purpose I/O Pins				
GPIO_A[15]	EXINT[3]	124	I/O	GPIO_A[15] / External Interrupt 3
GPIO_A[14:12]	EXINT[2:0] / FGPIO[14:12]	123:121	I/O	GPIO_A[15:12] / External Interrupt 3 ~ 0 / Fast GPIO bits 14 ~ 12
GPIO_A[11] GPIO_A[10] GPIO_A[9] / BW[1] GPIO_A[8] / BW[0]	SDI2 / FGPIO[11] / SCL FRM2 / FGPIO[10] / SDA SCK2 / FGPIO[9] / SCL SDO2 / FGPIO[8] / SDA	118:115	I/O	GPIO_A[11:8] / Bus Width bits 1 ~ 0 / General Purpose Serial I/O 2 Fast GPIO bits 11 ~ 8 / I2C signals. The status of BW[1:0] is latched at the rising edge of nRESET and used to determine external bus width. Refer to section "MEMORY CONTROLLER" for BW[1:0] description.
GPIO_A[7:4]	SDI1 / FGPIO[7] FRM1 / FGPIO[6] SCK1 / FGPIO[5] SDO1 / FGPIO[4]	114 113 111 108	I/O	GPIO_A[7:4] / General Purpose Serial I/O 1 / Fast GPIO bits 7 ~ 4
GPIO_A[3:1]	SDI0 / CDAI / FGPIO[3] FRM0 / CLRCK / FGPIO[2] SCK0 / CBCLK / FGPIO[1]	107:105	I/O	GPIO_A[3:1] / General Purpose Serial I/O 0 / CD Interface Signals / Fast GPIO bits 3 ~ 1

Signal Name	Shared Signal	Pin #	Type	Description – TCC760
GPIO_A[0]	SDO0 / FGPIO[0]	104	I/O	GPIO_A[0] / General purpose serial I/O 0 Serial Data Output FGPIO[0]
GPIO_B[29:28]	USBH_DN, USBH_DP	54:53	I/O	GPIO_B[29:28] / USBH_DN, USBH_DP
GPIO_B[27:26]	USB_DN, USB_DP	52:51	I/O	GPIO_B[27:26] / USB_DN, USB_DP
GPIO_B[25]	DAI	68	I/O	GPIO_B[25:21] / Boot Mode bits 2 ~ 0 / I2S Interface Signals. The status of BM[2:0] is latched at the rising edge of nRESET and used to determine the system boot mode. Refer to sections "BOOTING PROCEDURE" and "MEMORY CONTROLLER" for detailed description on BM[2:0].
GPIO_B[24] / BM[2]	DAO	67		
GPIO_B[23]	MCLK	66		
GPIO_B[22] / BM[1]	LRCK	63		
GPIO_B[21] / BM[0]	BCLK	62		
GPIO_B[9]	UT_RX	61	I/O	GPIO_B[9] / UART RX Signal
GPIO_B[8]	UT_TX / SD_nCS	60	I/O	GPIO_B[8] / UART TX Signal / DDR SDRAM Chip Select
GPIO_B[7]	ND_nWE	57	I/O	GPIO_B[7] / Write Enable for NAND Flash
GPIO_B[5:2]	nCS[3:0]	50:47	I/O	GPIO_B[5:2] / External Chip Select 3 ~ 0
GPIO_B[1]	SD_nCS / SD_nCLK	46	I/O	GPIO_B[1] / Chip select for SDRAM / Inverted Clock for DDR SDRAM.
GPIO_B[0]	SD_CKE	56	I/O	GPIO_B[0] / SDRAM clock control
GPIO_D[21:18]	FGPIO[13:10] / CISD[7:4]	96:93	I/O	GPIO_D[21:18] / Fast GPIO bits 13 ~ 10 / Camera Interface Data Inputs 3 ~ 0. Internal pull-up resistors are enabled at reset.
GPIO_D[17]	FGPIO[9] / SCL / CISHS	92	I/O	GPIO_D[17] / Fast GPIO bit 9 / I2C SCL / Camera Interface Hsync.
GPIO_D[16]	FGPIO[8] / SDA / CISVS	91	I/O	GPIO_D[16] / Fast GPIO bit 8 / I2C SDA / Camera Interface Vsync.
GPIO_D[15]	CISCLK	90	I/O	GPIO_D[15] / Camera Interface Clock
ADC Input Pins				
ADIN_0	-	82	AI	General purpose multi-channel ADC input 0
ADIN_2	-	83	AI	General purpose multi-channel ADC input 2
ADIN_4	-	84	AI	General purpose multi-channel ADC input 4
Clock Pins				
XIN	-	74	I	Main Crystal Oscillator Input for PLL. 12MHz Crystal must be used if USB Boot Mode is required. Input voltage must not exceed VDD_OSC (1.95V max).
XOUT	-	75	O	Main Crystal Oscillator Output for PLL
XFILT	-	78	AO	PLL filter output
XTIN	-	69	I	Sub Crystal Oscillator Input. 32.768kHz is recommended. Input voltage must not exceed VDD_OSC (1.95V max).
XTOUT	-	70	O	Sub Crystal Oscillator Output
Mode Control Pins				
MODE1	-	98	I	Mode Setting Input 1. Pull-down for normal operation.
PKG1	-	89	I	Package ID1, Pull-up for normal operation.
nRESET	-	72	I	System Reset. Active low.
JTAG Interface Pins				
TDI	-	99	I	JTAG serial data input for ARM940T
TMS	-	100	I	JTAG test mode select for ARM940T
TCK	-	101	I	JTAG test clock for ARM940T
TDO	-	102	I/O	JTAG serial data output for ARM940T. External pull-up resistor is required to prevent floating during normal operation.
nTRST	-	103	I	JTAG reset signal for ARM940T. Active low.
Power Pins				
VDDIO	-	112 76 33 16	PWR	Digital Power for I/O (1.8V ~ 3.3V)

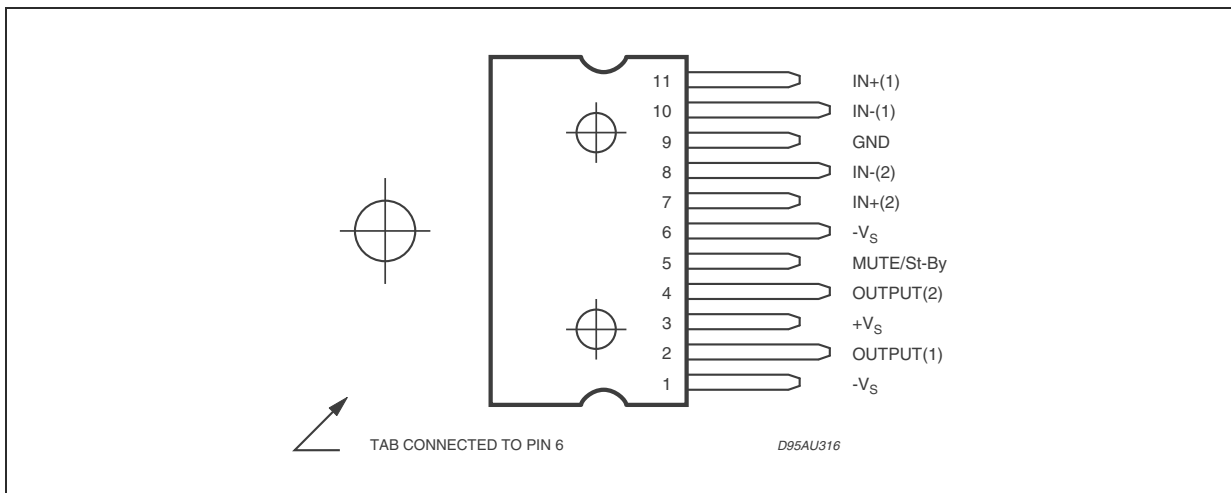
Signal Name	Shared Signal	Pin #	Type	Description – TCC760
VDD_USB	-	64	PWR	Power for USB I/O (3.3V)
VDD_OSC	-	71	PWR	Digital Power for Oscillators (1.8V)
VDDI	-	119 109 41 24 7	PWR	Digital Power for Internal Core (1.8V)
VDDI_ADC	-	87	PWR	Digital Power for ADC (1.8V)
VDDA_ADC	-	81	PWR	Analog Power for ADC (3.3V)
VDDA_PLL	-	77	PWR	Analog & Digital Power for PLL (1.8V)
VSSIO	-	97 65 45 32 1	GND	Digital Ground for I/O
VSSI	-	120 110 55 25 8	GND	Digital Ground for Internal
VSSI_ADC	-	88	GND	Digital Ground for ADC
VBBA_ADC	-	86	GND	Analog Ground for ADC
VSSA_ADC	-	85	GND	Analog Ground for ADC
VBBA_PLL	-	80	GND	Analog Ground for PLL
VSSA_PLL	-	79	GND	Analog Ground for PLL

TDA 7292

Typical Application Circuit in Split Supply

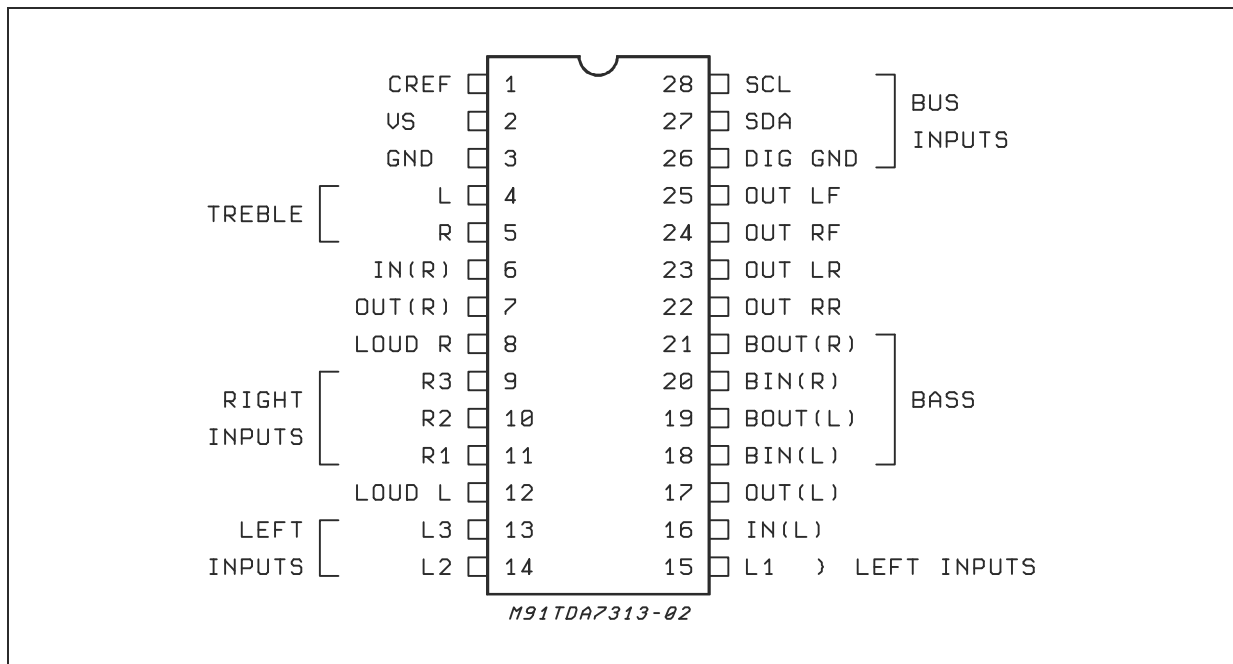


Pin Connection (Top view)

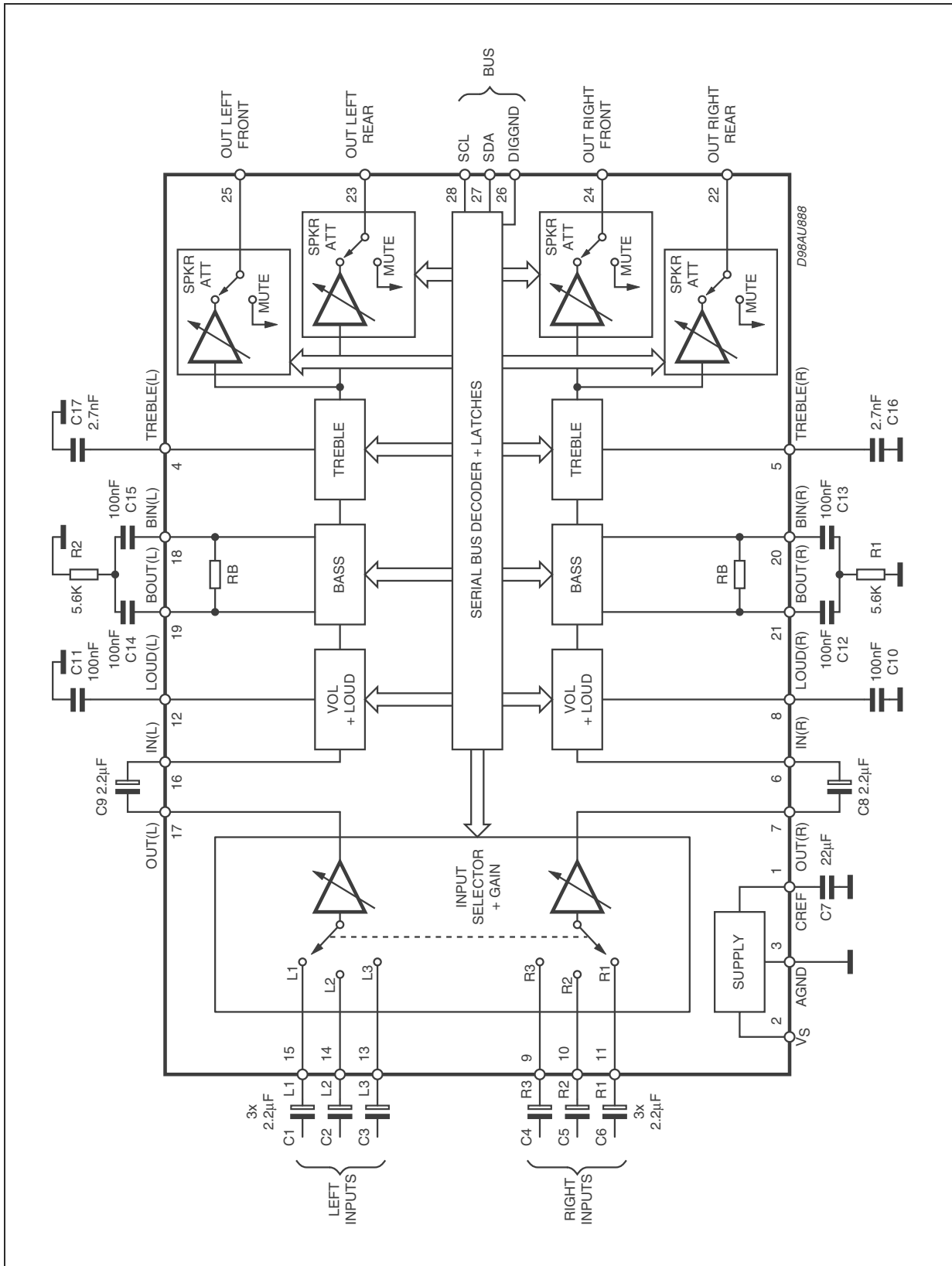


TDA 7313

PIN CONNECTION (Top view)



BLOCK DIAGRAM

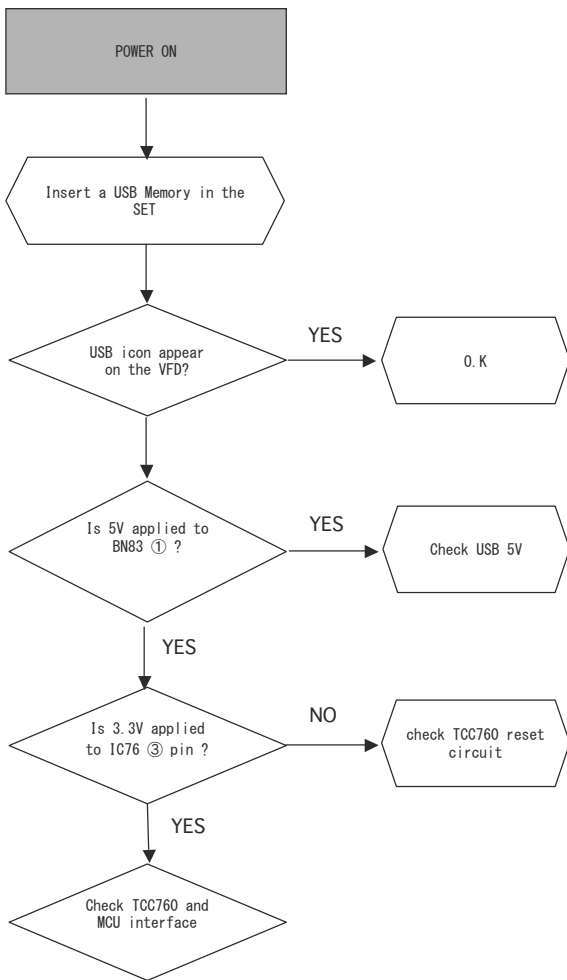


ELECTRICAL TROUBLESHOOTING GUIDE

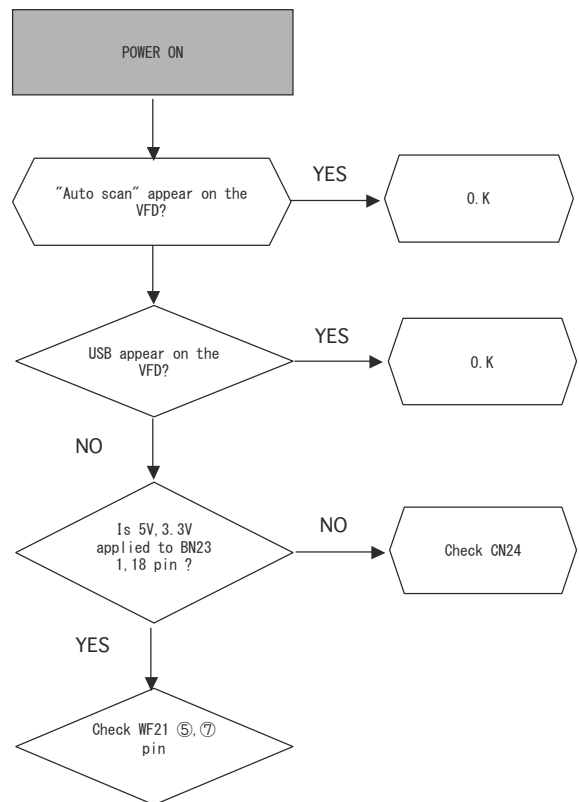
1. POWER CHECK



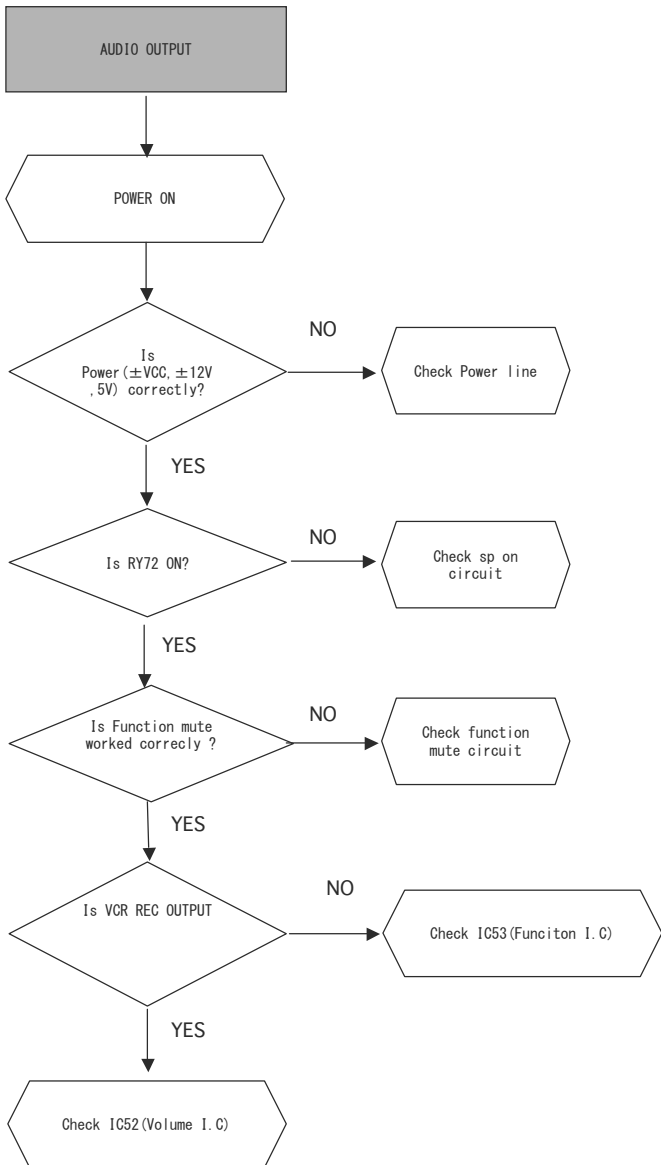
2. USB PART CHECK



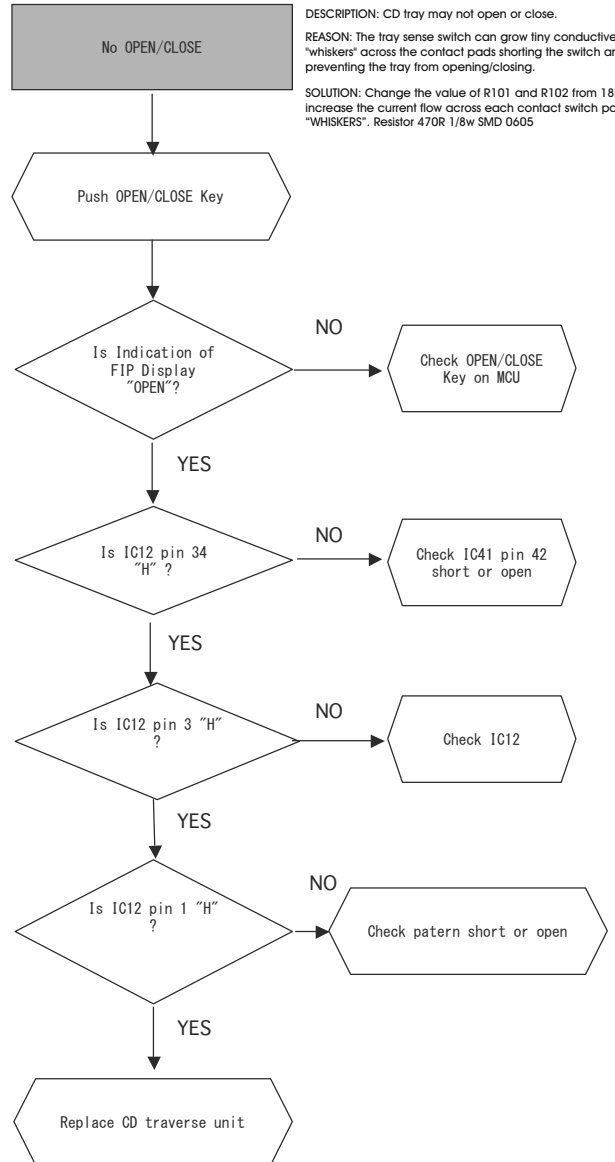
3. DAB PART CHECK



4. AUDIO PART CHECK



5. NO OPEN/CLOSE

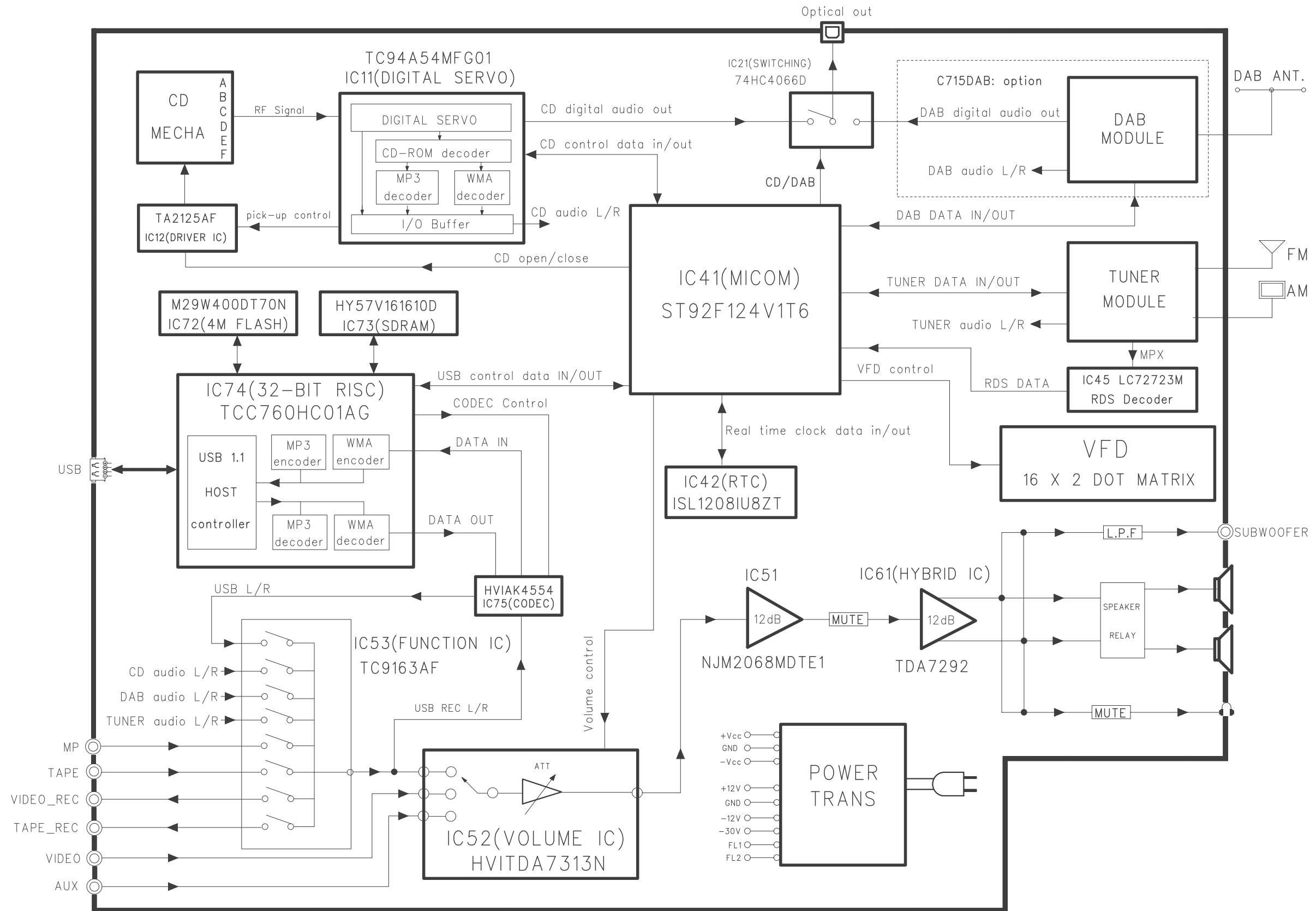


DESCRIPTION: CD tray may not open or close.
 REASON: The tray sense switch can grow tiny conductive "whiskers" across the contact pads shorting the switch and preventing the tray from opening/closing.
 SOLUTION: Change the value of R101 and R102 from 18K to 470 ohm to increase the current flow across each contact switch pads eliminating the "WHISKERS". Resistor 470R 1/8W SMD 0605

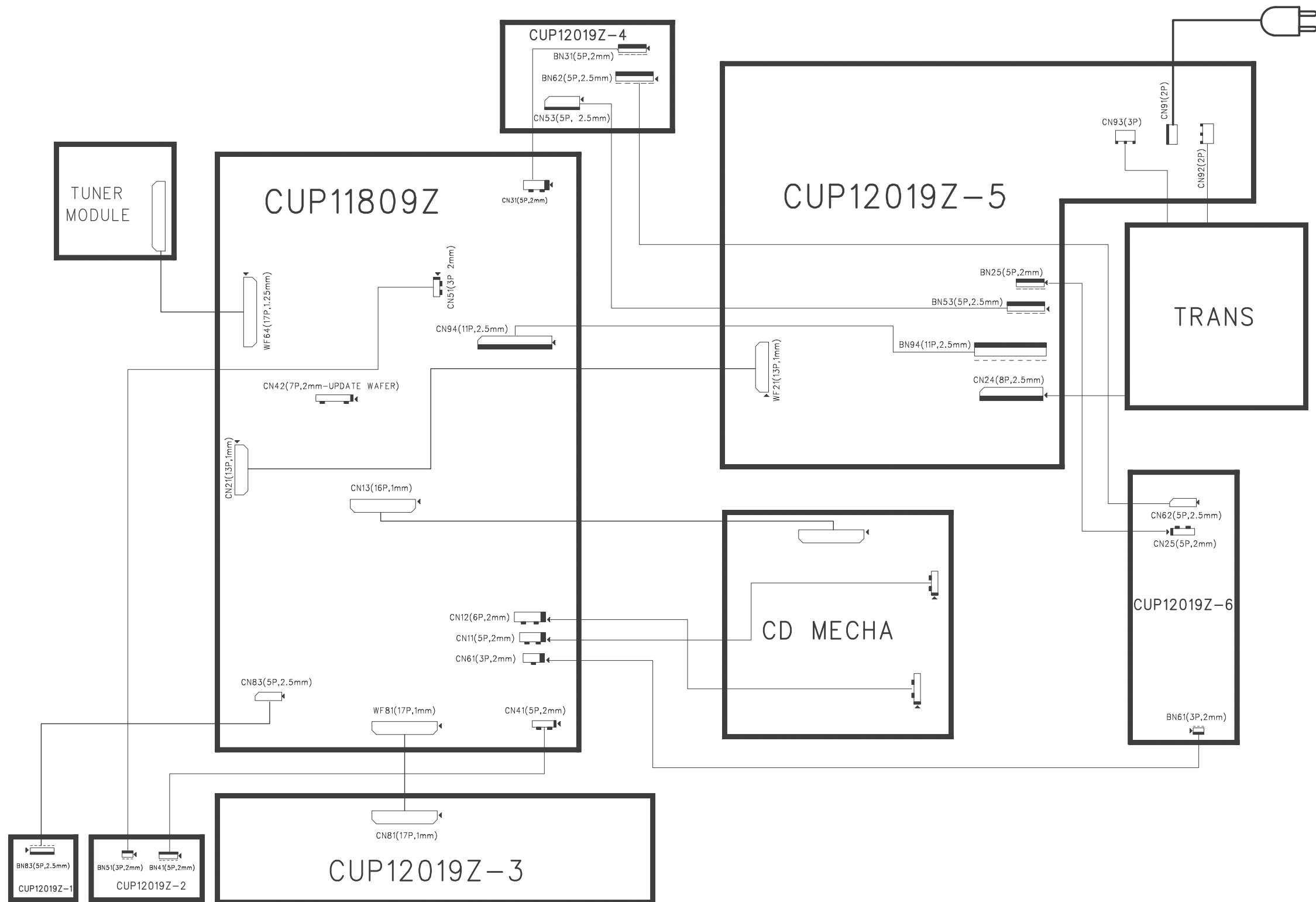
5. No PLAYBACK



1. BLOCK DIAGRAM

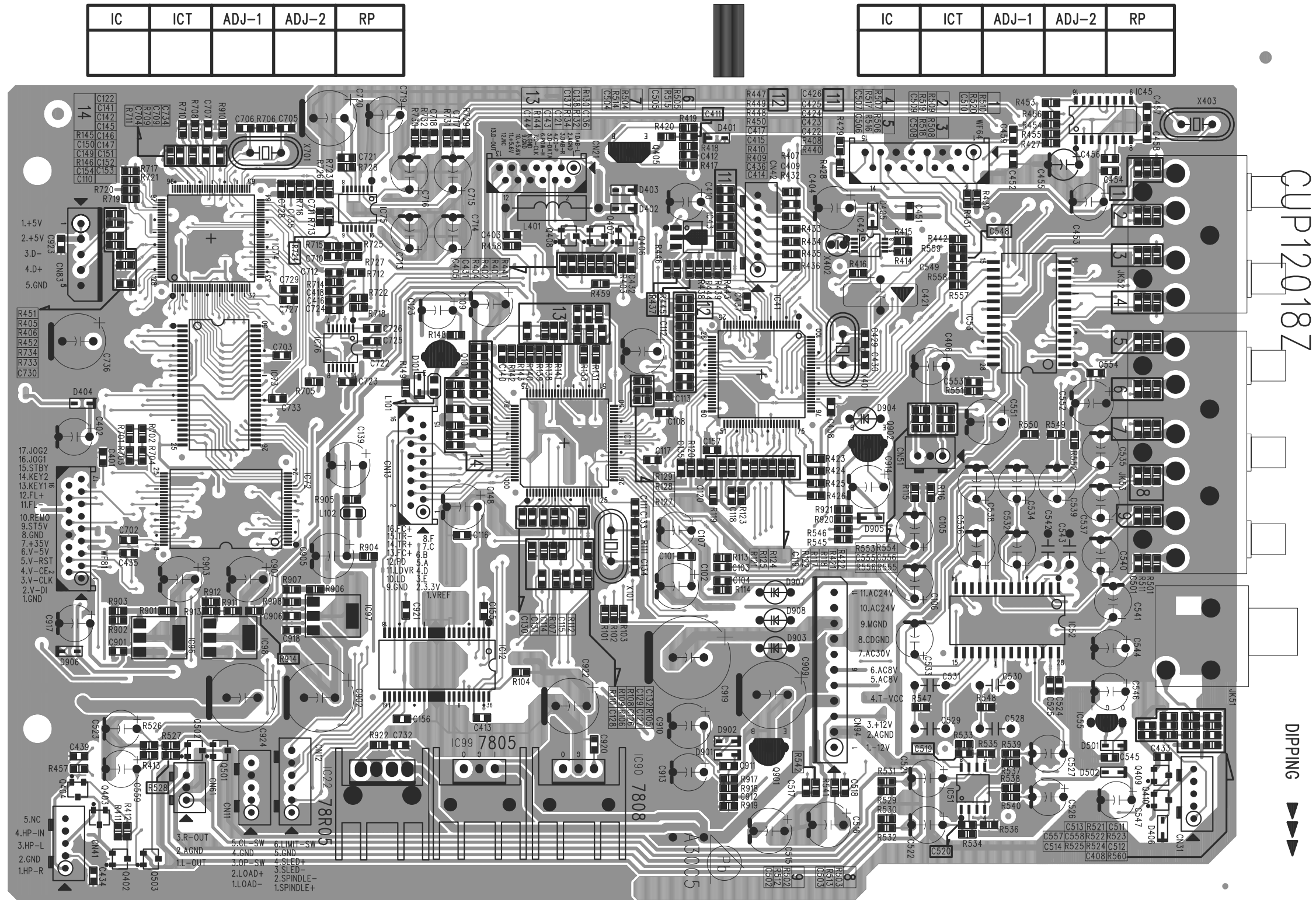


2. WIRING DIAGRAM



4. PRINTED CIRCUIT BOARDS

MAIN PCB DATA VIEW (TOP)



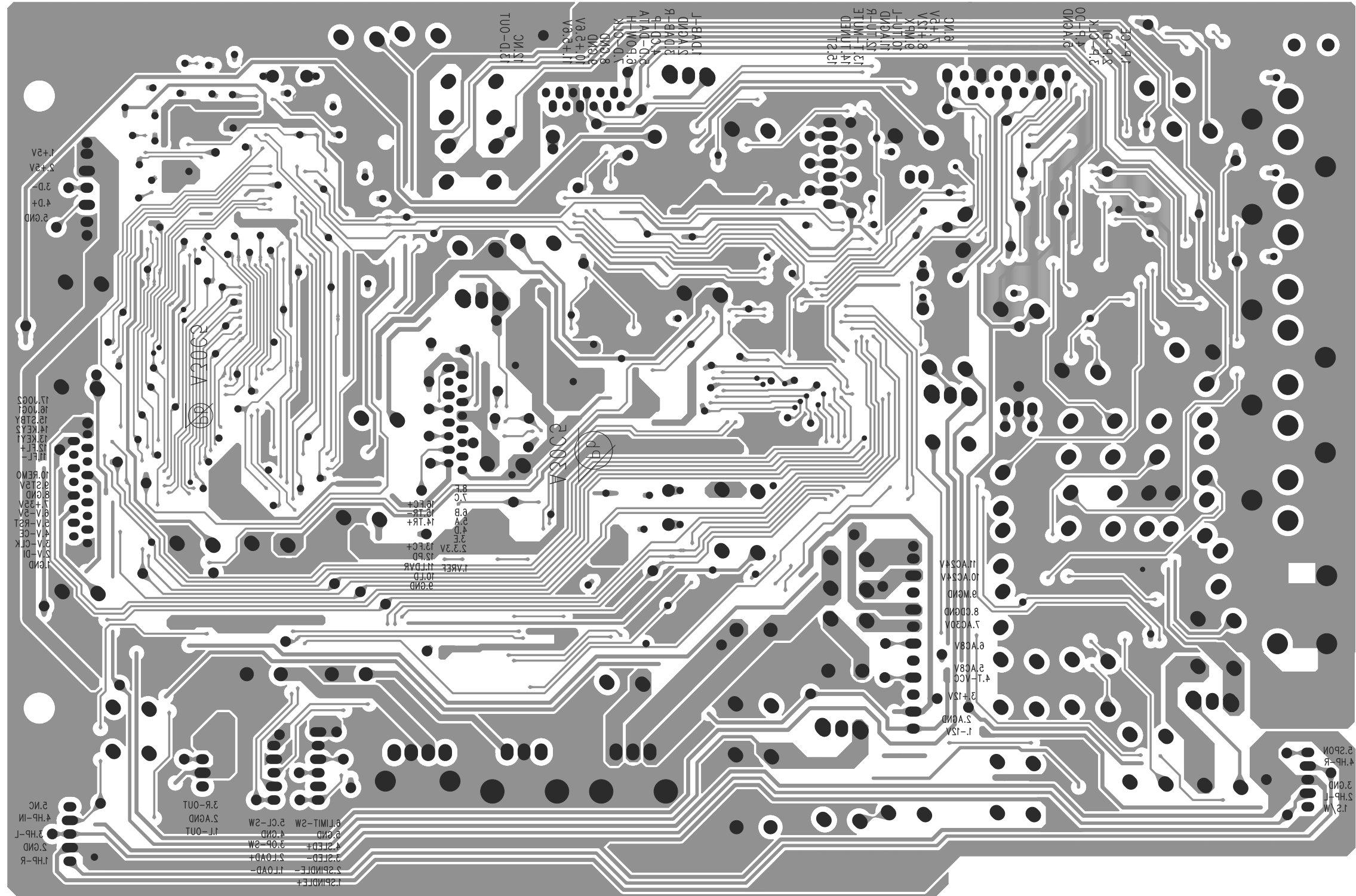
IC	ICT	ADJ-1	ADJ-2	RP

IC	ICT	ADJ-1	ADJ-2	RP

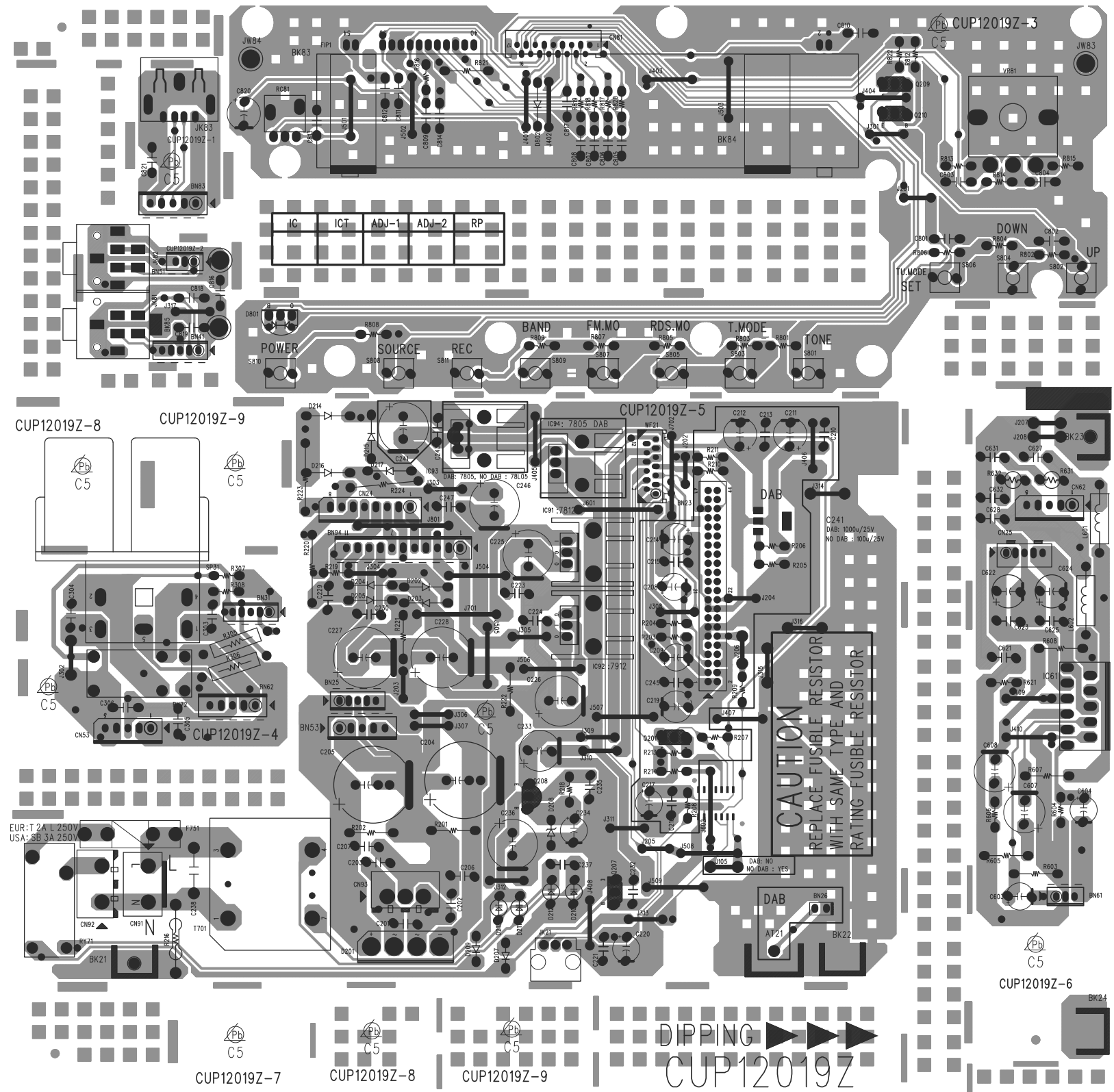
CUP12018Z

DIPPING ▶▶▶

MAIN PCB DATA VIEW (BOTTOM)



POWER PCB DATA VIEW



SECTION 3

ELECTRICAL PARTS LIST

MAIN PCB ASS'Y (DABC : COP12018B, C : COP12018C, AH : COP12018D)		
CUP12018Z	PCB , MAIN C715(291X216, FR-4, 2 ARRAY)	

REF NO.	PART NO.	DESCRIPTION	REMARKS
CUP12018Z	MAIN BOARD		
C101	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C103	CCUS1H222KC	CAP , CHIP 2200PF 50V K	
C104	CCUS1H222KC	CAP , CHIP 2200PF 50V K	
C108	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C110	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C111	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	
C120	CCUS1H101JA	CAP , CHIP 100PF 50V J	
C121	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C122	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C126	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C127	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C128	CCUS1H471JA	CAP , CHIP 470PF 50V J	
C129	CCUS1H471JA	CAP , CHIP 470PF 50V J	
C130	CCUS1H333KC	CAP , CHIP 0.033UF 50V K	
C131	CCUS1H333KC	CAP , CHIP 0.033UF 50V K	
C132	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C133	CCUS1H150JA	CAP , CHIP 15PF 50V J	
C134	CCUS1H150JA	CAP , CHIP 15PF 50V J	
C135	CCUS1H102KC	CAP , CHIP 1000PF 50V K	
C136	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C137	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C138	CCUS1H222KC	CAP , CHIP 2200PF 50V K	
C140	CCUS1H153KC	CAP , CHIP 0.015UF 50V K	
C141	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C142	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C143	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C144	CCUS1H470JA	CAP , CHIP 47PF 50V J	
C145	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C146	CCUS1H472KC	CAP , CHIP 4700PF 50V K	
C147	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C149	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C150	CCUS1H681JA	CAP , CHIP 680PF 50V J	
C151	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C152	CCUS1H153KC	CAP , CHIP 0.015UF 50V K	
C153	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C154	CCUS1H680JA	CAP , CHIP 68PF 50V J	
C155	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C156	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C157	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C401	CCUS1H101JA	CAP , CHIP 100PF 50V J	
C403	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C405	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C408	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C409	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C411	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C412	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C413	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C414	CCUS1H561JA	CAP , CHIP 560PF 50V J	
C415	CCUS1H561JA	CAP , CHIP 560PF 50V J	
C416	CCUS1H220JA	CAP , CHIP 22PF 50V J	
C417	CCUS1H220JA	CAP , CHIP 22PF 50V J	
C418	CCUS1H220JA	CAP , CHIP 22PF 50V J	
C422	CCUS1H221JA	CAP , CHIP 220PF 50V J	
C423	CCUS1H221JA	CAP , CHIP 220PF 50V J	
C424	CCUS1H221JA	CAP , CHIP 220PF 50V J	
C425	CCUS1H221JA	CAP , CHIP 220PF 50V J	
C426	CCUS1H221JA	CAP , CHIP 220PF 50V J	
C429	CCUS1H150JA	CAP , CHIP 15PF 50V J	
C430	CCUS1H150JA	CAP , CHIP 15PF 50V J	
C431	CCUS1H101JA	CAP , CHIP 100PF 50V J	C715DABC ONLY
C432	CCUS1H101JA	CAP , CHIP 100PF 50V J	C715DABC ONLY
C433	CCUS1H103KC	CAP , CHIP 0.01UF 50V K	
C434	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C435	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	
C436	CCUS1H104KC	CAP , CHIP 0.1UF 50V K	

C437	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C438	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C439	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C451	CCUS1H102KC	CAP , CHIP	1000PF 50V K	
C452	CCUS1H102KC	CAP , CHIP	1000PF 50V K	
C454	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C456	CCUS1H561JA	CAP , CHIP	560PF 50V J	
C457	CCUS1H220JA	CAP , CHIP	22PF 50V J	
C458	CCUS1H220JA	CAP , CHIP	22PF 50V J	
C459	CCUS1H102KC	CAP , CHIP	1000PF 50V K	
C501	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C502	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C503	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C504	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C505	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C506	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C507	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C508	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C509	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C510	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C511	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C512	CCUS1H153KC	CAP , CHIP	0.015UF 50V K	
C513	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	
C514	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	
C517	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C518	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C519	CCUS1H221JA	CAP , CHIP	220PF 50V J	
C520	CCUS1H221JA	CAP , CHIP	220PF 50V J	
C524	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C525	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C545	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C548	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C549	CCUS1H331JA	CAP , CHIP	330PF 50V J	
C553	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C554	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C555	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C556	CCUS1H181JA	CAP , CHIP	180PF 50V J	
C702	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C703	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C704	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C705	CCUS1H220JA	CAP , CHIP	22PF 50V J	
C706	CCUS1H220JA	CAP , CHIP	22PF 50V J	
C707	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C709	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C710	CCUS1H220JA	CAP , CHIP	22PF 50V J	
C711	CCUS1H220JA	CAP , CHIP	22PF 50V J	
C712	CCUS1H220JA	CAP , CHIP	22PF 50V J	
C717	CCUS1H222KC	CAP , CHIP	2200PF 50V K	
C718	CCUS1H222KC	CAP , CHIP	2200PF 50V K	
C721	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C722	CCUS1H220JA	CAP , CHIP	22PF 50V J	
C723	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C724	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C725	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C726	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C727	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C728	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C729	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C730	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C732	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C734	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C735	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C901	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C911	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C912	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C918	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C920	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
C921	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	
C923	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	
D101	CVD1SS355T	DIODE , CHIP		
D401	HVDUDZS4.3BSR	DIODE , ZENER	4.3V, 1712 TYPE	
D402	CVD1SS355T	DIODE , CHIP		
D403	CVD1SS355T	DIODE , CHIP		
D404	CVD1SS355T	DIODE , CHIP		
D405	CVD1SS355T	DIODE , CHIP		
D406	CVD1SS355T	DIODE , CHIP		

D501	CVD1SS355T	DIODE , CHIP	
D502	CVD1SS355T	DIODE , CHIP	
D901	HVDUDZS27BSR	DIODE , ZENER	27V, 1712 TYPE
D902	HVDUDZS9.1BSR	DIODE , ZENER	9.1V, 1712 TYPE
D905	HVDUDZS4.3BSR	DIODE , ZENER	4.3V, 1712 TYPE
D906	CVD1SS355T	DIODE , CHIP	
IC11	HVITC94A54MFG01	I.C , DIGITAL SERVO	
IC12	HVITA2125AFG	I.C , MOTOR DRIVER	
IC41	HVIST92F124V1T6	I.C , MCU	ST92F124V1T6
IC42	HVIISL1208IU8ZT	I.C , RTC	
IC43	HVIRH5VT28C	I.C , RESET	
IC45	HVILC72723M	IC , PLL (RDS)	
IC51	HVINJM2068MDTE1	I.C , OP AMP	NJM2068MD-TE1
IC52	HVITDA7313NDTR	I.C , VOLUME	
IC53	HVITC9163CFG	I.C , FUNCTION SW	
IC72	HVIM29W400DT70N	4M FLASH	
IC73	HVI57V161610ET7	SDRAM 16M 7NS	HY57V161610ET-7
IC74	KVITCC760HC01AG	32BIT RISC CPU	
IC75	HVIAK4554VT	I.C , CODEC(16BIT)	
IC76	HVI74VHC08TTR	I.C , AND-GATE	74VHC08
IC96	HVILM1117S-ADJ	I.C , REGULATOR	LM1117-ADJ
IC97	HVILM1117S-ADJ	I.C , REGULATOR	LM1117-ADJ
IC98	HVILM1117S-ADJ	I.C , REGULATOR	LM1117-ADJ
L101	CLQ08E100KRZ	COIL , CHIP	10uH, 2012
L102	CLQ08E100KRZ	COIL , CHIP	10uH, 2012
Q402	HVTKRA107ST	T.R , CHIP	KRA107S
Q403	HVTKTD1304T	T.R , CHIP	KTD1304
Q404	HVTKTD1304T	T.R , CHIP	KTD1304
Q406	HVTKRC107S	T.R , CHIP	KRC107S
Q407	HVTKRC107S	T.R , CHIP	KRC107S
Q408	HVTKRC107S	T.R , CHIP	KRC107S
Q409	HVTKRA107ST	T.R , CHIP	KRA107S
Q410	HVTKRC107S	T.R , CHIP	KRC107S
Q501	HVTKTD1304T	T.R , CHIP	KTD1304
Q502	HVTKTD1304T	T.R , CHIP	KTD1304
Q503	HVTKRA107ST	T.R , CHIP	KRA107S
R101	CRJ10DJ471T	RES , CHIP	1608 SIZE
R102	CRJ10DJ471T	RES , CHIP	1608 SIZE
R103	CRJ10DJ183T	RES , CHIP	1608 SIZE
R104	CRJ10DJ471T	RES , CHIP	1608 SIZE
R105	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R106	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R107	CRJ10DJ682T	RES , CHIP	1608 SIZE
R108	CRJ10DJ332T	RES , CHIP	1608 SIZE
R109	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R110	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R111	CRJ10DJ105T	RES , CHIP	1608 SIZE
R112	CRJ10DJ104T	RES , CHIP	1608 SIZE
R113	CRJ10DJ271T	RES , CHIP	1608 SIZE
R114	CRJ10DJ271T	RES , CHIP	1608 SIZE
R115	CRJ10DJ473T	RES , CHIP	1608 SIZE
R116	CRJ10DJ473T	RES , CHIP	1608 SIZE
R117	CRJ10DJ562T	RES , CHIP	1608 SIZE
R118	CRJ10DJ562T	RES , CHIP	1608 SIZE
R119	CRJ10DJ562T	RES , CHIP	1608 SIZE
R120	CRJ10DJ562T	RES , CHIP	1608 SIZE
R121	CRJ10DJ562T	RES , CHIP	1608 SIZE
R122	CRJ10DJ562T	RES , CHIP	1608 SIZE
R123	CRJ10DJ562T	RES , CHIP	1608 SIZE
R124	CRJ10DJ562T	RES , CHIP	1608 SIZE
R125	CRJ10DJ562T	RES , CHIP	1608 SIZE
R127	CRJ10DJ104T	RES , CHIP	1608 SIZE
R128	CRJ10DJ104T	RES , CHIP	1608 SIZE
R129	CRJ10DJ102T	RES , CHIP	1608 SIZE
R130	CRJ10DJ221T	RES , CHIP	1608 SIZE
R131	CRJ10DJ102T	RES , CHIP	1608 SIZE
R132	CRJ10DJ104T	RES , CHIP	1608 SIZE
R133	CRJ10DJ104T	RES , CHIP	1608 SIZE
R134	CRJ10DJ104T	RES , CHIP	1608 SIZE
R138	CRJ10DJ562T	RES , CHIP	1608 SIZE
R139	CRJ10DJ154T	RES , CHIP	1608 SIZE
R140	CRJ10DJ0R0T	RES , CHIP	1608 SIZE
R141	CRJ10DJ223T	RES , CHIP	1608 SIZE
R142	CRJ10DJ153T	RES , CHIP	1608 SIZE
R143	CRJ10DJ473T	RES , CHIP	1608 SIZE
R144	CRJ10DJ683T	RES , CHIP	1608 SIZE

R145	CRJ10DJ223T	RES , CHIP	1608 SIZE	
R146	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R148	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R149	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R401	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R402	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R403	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R404	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R405	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R406	CRJ10DJ100T	RES , CHIP	1608 SIZE	
R407	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R408	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R409	CRJ10DJ153T	RES , CHIP	1608 SIZE	
R410	CRJ10DJ153T	RES , CHIP	1608 SIZE	
R411	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R412	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R413	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R414	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R415	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R416	CRJ10DJ330T	RES , CHIP	1608 SIZE	
R417	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R418	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R419	CRJ10DJ271T	RES , CHIP	1608 SIZE	
R420	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R421	CRJ10DJ271T	RES , CHIP	1608 SIZE	
R422	CRJ10DJ271T	RES , CHIP	1608 SIZE	
R423	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R424	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R425	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R426	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R427	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R428	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R429	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R430	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R431	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R432	CRJ10DJ470T	RES , CHIP	1608 SIZE	
R433	CRJ10DJ470T	RES , CHIP	1608 SIZE	
R434	CRJ10DJ470T	RES , CHIP	1608 SIZE	
R435	CRJ10DJ470T	RES , CHIP	1608 SIZE	
R436	CRJ10DJ470T	RES , CHIP	1608 SIZE	
R437	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R438	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R439	CRJ10DJ183T	RES , CHIP	1608 SIZE	C715DABC, C715C
R444	CRJ10DJ183T	RES , CHIP	1608 SIZE	C715AH ONLY
R440	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R441	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R442	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R448	CRJ10DJ183T	RES , CHIP	1608 SIZE	C715DABC ONLY
R450	CRJ10DJ183T	RES , CHIP	1608 SIZE	C715C, C715AH
R449	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R451	CRJ10DJ153T	RES , CHIP	1608 SIZE	
R452	CRJ10DJ153T	RES , CHIP	1608 SIZE	
R453	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R454	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R455	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R456	CRJ10DJ183T	RES , CHIP	1608 SIZE	
R457	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R501	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R502	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R503	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R504	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R505	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R506	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R507	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R508	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R509	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R510	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R511	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R512	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R513	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R514	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R515	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R516	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R517	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R518	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R519	CRJ10DJ473T	RES , CHIP	1608 SIZE	

R520	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R521	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R522	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R523	CRJ10DJ123T	RES , CHIP	1608 SIZE	
R524	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R525	CRJ10DJ153T	RES , CHIP	1608 SIZE	
R526	CRJ10DJ104T	RES , CHIP	1608 SIZE	
R527	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R528	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R529	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R530	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R531	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R532	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R533	CRJ10DJ822T	RES , CHIP	1608 SIZE	
R534	CRJ10DJ822T	RES , CHIP	1608 SIZE	
R535	CRJ10DJ222T	RES , CHIP	1608 SIZE	
R536	CRJ10DJ222T	RES , CHIP	1608 SIZE	
R537	CRJ10DJ273T	RES , CHIP	1608 SIZE	
R538	CRJ10DJ273T	RES , CHIP	1608 SIZE	
R539	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R540	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R541	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R542	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R545	CRJ10DJ272T	RES , CHIP	1608 SIZE	
R546	CRJ10DJ272T	RES , CHIP	1608 SIZE	
R547	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R548	CRJ10DJ562T	RES , CHIP	1608 SIZE	
R549	CRJ10DJ683T	RES , CHIP	1608 SIZE	
R550	CRJ10DJ683T	RES , CHIP	1608 SIZE	
R551	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R552	CRJ10DJ4R7T	RES , CHIP	1608 SIZE	
R553	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R554	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R555	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R556	CRJ10DJ221T	RES , CHIP	1608 SIZE	
R557	CRJ10DJ272T	RES , CHIP	1608 SIZE	
R558	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R559	CRJ10DJ272T	RES , CHIP	1608 SIZE	
R702	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R704	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R705	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R706	CRJ10DJ755T	RES , CHIP	1608 SIZE	
R708	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R709	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R710	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R711	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R714	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R715	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R716	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R717	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R718	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R719	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R720	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R721	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R722	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R723	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R724	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R725	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R726	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R727	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R728	CRJ10DJ103T	RES , CHIP	1608 SIZE	
R729	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R730	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R731	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R732	CRJ10DJ472T	RES , CHIP	1608 SIZE	
R733	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R734	CRJ10DJ102T	RES , CHIP	1608 SIZE	
R901	CRJ10DJ561T	RES , CHIP	1608 SIZE	
R902	CRJ10DJ331T	RES , CHIP	1608 SIZE	
R903	CRJ10DJ681T	RES , CHIP	1608 SIZE	
R904	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R905	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R906	CRJ10DJ181T	RES , CHIP	1608 SIZE	
R907	CRJ10DJ331T	RES , CHIP	1608 SIZE	
R908	CRJ10DJ182T	RES , CHIP	1608 SIZE	
R910	CRJ10DJ474T	RES , CHIP	1608 SIZE	

R911	CRJ10DJ471T	RES , CHIP	1608 SIZE	
R912	CRJ10DJ101T	RES , CHIP	1608 SIZE	
R914	CRJ10DJ0R0T	RES , CHIP	1608 SIZE	
R917	CRJ10DJ122T	RES , CHIP	1608 SIZE	
R918	CRJ10DJ181T	RES , CHIP	1608 SIZE	
R919	CRJ10DJ473T	RES , CHIP	1608 SIZE	
R920	CRJ10DJ330T	RES , CHIP	1608 SIZE	
R921	CRJ10DJ271T	RES , CHIP	1608 SIZE	
R922	CRJ10DJ103T	RES , CHIP	1608 SIZE	
C102	CCEA1CH470T	CAP , ELECT	47UF 16V	
C105	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C106	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C107	CCEA1HH220T	CAP , ELECT	22UF 50V	
C109	CCEA1CH101T	CAP , ELECT	100UF 16V	
C112	CCEA1CH470T	CAP , ELECT	47UF 16V	
C123	CCEA1CH101T	CAP , ELECT	100UF 16V	
C139	CCEA1CH470T	CAP , ELECT	47UF 16V	
C148	CCEA1CH101T	CAP , ELECT	100UF 16V	
C402	CCEA1CH101T	CAP , ELECT	100UF 16V	
C404	CCEA1CH221T	CAP , ELECT	220UF 16V	
C406	CCEA1CH101T	CAP , ELECT	100UF 16V	
C410	CCEA1HH100T	CAP , ELECT	10UF 50V	
C453	CCEA1CH101T	CAP , ELECT	100UF 16V	
C455	CCEA1HH100T	CAP , ELECT	10UF 50V	
C515	CCEA1CH470T	CAP , ELECT	47UF 16V	
C516	CCEA1CH470T	CAP , ELECT	47UF 16V	
C521	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C522	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C523	CCEA1HH100T	CAP , ELECT	10UF 50V	
C526	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C527	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C528	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	
C529	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	
C530	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	
C531	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	
C532	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C533	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C534	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C535	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C536	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C537	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C538	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C539	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C540	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C541	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C542	HCQI1H272JZT	CAP , MYLAR	2700PF 50V J	
C543	HCQI1H272JZT	CAP , MYLAR	2700PF 50V J	
C544	CCEA1HH220T	CAP , ELECT	22UF 50V	
C546	CCEA1CH101T	CAP , ELECT	100UF 16V	
C547	CCEA1CH101T	CAP , ELECT	100UF 16V	
C551	CCEA1CH470T	CAP , ELECT	47UF 16V	
C552	CCEA1CH470T	CAP , ELECT	47UF 16V	
C559	CCEA1HH100T	CAP , ELECT	10UF 50V	
C713	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C714	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C715	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C716	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C719	CCEA1HH2R2T	CAP , ELECT	2.2UF 50V	
C720	CCEA1CH471T	CAP , ELECT	470UF 16V	
C736	CCEA1CH471T	CAP , ELECT	470UF 16V	
C903	CCEA1CH470T	CAP , ELECT	47UF 16V	
C905	CCEA1CH470T	CAP , ELECT	47UF 16V	
C907	CCEA1CH470T	CAP , ELECT	47UF 16V	
C910	CCEA1HH470T	CAP , ELECT	47UF 50V	
C913	CCEA1HH220T	CAP , ELECT	22UF 50V	
C914	CCEA1CH221T	CAP , ELECT	220UF 16V	
C917	CCEA1CH101T	CAP , ELECT	100UF 16V	
C922	CCEA1CH471T	CAP , ELECT	470UF 16V	
D903	CVD1N4003SRT	DIODE , RECT	1N4003	
D904	CVD1N4003SRT	DIODE , RECT	1N4003	
D907	CVD1N4003SRT	DIODE , RECT	1N4003	
D908	CVD1N4003SRT	DIODE , RECT	1N4003	
IC55	HVIKA78L08AZT	I.C , REGULATOR	KA78LXXAZTA, +8V	
Q101	HVTKTA1266YT	T.R	TKTA1266YT	
Q405	HVTKSB811YT	T.R	KSB811Y	
Q901	HVTKSC2316YT	T.R	KSC2316Y	

Q902	HVTKSC2316YT	T.R	KSC2316Y
CN11	CJP05GA19ZY	WAFER , STRAIGHT	
CN12	CJP06GA19ZY	WAFER , STRAIGHT	
CN13	CJP16GA117ZY	WAFER	
CN21	CJP13GA117ZY	WAFER , CARD CABLE	
CN31	CJP05GA19ZY	WAFER , STRAIGHT	
CN41	CJP05GA19ZY	WAFER , STRAIGHT	
CN42	CJP07GA19ZY	WAFER , STRAIGHT	
CN51	CJP03GA19ZY	WAFER , STRAIGHT	
CN61	CJP03GA19ZY	WAFER , STRAIGHT	
CN83	CJP05GA01ZY	WAFER	
CN94	CJP11GA01ZY	WAFER	
C421	CCESDX5R5V334U	CAP , DYNA	0.33F 5.5V
C902	CCEA1AH102E	CAP , ELECT	1000UF 10V
C909	CCEA1JH101E	CAP , ELECT	100UF 63V
C919	CCEA1EH222E	CAP , ELECT	2200UF 25V
C924	CCEA1AH102E	CAP , ELECT	1000UF 10V
IC22	CVIKA78R05VA	I.C , REGULATOR	+ 5V
IC90	CVIKIA7808A	I.C , REGULATOR	+ 8V
IC99	CVIKIA7805A	I.C , REGULATOR	+ 5V
JK51	CJJ4M056W	JACK , BOARD	
JK52	CJJ4P019W	JACK , RCA	
JK53	CJJ4R020W	JACK , BOARD	
L401	KLZ9H001Z	BEAD , CORE	
WF64	CJP15GA115ZY	WAFER , CARD CABLE	
WF81	CJP17GA117ZY	WAFER	
X101	HOX16934E120C	CRYSTAL	16.934MHZ
X401	HOX04000E150C	CRYSTAL	4MHZ
X402	HOX00032K120I	CRYSTAL	32.768KHZ
X403	HOX04332E200C	CRYSTAL	4.332KHZ
X701	HOX12000E200C	CRYSTAL	12MHZ

POWER PCB ASS'Y (DABC : COP12019B, C : COP12019C, AH : COP12019D)		
CUP12019Z	PCB , POWER C715(240X251, FR-1)	

REF NO.	PART NO.	DESCRIPTION	REMARKS
CUP12018-1		USB BOARD	
BN83	CWZC715BN83	SHIEL WIRE ASS'Y(5P, 250MM)	
C821	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
JK83	HJJ9X001Z	JACK, USB	

REF NO.	PART NO.	DESCRIPTION	REMARKS
CUP12018-2		PHONE BOARD	
BK85	CMC1A324	BRACKET , JACK C715	
BN41	CWB2B005180EN	WIRE ASS'Y(5P, 180MM)	
BN51	CWZC715BN51	SHIEL WIRE ASS'Y(3P, 400MM)	
C816	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C818	HCBS1C472MXT	CAP , CERAMIC	4700PF 16V M
C819	HCBS1C472MXT	CAP , CERAMIC	4700PF 16V M
JK81	CJJ2E028Z	JACK , HEADPHONE(3.5mm, GOLD)	PJ-323AG-7
JK82	CJJ2E028Z	JACK , HEADPHONE(3.5mm, GOLD)	PJ-323AG-7

REF NO.	PART NO.	DESCRIPTION	REMARKS
CUP12018-3		FRONT BOARD	
BK83	CMD1A468	BRACKET , FLT	
BK84	CMD1A468	BRACKET , FLT	
C801	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C802	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C803	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C804	HCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z
C805	HCBS1H221KBT	CAP , CERAMIC	220PF 50V K
C806	HCBS1H221KBT	CAP , CERAMIC	220PF 50V K
C807	HCBS1H221KBT	CAP , CERAMIC	220PF 50V K
C808	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C809	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C810	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C811	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C812	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C813	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C814	HCBS1H390JT	CAP , CERAMIC	39PF 50V J
C817	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C820	CCEA1CH470T	CAP , ELECT	47UF 16V
CN81	CJP17GB113ZY	WAFER	
D801	CVD50BOBBWGA	L.E.D , 2 COLOR (ORG , BLUE)	TOL-50BOBBWGA
D802	CVD1N4003ST	DIODE , RECT	1N4003
FIP1	HFLHCA-17SM03T	FIP	
JW83	CWE8102080RV	WIRE(1P)	
JW84	CWE8102080RV	WIRE(1P)	
Q209	HVTKRA107MT	T.R	KRA107M
Q210	HVTKRC107MT	T.R	KRC107M
R801	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J
R802	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J
R803	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J
R804	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J
R805	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J
R806	CRD20TJ182T	RES , CARBON	1.8K OHM 1/5W J
R807	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J
R808	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J
R809	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J
R812	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J
R813	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J
R814	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J
R815	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J
R816	CRD20TJ822T	RES , CARBON	8.2K OHM 1/5W J
R817	CRD20TJ330T	RES , CARBON	33 OHM 1/5W J
R818	CRD20TJ330T	RES , CARBON	33 OHM 1/5W J
R819	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J
R820	CRD20TJ330T	RES , CARBON	33 OHM 1/5W J
R821	CRD25TJ272T	RES , CARBON	2.7K OHM 1/4W J
R822	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J
RC81	CRVKSM603TH2E	SENSOR , REMOCON	KSM603TH2E
S801	CST1A0122T	SW , TACT	SKHV10910G
S802	CST1A0122T	SW , TACT	SKHV10910G
S803	CST1A0122T	SW , TACT	SKHV10910G
S804	CST1A0122T	SW , TACT	SKHV10910G
S805	CST1A0122T	SW , TACT	SKHV10910G
S806	CST1A0122T	SW , TACT	SKHV10910G
S807	CST1A0122T	SW , TACT	SKHV10910G
S808	CST1A0122T	SW , TACT	SKHV10910G
S809	CST1A0122T	SW , TACT	SKHV10910G
S810	CST1A0122T	SW , TACT	SKHV10910G
S811	CST1A0122T	SW , TACT	SKHV10910G
VR81	CSR2A036Z	ENCODER VR	

REF NO.	PART NO.	DESCRIPTION	REMARKS
CUP12018-4		SPEAKER BOARD	
BN31	CWB2B005050EN	WIRE ASS'Y	
BN62	CWB1C005200BM	WIRE ASS'Y(5P, 200MM)	
C303	HCQ1H682JZT	CAP , MYLAR	6800PF 50V J
C304	HCQ1H682JZT	CAP , MYLAR	6800PF 50V J
C305	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
C306	HCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z
CN53	CJP05GA01ZY	WAFER(YMW025-05R)	
R305	CRG1ANJ391H	RES , METAL OXIDE FILM	390 OHM 1W J
R306	CRG1ANJ391H	RES , METAL OXIDE FILM	390 OHM 1W J
R307	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J
R308	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J
RY72	HSL4A004ZU	RELAY	OSA-SS-212DM3
SP31	CJJ5P012Z	TERMINAL , SPEAKER	

REF NO.	PART NO.	DESCRIPTION	REMARKS
CUP12018-5		POWER BOARD	
AT21	CJJ3G012Z	TERMINAL , ANT DAB	RF - 055A
BK21	CMD1A387	BRACKET , PCB	
BK22	CMD1A387	BRACKET , PCB	
BN23	CJP44TT153ZY	PIN , HEADER DAB(2.00MM)	DAB2025
BN25	CWB2B005250EN	WIRE ASS'Y	
BN26	CJP02TT155ZY	PIN , HEADER (2.54MM)	DAB2025
BN53	CWB1C005100BM	WIRE ASS'Y(5P, 100MM)	
BN94	CWB1C011150BM	WIRE ASS'Y(11P, 150MM)	
C201	CCME2A104JXT	CAP , METALLIZED FILM	HMFS104J2AP050T
C202	HCQ1H103JZT	CAP , MYLAR	0.01UF 50V J
C203	HCQ1H103JZT	CAP , MYLAR	0.01UF 50V J
C204	CCET1HKLH332KK8	CAP , ELECT	3300UF 50V
C205	CCET1HKLH332KK8	CAP , ELECT	3300UF 50V
C206	HCQ1H103JZT	CAP , MYLAR	0.01UF 50V J
C207	HCQ1H103JZT	CAP , MYLAR	0.01UF 50V J
C208	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V
C209	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V
C210	CCFT1H223ZF	CAP , CERAMIC	0.022UF 50V Z
C211	CCEA1CH470T	CAP , ELECT	47UF 16V
C212	CCEA1CH470T	CAP , ELECT	47UF 16V
C213	CCFT1H223ZF	CAP , CERAMIC	0.022UF 50V Z
C214	CCEA1AH471T	CAP , ELECT	470UF 10V
C215	CCFT1H223ZF	CAP , CERAMIC	0.022UF 50V Z
C216	CCFT1H223ZF	CAP , CERAMIC	0.022UF 50V Z
C217	CCEA1CH101T	CAP , ELECT	100UF 16V
C219	CCEA1AH471T	CAP , ELECT	470UF 10V
C220	CCEA1CH101T	CAP , ELECT	100UF 16V
C221	CCFT1H223ZF	CAP , CERAMIC	0.022UF 50V Z
C223	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z
C224	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z
C225	CCEA1CH102E	CAP , ELECT	1000UF 16V
C226	CCEA1CH102E	CAP , ELECT	1000UF 16V
C227	CCEA1EH222E	CAP , ELECT	2200UF 25V
C228	CCEA1EH222E	CAP , ELECT	2200UF 25V
C229	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z
C230	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z
C232	CCFT1H223ZF	CAP , CERAMIC	0.022UF 50V Z
C233	CCEA1EH331T	CAP , ELECT	330UF 25V
C234	CCEA1CH101T	CAP , ELECT	100UF 16V
C235	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z
C236	CCEA1EH471E	CAP , ELECT	470UF/25V
C237	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z
C238	KCKDKS472ME	CAP , CERAMIC(X1/Y2/SC)	0.0047UF/2.5KV
C241	CCEA1EH102E	CAP , ELECT	1000UF 25V
C241	CCEA1EH331T	CAP , ELECT	330UF 25V
C243	CCFT1H103ZF	CAP , CERAMIC	0.01UF 50V Z
C245	CCFT1H103ZF	CAP , CERAMIC	0.01UF 50V Z
C246	CCEA1EH102E	CAP , ELECT	1000UF 25V
C247	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z
CN24	CJP08GA01ZY	WAFER, STRAIGHT, 8PIN	
CN91	CJP02KA060ZY	WAFER	
CN92	CJP02GA89ZY	WAFER	
CN93	CJP03GA90ZY	WAFER	
D201	HVDPBU604F	DIODE , BRIDGE	US PBU604F
D202	CVD1N4003ST	DIODE , RECT	1N4003
D203	CVD1N4003ST	DIODE , RECT	1N4003
D204	CVD1N4003ST	DIODE , RECT	1N4003
D205	CVD1N4003ST	DIODE , RECT	1N4003
D207	CVD1SS133MT	DIODE	1SS133
D208	HVDMTZJ6.2BT	DIODE , ZENER	6.2V
D209	CVD1SS133MT	DIODE	1SS133
D210	CVD1N4003SRT	DIODE , RECT	1N4003
D211	CVD1N4003SRT	DIODE , RECT	1N4003
D212	CVD1N4003SRT	DIODE , RECT	1N4003

D213	CVD1N4003SRT	DIODE , RECT	1N4003	
D214	CVD1N4003ST	DIODE , RECT	1N4003	
D215	CVD1N4003ST	DIODE , RECT	1N4003	
D216	CVD1N4003ST	DIODE , RECT	1N4003	
D217	CVD1N4003ST	DIODE , RECT	1N4003	
ET91	CNE75	PLATE , EARTH		
F751	KBA2C2000TLEZ	FUSE	T 2A L 250V	C715DABC, C715C
F751	KBA2C3000TLUZ	FUSE	SB 3A 250V	C715AH ONLY
IC21	HVI74HC4066D	I.C , SWITCHING	74HC4066D	C715DABC ONLY
IC91	CVIKIA7812A	I.C , REGULATOR	+ 12V	
IC92	CVIKIA7912A	I.C , REGULATOR	- 12V	
IC93	CVIKIA7805A	I.C , REGULATOR	+ 5V	C715DABC ONLY
IC93	HVIKA78L05AZT	I.C , REGULATOR	+ 5V	C715C, C715AH
IC94	CVIKIA7805A	I.C , REGULATOR	+ 5V	C715DABC ONLY
IC95	HVILM1117S-ADJ	I.C , REGULATOR	LM1117-ADJ	C715DABC ONLY
JK21	HJSTOTX177L	MODULE , OPTICAL(TX)	TOTX177L	
Q201	HVTKRC107MT	T.R	KRC107M	C715DABC ONLY
Q207	HVTKRC107MT	T.R	KRC107M	
Q208	HVTKSC2316YT	T.R	KSC2316Y	
R201	CRD25TJ183T	RES , CARBON	18K OHM 1/4W J	
R202	CRD25TJ183T	RES , CARBON	18K OHM 1/4W J	
R203	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	C715DABC ONLY
R204	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	C715DABC ONLY
R205	CRD20TJ391T	RES , CARBON	20K OHM 1/5W J	C715DABC ONLY
R206	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	C715DABC ONLY
R207	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	C715DABC ONLY
R208	CRD20TJ1R0T	RES , CARBON	1 OHM 1/5W J	C715DABC ONLY
R209	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	C715DABC ONLY
R210	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	C715DABC ONLY
R211	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	C715DABC ONLY
R213	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	C715DABC ONLY
R214	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	C715DABC ONLY
R216	HRDERC12UGK335T	RES , CARBON	ERC12UGK 3.3M OHM	
R218	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	
R219	CRQ1AJR47H	RES , FUSE		
R220	CRQ1AJR47H	RES , FUSE		
R221	CRD25TJ183T	RES , CARBON		
R222	CRD25TJ183T	RES , CARBON		
R223	CRQ1AJR47H	RES , FUSE		
R224	CRQ1AJR47H	RES , FUSE		
RY71	HSL1D016ZE	RELAY	SDT-S-109DMR	
T701	CLT5I002ZE	TRANS , SUB		
T701	CLT5I002ZU	TRANS , SUB		
WF21	CJP13GA117ZY	WAFER , CARD CABLE		

REF NO.	PART NO.	DESCRIPTION		REMARKS
CUP12018-6		AMP BOARD		
BK23	CMD1A387	BRACKET , PCB		
BK24	CMD1A387	BRACKET , PCB		
BN61	CWB2B003180EN	WIRE ASS'Y(3P, 180MM)		
C603	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C604	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	
C607	CCEA1HH101T	CAP , ELECT	100UF 50V	
C608	CCEA1HH101T	CAP , ELECT	100UF 50V	
C621	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z	
C622	CCEA1HH470T	CAP , ELECT	47UF 50V	
C623	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z	
C624	CCEA1HH470T	CAP , ELECT	47UF 50V	
C625	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z	
C627	HCQI1H682JZT	CAP , MYLAR	6800PF 50V J	
C628	HCQI1H682JZT	CAP , MYLAR	6800PF 50V J	
C631	CCME2A104JXT	CAP , METALLIZED FILM	HMFS104J2AP050T	
C632	CCME2A104JXT	CAP , METALLIZED FILM	HMFS104J2AP050T	
CN25	CJP05GA19ZY	WAFER , STRAIGHT		
CN62	CJP05GA01ZY	WAFER(YMW025-05R)		
IC61	CVITDA7292	I.C , AMP	40WX2CH	
L601	KLZ9H001Z	BEAD , CORE		
L602	KLZ9H001Z	BEAD , CORE		
R603	CRD25TJ183T	RES , CARBON	18K OHM 1/4W J	
R604	CRD20TJ183T	RES , CARBON	18K OHM 1/5W J	
R605	CRD25TJ102T	RES , CARBON	1K OHM 1/4W J	
R606	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	
R607	CRD25TJ822T	RES , CARBON	8.2K OHM 1/5W J	
R608	CRD25TJ822T	RES , CARBON	8.2K OHM 1/5W J	
R621	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	
R631	KRG1SANJ4R7RT	RES , METAL(OXIDE)FILM,5%	4.7/1W(RADIAL)	
R632	KRG1SANJ4R7RT	RES , METAL(OXIDE)FILM,5%	4.7/1W(RADIAL)	

Service Hint

Product: C715

Hardware Technical Bulletin: C715-H2009-01

Date: APRIL 1 2009

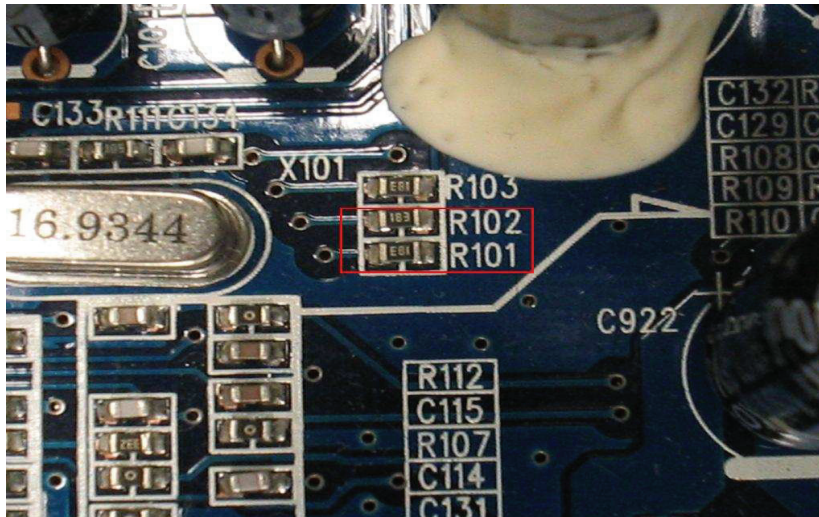
Subject: TRAY FUNCTIONALITY

Note: This condition only affects a small number of units produced with this batch of leaf switches

DESCRIPTION: CD tray may not open or close.

REASON: The tray sense switch can grow tiny conductive "whiskers" across it's contact pads shorting the switch and preventing the tray from opening/closing.

SOLUTION: Change the value of R101 and R731102 from 18K to 470 ohm to increase the current flow across each contact switch pads eliminating the "WHISKERS". Resistor 470R 1/8w SMD 0805.



SERVICE MANUAL

C715 & C715 DAB

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