

harman/kardon

AVR745

A/V DOLBY DIGITAL RECEIVER

SERVICE MANUAL



CONTENTS

ESD WARNING.....	2	ELECTRICAL PARTS LIST....	11
LEAKAGE TESTING.....	3	SEMICONDUCTOR PINOUTS	36
BASIC SPECIFICATIONS.....	4	PCB DRAWINGS.....	87
TROUBLESHOOTING GUIDE.....	5	SERVICE PROCEDURE.....	100
PROCESSOR RESET.....	5	BLOCK DIAGRAM.....	103
PACKAGING.....	6	CIRCUIT DESCRIPTION.....	105
PACKING PARTS LIST.....	7	WIRING DIAGRAM.....	106
UNIT EXPLODED VIEW.....	8	SCHEMATIC DIAGRAMS.....	107
EXPLODED VIEW PARTS LIST..	9		

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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 build-up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled 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. (Otherwise 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 devices.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing.

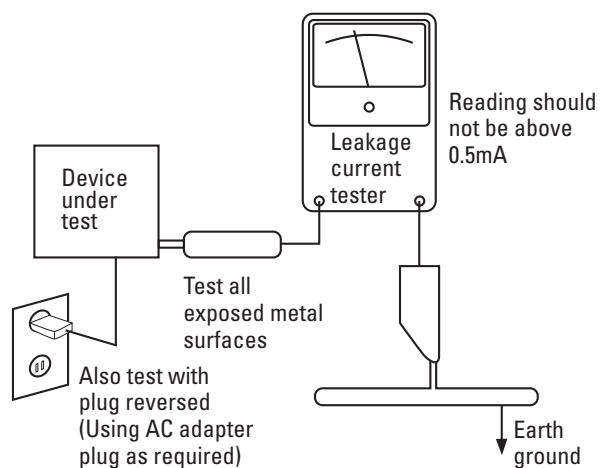
Components identified with the IEC symbol  in the parts list are special significance to safety. When replacing a component identified with , use only the replacement parts designated, or parts with the same ratings or resistance, wattage, or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

SAFETY PRECAUTIONS

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

LEAKAGE CURRENT CHECK

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



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

Technical Specifications

Audio Section

Stereo Mode

Continuous Average Power (FTC)

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

5/7 Channel Surround Modes

Power Per Individual Channel

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

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

Surround (L & R Side, L & R Back) channels:
85 Watts per channel,
@ < 0.07% THD, 20Hz–20kHz into 8 ohms

Input Sensitivity/Impedance

Linear (High Level) 200mV/47kohms

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

Surround System Adjacent Channel Separation

Analog Decoding 40dB
(Pro Logic, etc.)

Dolby Digital (AC-3) 55dB

DTS 55dB

Frequency Response

@ 1W (+0dB, -3dB) 10Hz–130kHz

High Instantaneous

Current Capability (HCC) ±60 Amps

Transient Intermodulation

Distortion (TIM) Unmeasurable

Rise Time 16 µsec

Slew Rate 40V/µsec**

FM Tuner Section

Frequency Range	87.5–108MHz
Usable Sensitivity	IHF 1.3 µV/13.2dBf
Signal-to-Noise Ratio	Mono/Stereo: 70/68dB (DIN)
Distortion	Mono/Stereo: 0.15/0.2%
Stereo Separation	40dB @ 1kHz
Selectivity	±400kHz: 70dB
Image Rejection	80dB
IF Rejection	90dB

AM Tuner Section

Frequency Range	520–1710kHz
Signal-to-Noise Ratio	45 dB
Usable Sensitivity	Loop: 500µV
Distortion	1kHz, 50% Mod: 0.8%
Selectivity	±10kHz: 30dB

Video Section

Video Format	PAL/NTSC
Input Level/Impedance	1Vp-p/75 ohms
Output Level/Impedance	1Vp-p/75 ohms
Video Frequency Response (Composite and S-Video)	10Hz–8MHz (-3dB)
Video Frequency Response (Component)	10Hz-50MHz (-3dB)
HDMI Version	1.1

General


Power Requirement	AC 220-240V/50Hz
Power Consumption	120W idle, 1400W maximum (7 channels driven)

Dimensions (Max)



Width	440mm
Height	165mm
Depth	435mm
Weight	19.9 kg

Supplied Accessories

The following accessory items are supplied with the AVR 745. If any of these items are missing, please contact Harman Kardon customer service at www.harmankardon.com.

- TC 30 remote control
- Battery for the TC 30
- USB cable for the TC 30
- TC 30 charging cradle
- Charger for the TC 30
- TC 30 software CD-ROM
- TC 30 installation guide
- ZR 10 remote control
- Two AAA batteries for ZR 10
-  **BridgexEQ** microphone
- Extender rod for microphone
- AM loop antenna
- FM wire antenna

Depth measurement includes knobs, buttons and terminal connections. Height measurement includes feet and chassis. All features and specifications are subject to change without notice. Harman Kardon and Power for the Digital Revolution are registered trademarks of Harman International Industries, Incorporated.

 **BridgexEQ** and  **BridgexEQ** are trademarks of Harman International Industries, Incorporated. (Patent No. 5,386,478).

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SACD is a trademark of Sony Corporation.

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HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing, LLC.

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**Without input anti slewing and output isolation networks.

Troubleshooting Guide

SYMPTOM	CAUSE	SOLUTION
Unit does not function when Main Power Switch 1 is pushed	<ul style="list-style-type: none"> No AC Power 	<ul style="list-style-type: none"> Make certain AC power cord is plugged into a live outlet Check to see if outlet is switch controlled
Display lights, but no sound or picture	<ul style="list-style-type: none"> Intermittent input connections Mute is on Volume control is down 	<ul style="list-style-type: none"> Make certain that all input and speaker connections are secure Press Mute button 12 K Turn up volume control
Units turns on, but Front-Panel Display does not light	<ul style="list-style-type: none"> Display brightness is turned off 	<ul style="list-style-type: none"> Follow the instructions in the Display Brightness section on page 53 so that the display is set to VFD FULL
No sound from any speaker; light around Power switch 2 is red	<ul style="list-style-type: none"> Amplifier is in protection mode due to possible short Amplifier is in protection mode due to internal problems 	<ul style="list-style-type: none"> Check speaker-wire connections for shorts at receiver and speaker ends Contact your local Harman Kardon service depot
No sound from surround or center speakers	<ul style="list-style-type: none"> Incorrect surround mode Input is mono Incorrect configuration Stereo or Mono program material 	<ul style="list-style-type: none"> Select a mode other than Stereo There is no surround information from mono sources (except with Theater and Hall surround modes) Check speaker mode configuration Some surround modes may not create rear-channel information from nonencoded programs
Unit does not respond to remote commands	<ul style="list-style-type: none"> Weak batteries in remote Wrong device selected Remote sensor 30 is obscured 	<ul style="list-style-type: none"> Change remote batteries Press the AVR Selector B Make certain front-panel sensor is visible to remote or connect remote sensor
Intermittent buzzing in tuner	<ul style="list-style-type: none"> Local interference 	<ul style="list-style-type: none"> Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances
Letters flash in the Channel Indicator Display 24 and Digital Audio stops	<ul style="list-style-type: none"> Digital audio feed paused 	<ul style="list-style-type: none"> Resume play for DVD Check that Digital Signal is fed to the Digital Input selected

Processor Reset

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

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

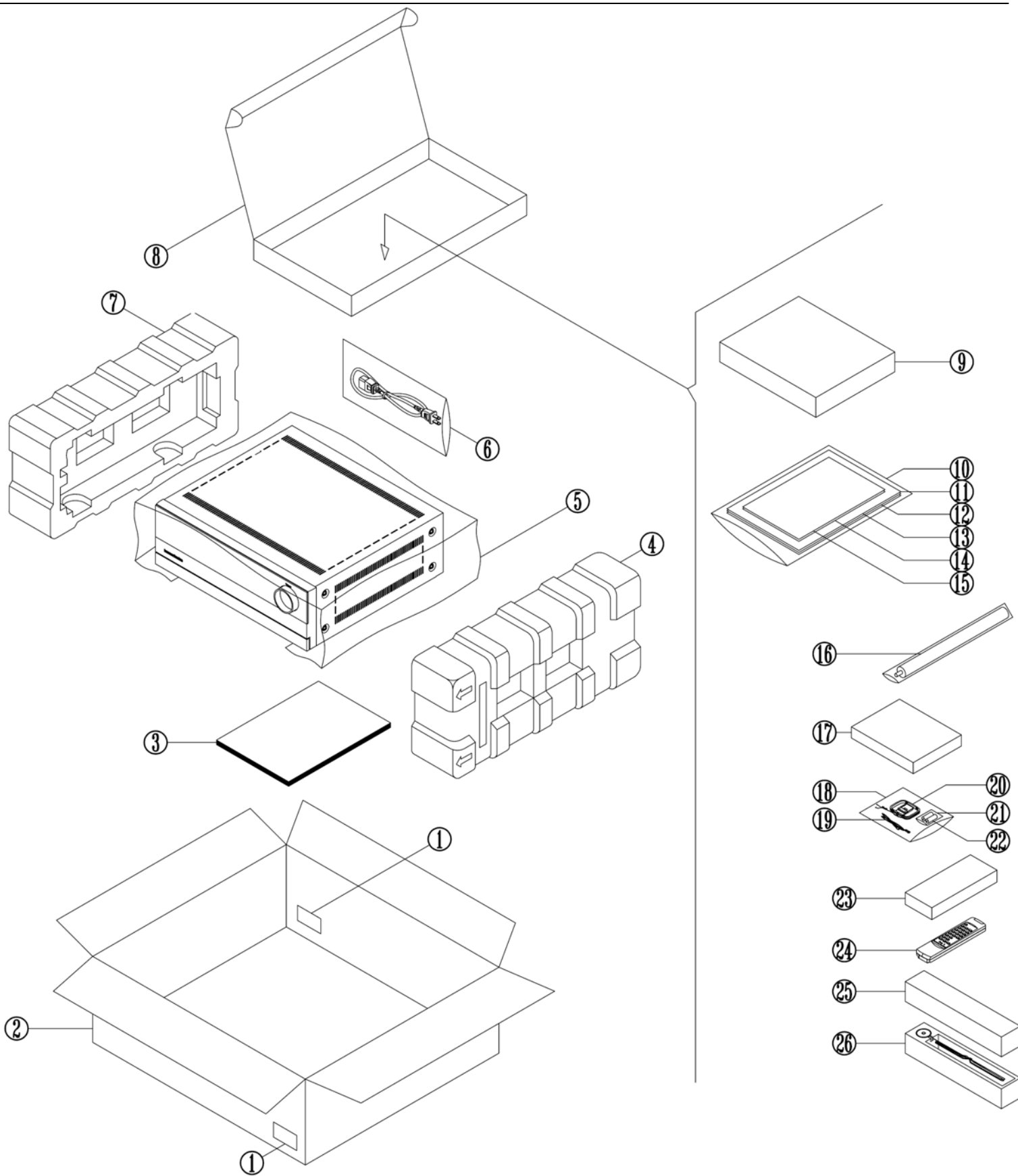
To clear the AVR's entire system memory including tuner presets, output level settings, delay times and speaker configuration data, first put the unit in Standby by pressing the **System Power Control** button **2**. Next, press the **Surround Mode 5** and the **RDS 16** buttons simultaneously for three seconds.

The unit will turn on automatically and display the **RESET** message in the **Main Information Display 29**. Note that once you have cleared the memory in this manner, it is necessary to re-establish all system configuration settings and tuner presets.

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

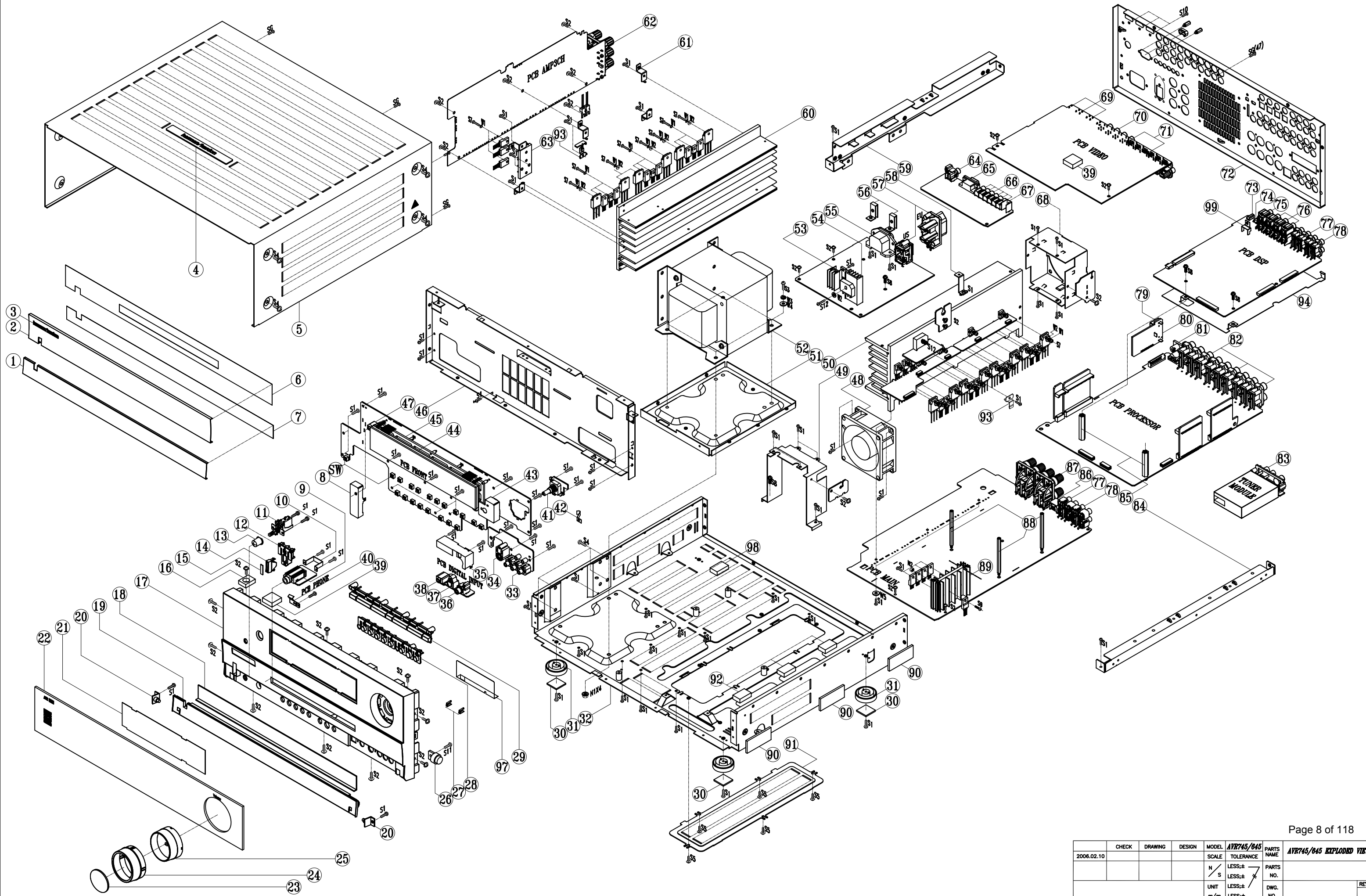
If the system is still operating incorrectly, there may have been an electronic discharge or severe AC line interference that has corrupted the memory or microprocessor.

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



PACKING PARTS LIST FOLLOWING PAGE

AVR 745 EU Packing Parts List			
NO	PART NUMBER	DESCRIPTION	QT'Y
1	ZKD2873HA00-R-A	LABEL BARCODE AVR745EU TF PRINT	2
2	ZKD2804HA00-R-8	BOX CARTON AVR745EU	1
3	ZKD2801HA00-R-9	MANUAL AVR745EU	1
4	ZQD1201HAWH	CUSHION POLY EPS RIGHT AVR635	1
5	ZHC1201AAWH	FILM SHEET PE 920 X 1000	1
6	H03-WAD022000BK-R-A	WR002 H05VVF 0.75MMSQ 2G BLACK 2000MM	1
7	ZQD1202HAWH	CUSHION POLY EPS LEFT AVR635	1
8	ZKD2802HA04	AVR745 TOTAL ACCESSORY BOX	1
9	See invidual parts	REMOCON W/ ACCESSORY BOX AVR745EU UK	1
9a	501673-0000	USB PC LINK CABLE	1
9b	190304-0002	BATTERY TC 30	1
9c	602279-0900	SOFTWARE CD TC 30	1
9d	TC 30 BATT DOOR	BATTERY COVER TC30	1
9e	TC 30 OM	OWNERS MANUAL TC30	1
9f	866176-0000	BASE STATION CHARGER TC 30	1
9g	190254-A042	POWER SUPPLY TC 30 EU	1
9h	190254-A043	POWER SUPPLY TC 30 UK	1
9i	657316-0914	CARTON TC 30 EU UK	1
9j	190254-A044	REMOTE HANDSET TC30	1
10	ZBP00122051	BAG PE 330 X245 T0.05	1
11	ZKD2716HA00	QUICK SETUP GUIDE AVR745US	1
12	ZKC1214HA00	LABEL SAFETY LEAFLET	1
13	ZKC1113HA00	CARD WARRANTY	1
14	ZKD1263HA00	BROCHURE AVR US	1
15	ZKC1263HA00	INSERT RS232 NOTE PAPER	1
16	H03-ZPD1212INBK	MICROPHONE ASSY EXTENSION PIECE	1
17	ZKD2802HA01	BOX ANTENNA	1
18	ZBP00161851	BAG PE 160X180MM	1
19	H03-WAD01200303-R-0	ANTENNA WIRE 75 OHM WIRE T15011F-1	1
20	H03-ATALF039ABK	ANTENNA WIRE ANTENNA LOOP-300	1
21	ZBP00020350	POLYBAG BATTERY	1
22	BTA3A1511SF	BATTERY ALKALINE 1.5V AAA	2
23	ZKD2802HA03	BOXZONE I1 REMOTE CONTROLLER	1
24	H03-RYD2702HA00	REMOCON ZONE 2 AVR745	1
25	ZKD2802HA02	BOX MIC	1
26	H03-MCD12TWBKNN	AVR635 MICROPHONE ASSY	1



CHECK	DRAWING	DESIGN	MODEL	SCALE	TOLERANCE	PARTS NAME	PARTS NO.	REV.
2006.02.10			AVR745/045	N/S	LESS:±	AVR745/045 EXPLODED VIEW		
				S	LESS:±			
				UNIT	LESS:±			
				m/m	LESS:±			

AVR 745EU EXPLODED VIEW PARTS LIST			
NO.	PART NO.	DESCRIPTION	Q'TY
1	H03-ZMC11S00200	AL DOOR AVR430/630	1
2	H03-ZMD2702GAGY	AL PANEL FRONT AVR745	1
3	H03-ZMD2703GAGY	BADGE FRONT AL AVR745 GREY HOT STAMPING	1
4	H03-ZMD27S20A00	BADGE harman/kardon COVER TOP AVR745	1
5	H03-ZMD27S08A00	COVER TOP AVR745	1
6	H03-ZVC11DWT200	TAPE PANEL	1
7	H03-ZVC11DWT100	TAPE DOOR	1
8	H03-ZMD12S01A00	SHIELD IR	1
9	H03-SOSS9CKX3NN	JACK PHONE 6.35 H70980110S 9P BK	1
10	H03-ZMB01S00100	BKT HEADPHONE	1
11	H03-SWA2B21PDA&	SW PUSH POWER SDDL15700	1
12	ZPC1006GAWH	BUTTON STANDBY	1
13	ZPC1003GAGY	BUTTON POWER	1
14	ZPC1007GAMW	INDICATOR STAND-BY	1
15	H03-ZMC11S12A00	CAP BUTTON STAND-BY AVR430/630	1
16	ZFD122062SB	RUBBER TOP AVR635	1
17	ZPD2801GAGY	PANEL FRONT AVR745EU	1
18	H03-ZMC11S14A00	BRACKET DOOR	1
19	ZPC1002GAGY	DOOR AVR430/630	1
20	H03-ZMD05S16A00	BKT HINGE AVR7300	2
21	H03-ZPC1018GART	FILTER VFD	1
22	H03-ZPD2719GABT	WINDOW DISPLAY AVR745+BADGE NAME AVR745	1
23	H03-ZPD0317GACR	CAP KNOB VOLUMN	1
24	H03-ZPD0316GASG	COVER KNOB	1
25	H03-ZPD0315GAMW	VOLUMN KNOB	1
26	H03-ZVC11GEAR01	DAMPER GEAR DP120	1
27	ZPC1102GAMW	INDICATOR VIDEO	2
28	ZPC1005GAGY	BUTTON 8 KEY	1
29	H03-ZPD1004GASG	BUTTON 7 KEY EU	1
30	ZFNR19720SB	RUBBER FOOT 19.7X19.7X2T BK	4
31	ZPC1103GAGY	FOOT 50MM 15.8MM	4
32	H03-ZMD27S13A00	CHASSIS MAIN AVR745	1
33	H03-SORA3313PNN	CON PHONOSCKT RCA-313P3PINS	1
34	H03-SORA8OSC5N8	JACK S-VIDEO 1P C40160261N	1
35	H03-ZMC12S17A00	AC PUN SHIELD DIGITAL ET	1
36	H03-SORA1JE01NN	JACK RCA 1P JE010003MN GND OR	1
37	H03-SOTORX177LT	FIBER OPTIC RECEIVING TORX177L (F, T)	
38	H03-SO3P5179NNN	JACK PHONE 3.5PI PJ0435179N	1
39	ZFD122072SB	RUBBER TOP AVR635	3
40	H03-ZMC11S06A00	SPRING STOPPER AVR430/630	1
41	H03-SWE3A0505S1	SWIROT EC 16B24204A9 5V 500UOA 10T 3P 00	1
42	H03-ZMB01S02200	SPRING PLATE GND C5212 0.2T	9
43	H03-ZMD12S01B00	SHIELD MICROPHONE	1
44	H03-XD18BT19GNA	VFD 18-BT-19GINK	1
45	ZPC1017GABK	HOLDER VFD AVR430/630	1
46	H03-ZMC11S07A00	CHASSIS FRONT AVR430/630	1
47	H03-ICROMN338EC	REMOCON RECEIVER MODULE ROM-N338TEC	
48	H03-ZVJF0925S00-R	DC FAN JF0925S1M-003C651R 12V 92x92x25mm	
49	H03-ZMC11S09A00	BKT FAN FRONT AVR430/630	1
50	H03-ZMD27HS0200	H/SINK MAIN AVR745	1
51	H03-ZMC12S08B00	BKT TRANS BOTTOM	1
52	H03-TXPWMEI96B0	POWER TRANSFORMER AVR745EU MAIN TRANS 230V 50Hz	1
53	H03-ZMC12HS0100	AC HEATSINK 17x15x30 AVR520--ME	1
54	H03-ZMC11HS0400	HEATSINK DIODE 47x26x12 AVR630	1
55	H03-SOXA27014NN	CON MAINS INLETAIC A/C INLET7014-NGP	1
56	H03-ZMC12S19A00	BKT AC INLET	2
57	H03-SOXA2202DNN-R	A302D0061P AC Out Let (1P)	1
58	H03-ZMD27S06A00	BKT VIDEO	1
59	H03-ZMD27S04A00	BKT FRAME GUIDE AVR745	1
60	H03-ZMD27HS0100	H/SINK AMP AVR745	1
61	H03-ZMC12S09A00	BKT HEATSINK	5
62	H03-SOPA61M707G	JACK SPEAKER 6P SH061M707G GN BN TA	1
63	H03-ZMD27HS0300	HEATSINK AMP SMALL	1
64	H03-SORA10003GN	JACK RCA 1P JE010003SG GND YELLOW GOCD COLOR	1
65	SOPA96063NN	JACK D-SUB 9P 87204-6063 W/DUST COVER BK	1
66	H03-SQJW2350SNN-R	JACK PHONE 3.6 EP-1401A 1P BK	6
67	H03-ZMC12S16A00	BKT GROUND	1
68	H03-ZMC11S10A00	BKT FAN REAR AVR430/630	1
69	H03-SOYKF457009	JACKI HDMI YKF45-7009 JALCO	3
70	H03-SOR12BJ12GN	JACK RCA 12P BJ120154JG R4 BU4 G4 GOLD COLOR	1
71	H03-SORA60031GN	JACK RCA+S-VIDEO 6P C80300312GGOLD COLOR	2
72	H03-ZMD28S02A00	PANEL REAR AVR745EU	1
73	H03-SOUSB45810B	JACK R41-5810B (Mitsumi) XM/DT connector	1
74	H03-SOUSB5005K0	AU6-EC-005K0	1

75	H03-SOTX22073GN	JACK RCA+ OPTICAL TX YKC22-0732N GOLD COLOR	1
76	H03-SORX22073GN	JACK RCA+ OPTICAL RX YKC22-0733N GOLD COLOR	3
77	H03-SORA40RSAGN	JACK RCA 4P JB040131ZG GN BN PP TA GOLD COLOR	2
78	H03-SORA40RSCGN	JACK RCA 4P JB040131QG WH BU RD GY GOLD COLOR	1
79	H03-ZMD27S05A00	BKT IPOD	1
80	H03-SO1R018H91E	DA1R018H91E	1
81	H03-SORA1J440GE	JACK RCA 1P PPJ-440FEG PP GOLD COLOR	1
82	H03-SORA64105GN	JACK RCA 6P JB060132PG WWWRRR GOLD COLOR	3
83	H03-ZVD01TUNE00	TUNER MODULE KST-MB114MW1-81 OEM EU	
84	H03-ZMC11S04B00	BKT FRAME-GUIDE	1
85	ZMC12S13AYE	STANDOFF HEX M4x0.7 6x31.9H	2
86	SO0A18P8CNN	JACK-TELE SNAPG-IN GDLDEN TELECOM 1-8P8C 8T BK	1
87	H03-SOPA81M367G	JACK SPEAKER 8P SH081M367G GY BU RD WH WH	1
88	ZMC12S14AYE	STANDOFF HEX M4X0.7 6X61.9H	3
89	H03-ZMD27HS0400	H/SINK REG. TR AVR745	1
90	ZFNR13830SB	RUBER SIDE	6
91	H03-ZMC12S07A00	COVER BOTTOM	1
92	ZUC1201AABK	SPONGE 30X30X10T BK	3
93	H03-ZMD2701ZANI	BRACKET POSISTOR,METAL,AVR745	2
94	H03-ZMD12S01C00	SHIELD DSP AVR745	1
96	H03-ZPD1019ZABK	SPEAKER TERMINAL KNOB CORK B3M790BO	14
97	H03-ZMD27S07A00	SHIELD AL	1
98	H03-ZUD0301ABBK	SPONGE-UL 30X30X12T BK	1
99	H03-ZMD27S09A00	BRACKET BKT XM	1
SW	H03-SWC2A112FS1	SWITACT VERTICAL SKQNADD010	20

N1	ZNSSM4045HZ	NUT M4 HEXAGON CIRCULAR EXTERNAL	4
N2	ZNSSM3023HZ	NUT M3 ZN PLATED	1
S1	ZSTBM3010BB	SCREW ST BH 3X10	65
S2	ZSTWM3008BY	SCREW ST WPH 3X8	47
S3	ZSMCM4010BB	SCREW BM 4X10	4
S4	ZSTWM4008BC	SCREW ST WPH 4X8 SILVER CHROM	14
S5	ZSTWM3006BB	SCREW ST WPH 3X6	7
S7	ZSTBM3012BY	SCREW ST BH 3X12 PIVOT	43
S8	ZSMCM4008BY	SCREW BM 4X8	5
S9	ZSMBM3014BZ	SCREW M.S M3X14 ZN PLATED	1
S10	ZSMPM3006LB	SCREW M.S.M3X6 P/HD BLACK	3
S11	ZSTBM3008BY	SCREW ST BH 3X8	1
S12	ZSTBM3014BY	SCREW ST BH 3X14 PIVOT	1
SG	ZSTGM3010BB	SCREW ST BH 3X10 GROUND	51

W1	ZWM623108SZ	WASHER SPRING 3	42
W2	ZWM803305PZ	WASHER PLAIN 3	19
W3	ZWM763109SZ	AC SPRING WAS HER RT2250(PAV5005)	4
W4	ZWMC04810PZ	WASHER PLAIN 4	4

AVR745

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AVR745 Electrical Parts List		
Ref. Designator	Part Number	Description
DSP PCB ASS'Y		
<i>Capacitors</i>		
C407 C408 C409	H03-CEHEC02275E-R	CE 220UF +20% 10.0V D6.3XL11 P5MM 85C SK 220/10V 5 X11
C959	H03-CEHEC0477MN-R	CE 470U0F +20% 10.0V 6.3X11 85C P5MM SK 470/10V 6.3 X11
C106 C107 C116 C117 C130 C131 C140 C141 C148 C149 C162 C163 C166 C167 C176 C177 C196 C197 C277 C284 C289 C308 C316 C350 C353 C362 C365 C373 C376 C423 C424 C448 C449 C450 C451 C452 C453 C492 C495 C595 C651 C654 C902	H03-CEHFC01062S-R	CE 10UF +20% 16V D4XL7 P2.5MM 2000hours 85C
C101 C125 C153 C204 C205 C220 C221 C269 C271 C274 C357 C431 C482 C483 C484 C485 C515 C635 C682 C744 C745 C904 C912	H03-CEHFC01072S-R	CE 100UF +20% 16V D6.3XL7 P2.5MM 2000hours 85C
C403 C412 C418 C436 C454 C465	H03-CEHFC01075E-R	CE 100UF +-20% 16.0V D5XL11 P5MM 85C SK 100/16V 5 X11
C180 C211 C234 C238 C265 C305 C319 C514 C600 C609 C673 C687 C958	H03-CEHFC04762S-R	CE 47UF +20% 16V D5XL7 P2.5MM 2000hours 85C
C821 C822	H03-CEHGC01075E-R	CE 100U0F +20% 25.0V 6.3X11 85C P5MM SK 100/25V 6.3 X11
C520	CEHIC01042S-R	CE 100NF +20% 50V SSE TYPE D4XL7 P2.5MM 85C
C207 C208 C583 C584	H03-CEHIC01055E-R	CE 1UF +20% 50V D5XL11 P5MM 85C SK 1/50V 5 X11
C276	H03-CEHIC0474NN-R	CE 0.47UF +20% 50.0V 85C 5X11 P5MM
C304	H03-CEHIC04755E-R	CE 4U7F +20% 50.0V 85C P5MM SK 4.7/50V 5 X11
C503 C628 C629	CFIOC0104NN-R	CPM 100N0F +10% 250.0V
C521	H03-CEMIC04752H-R	CAP ELEC 4.7UF 50V M 5X11 SHL P2.5MM
C301 C311 C312 C313 C315 C327 C328 C330 C331 C419 C420 C429 C430 C434 C435 C444 C445 C456 C457 C462 C463 C472 C473 C478 C479 C801 C802 C803 C804 C805 C806 C807 C808 C809 C810 C811 C812 C813 C814 C815 C816	CZJII0101BE-R	CAP CHIP 100P0F +5% -5% 50.0V NP0 0603
C223	CZJII0101CE-R	CAP CERAMIC/CHIP 100PF 50V CH J NPO 0805
C222	CZJII0102CC-R	CAP CHIP 1nF 50V X7R J 0805
C700 C702 C720 C743	CZJII0220BE-R	CCCFMIC 22P0F +5% -5% 50.0V NP0
C224 C225	CZJII0270BE-R	CAP CHIP 27P0F +5% -5% 50.0V NP0 0603
C263 C264 C309 C310 C632 C633	CZJII0330BE-R	CAP CHIP 33P0F +5% -5% 50.0V NP0 0603
C326 C329	CZJII0470BE-R	CAP CHIP 47P0F +5% -5% 50.0V NPO 0603
C194 C195 C198 C199	CZJII0471BE-R	CCCFMIC 470P0F +5% -5% 50.0V NP0
C132 C332 C333 C425 C426 C438 C439 C466 C467 C468 C469	CZKII0102BC-R	CAP CHIP 1N0F +10% -10% 50.0V X7R 0603
C701 C703 C706 C717	CZKII0103BC-R	CAP CHIP 10N0F +10% -10% 50.0V X7R 0603
C229 C380 C382 C596 C597 C685	CZKII0122BC-R	CAP CHIP 1N2F +10% -10% 50.0V X7R 0603
C104 C105 C108 C109 C114 C115 C118 C119 C128 C129 C133 C138 C139 C142 C143	CZKII0221BA-R	CAP CHIP 220PF 50V K SL 0603
C652 C653	CZKII0222BC-R	CAP CHIP 2N2F +10% -10% 50.0V X7R 0603
C182 C183 C200 C201 C598 C599	CZKII0272BC-R	CAP CHIP 2N7F +10% -10% 50.0V X7R 0603
C102 C103 C110 C111 C112 C113 C120 C121 C126 C127 C134 C135 C136 C137 C144 C145	CZKII0821BC-R	CAP CHIP 820P0F +10% -10% 50.0V X7R 0603

AVR745

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Ref. Designator	Part Number	Description
DSP PCB ASS'Y		
C150 C154 C157 C161 C165 C168 C175 C178 C202 C206 C209 C210 C212 C213 C214 C215 C217 C218 C226 C230 C232 C233 C242 C246 C247 C248 C249 C250 C251 C252 C253 C256 C267 C268 C272 C273 C275 C278 C282 C283 C292 C303 C306 C307 C318 C320 C322 C324 C325 C340 C343 C346 C347 C348 C351 C352 C354 C355 C358 C360 C361 C363 C364 C367 C368 C371 C372 C374 C375 C378 C404 C405 C406 C411 C413 C414 C421 C422 C432 C433 C440 C441 C442 C443 C458 C459 C460 C461 C474 C475 C476 C477 C487 C490 C491 C493 C494 C497 C498 C513 C522 C525 C574 C580 C582 C589 C607 C610 C611 C634 C641 C642 C643 C644 C645 C663 C672 C674 C686 C708 C715 C824 C903 C910 C913 C918 C922 C925 C926 C927 C928 C929 C930 C946~C954 C956 C960~C978 C980 C981 C982 C983 C986 C987 C988 C989 C990 C991 C992 C931 C932	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
C240 C241	CSJIE0300BG-R	CAP CHIP FORM 30P +/-5% 50V C0G 0603
C314 C486 C825	CZJII0101BE-R	CAP CHIP 100P0F +5% -5% 50.0V NP0 0603
C505 C506	CZJII0101BE-R	CAP CHIP 100P0F +5% -5% 50.0V NP0 0603 EUROPE ONLY
C302	CZJII0220BE-R	CCCFMIC 22P0F +5% -5% 50.0V NP0
C683 C684	CZJII0330BE-R	CAP CHIP 33P0F +5% -5% 50.0V NP0 0603
C227 C228	CZJII0470BE-R	CAP CHIP 47P0F +5% -5% 50.0V NP0 0603
C100 C122 C123 C124 C146 C147 C151 C152 C160 C169 C174 C181 C203 C216 C219 C235 C237 C239 C243 C244 C254 C266 C270 C286 C291 C293 C295 C297 C300 C317 C321 C323 C337 C338 C383 C417 C427 C428 C437 C446 C447 C455 C464 C470 C471 C480 C481 C504 C510 C581 C591 C604 C664 C689 C723 C742 C823 C826 C901 C905 C919 C920 C921 C945 C979 C984 C985	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
C395	CZKII0103BC-R	CAP CHIP 10N0F +10% -10% 50.0V X7R 0603
C557	H03-CEZXA0479MN-R	CM 47MI0F +80%-20% 5.5V 70C SCDA5R5473V
<i>Semiconductors</i>		
Q851	H03-TRKTA107MNA-R	TR-SLPSWA KRA107M PNP
Q511	H03-TRMPSA06NNA-R	TR-SLPLF MPSA06 NPN 500MI0A TO-92
D403 D410 D507 D508 D603 D700	H03-DS1S50094NB-R	D-SLP 1SS355 35.0V 225MI0A
D401 D402	H03-DSUDZ09V1NB-R	D-ZENER UDZS 9.1B 9.1V 200MI0W
IC53	H03-IC24LC256D2-R	IC CMOS SERIAL EEPROM 24LC256T-I/SNG SOIC-8P(150MIL)
IC16	H03-IC24LC64ID2-R	24LC64-I/SNG SOIC-8P(150mil) Serial EEPROM
IC45	H03-IC74AHC1G14-R	74AHC1G14 SOT753 Inverting Schmitt trigger
IC78	H03-IC74LVLC254D-R	IC SN74LVLC257AD SOIC-16 Quadruple 2-Line To 1-Line Data Selector/Multiplexer
IC50	H03-IC74VC244G5-R	IC-LOGIC 74VHC244MX or 74VHC244MX_NL M20B INVERTER CMOS

Ref. Designator	Part Number	Description
DSP PCB ASS'Y		
IC23	H03-ICBU4094BD3-R	IC CMOS BU4094BCF SOP16 8-bit compatible shift / store register
IC94	H03-ICM317TO252-R	IC 3-TERMINAL POS VOL REG NJM317DL1-TE1 TO-252
Q401 Q407 Q408 Q411 Q502 Q503 Q505 Q506 Q509 Q512 Q700	H03-TSKRC107SND-R	KRC107S SOT-23 NPN
D405 D406 D415 D416	H03-DS05GBUSCNB-R	DIODE PG05GBUSC
D338 D404 D409 D414 D509 D510	H03-DS1S50094NB-R	D-SLP 1SS355 35.0V 225MIOA
D339	H03-DSUDZ05V1NB-R	DIODE ZENER UDZ5.1B 5.1V 200MIOW
IC22	H03-IC70F3261E1-R7	UPD70F3261YGC-8EA-A LQFP100 32-bit single-chip microcontroller
IC96	H03-IC74CB3T3D2-R	IC SN74CB3T3306DCTR SSOP-8 Dual Bus Switch Voltage Translator
IC57 IC59	H03-IC74LC1G1DL-R	IC SINGLE SCHMITT BUFFER SN74LVC1G17DBVR SOT(SOT-23)DBV
IC17 IC18 IC19	H03-IC74LVC254D-R	IC SN74LVC257AD SOIC-16 Quadruple 2-Line To 1-Line Data Selector/Multiplexer
IC10 IC12 IC38 IC39	H03-ICAD1852JDA-R	IC 192Khz 24bit DAC AD1852JRSZ SSOP28
IC20	H03-ICAK4114VE8-R	IC 192Khz 24bit INTERFACE AK4114VQ LQFP48
IC25 IC26 IC27 IC37	H03-ICAK5385ADA-R	IC A/D CONVERTOR AK5385AVF VSOP28
IC92	H03-ICAT49BV163-R	IC FLASH MEMORY AT49BV163DT(or AT)-70TU TS
IC21	H03-ICBU4051BD3-R	IC ANALOG MPX/DEMPX BU4051BCF SOP16
IC35	H03-ICBU4053BB4-R	IC BU4053BCF SOP16 ANALOG MPX/DEMPX
IC24 IC28	H03-ICBU4094BD3-R	IC CMOS BU4094BCF SOP16 8-bit compatible shift / store register
IC40	H03-ICDS1233ADK-R	IC 3.3V ECONO RESET DS1233AZ-15+TR SOT-223
IC93	H03-ICK4S1616UC-R	K4S161622H-UC60 OR UC80 TSOP50 512K x 16bit x 2 Banks SDRAM
IC13 IC41 IC42 IC43 IC44 IC49 IC60 IC61 IC62 IC63 IC64 IC65 IC66 IC67 IC68 IC69 IC71 IC72	H03-ICLM02068D2-R	IC-OPERAMP NJM2068M-TE1 DUAL SOP8
IC74 IC75	H03-ICM74H04MD4-R	IC-LOGIC M74HCU04M1R INVERTER HCT
IC11 IC31	H03-ICS4391AKZZ-R	CS4391A-KZZ SOP20 24-BIT, 192 kHz STEREO DAC WITH VOLUME CONTROL
IC36	H03-ICTC9162CDA-R	IC CMOS TC9162CFG SOP28 HIGH VOLTAGE ANALOG FUNCTION SWITCH ARRAY
IC91	H03-ICTMS320DNN-R	IC FLOATING-POINT DSP TMS320DA610-250 PQFP208
IC14	H03-ICTUSB320EB-R	IC TUSB3200A TQFP52 USB Streaming Controller
IC15	H03-ICXMDIC00E8-R	IC DIGITAL TRANCEIVER XMDIC QFP48
IC51 IC52	H03-ICC1G125DCK-R	IC SINGLE BUS BUFFER GATE SN74LVC1G125DCKT SOT(SC-70)DCKT
Q710 Q188 Q200 Q405 Q409 Q500 Q501 Q504 Q507 Q508 Q510 Q513 Q514	H03-TSKRC107SND-R	KRC107S SOT-23 NPN
IC30	H03-ICCJT1173N3-R	IC VOLTAGE REGULATOR CJT117-3.3 SOT-223
D501	H03-DURS10040NA-R	RS1004 RS-10
IC85	H03-ICPC17T10B1-R	IC PHOTOCOUPLER PC-17T1 DIP4 KODENSHI
<i>Resistors</i>		
RS14 RS16 RS17 RS18 RS19	RN3AY0220NA-R	RES NETWORK RCA 220OHM 1/16W 5% CN34JT220
R271	RS1AD0183NA-R	18K ohm 1/16W 1% 0603
R234	RS1AD3091NA-R	RES CHIP 3.09K OHM 1/16W 1% 0603
R213	RS1AD3321NA-R	RES CHIP 3.32K OHM 1/16W 1% 0603
R214	RS1AD4751NA-R	RES.CHIP 4.75K 1/16W +/-1% 0603
C290 C294 C296 C298 R219 R310 R311 R631 C603 R953 R954 J201 J202 J407 J408 J409	RS3AD0000NA-R	RES CHIP, 0 R 1/16W +/-5%, 0603
R310 R311	RS3AD0000NA-R	RES CHIP, 0 R 1/16W +/-5%, 0603 USA ONLY
R244 R248 R274 R278 R302 R303 R503 R504 R505 R507 R508 R707 R708 R709	RS3AD0100NA-R	RMGCFMIC 10R0 OHM +5% 0603
R254 R255 R289 R290 R291 R292 R316 R405 R417 R418 R424 R426 R445 R467 R478 R511 R512 R569 R609 R610 R611 R612 R932 R570	RS3AD0101NA-R	RES CHIP,100R 1/16W +/-5%,0603

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DSP PCB ASS'Y		
R104 R105 R256 R257 R284 R286 R293 R295 R337 R487 R604 R648 R655 R703 R704 R743 R803 R804 R807 R808 R811 R815 R816 R968	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603
R281 R515	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603 EUROPE ONLY
R101 R107 R108 R109 R110 R183 R187 R188 R190 R191 R193 R264 R267 R296 R304 R307 R308 R322 R323 R324 R326 R327 R328 R427 R428 R441 R442 R443 R444 R457 R458 R459 R460 R463 R464 R469 R470 R473 R474 R475 R476 R489 R490 R491 R492 R495 R496 R685 R923 R969 R991 R992 R993 R994 R995	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603
R141 R142 R151 R152 R177 R178 R201 R202 R236 R419 R466 R556 R653 R702 R706 R724 R730 R801 R802 R805 R806 R809 R813 R814	RS3AD0104NA-R	RES CHIP,100K 1/16W +/-5% ,0603
R319	RS3AD0105NA-R	RES CHIP 1M 1/16W +5% 0603
R513 R514 R725	RS3AD0122NA-R	RMGCFMIC 1K2 OHM +5% 0603
R571	RS3AD0151NA-R	RMGCFMIC 150R0 OHM +5% 0603
R163 R285 R737 R740	RS3AD0153NA-R	RES CHIP,15K 1/16W,+/-5%,0603.
R919	RS3AD0182NA-R	RES CHIP,1.8K,1/16W,+5%,0603.
R119 R120 R124 R125 R133 R134 R137 R138 R155 R156 R159 R160 R169 R170 R173 R174 R221 R222 R225 R226 R590 R591	RS3AD0202NA-R	RMGCFMIC 2K0 OHM +5% 0603
R429 R430 R461 R462 R471 R472 R493 R494	RS3AD0203NA-R	RMGCFMIC 20K0 OHM +5% 62MI5W 0603
R716	RS3AD0220NA-R	RES CHIP,22R 1/16W +/-5%,0603
R639	RS3AD0221NA-R	RMGCFMIC 220R0 OHM +5% 0603
R262 R263 R269 R270 R279 R309 R553 R554 R664 R924	RS3AD0222NA-R	RMGCFMIC 2K2 OHM +5% 0603
R181 R182 R184 R189 R192 R194 R198	RS3AD0222ANA-R	RMGCFMIC 2R2 OHM +5% 0603
R723 R277	RS3AD0241NA-R	RES CHIP 240 OHM 1/16W +/-5% 0603
R812	RS3AD0362NA-R	RMGCFMIC 3K6 OHM +5% 0603
R247	RS3AD0390NA-R	RES,CHIP 39 OHM 1/16W +/-5% 0603
R726	RS3AD0391NA-R	RMGCFMIC 390R0 OHM +5% 0603
R920 R921 R922	RS3AD0392NA-R	RMGCFMIC 3K9 OHM +5% 0603
R568	RS3AD0470NA-R	RMGCFMIC 47R0 OHM +5% 0603
R637 R638 R931	RS3AD0471NA-R	RMGCFMIC 470R0 OHM +5% 0603
R122 R123 R130 R135 R158 R166 R171 R224 R229 R240 R241 R245 R407 R408 R420 R425 R440 R588 R603 R967	RS3AD0472NA-R	RES CHIP,4K7 1/16W +/-5%,0603
R301 R431 R432 R433 R434 R435 R436 R437 R438 R996	RS3AD0473NA-R	RES CHIP,47K 1/16W +/-5%,0603
R113 R114 R143 R144 R149 R150 R179 R180 R199 R200 R299 R597	RS3AD0561NA-R	RES CHIP,560R 1/16W +/-5%,0603
R810	RS3AD0682NA-R	RMGCFMIC 6K8 OHM +5% 0603
R273 R619 R632 R633 R700 R701 R705	RS3AD0750NA-R	RMGCFMIC 75R0 OHM +5% 0603
R821 R822 R823 R824 R825 R826 R827	RS3AD0823NA-R	RES,CHIP 82K,1/16W,+/-5%,0603
R654	RS3AD0272NA-R	RMGCFMIC 2K7 OHM +5% 0603
R651	RS3AD0680NA-R	RMGCFMIC 68R0 OHM +5% 0603
RS11 RS12 RS13 RS15	RN3AY0220NA-R	RES NETWORK RCA 22OHM 1/16W 5% CN34JT220

AVR745

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Ref. Designator	Part Number	Description
DSP PCB ASS'Y		
C716 R205 R206 R209 R211 R212 R238 R239 R258 R272 R381 R382 R383 R396 R397 R621 R622 R657 R712 R999 J301 J403 J404 J405 J406	RS3AD0000NA-R	RES CHIP, 0 R 1/16W +/-5%, 0603
C299 R251 R252 R561 R562 R563 R564 R565 R566 R567 R572 R687	RS3AD0100NA-R	RMGCFMIC 10R0 OHM +5% 0603
R102 R103 R111 R148 R197 R207 R208 R242 R243 R320 R385 R386 R387 R388 R598	RS3AD0101NA-R	RES CHIP,100R 1/16W +/-5%,0603
R106 R294 R325 R334 R335 R336 R338 R339 R395 R558 R607 R661 R662 R663	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603
R265 R266 R268 R298 R305 R306 R314 R315 R509 R516 R517 R559 R601 R602 R744 R997	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603
R287	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603 USA ONLY
R288	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603 EUROPE ONLY
R115 R116 R237 R253 R259 R260 R261 R312 R313 R333 R595 R656 R979	RS3AD0104NA-R	RES CHIP,100K 1/16W +/-5% ,0603
R321	RS3AD010ANA-R	RES CHIP,1R 1/16W +/-5%,0603
R195 R196 R988	RS3AD0121NA-R	RMGCFMIC 120R0 OHM +5% 0603
R389	RS3AD0151NA-R	RMGCFMIC 150R0 OHM +5% 0603
R736 R738 R741	RS3AD0152NA-R	RMGCFMIC 1K5 OHM +5% 0603
R727 R739 R164	RS3AD0153NA-R	RES CHIP,15K 1/16W,+/-5%,0603.
R913 R914 R916 R917 R918	RS3AD0182NA-R	RES CHIP,1.8K,1/16W,+5%,0603.
R185	RS3AD022ANA-R	RMGCFMIC 2R2 OHM +5% 0603
R711	RS3AD0241NA-R	RES CHIP 240 OHM 1/16W +/-5% 0603
R447 R448 R449 R450 R451 R452 R453 R454 R479 R480 R481 R482 R483 R484 R485 R486	RS3AD0331NA-R	RMGCFMIC 330R0 OHM +5% 0603
R161 R162	RS3AD0332NA-R	RMGCFMIC 3K3 OHM +5% 0603
R231 R518	RS3AD033ANA-R	RMGCFMIC 3R3 OHM +5% 0603
R246 R249 R250	RS3AD0390NA-R	RES,CHIP 39 OHM 1/16W +/-5% 0603
R384 R686 R688 R689	RS3AD0330NA-R	RMGCFMIC 33R0 OHM +5% 0603
R853 R915	RS3AD0392NA-R	RMGCFMIC 3K9 OHM +5% 0603
R117 R118 R126 R127 R131 R132 R139 R140 R153 R154 R167 R168 R175 R176 R203 R204 R227 R228 R592 R593	RS3AD0432NA-R	RMGCFMIC 4K3 OHM +5% 0603
R318 R669	RS3AD0470NA-R	RMGCFMIC 47R0 OHM +5% 0603
R652 R852 R854	RS3AD0471NA-R	RMGCFMIC 470R0 OHM +5% 0603
R121 R128 R129 R136 R157 R165 R172 R223 R230 R232 R233 R280 R282 R283 R439 R557 R589 R851	RS3AD0472NA-R	RES CHIP,4K7 1/16W +/-5%,0603
R300	RS3AD0473NA-R	RES CHIP,47K 1/16W +/-5%,0603
R510	RS3AD0474NA-R	RMGCFMIC 470K0 OHM +5% 0603
R275 R989	RS3AD047ANA-R	RES CHIP,4R7 1/16W +/-5%,0603.
R634 R683 R684 R276	RS3AD0750NA-R	RMGCFMIC 75R0 OHM +5% 0603
R574 R981	RS1AD0750NA-R	RES CHIP 75OHM 1% 1/16W 0603
R100 R499	RC3DI0331IN-R	RCF 330R0 OHM +5% 250MI0W
<i>Miscellaneous</i>		
L412 L416 L418 L424 L425 L436 L503 L533	H03-FB3012012CF-R	FCM2012CF-301T04 0805
E901	H03-FYACF333TNN-R	FILTER ACF451832-333-T
L222 L404 L408 L409 L410 L411 L417 L419 L422 L433 L435 L502 L686 L903 L904 L905 L906	H03-FB3012012CF-R	FCM2012CF-301T04 0805

Ref. Designator	Part Number	Description
DSP PCB ASS'Y		
Y112	H03-OSXNL4515B0-R	CRYSTAL 45.1584MHz 22p SO22320D5-45.1584-T&R USA ONLY
N111	H03-SOUSB45810B-R	JACK R41-5810B (Mitsumi) XM/DT connector USA ONLY
N101	H03-SOUSB5005K0-R	AU6-EC-005K0
L414 L415	RS3AD0270NA-R	RES,CHIP 27 OHM 1/16W +/-5% 0603
L413 R421	RS3AD0751NA-R	RES.CHIP,750OHM,1/16W,+5%,0603.
L401 L403 L405 L902	H03-FB05B3580NN-R	BEAD AXIAL/TAP,HC3580 80.5ohm
L431 L432 L434 L702	H03-LAINB0470CR-R	LF 47U0H +10% 5.8 OHM 500MIOA
L421 L426 L428 L429 L430 L501	H03-LAINB047ACR-R	LF 4U7H +10% 1.7 OHM 190.0A
P091	H03-ICLM19CIZIE-R	IC TEMPERATURE SENSOR LM19CIZ 2.4V TO-92
Y105	H03-OSCEM05M0RU-R	CERAMIC RESONATOR CSTLS_G 5.0MHz
Y413	H03-OSCEM24M5RU-R	VCXO 24M576 HZ +50 PPM -50 PPM 0 OHM 3.3V
Y111	H03-OSX06M0HZ00-R	CRYSTAL 6MHz 2P WOOIN HC-49/S 22PF
K700	H03-RLL0516632B-R	RELAY PWR 5.0V 166.0OHM 1.0A 24.0V
N802	H03-SORA40RSAGN-R	JACK RCA 4P JB040131ZG GN BN PP TA ,GOLD COLOR
N801	H03-SORA40RSCGN-R	JACK RCA 4P JB040131QG WH BU RD GY,GOLD COLOR
J411 J413 J414	H03-SORX22073GN-R	JACK RCA+ OPTICAL RX YKC22-0733N,GOLD COLOR
J402	H03-SOTX22073GN-R	JACK RCA+ OPTICAL TX YKC22-0732N,GOLD COLOR
N931	H03-WE03B012000-R	WIRE ASS'Y UL1007#26 120MM 2.0MM 3P WHT
N119	H03-WN03SB00000-R	CONNECT 2.0mm 3P GIL-S-3P-S2T2-EF
P711 P712	H03-WN03SE00000-R	CON 3.96MM PITCH MOLEX 35313-0310
N707	H03-WN04AB100WH-R	CONN WAFER 2.0MM 4P 35237-0410 WHT
P704	H03-WN05SB00000-R	CONNECT 2.0mm 5P GIL-S-5P-S2T2-EF
N716	H03-WN07AB100WH-R	CONN WAFER 2.0MM 7P 35237-0710 WHT
P715	H03-WN07SB100WH-R	CONN WAFER 2.0MM 7P 35336-0710 WHT
N714	H03-WN09AB100WH-R	CONNECT WAFER 2.0mm 9P 35237-0910 WHT
P703	H03-WN09SB00000-R	CONNECT 2.0mm 9P GIL-S-9P-S2T2-EF
P713	H03-WN09SB100WH-R	CONNECT WAFER 2.0mm 9P 35336-0910 WHT
N706	H03-WN15AB100WH-R	CONNECT WAFER 2.0mm 15P 35237-1510 WHT
N705	H03-WN16AB100WH-R	CONNECT WAFER 2.0mm 16P 35237-1610 WHT
P714	H03-WN16DI00000-R	GF120-16S-TS 1.25mm 16P
N702 N710	H03-WN19AB00000-R	CONN 2.0MM 19 MA R NAT SOCKET MOLEX 35237-1910 0 0
P701	H03-WN22DI00000-R	GF120-22S-TS 1.25mm 22P
P708	H03-WN29DI00000-R	CONNECT 1.25MM 29PIN GF120-29S-TS
BK10	H03-ZMD27S09A00-R	BRACKET BKT XM
FRONT PCB ASS'Y		
<i>Capacitors</i>		
C127	CEHFC0107NN-R	CE 100U0F +20% 16.0V 85C
C119 C128 C551	CCZID0104NA-R	CC 100N0F +80% -20% 50.0V F
C517	H03-CEHEC02275E-R	CE 220UF +20% 10.0V D6.3XL11 P5MM 85C SK 220/10V 5 X11
C718	H03-CEHFC04765E-R	CE47UF +20% 16.0V D5XL11 P5MM 85C SK 47/16V 5 X11
C501 C502 C708	H03-CEHFC04762S-R	CE 47UF +20% 16V D5XL7 P2.5MM 2000hours 85C
C503 C504	H03-CEHFC01062S-R	CE 10UF +20% 16V D4XL7 P2.5MM 2000hours 85C
C125 C126	H03-CFHKA0473NN-R	CAP POLYESTER METAL 47NF 100V 20% CPM
C701 C704 C706	CZDII0100CE-R	CAP CERAMIC/CHIP 10PF 50V CH D N 0805
C120 C121 C122 C400 C401 C403 C404 C717 C725 C726 C727 C900	CZJII0101BE-R	CAP CHIP 100POF +5% -5% 50.0V NP0 0603
C702	CZJII0101CE-R	CAP CERAMIC/CHIP 100PF 50V CH J NP0 0805
C703 C705	CZJII0122CC-R	CAPCHIP 1n2F 50V SL J X7R 0805 +/-5%
C300 C301	CZJII0821CE-R	CAP CHIP 820pF 50V SL J NP0 0805
C506	CZKII0221BA-R	CAP CHIP 220PF 50V K SL 0603
C252 C253	CZKII0222BC-R	CAP CHIP 2N2F +10% -10% 50.0V X7R 0603
C201 C211	CZKII0223BC-R	CAP CHIP 22N0F +10% -10% 50.0V X7R 0603
C1 C2 C124 C251 C254 C405 C406 C407 C411 C521 C552 C553 C709 C723	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
<i>Semiconductors</i>		
Q821	H03-TRMPSA06NNA-R	TR-SLPLF MP5A06 N 500MIOA TO-92 NPN
Q823	H03-TRMPSA56YNA-R	TR-SLPLF MP5A56 Y PNP -500MIOA -300V
D301	H03-DG1N04148NB-R	D-SLP 1N4148 100.0V 150E-3A

Ref. Designator	Part Number	Description
FRONT PCB ASS'Y		
D716	H03-DR1N04004NA-R	D-SR 1N4004 400.0V 1.0A
D853 D854 D855 D856	H03-DL30B2015AA-R	D-LEM 30B3-20-15 GaN SUPER BLUE WATER CLEAR 15 ML37B23H-CED
D831	H03-DL3BA05V0BA-R	D-LEM BLUE/AMBER 3PIE RD RND L-3VYMB
D800 D801	H03-DLRED3FRDBA-R	D-LEM RED/GREEN 3F RD RND CL
D251 D252 D411 D412 D701 D715 D721 D722	H03-DS1S50094NB-R	D-SLP 1SS355 35.0V 225MI0A
D110	H03-DSUDZ05V1NB-R	DIODE ZENER UDZ5.1B 5.1V 200MI0W
IC50	H03-ICLM02068D2-R	IC-OPERAMP NJM2068M-TE1 DUAL SOP8
Q703	H03-TRKTA1504ND-R	TRANSISTOR PNP KTA1504Y(S)SOT-23
Q701 Q702	H03-TRKTC3875ND-R	TRANSISTOR NPN KTC3875S SOT23
Q824 Q831 Q832	H03-TSKRA107SNI-R	KRA107S SOT-23 PNP
Q800 Q801 Q802 Q803 Q820 Q822 Q833	H03-TSKRC107SND-R	KRA107S SOT-23 PNP
<i>Resistors</i>		
R505 R841 R842 R843 R844 C724	RS3AD0000NA-R	RES CHIP, 0 R 1/16W +/-5%, 0603
R521 R522 R722 R746	RS3AD0101NA-R	RES CHIP,100R 1/16W +/-5%,0603
R201 R211 R503 R515 R721 R824	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603
R702 R704 R709 R822	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603
R516	RS3AD0104NA-R	RES CHIP,100K 1/16W +/-5% ,0603
R706 R707	RS3AD0105NA-R	RES CHIP 1M 1/16W +5% 0603
R202 R212	RS3AD0122NA-R	RMGCFMIC 1K2 OHM +5% 0603
R203 R213	RS3AD0152NA-R	RMGCFMIC 1K5 OHM +5% 0603
R209 R219	RS3AD0183NA-R	RMGCFMIC 18K0 OHM +5% 0603
R823	RS3AD0221NA-R	RMGCFMIC 220R0 OHM +5% 0603
R204 R214 R510 R519	RS3AD0222NA-R	RMGCFMIC 2K2 OHM +5% 0603
R205 R215 R703	RS3AD0272NA-R	RMGCFMIC 2K7 OHM +5% 0603
R206 R216 R506	RS3AD0332NA-R	RMGCFMIC 3K3 OHM +5% 0603
R509	RS3AD0472NA-R	RES CHIP,4K7 1/16W +/-5%,0603
R520	RS3AD0473NA-R	RES CHIP,47K 1/16W +/-5%,0603
R207 R217	RS3AD0562NA-R	RMGCFMIC 5K6 OHM +5% 0603
R821	RS3AD0563NA-R	RES CHIP, 56K 1/16W +/-5%, 0603.
R301 R302 R701	RS3AD0683NA-R	RMGCFMIC 68K0 OHM +5% 0603
R208 R218	RS3AD0822NA-R	RMGCFMIC 8K2 OHM +5% 0603
R508	RS3AD0911NA-R	RMGCFMIC 910 OHM +5% 0603
R705	RS3BB0564NA-R	RES,CHIP,560K OHM,1/10W +/-5%,0805
R461 R462	RS3AD0753NA-R	RES CHIP 75K 1/16W +5% 0603.
R119 R118	RC3DI0100IN-R	RCF 10R0 OHM +5% 250MI0W
R122 R123 R501 R502	RC3DI0101IN-R	RCF 100R0 OHM +5% 250MI0W
R831	RC3DI0151IN-R	RCF 150 OHM 5% 1/4W
R518	RC3DI0182IN-R	RCF 1K8 OHM 5% 1/4W
R801R803	RC3DI0201IN-R	RCF 200R0 OHM +5% 250MI0W
R251 R252	RC3DI022AIN-R	RCF 2R2 OHM +5% 250MI0W
R800 R802	RC3DI0271IN-R	RCF 270R0 OHM +5% 250MI0W
R832	RC3DI0331IN-R	RCF 330R0 OHM +5% 250MI0W
R120 R121	RC3DI0471IN-R	RCF 470R0 OHM +5% 250MI0W
R751	RC3DI0473IN-R	RCF 47K OHM +5% 250MI0W
R851 R852	RC3DI0561IN-R	RCF 560R0 OHM +5% 250MI0W
VR10	H03-SWE3A0505S1-R	SWIROT EC16B24204A9 5V 500U0A 10T 3P 0 0 ENCODER
<i>Miscellaneous</i>		
L700	H03-FB2522012HF-R	COIL FCM2012HF-252T02 2500ohm SURFACE MT 2012
	ZFNR1SENSOR-R	RUBBER SENSOR
RM71	H03-ICROMN338EC-R	REMOCON RECEIVER MODULE ROM-N338TEC
N207	H03-WE11B041000-R	WIRE ASS'Y UL1007#26 410MM 2.0MM 11P WHT
N201	H03-WG03AB80900-R	WIRECONASY DL 2.0MM 03P 90MM ANG-DOWN UL1007 RIBBON 26 1 B20
N206	H03-WG05SB83500-R	WIRE ASS'Y UL1007#26(TA) 350mm 2.0mm 5p GRY
N203	H03-WG13SB82000-R	UL1007#26 STR 200mm 2.0mm 13P WHT
P213	H03-WN04SB00000-R	CONNECT 2.0mm 4P GIL-S-4P-S2T2-EF
P215	H03-WN06SB01000-R	CNT PLUG BD'BD PLUG 2.0mm 35336-0610
P209	H03-WN07AB00000-R	CONNECT 2.0MM 7P GIL-S-07P-S2L2-EF

AVR745

harman/kardon

Ref. Designator	Part Number	Description
FRONT PCB ASS'Y		
N214	H03-WN19AB00000-R	CONN 2.0MM 19 MA R NAT SOCKET MOLEX 35237-1910 0 0
P216	H03-WN19SB00000-R	CONN 2.0MM 19 MA ST NAT MOLEX 35336-1910 0 0
N205	H03-WN22AI00000-R	GF120-22S-LS 1.25mm 22P
N204	H03-WS4261005FN-R	WIRE ASS'Y UL2547/1007#26 100MM 4P 2.0MM WHT
N202	H03-WS4265913FN-R	CNT ASSY 2.0MM 4P 590MM SHIELD 26AWG UL2547 1/3
N210	H03-WS5264823FN-R	UL1533/2547#26 STR 480mm 2.0mm 5P WHT
N212	H03-WS5248505CW-R	WIRE ASS'Y UL1007/1533#24(TA)850mm 2.0mm 5P WHT
N208	H03-WS6265105EN-R	WIRECONASY DL 2.0MM 6P 510MM UL1533 SHIELD 26 1
N211	H03-WS7260805EN-R	WIRE ASS'Y UL1533/1007#26 80MM 2.0MM 7P WHT SHILED
FL1	H03-XD18BT19GNA-R	18-BT-19GINK
S1 S2 S3 S4 S5 S6 S7 S8 S9	H03-ZMB01S02200-R	SPRING PLATE GND C5212 0.2T
J41	H03-ZMC12S17A00-R	AC PUN SHIELD DIGITAL ET
J42	H03-ZMD12S01A00-R	SHIELD IR
J43	H03-ZMD12S01B00-R	SHIELD MICROPHONE
S201~S220	H03-SWC2A112FS1-R	SWI TACT VERTICAL SKQNADD010
L251	H03-LAINB0470CR-R	LF 47U0H +10% 5.8 OHM 500MIOA
L120	H03-LAINB047ACR-R	LF 4U7H +10% 1.7 OHM 190.0A
RM72	H03-DPLP200LNNN-R	PIN PHOTO DIODE LP-200TL
NJ71	H03-SO3P5179NNN-R	JACK PHONE 3.5PI PJ0435179N
NJ70	H03-SORA1JE01NN-R	JACK RCA 1P JE010003MN GND OR
NJ11	H03-SORA3313PNN-R	CON PHONO SCKT RCA-313P 3 PINS
NJ12	H03-SORA8OSC5N8-R	JACK S-VIDEO 1P C40160261N
NJ10	H03-SOSS9CKX3NN-R	JACK PHONE 6.35 H70980110S 9P BK
NJ79	H03-SOTORX177LT-R	FIBER OPTIC RECEIVING TORX177L (F, T)
MAIN PCB ASS'Y		
<i>Capacitors</i>		
C101 C102 C103 C104 C107 C108 C109 C110 C111 C112 C113 C114 C115 C116 C117 C118 C205	CCKID0101NA-R	CC 100P0F +10% -10% 50.0V Y5P
C307 C308 C313 C314 C403 C404 C569 C570	CCKID0271NN-R	CC 270P0F +10% -10% 50.0V 2B4
C433	CCMFD0103NN-R	CC 10N0F +20% -20% 16.0V Y5S
C119 C120 C203 C212 C214 C527 C531 C709 C711 C712 C713	CCZID0104NA-R	CC 100N0F +80% -20% 50.0V F
C315 C316 C409 C410	CCCIC0030NN-R	CAP CERAMIC 3PF 50V C CH TAP
C317 C318 C411 C412	CCKIC0181NA-R	CC 180P0F +10% -10% 50.0V Y5P
C329 C330 C425 C426	CCKIC0222NA-R	CC 2N2F +10% -10% 50.0V Y5P
C707	CCZGC0104NA-R	CAP CERAMIC 100NF 25V Z Z5U TAP
C331 C332 C407 C408	H03-CEHEC02275E-R	CE 220UF +20% 10.0V D6.3XL11 P5MM 85C SK 220/10V 5 X11
C206 C208 C213 C309 C310 C405 C406 C526 C710	H03-CEHGC01075E-R	CE 100U0F +20% 25.0V 6.3X11 85C P5MM SK 100/25V 6.3 X11
C210	H03-CEHIC01055E-R	CE 1UF +20% 50V D5XL11 P5MM 85C SK 1/50V 5 X11
C301 C302 C401 C402 C518 C519 C521 C530 C708 C429	H03-CEHIC01065E-R	CE 10U0F +20% 50.0V 85C P5MM 5X11 SK 10/50V 5 X11
C207	H03-CEHIC04755E-R	CE 4U7F +20% 50.0V 85C P5MM SK 4.7/50V 5 X11
C303 C304 C305 C306 C421 C422 C423 C424	H03-CEHJA0477MN-R	CE 470U0F +20% 63.0V 85C SK 470/63V 13 X21
C706	CEMFA0478BK-R	CAP ELEC 4700UF 16V M 16X25 85C 120HZ ELITE
C432	H03-CEMGC04775E-R	CE 470U0F +/-20% 25.0V 10X13 85C SK 470/25V 10 X13
C323 C324 C430 C431	CFLJC0683NN-R	CPM 68N0F +5% 63.0V
C506 C507 C508 C516 C528 C529 C701 C702 C703	CPIKC0473NN-R	CPF 47N0F +10% 100.0V
C211 C319 C320 C321 C322 C413 C414 C415 C416	H03-CEMKC0106AH-R	CAP ELEC 10UF 100V M 6.3X11 SHL
C325 C326 C327 C328 C417 C418 C419 C420	H03-CPJJC0104NN-R	CAP POLYESTER NON METAL 0.1uF 63V J TAP PCMT365 76104
C571 C572	H03-CEMJA0159KA-R	CAP ELEC 1500uF 63V M 35x50 LSW153M1JQ50M
C573	H03-CEMDC0478KA-R	CAP ELECTROYTIC 4700UF 6.3V M 12.5X21 (SKP472M0J121R)
C333 C335 C336 C434	CCKIC0103NA-R	CC 10N0F +10% -10% 50.0V Y5P
C509 C510	H03-CEHHC0228MN-R	CE 2200UF +20% 35.0V 85C 16X25

AVR745

harman/kardon

Ref. Designator	Part Number	Description
MAIN PCB ASS'Y		
C517	H03-CEHIA0228MN-R	CE 2200UF +20% 50.0V 85C 16X35
C705	H03-CEMFA0688BK-R	CAP ELEC 6800UF 16V M 16X25 85C 120HZ SK 6800/16V 16 X25
C105 C106	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
<i>Semiconductors</i>		
D205 D206 D301 D302 D303 D304 D305 D306 D307 D308 D401 D402 D403 D404 D405 D406 D407 D408 D409 D410 D411 D412 D603	H03-DG1N04148NB-R	D-SLP 1N4148 100.0V 150E-3A
D101 D102 D103 D104 D508 D509 D703	H03-DR1N04004NA-R	D-SR 1N4004 400.0V 1.0A
D204	H03-DZGE12V10MA-R	MZ0.5GE12V-10 12V 10mA
D207	H03-DZGE3V320MA-R	DIODE ZENER MZ0.5GE3V3-20 3.3V 20mA
Q309 Q310 Q411 Q412	H03-TR2SA1145YF-R	TRANSISTOR PNP 2SA1145-Y(F) TO-92 HFE:120~240
Q443	H03-TRKRC107MNA-R	TR-SLPSWA KRC107M NPN
Q315 Q316 Q319 Q320 Q417 Q418 Q421 Q422 Q442	H03-TRKTA1024NA-R	TR-SLPLF KTA1024 Y PNP 50MIOA -150V
Q311 Q312 Q410 Q413 Q414	H03-TRKTA1268NA-R	TR-SHPLF KTA1268BL PNP 100MIOA 120V
Q307 Q308 Q407 Q408 Q426 Q441	H03-TRKTC3198NA-R	TR-SLPLF KTC3198BL NPN 150MIOA
Q301 Q302 Q303 Q304 Q305 Q306 Q313 Q314 Q337 Q338 Q401 Q402 Q403 Q404 Q405 Q406 Q409 Q415 Q416 Q425	H03-TRKTC3200NA-R	TR-SHPLF KTC3200BL NPN 100MIOA 120V
Q317 Q318 Q321 Q322 Q419 Q420 Q423 Q424	H03-TRKTC3206NA-R	TR-SLPLF KTC3206 Y NPN 50MIOA 150V
Q601	H03-TRKTD1302NA-R	TR-SLPLF KTD1302 B NPN 300MIOA 20V
D502 D505	H03-DU2W04MMF00-R	DIODE 2W04M-MF RC-2 Kink Type
D701	H03-DUKBU6GMF6N-R	KBU6G-MF RS-6 Kink Type
IC73	H03-ICKIA278R06-R	4 TERMINAL 2A OUTPUT LOW DROP VOLTAGE REGULATOR KIA278R06PI TO-220IS-4 +6V
IC71	H03-ICKIA278R33-R	4 TERMINAL 2A OUTPUT LOW DROP VOLTAGE REGULATOR KIA278R33PI TO-220IS-4 +3.3V
IC72	H03-ICKIA7805I2-R	IC-REGPOSFXD KIA7805API NORMAL TO-220IS +5V
IC59	H03-ICKIA7812I2-R	IC-REGPOSFXD KIA7812API NORMAL +12V
IC54	H03-ICKIA7824I2-R	IC-REGPOSFXD KIA7824API TO-220IS NORMAL +24V
IC51 IC60	H03-ICLM07815BD-R	IC-REGPOSFXD KIA7815API NORMAL +15V
IC52	H03-ICLM07915BD-R	IC-REGNEGFXD KIA7915API NORMAL TO-220AB -15V
Q329 Q330 Q433 Q434	H03-TR2SA1859BC-R	TR-SHPLF 2SA1859A PNP -2.0A
Q335 Q336 Q439 Q440	H03-TR2SA1986AC-R	TRANSISTOR PNP 2SA1986-R(AC,F) HFE:55~110 ADD MICA SHEET SIZ
Q331 Q332 Q435 Q436	H03-TR2SC4883BC-R	TR-SHPLF 2SC4883A NPN 2.0A
Q333 Q334 Q437 Q438	H03-TR2SC5358AC-R	TRANSISTOR NPN 2SC5358-R(AC,F) HFE:55~110 ADD MICA SHEET SIZ
Q327 Q328 Q431 Q432	H03-TRKTA1360BE-R	TRANSISTOR PNP KTA1360 TO-126
Q701 Q702 Q703 Q704	H03-TRKTC3114NE-R	TRANSISTOR NPN KTC3114 TO-126
Q323 Q324 Q429 Q430	H03-TRKTC3423BE-R	TRANSISTOR NPN KTC3423 TO-126
D210	H03-DS05GBUSCNB-R	DIODE PG05GBUSC
IC22	H03-ICLM02068D2-R	IC-OPERAMP NJM2068M-TE1 DUAL SOP8
<i>Resistors</i>		
R351 R352 R367 R368 R445 R446 R447 R448	H03-RM3EG0100LN-R	RMF 10R0 OHM +5% 500MIOW
R303 R304 R388 R389 R473 R474 R477 R478	RC3DI0100IN-R	RCF 10R0 OHM +5% 250MIOW
R213 R221 R353 R354 R369 R370 R457 R458 R459 R460 R717	RC3DI0101IN-R	RCF 100R0 OHM +5% 250MIOW
R211 R508 R601	RC3DI0102IN-R	RCF 1K0 OHM +5% 250MIOW
R485 R706 R714	RC3DI0103IN-R	RCF 10K0 OHM +5% 250MIOW
R207 R214 R216 R217 R218 R219 R220 R309 R310 R479 R480 R602	RC3DI0104IN-R	RCF 100K0 OHM +5% 250MIOW
R363 R364 R365 R366 R461 R462 R463 R464	RC3DI0150IN-R	RCF 15R0 OHM +5% 250MIOW

AVR745

harman/kardon

Ref. Designator	Part Number	Description
MAIN PCB ASS'Y		
R380 R381 R386 R387 R481 R483 R488 R490	RC3DI0152IN-R	RCF 1K5 OHM +5% 250MIOW
R341 R342 R343 R344 R384 R385 R437 R438 R439 R440 R482 R489	RC3DI0153IN-R	RCF 15K0 OHM +5% 250MIOW
R311 R312 R313 R314 R405 R406 R407 R408	RC3DI0162IN-R	RCF 1K6 OHM +5% 250MIOW
R339 R340 R345 R346 R347 R348 R349 R350 R433 R434 R435 R436 R441 R442 R443 R444	RC3DI0201IN-R	RCF 200R0 OHM +5% 250MIOW
R215 R317 R318 R319 R320 R321 R322 R409 R410 R411 R412 R413 R414	RC3DI0221IN-R	RCF 220R0 OHM +5% 250MIOW
R390 R391 R486 R492	RC3DI0223IN-R	RCF 22K0 OHM +5% 250MIOW
R103 R104 R371 R372 R373 R374 R465 R466 R467 R468 R616	RC3DI022AIN-R	RCF 2R2 OHM +5% 250MIOW
R497	RC3DI0271IN-R	RCF 270R0 OHM +5% 250MIOW
R209 R498 R506	RC3DI0273IN-R	RCF 27K0 OHM +5% 250MIOW
R224	RC3DI0274IN-R	RCF 270K0 OHM +5% 250MIOW
R701 R707 R710 R711	RC3DI0282IN-R	RCF 2K8 OHM +5% 250MIOW
R301 R302 R401 R402	RC3DI0331IN-R	RCF 330R0 OHM +5% 250MIOW
R225 R305 R306 R403 R404 R509 R515	RC3DI0333IN-R	RCF 33K0 OHM +5% 250MIOW
R107 R108	RC3DI033AIN-R	RCF 3R3 OHM +5% 250MIOW
R382 R383 R484 R487 R491	RC3DI0393IN-R	RCF 39K0 OHM +5% 250MIOW
R307 R308 R415 R416	RC3DI0433IN-R	RCF 43K0 OHM +5% 250MIOW
R101 R102 R105 R106 R109 R110 R113 R114 R315 R316 R593 R594 R718	RC3DI0471IN-R	RCF 470R0 OHM +5% 250MIOW
R223	RC3DI0513IN-R	RCF 51K0 OHM +5% 250MIOW
R323 R324 R325 R326 R329 R330 R333 R334 R335 R336 R337 R338 R421 R422 R423 R424 R425 R426 R427 R428 R429 R430 R431 R432	RC3DI0561IN-R	RCF 560R0 OHM +5% 250MIOW
R375 R376 R469 R470	RC3DI0820IN-R	RCF 82R0 OHM +5% 250MIOW
R493	RC3DI0822IN-R	RCF 8K2 OHM +5% 250MIOW
R331 R332 R419 R420	RM1DI0142IN-R	RMF 1K4 OHM +1% 250MIOW
R327 R328 R417 R418	RM1DI0333IN-R	RMF 33K0 OHM +1% 250MIOW
R702 R705 R708 R709	RC3DI0751IN-R	RCF 750R0 OHM +5% 250MIOW
R378 R379 R471 R472	H03-RI3IC022BEN-R	RW 220MIO OHM +5% 5.0W 100PPM/ C -100PPM/ C
R392 R393 R475 R476	H03-RM3FC0100BN-R	RES METAL OXIDE 10R OHM+5% 1.0W
R514 R517 R518	H03-RM3GC022ACN-R	RESISTOR METAL OXIDE 2R2 OHM +5% 2.0W
R504 R507 R510 R703 R704 R715 R716	H03-RM3GC033ACN-R	RESISTOR METAL OXIDE 3R3 OHM +5% 2.0W
R505	H03-RM3GC047ACN-R	RESISTOR METAL OXIDE 4R7 +5% 2.0W
VR74	H03-RT7EA0201NB-R	PR 200R0 OHM +20% 500MIOW
VR71 VR72 VR73	RT6BA0201NB-R	PR 200R0 OHM +30% 100MIOW
<i>Miscellaneous</i>		
G102 G103	H03-ZNMSA4004SN-R	TERMLUG GND
F501 F502 F505 F506	H03-FURN22000SR-R	FUSE SR-5 SERIES 3821200 SR-5- 2A 250V 35A
F701 F702	H03-FURN23150SR-R	FUSE SR-5 SERIES 3821315 SR-5- 3.15A 250V 35A
P071	H03-ICLM19CIZIE-R	IC TEMPERATURE SENSOR LM19CIZ 2.4V TO-92
L301 L302 L401 L402	H03-LCENNA050NA-R	LFA 1MM 10MM 5 LEFT 0.0MM NONE SP-2516
NJ81	H03-SOPA81M367G-R	SH081M367G GY BU RD WH
NJ83	H03-SORA40RSAGN-R	JACK RCA 4P JB040131ZG GN BN PP TA ,GOLD COLOR
NJ82	H03-SORA40RSCGN-R	JACK RCA 4P JB040131QG WH BU RD GY,GOLD COLOR
N814	H03-WG03SE03700-R	WIRE ASS'Y UL1007#16(TA) 370mm 3P GRAY
N807	H03-WG05SB83000-R	WIRE ASS'Y UL1007#26(TA) 300mm 2.0mm 5P WHT
P503 P805 P806 P809 P817 P818	H03-WN02SD00000-R	CONN 2.5MM 2 MA ST NAT 5267-02A 0 0

AVR745

Ref. Designator	Part Number	Description
MAIN PCB ASS'Y		
N819 N820 N821 N823	H03-WN04AB100WH-R	CONN WAFER 2.0MM 4P 35237-0410 WHT
P801 P802 P803 P804	H03-WN04SB100WH-R	CONN WAFER 2.0MM 4P 35336-0410 WHT
P808	H03-WN05SD100WH-R	CONN WAFER 2.5MM 5P 5267-05A WHT
P815	H03-WN07SB100WH-R	CONN WAFER 2.0MM 7P 35336-0710 WHT
N822	H03-WN09AB100WH-R	CONNECT WAFER 2.0mm 9P 35237-0910 WHT
P811	H03-WN09SB100WH-R	CONNECT WAFER 2.0mm 9P 35336-0910 WHT
P816	H03-WN10SB100WH-R	CONNECT WAFER 2.0mm 10P 35336-1010 WHT
P812	H03-WN13SB00000-R	CONN 2.0MM 13P GIL-S-13P-S2T2
P813	H03-WN19SB00000-R	CONN 2.0MM 19 MA ST NAT MOLEX 35336-1910 0 0
	H03-ZMD27HS0400-R	H/SINK REG. TR AVR745
NJ84	SO0A18P8CNN-R	JACK-TELE SNAP-IN GOLDEN TELECOM GDL1-8P8C 8T BK 0 0
	ZNSSM3023HZ-R	NUT M3 ZN PLATED
	ZSMBM3014BZ-R	SCREW M.S M3X14 ZN PLATED
	ZSTBM3010BB-R	SCREW ST BH 3X10
	H03-ZH740MSQ6WH-R	MICA SHEET SIZE 19X22X0.05
PROCESSOR PCB		
<i>Capacitors</i>		
C125 C126 C127 C128 C141 C143 C144 C146 C190 C191 C206 C207 C212 C213 C220 C221 C226 C227 C230 C231 C232 C233 C251 C252 C253 C254 C301 C302 C303 C304 C307 C308 C309 C310 C508 C510 C517 C518 C521 C522 C528 C529 C534 C535 C601 C602 C611 C612 C617 C618 C621 C622 C627 C628 C631 C632 C637 C638 C641 C642 C647 C648 C752 C756	H03-CEHFC0106NN-R	CE 10U0F +20% 16.0V 85C 5X11 P5MM SK 10/16V 5 X11
C175 C176 C193	H03-CEHIC01055E-R	CE 1UF +20% 50V D5XL11 P5MM 85C SK 1/50V 5 X11
C607 C608	CEHGC0337NN-R	CE 330UI0F +20% 25V 85C
C214 C215 C609 C610	H03-CEHFC01075E-R	CE 100UF +-20% 16.0V D5XL11 P5MM 85C SK 100/16V 5 X11
C101 C102 C103 C104 C116 C117 C118 C119 C121 C122 C123 C124 C131 C132 C133 C134 C136 C137 C138 C139 C147 C148 C149 C150 C152 C153 C154 C155 C156 C157 C158 C159 C194 C195 C196 C197 C201 C202 C204 C205 C210 C211 C531 C603 C604 C757 C758	CZJII0101BE-R	CAP CHIP 100P0F +5% -5% 50.0V NP0 0603
C281 C282	CZJII0121BE-R	CAP CHIP 120PF 50V J NPO 0603
C208 C209 C222 C223 C624 C644	CZJII0151BE-R	CAP CHIP 150PF 50V J NPO 0603
C532 C533	CZJII0330BE-R	CAP CHIP 33P0F +5% -5% 50.0V NP0 0603
C751	CZKII0222BC-R	CAP CHIP 2N2F +10% -10% 50.0V X7R 0603
C12 C13 C14 C15 C16 C17 C18 C19 C120 C135 C203	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
C224 C225 C238 C315 C316 C503 C506 C519 C520 C530 C540	CZJII0101BE-R	CAP CHIP 100P0F +5% -5% 50.0V NP0 0603
C591 C592 C613 C614 C623 C633 C643	CZJII0151BE-R	CAP CHIP 150PF 50V J NPO 0603
C605 C606	CZJII0271BE-R	CAP CHIP, 270PF 50V +/-5% CH J 0603
C615 C616	CZJII0330BE-R	CAP CHIP 33P0F +5% -5% 50.0V NP0 0603
C634 C636 C753	CZKII0222BC-R	CAP CHIP 2N2F +10% -10% 50.0V X7R 0603
C10 C11 C20 C21	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
C625 C626 C635 C645 C646	CZJII0560BE-R	CAP CHIP 56PF 50V CH J NPO 0603

Ref. Designator	Part Number	Description
PROCESSOR PCB		
<i>Semiconductors</i>		
IC13 IC14 IC18 IC19 IC21 IC22 IC23 IC24 IC26	H03-ICLM02068D2-R	IC-OPERAMP NJM2068M-TE1 DUAL SOP8
IC15	H03-ICTC9162CDA-R	IC CMOS TC9162CFG SOP28 HIGH VOLTAGE ANALOG FUNCTION SWITCH
IC12	H03-ICTC9163CDA-R	IC CMOS TC9163CFG SOP28 HIGH VOLTAGE ANALOG FUNCTION SWITCH
IC9	H03-ICTC9273CFG-R	TC9273CFG-004 SOP28 ANALOG SWITCH ARRAY Ics
IC16 IC17	H03-ICTC9482BDA-R	IC CMOS TC9482BFG SOP28 SYSTEM ELECTRONIC VOLUME CONTROL
IC2 IC3 IC4 IC5 IC6 IC7 IC10 IC11 IC25	H03-ICLM02068D2-R	IC-OPERAMP NJM2068M-TE1 DUAL SOP8
IC1	H03-ICNJM4580D2-R	IC OP AMP NJM4580M-TE1 SOP8 DUAL
IC8	H03-ICTC9273CFG-R	TC9273CFG-004 SOP28 ANALOG SWITCH ARRAY Ics
D351 D601	H03-DZGE9V120MA-R	MZ0.5GE9V1-20 9.1V 20mA
IC20	H03-ICNJM4556B2-R	IC OP AMP NJM4556AD DIP8 DUAL
Q601 Q602 Q621 Q622 Q624 Q625 Q627 Q628 Q630 Q631	H03-TRKTD1304ND-R	TR-SLPSWA KTD1304 NPN 20V 300MIOA SOT-23
Q109 Q203 Q301 Q605 Q608 Q611 Q614 Q615 Q618 Q620 Q623 Q626 Q629 Q754	H03-TSKRA107SNI-R	KRA107S SOT-23 PNP
Q104 Q105 Q107 Q108 Q201 Q202 Q204 Q205 Q221 Q222 Q302 Q303 Q603 Q604 Q606 Q607 Q609 Q610 Q612 Q613 Q616 Q617 Q690 Q691 Q752 Q753	H03-TRKTD1304ND-R	TR-SLPSWA KTD1304 NPN 20V 300MIOA SOT-23
Q692 Q751	H03-TSKRA107SNI-R	KRA107S SOT-23 PNP
<i>Resistors</i>		
R137 R138 R157 R158 R221 R222 R237 R238 R239 R240 R245 R246 R307 R308 R315 R316 R324 R325 R501 R502 R507 R508 R513 R519 R539 R540 R556 R557 R558 R559 R635 R636 R651 R652 R669 R670 R685 R686 R757 R758 R901 R902 R903 R904	RS3AD0000NA-R	RES CHIP, 0 R 1/16W +/-5%, 0603
R101 R102 R121 R122 R127 R128 R141 R142 R147 R148 R161 R162 R165 R166 R169 R170 R203 R204 R211 R212 R322 R323 R329 R631 R632 R649 R650 R665 R666 R687 R688 R731 R748 R763 R771	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603
R191 R192 R193 R512 R520 R550 R551	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603
R103 R104 R123 R124 R129 R131 R132 R136 R143 R144 R151 R152 R153 R154 R163 R164 R167 R168 R171 R172 R183 R184 R185 R186 R189 R194 R195 R196 R197 R198 R199 R200 R207 R208 R213 R214 R227 R228 R241 R242 R303 R304 R305 R306 R311 R312 R313 R314 R388 R389 R518 R524 R537 R538 R548 R554 R555 R603 R604 R609 R610 R629 R630 R641 R647 R648 R657 R658 R663 R664 R677 R683 R684 R689 R690 R749 R750 R759 R762	RS3AD0104NA-R	RES CHIP,100K 1/16W +/-5% ,0603
R570 R571	RS3AD0122NA-R	RMGCFMIC 1K2 OHM +5% 0603
R791 R792	RS3AD0152NA-R	RMGCFMIC 1K5 OHM +5% 0603
R704 R710 R716 R722	RS3AD0183NA-R	RMGCFMIC 18K0 OHM +5% 0603

AVR745

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Ref. Designator	Part Number	Description
PROCESSOR PCB		
R553 R705 R706 R711 R717 R718	RS3AD0202NA-R	RMGCFMIC 2K0 OHM +5% 0603
R611 R612 R613 R614 R691	RS3AD0221NA-R	RMGCFMIC 220R0 OHM +5% 0603
R615 R616 R701 R702 R707 R708 R713 R714 R719 R720 R712	RS3AD0222NA-R	RMGCFMIC 2K2 OHM +5% 0603
R231 R232	RS3AD0242NA-R	RMGCFMIC 2K4 OHM +5% 0603
R699 R700	RS3AD0272NA-R	RMGCFMIC 2K7 OHM +5% 0603
R572 R573	RS3AD0362NA-R	RMGCFMIC 3K6 OHM +5% 0603
R125 R126 R133 R134 R145 R146 R155 R156 R201 R202 R215 R216 R235 R236 R243 R244 R251 R252 R301 R302 R309 R310 R533 R534 R546 R547 R601 R602 R623 R624 R639 R640 R655 R656 R675 R676 R756 R768	RS3AD0430NA-R	RES CHIP 43R0 OHM +5% 62MI5W 0603
R125 R126 R133 R134 R145 R146 R155 R156 R201 R202 R215 R216 R235 R236 R243 R244 R251 R252 R301 R302 R309 R310 R533 R534 R546 R547 R601 R602 R623 R624 R639 R640 R655 R656 R675 R676 R756 R768	RS3AD0470NA-R	RMGCFMIC 47R0 OHM +5% 0603
R159 R160 R187 R188 R219 R220 R318 R319 R621 R622 R637 R638 R653 R654 R671 R672 R673 R674 R695 R696 R723 R724 R725 R726 R727 R728 R765 R766 R767 R772 R773 R774 R775 R776 R777 R778 R779 R780 R781 R783 R784	RS3AD0473NA-R	RES CHIP,47K 1/16W +/-5%,0603
R703 R709 R715 R721	RS3AD0474NA-R	RMGCFMIC 470K0 OHM +5% 0603
R209 R210	RS3AD0512NA-R	RMGCFMIC 5K1 OHM +5% 0603
R281 R282 R291 R292 R293 R294 R295 R296 R297 R298 R299 R300	RS3AD0823NA-R	RES,CHIP 82K,1/16W,+/-5%,0603
R217 R218 R619 R620	RS3AD0100NA-R	RMGCFMIC 10R0 OHM +5% 0603
R793 R794	RS3AD0123NA-R	RES CHIP,12K 1/16W +/-5%,0603
R223 R224	RS3AD0820NA-R	RMGCFMIC 82R0 OHM +5% 0603
R229 R230	RS3AD0432NA-R	RMGCFMIC 4K3 OHM +5% 0603
R247 R248 R249 R326 R327 R328 R330 R331 R503 R504 R505 R509 R510 R511 R560 R561 R562 R643 R644 R659 R660 R679 R680 R730 R740 R743 R760	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603
R514 R521	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603
R181 R182 R233 R234 R253 R254 R535 R536 R549 R625 R626 R642 R678	RS3AD0104NA-R	RES CHIP,100K 1/16W +/-5% ,0603
R515 R522	RS3AD0123NA-R	RES CHIP,12K 1/16W +/-5%,0603
R605 R606 R627 R628	RS3AD0152NA-R	RMGCFMIC 1K5 OHM +5% 0603
R591 R592	RS3AD0152NA-R	RMGCFMIC 1K5 OHM +5% 0603
R751	RS3AD0183NA-R	RMGCFMIC 18K0 OHM +5% 0603
R744	RS3AD0183NA-R	RMGCFMIC 18K0 OHM +5% 0603
R552	RS3AD0202NA-R	RMGCFMIC 2K0 OHM +5% 0603
R755	RS3AD0221NA-R	RMGCFMIC 220R0 OHM +5% 0603
R130 R135 R149 R150 R205 R206 R225 R226 R320 R321 R398 R399 R617 R618 R633 R634 R667 R668 R693 R694 R697 R698 R741 R742 R753 R764	RS3AD0222NA-R	RMGCFMIC 2K2 OHM +5% 0603
R754	RS3AD0242NA-R	RMGCFMIC 2K4 OHM +5% 0603
R516 R517 R523 R525	RS3AD0332NA-R	RMGCFMIC 3K3 OHM +5% 0603
R607 R608	RS3AD0432NA-R	RMGCFMIC 4K3 OHM +5% 0603
R317 R745 R752	RS3AD0474NA-R	RMGCFMIC 470K0 OHM +5% 0603
R645 R646 R661 R681 R682	RS3AD0562NA-R	RMGCFMIC 5K6 OHM +5% 0603
R190	RS3AD0753NA-R	RES CHIP 75K 1/16W +/-5% 0603.
R662 R761	RS3AD0912NA-R	RMGCFMIC 9K1 OHM +5% 0603

AVR745

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Ref. Designator	Part Number	Description
PROCESSOR PCB		
<i>Miscellaneous</i>		
NJ10	H03-SORA1J440GE-R	JACK RCA 1P PPJ-440FEG PP ,GOLD COLOR
NJ1 NJ2 NJ3	H03-SORA64105GN-R	JACK RCA 6P JB060132PG WWWRRR,GOLD COLOR
N114 N115 N313	H03-WN04AB100WH-R	CONN WAFER 2.0MM 4P 35237-0410 WHT
P103 P111	H03-WN04SB00000-R	CONNECT 2.0mm 4P GIL-S-4P-S2T2-EF
P113 P114 P121 P314	H03-WN04SB100WH-R	CONN WAFER 2.0MM 4P 35336-0410 WHT
P100 P107	H03-WN05SB00000-R	CONNECT 2.0mm 5P GIL-S-5P-S2T2-EF
N102	H03-WN06AB00001-R	CNT PLUG BD'BD SOCKET 2.0mm 35237-0610
P109	H03-WN06SB00000-R	CONNECT 2.0mm 6P GIL-S-6P-S2T2-EF
N104	H03-WN07AB100WH-R	CONN WAFER 2.0MM 7P 35237-0710 WHT
N101	H03-WN10AB000WH-R	CONNECT WAFER 2.0mm 10P 35237-1010 WHT
P108	H03-WN10SB100WH-R	CONNECT WAFER 2.0mm 10P 35336-1010 WHT
P106	H03-WN15SB100WH-R	CONNECT WAFER 2.0mm 15P 35336-1510 WHT
P105	H03-WN16SB100WH-R	CONNECT WAFER 2.0mm 16P 35336-1610 WHT
P110	H03-WN19SB00000-R	CONN 2.0MM 19 MA ST NAT MOLEX 35336-1910 0 0
RS232 PCB		
<i>Capacitors</i>		
C441	CEHDC0108NN-R	CE 1M0F +20% 6.3V 8X11.5 85C
C411 C412	H03-CEHEC01075E-R	CE 100U0F +20% 10.0V 5X11 85C P5MM SK 100/10V 5 X11
C415	H03-CEHEC02275E-R	CE 220UF +20% 10.0V D6.3XL11 P5MM 85C SK 220/10V 5 X11
C601 C604 C607	CEHFC01062S-R	CE 10UF +20% 16V D4XL7 P2.5MM 2000hours 85C
C302 C440	CEHFC0107NN-R	CE 100U0F +20% 16.0V 85C
C442	H03-CEHFC04765E-R	CE47UF +20% 16.0V D5XL11 P5MM 85C SK 47/16V 5 X11
C406 C419 C606	H03-CEHIC01055E-R	CE 1UF +20% 50V D5XL11 P5MM 85C SK 1/50V 5 X11
C305 C401	H03-CEMIC01045E-R	CAP ELEC 0.1uF 50v M 5x11 SHL P5MM SK 0.1/50V 5X11
C407	CPIC0223NN-R	CPF 22N0F +10% 50.0V
C408	CPIC0682NN-R	CPF 6N8F +10% 50.0V
C306	CPIKC0473NN-R	CPF 47N0F +10% 100.0V
C307 C308 C309	H03-CEMIC0334AH-R	CAP ELEC 0.33UF M 5X11 SHL 50V SAMYOUNG
C403	H03-CEMIC0564AH-R	CAP ELEC 0.56UF 50V M 5X11 SHL SAMYOUNG
C402	CZDII0100BE-R	CAP CHIP 10PF 50V CH D NP0 0603
C416 C417 C418	CZJII0101BE-R	CAP CHIP 100P0F +5% -5% 50.0V NP0 0603
C405	CZJII0270BE-R	CAP CHIP 27P0F +5% -5% 50.0V NP0 0603
C404	CZJII0300BE-R	CAPA CHIP 30PF 50V CH NP0 +5% 0603
C420 C421 C422 C423	CZJII0390BE-R	CAP CHIP 39PF 50V CH J NPO 0603
C410 C413	CZKII0103BC-R	CAP CHIP 10N0F +10% -10% 50.0V X7R 0603
C313 C314 C316 C317	CZKII0122BC-R	CAP CHIP 1N2F +10% -10% 50.0V X7R 0603
C303 C304 C310 C311 C315 C414 C443	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
C301	CZJII0471BE-R	CCCFMIC 470P0F +5% -5% 50.0V NP0
C444 C445 C446	CZJII0101BE-R	CAP CHIP 100P0F +5% -5% 50.0V NP0 0603
C409	CZKII0103BC-R	CAP CHIP 10N0F +10% -10% 50.0V X7R 0603
C603	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
C602 C605	CZJII0330BE-R	CAP CHIP 33P0F +5% -5% 50.0V NP0 0603
<i>Semiconductors</i>		
D401	H03-DZGE6V220MA-R	DIODE ZENER MZO.5GE6V2-20 6.2V 20MA
Q301 Q302	H03-TRKTA107MNA-R	TR-SLPSWA KRA107M PNP
Q405	H03-TRKTA1267GR-R	KTA1267-GR TO-92M PNP
Q402 Q404	H03-TRKTC3199GR-R	KTC3199-GR TO-92M NPN
D601 D602 D604 D605 D606	H03-DS05GBUSCNB-R	DIODE PG05GBUSC
D301 D302 D303 D304 D305 D306 D307 D310	H03-DS1S50094NB-R	D-SLP 1SS355 35.0V 225MIOA
Q305 Q306	H03-TRKTA1504ND-R	TRANSISTOR PNP KTA1504Y(S)SOT-23
Q303 Q304	H03-TSKRC107SND-R	KRC107S SOT-23 NPN
IC32 IC33	H03-ICPC17T10B1-R	IC PHOTOCOUPLER PC-17T1 DIP4 KODENSHI
IC34	H03-ICBU4052BCF-R	IC CMOS BU4052BCF SOP16 Dual 4-channel analog multiplexer / demultiplexer
IC406	H03-ICBU4094BD3-R	IC CMOS BU4094BCF SOP16 8-bit compatible shift / store register
IC401	H03-ICLC74763ME-R	LC74763M-9602-E SOP30 On-Screen Display LSI
IC61	H03-ICLM02068D2-R	IC-OPERAMP NJM2068M-TE1 DUAL SOP8

AVR745

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Ref. Designator	Part Number	Description
RS232 PCB		
IC31	H03-ICMAX322316-R	IC RS-232 LINE DRIVER MAX3223CDWR SOIC16P
IC405	H03-ICMM1505XDL-R	IC-VIDEOPROC MM1505XNRE AMPLIFIER&DRIVER
D607	H03-DS1S50094NB-R	D-SLP 1SS355 35.0V 225MIOA
D608	H03-DSKDZ3V30NB-R	DIODE ZENER,KDZ3.3EV KEC
Q307 Q310 Q311	H03-TSKRC107SND-R	KRC107S SOT-23 NPN
<i>Resistors</i>		
R317	RC3DI0101IN-R	RCF 100R0 OHM +5% 250MIOW
R408	RC3DI0561IN-R	RCF 560R0 OHM +5% 250MIOW
R618 R619	RS1AD0750NA-R	RES CHIP 75OHM 1% 1/16W 0603
R316 R602 R603	RS3AD0000NA-R	RES CHIP, 0 R 1/16W +/-5%, 0603
R407	RS3AD0101NA-R	RES CHIP,100R 1/16W +/-5%,0603
R326 R401 R402 R418 R419 R420 R715 R447	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603
R301 R306 R318 R319 R325 R406 R415	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603
R320 R321 R322	RS3AD0104NA-R	RES CHIP,100K 1/16W +/-5% ,0603
R426 R428	RS3AD0105NA-R	RES CHIP 1M 1/16W +5% 0603
R403 R425 R427 R442	RS3AD0121NA-R	RMGCFMIC 120R0 OHM +5% 0603
R412	RS3AD0124NA-R	RES CHIP,120K 1/16W +/-5%,0603
R405	RS3AD0152NA-R	RMGCFMIC 1K5 OHM +5% 0603
R327 R328	RS3AD0221NA-R	RMGCFMIC 220R0 OHM +5% 0603
R411	RS3AD0224NA-R	RES CHIP,220K 1/16W +/-5%,0603
R312	RS3AD0271NA-R	RMGCFMIC 270R0 OHM +5% 0603
R310 R413	RS3AD0392NA-R	RMGCFMIC 3K9 OHM +5% 0603
R309 R311	RS3AD0470NA-R	RMGCFMIC 47R0 OHM +5% 0603
R313 R314	RS3AD0471NA-R	RMGCFMIC 470R0 OHM +5% 0603
R303 R304 R305	RS3AD0472NA-R	RES CHIP,4K7 1/16W +/-5%,0603
R307 R308	RS3AD0473NA-R	RES CHIP,47K 1/16W +/-5%,0603
R324	RS3AD0511NA-R	RMGCFMIC 510R0 OHM +5% 0603
R302	RS3AD0680NA-R	RMGCFMIC 68R0 OHM +5% 0603
R404	RS3AD0682NA-R	RMGCFMIC 6K8 OHM +5% 0603
R315	RS3AD0332NA-R	RMGCFMIC 3K3 OHM +5% 0603
R323	RS3AD027ANA-R	2R7 ohm 1/16W 5% 0603
R617	RS1AD0750NA-R	RES CHIP 75OHM 1% 1/16W 0603
R601	RS1AD5493NA-R	RES,CHIP 549K 1/16W +/-1% 0603
R421 R422 R423 R424 R444 R445 R446	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603
R299 R300 R606 R610 R611	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603
R615	RS3AD0104NA-R	RES CHIP,100K 1/16W +/-5% ,0603
R443	RS3AD0123NA-R	RES CHIP,12K 1/16W +/-5%,0603
R607 R608	RS3AD0223NA-R	RES CHIP,22K 1/16W +/-5%,0603
R609	RS3AD0224NA-R	RES CHIP,220K 1/16W +/-5%,0603
R614	RS3AD0470NA-R	RMGCFMIC 47R0 OHM +5% 0603
R613 R604 R605	RS3AD0473NA-R	RES CHIP,47K 1/16W +/-5%,0603
R612	RS3AD0124NA-R	RES CHIP,120K 1/16W +/-5%,0603
R450	RS3AD0332NA-R	RMGCFMIC 3K3 OHM +5% 0603
<i>Miscellaneous</i>		
L301 L302	RS3BB0000NA-R	RES CHIP 0 OHM +5% 100MIOW 0805
L303 L304	H03-FB2522012HF-R	FCM2012HF-252T02 2500ohm SURFACE MT 2012
Y401	H03-OSXBE14M3AU-R	CRYSTAL 14.31818MHz WOOIN
Y402	H03-OSXBE17M7AU-R	CRYSTAL 17.734475MHz WOOIN
NJ33 NJ34 NJ35 NJ36 NJ37 NJ38	H03-SOJW2350SNN-R	JACK PHONE 3.6 EP-1401A 1P BK
NJ31	H03-SORA10003GN-R	JACK RCA 1P JE010003SG GND YELLOW,GOLD COLOR
N608	H03-WN10AB000WH-R	CONNECT WAFER 2.0mm 10P 35237-1010 WHT
P315	H03-WN18DI00000-R	CONNECT GF120-18S-TS 1.25mm 18P
GND1	H03-ZMC12S16A00-R	BKT GROUND
PCB2	H03-ZMD27S05A00-R	BKT IPOD
NJ32	SOPA96063NN-R	JACK D-SUB 9P 87204-6063 W/DUST COVER BK
N607	H03-WN05SB26000-R	WIRE ASS'Y,UL1533/2547#26(TA) 260mm 2.0mm 5P GRY
L401 L402 L403 L405	H03-LAINB0470CR-R	LF 47U0H +10% 5.8 OHM 500MIOA
L404	H03-LALNB056ACR-R	INDUCTOR COIL AL02TB5R6J 5.6UH 1.9OHM +5%

Ref. Designator	Part Number	Description
RS232 PCB		
BD31	H03-FB3012012CF-R	FCM2012CF-301T04 0805
NJ60	H03-SO1R018H91E-R	DA1R018H91E
STANDBY POWER SUPPLY		
<i>Capacitors</i>		
C113 C115 C118 C121	CCZID0104NA-R	CC 100N0F +80% -20% 50.0V F
C102 C103 C104 C108 C109 C110	CCKIC0103NA-R	CC 10N0F +10% -10% 50.0V Y5P
C101	CCMOC0472NF-R	CC 4N7F +20% -20% 250.0V Y5V
C125	CEHGC0687NN-R	CE 680U0F +20% 25.0V 85C
C114	CEHIC01055E-R	CE 1UF +20% 50V D5XL11 P5MM 85C
C119 C120	CEHIC01065E-R	CE 10U0F +20% 50.0V 85C P5MM 5X11
C107 C111	CEMGC04775E-R	CE 470U0F +/-20% 25.0V 10X13 85C
C105	CEMJC02275E-R	CAP ELEC 220UF 63V M 10X16 85C 120HZ ELITE
C106	H03-CEHIC0107NN-R	CE 100U0F +20% 50.0V 85C P5.0MM
C116	H03-CEMJH0227NA-R	CAP ELECTROYTIC,220uF 35V M 8x11 P=5MM
C203 C204 C205	H03-CFH0A0104NN-R	CAP POLY METAL CPM 100NF 250V 20% TAE YANG
C100	CFMVA0104NN-R	CPPMX 100N0F +20% -20%
C201 C202	H03-CEMJA0109KB-R	CAP ELEC 10000UF 63V M 30X45 LSW103M1JP45M
<i>Semiconductors</i>		
D101 D111	H03-DG1N04148NB-R	D-SLP 1N4148 100.0V 150E-3A
D102 D103 D105 D106 D107 D108 D109 D112 D113 D117 D118 D121	H03-DR1N04004NA-R	D-SR 1N4004 400.0V 1.0A
D119 D120	H03-DZGE22V05MA-R	MZ0.5GE22V-5 22V 5mA
D116	H03-DZGE4V320MA-R	MZ0.5GE4V3-20 4.3V 20mA
D104	H03-DZGE9V120MA-R	MZ0.5GE9V1-20 9.1V 20mA
D201	H03-DURS10040NA-R	RS1004 RS-10
IC12	H03-ICKIA7805I2-R	IC-REGPOFXD KIA7805API NORMAL TO-220IS +5V
IC11	H03-ICKIA78D3A0-R	KIA78D33PI 3.3V
<i>Resistors</i>		
R103	RC3DI0102IN-R	RCF 1K0 OHM +5% 250MI0W
R102 R109	RC3DI0103IN-R	RCF 10K0 OHM +5% 250MI0W
R110	RC3DI0104IN-R	RCF 100K0 OHM +5% 250MI0W
R106 R107	RC3DI010AIN-R	RCF 1R0 OHM +5% 250MI0W
R104	RC3DI0153IN-R	RCF 15K0 OHM +5% 250MI0W
R105	RC3DI0222IN-R	RCF 2K2 OHM +5% 250MI0W
R112	RC3DI0272IN-R	RCF 2K7 OHM +5% 250MI0W
R113	RC3DI0470NN-R	REC,CARBON,47,1/4W,+/-5%,SIZE=1/8W
R111	RC3DI0562IN-R	RCF 5K6 OHM +5% 250MI0W
R115 R116	H03-RM3FC0100BN-R	RES METAL OXIDE 10R OHM+5% 1.0W
R108	H03-RM3GC0330CN-R	RESISTOR METAL OXIDE 33 OHM +5% 2.0W
<i>Miscellaneous</i>		
FH10 FH12 FH23 FH24	H03-SOPS1FEHDNN-R	TERMFUSEHLDR FUSE-HOLDER J4210020001X
Q101 Q102	H03-TRMPSA06NNA-R	TR-SLPLF MP5A06 N 500MI0A TO-92
G101 G103	H03-ZNMSA4004SN-R	TERMLUG GND
F101	H03-FUGF212A065-R	FUSE 65TS SERIES 250V 12A 326012 USA ONLY
F201	H03-FUGF23000XX-R	FUSE 239 SERIES 003 250V 3A 2183.15MXP USA ONLY
F101	H03-FUGF26A30XX-R	FUSVDETIMELG 6.3A 250.0 V 5X20 21806.3MXP EUROPE ONLY
F201	H03-FUGF202A0XX-R	FUSVDETIMELG 2.0A 250.0 V 5X20 218002MXP EUROPE ONLY
SK11	H03-RLL1227111K-R	RELAY PWR 12.0V 270.0OHM 10.0A
NS31	H03-SOXA2202DNN-R	A202D0031P 2P
NS30	H03-SOXA27014NN-R	CON MAINS INLET A/C INLET 7014-NGP
TP11	H03-TXPWMR740B0-R	AVR745 POWER TRANSFORMER (ST/BY)-120V USA ONLY
TP11	H03-TXPWMEI45B0-R	AVR745EU POWER TRANSFORMER (ST/BY)-230V EUROPE ONLY
N307	H03-WG04SB82000-R	WIRECONASY DL 2.0MM 04P 200MM UL1007 RIBBON 26 1
P305	H03-WN02SE00000-R	CON 3.96MM PITCH HEADER 2 POS MOLEX 35328-0210
P306	H03-WN02SE00002-R	CONNECT WAFER,YW396-03V 7.92mm 2P ,DONG HO

Ref. Designator	Part Number	Description
STANDBY POWER SUPPLY		
P301	H03-WN03SE00000-R	CON 3.96MM PITCH MOLEX 35313-0310
P302	H03-WN05SD100WH-R	CONN WAFER 2.5MM 5P 5267-05A WHT
P304	H03-WN06SE00000-R	CONNECT 6P 3.96MM 35313-0610
P303	H03-WN11SB00001-R	CONN 2.0MM 11P GIL-S-11P-S2T2-EF
N310	H03-WN15AB100WH-R	CONNECT WAFER 2.0mm 15P 35237-1510 WHT
P308	H03-WN15SB100WH-R	CONNECT WAFER 2.0mm 15P 35336-1510 WHT
N311	H03-WN16AB100WH-R	CONNECT WAFER 2.0mm 16P 35237-1610 WHT
P309	H03-WN16SB100WH-R	CONNECT WAFER 2.0mm 16P 35336-1610 WHT
N312	H03-WN19AB00000-R	CONN 2.0MM 19 MA R NAT SOCKET MOLEX 35237-1910 0 0
P313	H03-WN19SB00000-R	CONN 2.0MM 19 MA ST NAT MOLEX 35336-1910 0 0
HK21	H03-ZMC11HS0400-R	HEATSINK DIODE 47X26X12 AVR630
HK11	H03-ZMC12HS0100-R	AC HEATSINK 17*15*30 AVR520 -- ME
SURROUND PCB		
<i>Capacitors</i>		
C204 C206 C304 C306 C504 C506	CCKID0271NN-R	CC 270P0F +10% -10% 50.0V 2B4
C207 C307 C507	CCCIC0030NN-R	CAP CERAMIC 3PF 50V C CH TAP
C209 C309 C509	CCKIC0181NA-R	CC 180P0F +10% -10% 50.0V Y5P
C215 C315 C517	CCKIC0332NA-R	CC 3N3F +10% -10% 50.0V Y5P
C607 C608 C611	CCZGC0104NA-R	CAP CERAMIC 100NF 25V Z Z5U TAP
C208 C308 C508	H03-CEHEC02275E-R	CE 220UF +20% 10.0V D6.3XL11 P5MM 85C SK 220/10V 5 X11
C205 C305 C505	H03-CEHGC01075E-R	CE 100U0F +20% 25.0V 6.3X11 85C P5MM SK 100/25V 6.3 X11
C101 C203 C303 C503 C609 C610 C614	H03-CEHIC01065E-R	CE 10U0F +20% 50.0V 85C P5MM 5X11 SK 10/50V 5 X11
C201 C202 C301 C302 C501 C502	H03-CEHJA0477MN-R	CE 470U0F +20% 63.0V 85C SK 470/63V 13 X21
C604	CEMFA02285E-R	CE 2200UF 16V M 12.5X20 P5MM
C600	CEMFA0478BK-R	CAP ELEC 4700UF 16V M 16X25 85C 120HZ ELITE
C601 C602 C603	CPIKC0473NN-R	CPF 47N0F +10% 100.0V
C210 C310 C510	CPJJC0683NN-R	CAP POLY NON METAL 68NF 63V J TAP
C211 C212 C311 C312 C511 C512	H03-CEMKC0106AH-R	CAP ELEC 10UF 100V M 6.3X11 SHL
C213 C214 C313 C314 C513 C514	H03-CPJJC0104NN-R	CAP POLYESTER NON METAL 0.1uF 63V J TAP PCMT365 76104
C216 C316 C516	CCKIC0103NA-R	CC 10N0F +10% -10% 50.0V Y5P
C606	RC3DI0100IN-R	CAP ELEC 6800UF 16V M 16X25 85C 120HZ SK 6800/16V 16 X25
C606	H03-CEMFA0688BK-R	CAP ELEC 6800UF 16V M 16X25 85C 120HZ SK 6800/16V 16 X25
<i>Semiconductors</i>		
D101 D201 D202 D203 D204 D301 D302 D303 D304 D501 D502 D503 D504	H03-DG1N04148NB-R	D-SLP 1N4148 100.0V 150E-3A
D602 D605	H03-DR1N04004NA-R	D-SR 1N4004 400.0V 1.0A
Q205 Q305 Q505	H03-TR2SA1145YF-R	TRANSISTOR PNP 2SA1145-Y(F) TO-92 HFE:120~240
Q208 Q211 Q308 Q311 Q508 Q511	H03-TRKTA1024NA-R	TR-SLPLF KTA1024 Y PNP 50MIOA -150V
Q101 Q206 Q306 Q506	H03-TRKTA1268NA-R	TR-SHPLF KTA1268BL PNP 100MIOA 120V
Q204 Q304 Q504	H03-TRKTC3198NA-R	TR-SLPLF KTC3198BL NPN 150MIOA
Q201 Q202 Q203 Q207 Q220 Q301 Q302 Q303 Q307 Q320 Q501 Q502 Q503 Q507 Q520	H03-TRKTC3200NA-R	TR-SHPLF KTC3200BL NPN 100MIOA 120V
Q209 Q212 Q309 Q312 Q509 Q512	H03-TRKTC3206NA-R	TR-SLPLF KTC3206 Y NPN 50MIOA 150V
IC64	H03-ICKA378R05P-R	KIA378R05PI 5V TO-220IS-4
IC61	H03-ICKIA78D3A0-R	KIA78D33PI 3.3V
IC63	H03-ICKIA7905I2-R	IC-REGNEGFXD KIA7905PI -5V
D601	H03-DUKBU6GMF6N-R	KBU6G-MF RS-6 Kink Type
Q216 Q316 Q516	H03-TR2SA1859BC-R	TR-SHPLF 2SA1859A PNP -2.0A
Q219 Q319 Q519	H03-TR2SA1986AC-R	TRANSISTOR PNP 2SA1986-R(AC,F) HFE:55~110 ADD MICA SHEET SIZ
Q217 Q317 Q517	H03-TR2SC4883BC-R	TR-SHPLF 2SC4883A NPN 2.0A
Q218 Q318 Q518	H03-TR2SC5358AC-R	TRANSISTOR NPN 2SC5358-R(AC,F) HFE:55~110 ADD MICA SHEET SIZ
Q215 Q315 Q515	H03-TRKTA1360BE-R	TRANSISTOR PNP KTA1360 TO-126

Ref. Designator	Part Number	Description
SURROUND PCB		
Q214 Q314 Q514	H03-TRKTC3114NE-R	TRANSISTOR NPN KTC3114 TO-126
Q213 Q313 Q513	H03-TRKTC3423BE-R	TRANSISTOR NPN KTC3423 TO-126
<i>Resistors</i>		
R225 R233 R325 R333 R525 R533	H03-RM3EG0100LN-R	RMF 10R0 OHM +5% 500MIOW
R243 R299 R343 R399 R543 R599	RC3DI0100IN-R	RCF 10R0 OHM +5% 250MIOW
R226 R236 R326 R336 R526 R536	RC3DI0101IN-R	RCF 100R0 OHM +5% 250MIOW
R101 R605	RC3DI0103IN-R	RCF 10K0 OHM +5% 250MIOW
R246 R346 R546	RC3DI0104IN-R	RCF 100K0 OHM +5% 250MIOW
R228 R235 R328 R335 R528 R535	RC3DI0150IN-R	RCF 15R0 OHM +5% 250MIOW
R239 R241 R339 R341 R539 R541	RC3DI0152IN-R	RCF 1K5 OHM +5% 250MIOW
R220 R221 R240 R320 R321 R340 R520 R521 R540	RC3DI0153IN-R	RCF 15K0 OHM +5% 250MIOW
R209 R210 R309 R310 R509 R510	RC3DI0162IN-R	RCF 1K6 OHM +5% 250MIOW
R219 R222 R223 R224 R319 R322 R323 R324 R519 R522 R523 R524	RC3DI0201IN-R	RCF 200R0 OHM +5% 250MIOW
R205 R206 R207 R305 R306 R307 R505 R506 R507	RC3DI0221IN-R	RCF 220R0 OHM +5% 250MIOW
R244 R344 R544	RC3DI0223IN-R	RCF 22K0 OHM +5% 250MIOW
R227 R237 R327 R337 R527 R537	RC3DI022AIN-R	RCF 2R2 OHM +5% 250MIOW
R229 R329 R529	RC3DI0282IN-R	RCF 2K8 OHM +5% 250MIOW
R201 R301 R501	RC3DI0331IN-R	RCF 330R0 OHM +5% 250MIOW
R202 R302 R502	RC3DI0333IN-R	RCF 33K0 OHM +5% 250MIOW
R102 R242 R342 R542	RC3DI0393IN-R	RCF 39K0 OHM +5% 250MIOW
R204 R304 R504	RC3DI0433IN-R	RCF 43K0 OHM +5% 250MIOW
R208 R308 R508	RC3DI0471IN-R	RCF 470R0 OHM +5% 250MIOW
R211 R214 R215 R216 R217 R218 R311 R314 R315 R316 R317 R318 R511 R514 R515 R516 R517 R518	RC3DI0561IN-R	RCF 560R0 OHM +5% 250MIOW
R234 R334 R534	RC3DI0820IN-R	RCF 82R0 OHM +5% 250MIOW
R213 R313 R513	RM1DI0142IN-R	RMF 1K4 OHM +1% 250MIOW
R212 R312 R512	RM1DI0333IN-R	RMF 33K0 OHM +1% 250MIOW
R230 R330 R530	RC3DI0751IN-R	RCF 750R0 OHM +5% 250MIOW
R238 R338 R538	H03-RI3IC022BEN-R	RW 220MIO OHM +5% 5.0W 100PPM/ C -100PPM/ C
R245 R345 R545	H03-RM3FC0100BN-R	RES METAL OXIDE 10R OHM+5% 1.0W
R601 R602	H03-RM3GC010ACN-R	RESISTOR METAL OXIDE 1R0 OHM +5% 2.0W
R603 R604	H03-RM3GC039ACN-R	RESISTOR METAL OXIDE 3R9 OHM +5% 2.0W
VR201 VR301 VR501	H03-RT7EA0201NB-R	PR 200R0 OHM +20% 500MIOW
<i>Miscellaneous</i>		
L201 L301 L501	H03-LCNNNA050NA-R	LFA 1MM 10MM 5 LEFT 0.0MM NONE SP-2516
G101 G102 G105	H03-ZNMSA4004SN-R	TERMLUG GND
F601 F602	H03-FURN23150SR-R	FUSE SR-5 SERIES 3821315 SR-5- 3.15A 250V 35A
NJ401	H03-SOPA61M707G-R	SH061M707G GN BN TA
N502	H03-WG06SE81200-R	WIRE ASS'Y UL1007#16 120mm 3.96mm 6P RED
N501	H03-WG07AD02700-R	WIRE ASS'Y,UL1007#20(TA) 270mm 2.5mm 7P WHT
P201 P301 P501	H03-WN02AD00000-R	CONNECT WAFER 2.5mm 2P 5268-02A WHT ANGLE
P506	H03-WN03SB00000-R	CONNECT 2.0mm 3P GIL-S-3P-S2T2-EF
N503	H03-WN03SD100WH-R	CONN WAFER 2.5MM 3P 5267-03A WHT
N504	H03-WN05SB00000-R	CONNECT 2.0mm 5P GIL-S-5P-S2T2-EF
N505	H03-WS6262605EN-R	WIRECONASY DL 2.0MM 6P 260MM UL1533 SHIELD 26 1

AVR745

Ref. Designator	Part Number	Description
VIDEO PCB		
<i>Capacitors</i>		
C101 C103 C283 C284	H03-CEHDC0108NN-R	CE 1000UF +20% 6.3V 8X11.5 85C P5MM
C104 C105 C106 C109 C111 C112 C114 C115 C117 C118 C120 C122 C123 C124 C125 C130 C167 C172 C287	H03-CEHEC02275E-R	CE 220UF +20% 10.0V D6.3XL11 P5MM 85C SK 220/10V 5 X11
C128 C129 C131 C132 C133 C134 C135 C136 C137 C138 C169 C170 C270 C271 C278 C279	H03-CEHEC0477MN-R	CE 470U0F +20% 10.0V 6.3X11 85C P5MM SK 470/10V 6.3 X11
C139 C243 C245 C251 C257 C277 C288 C292 C296 C300 C304 C308 C349 C356 C367 C381 C382 C391 C536	H03-CEHFC01075E-R	CE 100UF +-20% 16.0V D5XL11 P5MM 85C SK 100/16V 5 X11
C145 C150 C155 C160 C165 C285 C310 C313 C331 C333 C337 C342	H03-CEHFC04765E-R	CE47UF +20% 16.0V D5XL11 P5MM 85C SK 47/16V 5 X11
C242 C249 C255 C265 C290 C291 C294 C295 C298 C299 C302 C303 C306 C307	H03-CEHIC01055E-R	CE 1UF +20% 50V D5XL11 P5MM 85C SK 1/50V 5 X11
C100 C102 C107 C108 C110 C113 C116 C119 C121 C126 C127 C168 C182 C185 C188 C190 C195 C204 C210 C239 C240 C241 C276 C286 C316 C317 C318 C319 C320 C321 C322 C323 C324 C353 C354 C360 C418 C527 C535	H03-CEHIC01065E-R	CE 10U0F +20% 50.0V 85C P5MM 5X11 SK 10/50V 5 X11
C351 C352 C359 C526	H03-CEHIC02255E-R	CE 2U2F +20% 50V D5XL11 P5MM 85C SK 2.2/50V 5 X11
C248	H03-CEHIC0474NN-R	CE 0.47UF +20% 50.0V 85C 5X11 P5MM
C439 C448 C467	H03-CEMFC0226NN-R	CAP ELEC 22UF 16V M P5MM SK 22/16V 5 X11
C252	CPIIC0223NN-R	CPF 22N0F +10% 50.0V
C514	CPIIC0682NN-R	CPF 6N8F +10% 50.0V
C523	CSKIE0392BC-R	CAP CHIP FORM 3.9N +/-10% 50V X7R 0603
C400 C401 C402 C403 C404 C405 C412 C430 C460 C464 C482 C483 C506 C509 C517	CTMFJ0106ZN-R	CAP TANTAL/CHIP 10uF 16V T491B106K016AS 3528
C141 C142 C143	CZJII0101BE-R	CAP CHIP 100P0F +5% -5% 50.0V NP0 0603
C491 C492	CZJII0180BE-R	CAP CHIP 18PF 50V CH J NP0 0603
C275	CZJII0220BE-R	CCCFMIC 22P0F +5% -5% 50.0V NP0
C420 C421	CZJII0330BE-R	CAP CHIP 33P0F +5% -5% 50.0V NP0 0603
C529	CZJII0331BE-R	CAP CHIP 330P0F +5% -5% 50.0V NP0 0603
C261 C262 C263 C264	CZJII0390BE-R	CAP CHIP 39PF 50V CH J NPO 0603
C193	CZKFI0823BC-R	CAP CHIP 82NF +/-10% 16V 0603 X7R
C444 C445 C446 C454 C455 C456 C457 C458 C462 C466 C471 C472 C498 C499 C504 C505 C508 C511	CZKII0102BC-R	CAP CHIP 1N0F +10% -10% 50.0V X7R 0603
C184 C187 C197 C199 C201 C206 C212 C214 C230 C232 C235 C250 C493 C494 C518	CZKII0103BC-R	CAP CHIP 10N0F +10% -10% 50.0V X7R 0603
C194	CZKII0822BC-R	CAP CHIP 8N2F +10% -10% 50.0V X7R 0603

Ref. Designator	Part Number	Description
VIDEO PCB		
C140 C144 C149 C154 C159 C164 C180 C183 C186 C189 C191 C196 C198 C200 C205 C211 C213 C229 C231 C244 C246 C256 C289 C293 C297 C301 C305 C309 C311 C312 C314 C315 C325 C327 C332 C334 C336 C338 C339 C343 C357 C361 C362 C363 C368 C369 C370 C371 C372 C373 C374 C375 C376 C377 C378 C379 C380 C383 C384 C385 C386 C387 C388 C389 C390 C392 C393 C394 C395 C396 C397 C398 C399 C406 C407 C408 C409 C410 C411 C413 C414 C415 C416 C417 C419 C423 C425 C431 C432 C433 C434 C435 C436 C437 C440 C441 C442 C443 C449 C450 C451 C452 C453 C461 C465 C468 C469 C470 C475 C476 C477 C478 C479 C480 C481 C484 C485 C486 C487 C488 C489 C490 C496 C497 C501 C502 C507 C510 C512 C513 C519 C520 C521 C533 C534 C537 C541 C542 C543 C544		
	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
C207 C422 C424 C473 C474 C495	CTMFJ0106ZN-R	CAP TANTAL/CHIP 10uF 16V T491B106K016AS 3528
C530	CZCII0050BE-R	CAP CHIP 5PF 50V C NPO 0603
C247	CZDII0100BE-R	CAP CHIP 10PF 50V CH D NP0 0603
C236 C237 C238 C267 C268 C269 C280 C281 C282 C538	CZJII0101BE-R	CAP CHIP 100P0F +5% -5% 50.0V NP0 0603
C273 C340	CZJII0220BE-R	CCCFMIC 22P0F +5% -5% 50.0V NP0
C254	CZJII0270BE-R	CAP CHIP 27P0F +5% -5% 50.0V NP0 0603
C253 C539	CZJII0300BE-R	CAPA CHIP 30PF 50V CH NP0 +5% 0603
C166 C171	CZJII0331BE-R	CAP CHIP 330P0F +5% -5% 50.0V NP0 0603
C176 C503	CZKII0102BC-R	CAP CHIP 1N0F +10% -10% 50.0V X7R 0603
C209 C258 C347 C348 C515 C516 C524 C525	CZKII0103BC-R	CAP CHIP 10N0F +10% -10% 50.0V X7R 0603
C350 C358	CZKII0223BC-R	CAP CHIP 22N0F +10% -10% 50.0V X7R 0603
C272 C274	CZKII0391BC-R	CAP CHIP 390PF 50V X7R K 0603
C173	CZKII0561BC-R	CAP CHIP 560P0F +10% -10% 50.0V X7R 0603
C522	CZKII0821BC-R	CAP CHIP 820P0F +10% -10% 50.0V X7R 0603
C174 C175 C177 C178 C179 C192 C208 C233 C259 C260 C364 C365 C366 C426 C428 C429 C438 C447 C459 C463 C500 C528 C531	CZZFI0104BF-R	CAP CHIP 100N0F +80% -20% 16.0V Y5V 0603
<i>Semiconductors</i>		
Q107 Q108 Q109 Q124	H03-TRKTA1267GR-R	KTA1267-GR TO-92M PNP
Q100 Q102	H03-TRKTC3199GR-R	KTC3199-GR TO-92M NPN
IC30	H03-ICKIA7806I2-R	IC KIA7806AP VOLTAGE REGULATOR TO-220AB +6V
IC49	H03-IC74LVC254D-R	IC SN74LVC257AD SOIC-16 Quaduple 2-Line To 1-Line Data Selector/Multiplexer With 3-State Outputs
IC64	H03-ICAD1580BRT-R	IC AD1580BRTZ-REEL7 1.2 V Micropower, Precision Shunt Voltage Reference
Q121 Q122	H03-TR2N7002LND-R	MOSFET N-CHANNEL 2N7002LT1G SOT-23
D130 D131 D132 D133 D135 D136 D137 D138 D139 D140 D141 D142	H03-DS05GBUSCNB-R	DIODE PG05GBUSC

Ref. Designator	Part Number	Description
VIDEO PCB		
D100 D101 D102 D103 D104 D105 D106 D107 D108 D109 D120 D121 D122 D123 D124 D125 D129 D143 D144	H03-DS1S50094NB-R	D-SLP 1SS355 35.0V 225MIOA
IC56 IC57 IC61 IC62	H03-DSAMP0514MN-R	DIODE TVS ARRAY RCLAMP0514M MSOP-10L
D126 D127 D128	H03-DSBAV99LTNB-R	DIODE SWITCHING BAV99LT1G SOT-23
IC50 IC51 IC53	H03-IC74A244PD8-R	IC SN74ALVC244PWR TSSOP20 Octal Buffer/Driver With 3-State Outputs
IC66	H03-IC74CB3T3D2-R	IC SN74CB3T3306DCTR SSOP-8 Dual Bus Switch Voltage Translator
IC40	H03-ICADA44106A-R	IC ADA4410-6ACPZ Integrated Video Filter with Selectable Cutoff Frequencies for GBR, HD/SD, Y, C, and CVBS
IC39	H03-ICADA44123A-R	IC ADA4412-3ARQZ Integrated Triple Video Filter
IC29	H03-ICADV7320KS-R	IC ADV7320LKSTZ 12-bit 216MHz Video Encoder with NSV and Macrovision® Copy Protection
IC24	H03-ICADV7401EF-R	ADV7401BSTZ-110 LQFP100 10-Bit, Integrated, Multiformat SDTV/HDTV Video Decoder
IC12 IC42 IC45 IC59	H03-ICBU4053BB4-R	IC BU4053BCF SOP16 Triple 2-channel analog multiplexer / demultiplexer
IC18 IC19 IC20 IC21 IC22	H03-ICBU4094BD3-R	IC CMOS BU4094BCF SOP16 8-bit compatible shift / store register
IC65	H03-ICCJT1172N5-R	CJT1117-2.5 SOT-223 1A LOW DROPOUT LINEAR REGULATOR
IC11	H03-ICCJT1173N3-R	IC VOLTAGE REGULATOR CJT117-3.3 SOT-223
IC43 IC46	H03-ICEEP24LCD2-R	24LC08BT-I/SNG SOIC-8P MICROCHIP SERIAL EEPROM
IC47	H03-ICFLI2300NN-R	IC VIDEO ENHANCER FLI2300-BD PQFP-208
IC27	H03-ICLC74763ME-R	LC74763M-9602-E SOP30 On-Screen Display LSI
IC17 IC25 IC26 IC33 IC34 IC35 IC36 IC37	H03-ICM1503XNRE-R	MM1503XNRE SOT-26B Video Switch 75 driver Y/C mix
IC32	H03-ICMM1511XDL-R	IC-VIDEO SW MM1511XNRE SOT-26B Video Switch 75 driver Y/C mix
IC13 IC14 IC15 IC16	H03-ICNJM2296D3-R	IC-LINEAR NJM2296M-TE1 5-INPUT 3-OUTPUT VIDEO SWITCH
IC38	H03-ICNJM2586MN-R	IC VIDEO AMP NJM2586M-TE1 DMP24
IC55	H03-ICSII903144-R	IC SIL9031CTU TQFP144 Dual input HDMI Receiver w/6/8 - channel audio (480p/720p/1080
IC54	H03-ICSIL903080-R	PanelLink Cinema Transmitter SII9030CTU TQFP80
IC23 IC28 IC31	H03-ICTSH95IDB4-R	IC-VIDEOPROC TSH95ID VIDEO AMPLIFIER
Q119 Q120	H03-TR2N7002LND-R	MOSFET N-CHANNEL 2N7002LT1G SOT-23
Q101	H03-TRKTC3875ND-R	TRANSISTOR NPN KTC3875S SOT23 NPN
Q110 Q111 Q112 Q123	H03-TSKRA107SNI-R	KRA107S SOT-23 PNP
Q103 Q104 Q105 Q106 Q113 Q114 Q115 Q118	H03-TSKRC107SND-R	KRA107S SOT-23 PNP
IC41 IC44 IC58	H03-TSUPA672TNH-R	TRANSISTOR MOSFET N-CHANNEL UPA672T-T1-A SMD
IC10	H03-ICIL1117SDG-R	IC LOW DROP REGULATOR IL1117S-1.8 1.8V SOT-223
IC48	H03-ICK4S643216-R	IC 64M SDRAM K4S643232H-UC60/70 64Mb H-die (x32) SDRAM
IC67 IC68	H03-ICC1G125DCK-R	IC SINGLE BUS BUFFER GATE SN74LVC1G125DCKT SOT(SC-70)DCKT
Resistors		
R191 R192	RS1AD0750NA-R	RES CHIP 75OHM 1% 1/16W 0603
R153	RS1AD1691NA-R	RES CHIP 1K69 ohm 1/16W 1% 0603
R318	RS1AD1870NA-R	RES CHIP 187 OHM 1/16W 1% 0603
R288 R291 R294 R298 R301 R302 R304 R357	RS3AD0000NA-R	RES CHIP, 0 R 1/16W +/-5%, 0603
R358 R359	RS3AD0101NA-R	RES CHIP,100R 1/16W +/-5%,0603
R251 R255 R258 R371	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603
R164 R223 R224 R225 R308 R309	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603
R173 R174 R317 R334	RS3AD0105NA-R	RES CHIP 1M 1/16W +5% 0603
R230 R231	RS3AD010ANA-R	RES CHIP,1R 1/16W +/-5%,0603
R126	RS3AD0123NA-R	RES CHIP,12K 1/16W +/-5%,0603
R165	RS3AD0152NA-R	RMGCFMIC 1K5 OHM +5% 0603
R252 R253 R256 R259	RS3AD0153NA-R	RES CHIP,15K 1/16W,+/-5%,0603.
R339	RS3AD0201NA-R	RES.CHIP,200 1/16W +5%,0603.
R261 R263 R397	RS3AD0222NA-R	RMGCFMIC 2K2 OHM +5% 0603
R151 R152	RS3AD0272NA-R	RMGCFMIC 2K7 OHM +5% 0603
R368	RS3AD0302NA-R	RMGCFMIC 3K0 OHM +5% 0603
R335	RS3AD0330NA-R	RMGCFMIC 33R0 OHM +5% 0603
R260 R262 R396	RS3AD0333NA-R	RMGCFMIC 33K0 OHM +5% 0603
R369	RS3AD0390NA-R	RES,CHIP 39 OHM 1/16W +/-5% 0603
R206 R336 R394	RS3AD0470NA-R	RMGCFMIC 47R0 OHM +5% 0603

AVR745

harman/kardon

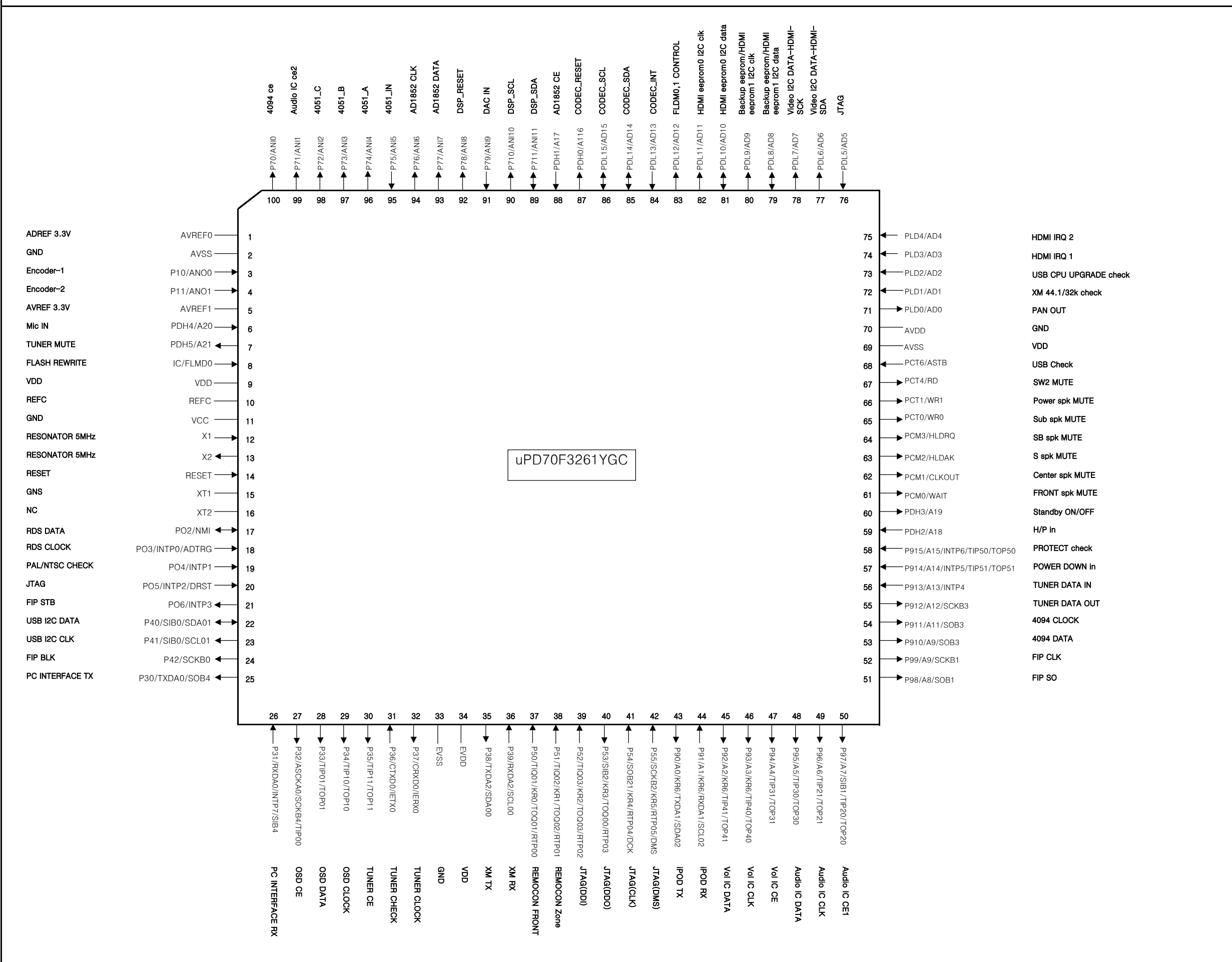
Ref. Designator	Part Number	Description
VIDEO PCB		
R208 R282 R283 R319 R333 R345 R346 R381 R382	RS3AD0472NA-R	RES CHIP,4K7 1/16W +/-5%,0603
R400 R401 R402 R403	RS3AD0473NA-R	RES CHIP,47K 1/16W +/-5%,0603
R247 R250	RS3AD0680NA-R	RMGCFMIC 68R0 OHM +5% 0603
R370	RS3AD0681NA-R	RES CHIP,680R 1/16W +/-5%,0603
R163	RS3AD0682NA-R	RMGCFMIC 6K8 OHM +5% 0603
R254 R257	RS3AD0752NA-R	RES CHIP 7.5K,1/16W,+5%,0603.
R391	RS3AD0822NA-R	RMGCFMIC 8K2 OHM +5% 0603
RV16 RV17 RV18 RV19 RV20 RV21 RV22 RV23	H03-VR0402V275R-R	VARISTOR CHIP CT0402V275RFG 16V
RV10 RV11 RV12 RV13 RV14 RV15	H03-VR0603V150R-R	VARISTOR CHIP CT0603V150RFG
RA30 RA31 RA32	RN3AY0220NA-R	RES NETWORK RCA 22OHM 1/16W 5% CN34JT220
R100 R101 R102 R103 R105 R106 R107 R108 R109 R110 R111 R189 R190 R217 R218 R219 R233 R237 R238 R239 R240 R241 R242 R243 R244 R245 R246 R267 R268 R269 R270 R271 R272 R273 R274 R275 R277 R278 R279 R324 R325 R326 R327 R328 R329 R383 R384 R385 R386 R387 R388	RS1AD0750NA-R	RES CHIP 75OHM 1% 1/16W 0603
R332	RS1AD4750NA-R	RES.CHIP 475 OHM 1/16W +/-1% 0603
R104 R209 R210 R211 R232 R234 R235 R236	RS1AD787ANA-R	RES CHIP 78.7 ohm 1/16W 1% 0603
R181 R286 R292 R296 R355 R367	RS3AD0000NA-R	RES CHIP, 0 R 1/16W +/-5%, 0603
R406	RS3AD0100NA-R	RMGCFMIC 10R0 OHM +5% 0603
R168 R177 R178 R179 R180 R322 R323 R330 R331 R340 R341 R378 R379	RS3AD0101NA-R	RES CHIP,100R 1/16W +/-5%,0603
R123 R124 R125 R127 R128 R129 R131 R132 R133 R135 R136 R137 R139 R140 R141 R160 R161 R170 R171 R172 R347 R351	RS3AD0102NA-R	RES CHIP,1K 1/16W +/-5% ,0603
R144 R145 R146 R159 R169 R212 R213 R214 R220 R221 R222 R310 R311 R312 R313 R314 R315 R316 R321 R342 R349 R350 R353 R354 R360 R361 R398	RS3AD0103NA-R	RES CHIP,10K 1/16W +/-5% ,0603
R154 R155	RS3AD0105NA-R	RES CHIP 1M 1/16W +5% 0603
R112 R113 R114 R115 R116 R117 R118 R119 R120 R121 R122 R147 R148 R157 R158 R184 R185 R215 R216 R226 R227 R228 R229 R264 R265 R266 R276 R389 R390	RS3AD010ANA-R	RES CHIP,1R 1/16W +/-5%,0603
R162 R187 R188	RS3AD0121NA-R	RMGCFMIC 120R0 OHM +5% 0603
R130 R134 R138 R142	RS3AD0123NA-R	RES CHIP,12K 1/16W +/-5%,0603
R167	RS3AD0124NA-R	RES CHIP,120K 1/16W +/-5%,0603
R150	RS3AD0154NA-R	RMGCFMIC 150K0 OHM +5% 0603
R343 R344	RS3AD0182NA-R	RES CHIP,1.8K,1/16W,+5%,0603.
R248	RS3AD0222NA-R	RMGCFMIC 2K2 OHM +5% 0603
R348 R352	RS3AD0223NA-R	RES CHIP,22K 1/16W +/-5%,0603
R166	RS3AD0224NA-R	RES CHIP,220K 1/16W +/-5%,0603
R149	RS3AD0271NA-R	RMGCFMIC 270R0 OHM +5% 0603
R186 R372 R373 R374 R375 R376 R377	RS3AD0301NA-R	RES,CHIP 300 OHM 1/16W +/-5% 0603
R365	RS3AD0302NA-R	RMGCFMIC 3K0 OHM +5% 0603
R407 R408	RS3AD0330NA-R	RMGCFMIC 33R0 OHM +5% 0603
R249	RS3AD0333NA-R	RMGCFMIC 33K0 OHM +5% 0603

Ref. Designator	Part Number	Description
VIDEO PCB		
R182 R183 R207 R320 R362 R380 R409 R410	RS3AD0470NA-R	RMGCFMIC 47R0 OHM +5% 0603
R175 R176 R280 R281 R284 R285 R337 R338 R364	RS3AD0472NA-R	RES CHIP,4K7 1/16W +/-5%,0603
R156	RS3AD0624NA-R	RES,CHIP 620K 1/16W +/-5% 0603
R395	RS3AD0680NA-R	RMGCFMIC 68R0 OHM +5% 0603
R392 R411	RS3AD0682NA-R	RMGCFMIC 6K8 OHM +5% 0603
R404 R405	RS3AD068ANA-R	RES, CHIP, 6.8 OHM 1/16W, +/-5% 0603
R143	RS3AD0822NA-R	RMGCFMIC 8K2 OHM +5% 0603
RA10 RA11 RA12 RA13 RA16 RA17 RA18 RA19 RA22 RA33 RA34 RA35 RA36 RA39	RS3AY0470NA-R	RES NETWORK RCA 47R0 OHM +5% 62M15W CN34JT470
<i>Miscellaneous</i>		
L100 L130 L131 L132 L133 L134 L135 L136 L137 L138 L139 L140 L141 L146	H03-FB1212012KF-R	FCM2012KF-121T08 120ohm 2012
L110 L112	H03-FB2012F1R5K-R	FCI2012F-1R5K 1.5UH 0805
L105 L106 L107 L108 L114 L115 L116 L118 L119 L120 L123 L124 L125 L126 L127 L128 L129 L154	H03-FB2012F3R9K-R	FCI2012F-3R9K 3.9UH 0805
L111 L113	H03-LS2012F1R8K-R	INDUCTOR COIL FCI2012F-1R8K 1.8UH 0805
L142 L143 L144 L145	H03-LS2012H9002-R	CHOKO COIL ACM2012H-900-2P
NJ17 NJ18 NJ19	H03-SOYKF457009-R	YKF45-7009
F100	H03-SWNANDC1502-R	SWITCH POLY NANOSMDC150F-2 SMD
L101 L102 L103 L121	H03-FB05B3580NN-R	BEAD AXIAL/TAP,HC3580 80.5ohm
L122	H03-LAINB0470CR-R	LF 47U0H +10% 5.8 OHM 500MIOA
L109	H03-LALNB056ACR-R	INDUCTOR COIL AL02TB5R6J 5.6UH 1.9OHM +5%
Y103	H03-OSX13M5HZ00-R	CRYSTAL 13.5MHz WOOIN
Y100	H03-OSXBE14M3AU-R	CRYSTAL 14.31818MHz WOOIN
Y101	H03-OSXBE17M7AU-R	CRYSTAL 17.734475MHz WOOIN
Y104	H03-OSXBE28M39S-R	CRYSTAL 28.322MHz 18pF HC-49/S
K100 K101 K102 K103	H03-RLL0517811A-R	RELAY D3009(1-1462033-4)
NJ16	H03-SOR12BJ12GN-R	JACK RCA 12P BJ120154JG R4 BU4 G4,GOLD COLOR
NJ10 NJ12 NJ11 NJ13 NJ14 NJ15	H03-SORA60031GN-R	JACK RCA+S-VIDEO 6P C80300312G,GOLD COLOR
P602	H03-WN04AB00000-R	CONN 2.0MM GIL-S-04P-S2L2-EF 4P
P700 P701	H03-WN04AB100WH-R	CONN WAFER 2.0MM 4P 35237-0410 WHT
N700 N701	H03-WN04SB100WH-R	CONN WAFER 2.0MM 4P 35336-0410 WHT
P604	H03-WN05AB00000-R	GIL-S-05P-S2L2-EF 5P
P601	H03-WN06AB00000-R	CONNECT 2.0mm 6P GIL-S-6P-S2L2-EF
P603	H03-WN07AD00000-R	CONNECT WAFER 2.5MM 7P 5268-07A WHT ANGLE
P702	H03-WN10AB000WH-R	CONNECT WAFER 2.0mm 10P 35237-1010 WHT
N702	H03-WN10SB100WH-R	CONNECT WAFER 2.0mm 10P 35336-1010 WHT
N611	H03-WN16AI00000-R	CONNECT 1.25MM 16P GF120-16S-LS 1.25MM 16P
P612	H03-WN18DI00001-R	GF120-18S-LS 1.25mm 18P
P605	H03-WN29AI00000-R	CONN 1.25MM 29 FE R WH GF120-29S-LS 2794 A6
Y105	H03-OSX27MSCOB0-R	CRYSTAL 27.000MHz SCO-103 25-27.000M
C540	CZJII0820BE-R	CAPACITOR CERAMIC/CHIP ,82pF 50V CH J NPO 0603
MECHANICAL ASSEMBLY		
	H03-SWA2B21PDA&-R	SW PUSH POWER SDDL15700
	H03-TXPWMEINAB0-R	POWER TRANSFORMER AVR745 MAIN TRANS 120V 60Hz USA ONLY
	H03-TXPWMEI96B0-R	POWER TRANSFORMER AVR745EU MAIN TRANS 230V 50Hz
	H03-WF22S2605RT-R	DHCDT-22/260-P1.25-RT(5/5,10/10)
	H03-WG02SG8532A-R	WIRECONASY UNIQUE 2P 530MM UL1617 PVC DOUBLE INSULATED
	H03-WG04SB81400-R	UL1007#26 STR 140mm 2.0mm 4P WHT
	H03-WN16SI01200-R	WIRE FCC CABLE DHCDT-16/120-P1.25-ST(5/5,10/10) G2,Shield
	H03-WN18SI03600-R	WIRE FFC (CARD CABLE)DHCDT-18/360-P1.25-RT(5/5,10/10)
	H03-WN29SI02000-R	WIRE FFC (CARD CABLE)DHCDT-29/200-P1.25-ST(5/5,10/10)
	H03-ZMB01S00100-R	BKT HEADPHONE
	H03-ZMB01S02200-R	SPRING PLATE GND C5212 0.2T

Ref. Designator	Part Number	Description
MECHANICAL ASSEMBLY		
	H03-ZMC11S00200-R	AL DOOR
	H03-ZMC11S04B00-R	BKT FRAME GUIDE
	H03-ZMC11S06A00-R	SPRING STOPPER
	H03-ZMC11S07A00-R	CHASSIS FRONT
	H03-ZMC11S09A00-R	BKT FAN FRONT
	H03-ZMC11S10A00-R	BKT FAN REAR
	H03-ZMC11S12A00-R	CAP BUTTON STAND-BY
	H03-ZMC11S14A00-R	BRACKET DOOR
	H03-ZMC12S07A00-R	COVER BOTTOM
	H03-ZMC12S08B00-R	BKT TRANS BOTTOM
	H03-ZMC12S09A00-R	BKT HEATSINK
	H03-ZMC12S19A00-R	BKT AC INLET
	H03-ZMD05S16A00-R	BKT HINGE AVR7300
	H03-ZMD2701ZANI-R	BRACKET POSISTOR,METAL,AVR745
	H03-ZMD2702GAGY-R	AL PANEL FRONT,AVR745
	H03-ZMD2703GAGY-R	BADGE FRONT,AL,AVR745,GREY,HOT STAMPING
	H03-ZMD27HS0100-R	H/SINK AMP AVR745
	H03-ZMD27HS0200-R	H/SINK MAIN AVR745
	H03-ZMD27HS0300-R	HEATSINK AMP SMALL
	H03-ZMD27S02A00-R	PANEL REAR AVR745US
	H03-ZMD27S04A00-R	BKT FRAME GUIDE AVR745
	H03-ZMD27S06A00-R	BKT VIDEO
	H03-ZMD27S08A00-R	COVER TOP AVR745
	H03-ZMD27S13A00-R	CHASSIS MAIN AVR745
	H03-ZMD27S20A00-R	BADGE harman/kardon COVER TOP AVR745
	H03-ZPC1004GASG-R	BUTTON 7 KEY
	H03-ZPC1018GART-R	FILTER VFD
	H03-ZPD0315GAMW-R	VOLUMN KNOB
	H03-ZPD0316GASG-R	COVER KNOB
	H03-ZPD0317GACR-R	CAP KNOB VOLUMN
	H03-ZPD2719GABT-R	WINDOW DISPLAY AVR745+BADGE NAME AVR745
	H03-ZVC11DWT100-R	TAPE DOOR
	H03-ZVC11DWT200-R	TAPE PANEL
	H03-ZVC11GEAR01-R	DAMPER GEAR DP120
	H03-ZVJF0925S00-R	DC FAN JF0925S1M-003C651R 12V 92x92x25mm
	ZFD122062SB-R	RUBBER TOP
	ZFD122072SB-R	RUBBER TOP
	ZFNR13830SB-R	RUBBER SIDE
	ZFNR19720SB-R	RUBBER FOOT 19.7X19.7X2T BK
	ZMC12S13AYE-R	STANDOFF HEX M4X0.7 6X31.9H
	ZMC12S14AYE-R	STANDOFF HEX M4X0.7 6X61.9H
	ZNSSM4045HZ-R	NUT M4 HEXAGON CIRCULAR EXTERNAL
	ZPC1002GAGY-R	DOOR
	ZPC1003GAGY-R	BUTTON POWER
	ZPC1005GAGY-R	BUTTON 8 KEY
	ZPC1006GAWH-R	BUTTON STANDBY
	ZPC1007GAMW-R	INDICATOR STAND-BY
	ZPC1017GABK-R	HOLDER VFD
	ZPC1102GAMW-R	INDICATOR VIDEO
	ZPC1103GAGY-R	FOOT 50MM 15.8MM
	ZPD2701GAGY-R	PANEL FRONT AVR745
	ZSMCM4008BY-R	SCREW BM 4X8
	ZSMCM4010BB-R	SCREW BM 4X10
	ZSMPM3006LB-R	SCREW.M.S.M3X6 P/HD BLACK
	ZSTBM3008BY-R	SCREW ST BH 3X8
	ZSTBM3010BB-R	SCREW ST BH 3X10
	ZSTBM3012BY-R	SCREW ST BH 3X12 PIVOT
	ZSTBM3014BY-R	SCREW ST BH 3X14 PIVOT
	ZSTGM3010BB-R	SCREW ST BH 3X10 GROUND
	ZSTWM3006BB-R	SCREW ST WPH 3X6
	ZSTWM3008BY-R	SCREW ST WPH 3X8
	ZSTWM3A08BY-R	SCREW ST W7.5PH 3X8
	ZSTWM4008BC-R	SCREW ST WPH 4X8 SILVER CHROM
	ZUC1201AABK-R	SPONGE 30X30X10T BK
	ZWF793008PO-R	WASHER FIBER 3 0.8T
	ZWM623108SZ-R	WASHER SPRING 3

Ref. Designator	Part Number	Description
	ZWM763109SZ-R	AC SPRING WASHER RT2250(PAV5005)
	ZWM803305PZ-R	WASHER PLAIN 3
	ZWMC04810PZ-R	WASHER PLAIN 4
	H03-FBD0480BR00-R	FCORE CLAMP FILTER LF80BR W5 SRH 16X28X9
	H03-ZMD27S07A00-R	SHIELD AL
	H03-ZMD12S01C00-R	SHIELD DSP AVR745
	H03-ZUD0301ABBK-R	SPONGE-UL 30X30X12T BK
	H03-WG09SB82000-R	WIRE ASS'Y UL1007#26(TA) 200mm 2.0mm 9P WHT
TUNER MODULE USA ONLY	H03-ZVC11TUNE01-R	TUNER MODULE KST-MB011MW0-81 USA ONLY
TUNER MODULE EUROPE	H03-ZVD01TUNE00-R	TUNER MODULE KST-MB114MW1-81 OEM EUROPE ONLY

UPD70F3261YGC-8EA-A LQFP100 PORT DEFINE FOR AVR745



AVR745 MICOM PORT ASSIGN

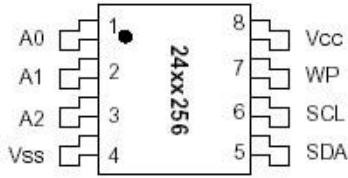
PIN	PIN NAME	RECEIVER NAME	IN/OUT	FUNCTION
1	AV _{REF0}	3.3V	Supply	AD ref
2	AV _{SS}	GND	Supply	GND
3	P10/AN00	Encoder 1	IN	VOLUME ENCODER INPUT 1
4	P11/AN01	Encoder 2	IN	VOLUME ENCODER INPUT 2
5	AV _{REF1}	AVREF1	Supply	VDD
6	PDH4/A20	Mic in	IN	ROOM EQ mic in check
7	PDH5/A21	Tuner Mute	OUT	TUNER MUTE OUT
8	IC/FLMD0	Flash Rewrite	IC	Debug port
9	V _{DD}	VDD	Supply	VDD
10	REGC	REFC	Supply	VDD
11	V _{SS}	GND	Supply	GND
12	X1	RESONATOR 5MHz	IN	5.00MHz RESONATOR
13	X2	RESONATOR 5MHz	OUT	5.00MHz RESONATOR
14	/RESET	RESET	IN	LOW ACTIVE
15	XT1	GNS	GND	clock port
16	XT2	NC	Open	NC
17	P02/NMI	RDS DATA(XM-IRQ)	IN/OUT	RDS_DATA (ext interrupt)
18	P03/INTP0/ADTRG	RDS Clock(XM-C/D)	IN	RDS_CLK (ext interrupt)
19	P04/INTP1	PAL/NTSC check	IN	ext interrupt
20	P05/INTP2/DRST	JTAG(DRST)	IN	Debug port
21	P06/INTP3	FIP STB	OUT	FIP DRIVER IC RESET / FL STROBE
22	P40/SIB0/SDA01	USB I2C DATA	IN/OUT	USB-SDA
23	P41/SOB0/SCL01	USB I2C CLK	OUT	USB-CLK
24	P42/SCKB0	FIP BLK	OUT	FIP DRIVER IC DATA IN / FL BLANK
25	P30/TXDA0/SOB4	PC INTERFACE TX	OUT	UART Interface
26	P31/RXDA0/INTP7/SIB4	PC INTERFACE RX	IN	UART Interface
27	P32/ASCKA0/SCKB4/TIP00	OSD CE	OUT	OSD CHIP ENABLE
28	P33/TIP01/TOP01	OSC DATA	OUT	OSD DATA
29	P34/TIP10/TOP10	OSC CLOCK	OUT	OSD CLK
30	P35/TIP11/TOP11	Tuner CE	OUT	TUNER PLL IC(LC72131) CHIP ENABLE
31	P36/CTXD0/IETX0	Tuned check	IN	TUNER PLL IC(LC72131) DATA IN / STEREO CHECK
32	P37/CRXD0/IERX0	Tuner CLOCK	OUT	TUNER PLL IC(LC72131) CLOCK
33	EV _{SS}	GND	Supply	GND
34	EV _{DD}	VDD	Supply	VDD
35	P38/TXDA2/SDA00	XM TX	OUT	UART Interface
36	P39/RXDA2/SCL00	XM RX	IN	UART Interface
37	P50/TIQ01/KR0/TOQ01/RTP00	Remocon Front	IN	Remocon Port
38	P51/TIQ02/KR1/TOQ02/RTP01	Remocon Zone	IN	Remocon Port
39	P52/TIQ03/KR2/TOQ03/RTP02	JTAG(DDI)	IN	Debug port
40	P53/SIB2/KR3/TOQ00/RTP03	JTAG(DDO)	OUT	Debug port
41	P54/SOB2/KR4/RTP04/DCK	JTAG(CLK)	IN	Debug port
42	P55/SCKB2/KR5/RTP05/DMS	JTAG(DMS)	IN	Debug port
43	P90/A0/KR6/TXDA1/SDA02	iPOD TX	OUT	UART Interface
44	P91/A1/RXDA1/SCL02	iPOD RX	IN	UART Interface
45	P92/A2/TIP41/TOP41	Vol IC DATA	OUT	TC9482/TC9459 DATA
46	P93/A3/TIP40/TOP40	Vol IC CLOCK	OUT	TC9482/TC9459 CLK
47	P94/A4/TIP31/TOP31	Vol IC CE	OUT	TC9482/TC9459 CE
48	P95/A5/TIP30/TOP30	Audio IC data	OUT	A DATA
49	P96/A6/TIP21/TOP21	Audio IC clk	OUT	A CLK
50	P97/A7/SIB1/TIP20/TOP20	Audio IC ce 1	OUT	TC9273/TC9162/TC9163 CE
51	P98/A8/SOB1	FIP SO	OUT	FIP DRIVER IC DATA OUT / FL DI
52	P99/A9/SCKB1	FIP CLK	OUT	FIP DRIVER IC CLOCK OUT / FL CLK
53	P910/A10/SIB3	4094 DATA	OUT	4094 DATA
54	P911/A11/SOB3	4094 CLOCK	OUT	4094 CLK
55	P912/A12/SCKB3	Tuner DATA out	OUT	72131 DIN
56	P913/A13/INTP4	Tuner DATA in	IN	72131 DOUT
57	P914/A14/INTP5/TIP51/TOP51	POWER DOWN check	IN	Ext Interrupt
58	P915/A15/INTP6/TIP50/TOP50	Protect check	IN	PROTECTION IN
59	PDH2/A18	H/P in	IN	HEADPHONE INPUT
60	PDH3/A19	Standby ON/OFF	OUT	MAIN POWER Relay control
61	PCM0/WAIT	Front spk Mute	OUT	FRONT SPEAKER MUTE
62	PCM1/CLKOUT	Gen spk Mute	OUT	CENTER SPEAKER MUTE
63	PCM2/HLDAK	S spk Mute	OUT	SURROUND SPEAKER MUTE
64	PCM3/HLDRQ	SB spk Mute	OUT	SURR BACK SPEAKER MUTE
65	PCT0/WR0	Sub spk Mute	OUT	SUB WOOFER MUTE
66	PCT1/WR1	Power Mute	OUT	POWER MUTE
67	PCT4/RD	SW2 MUTE	OUT	SUBWOOFER MUTE
68	PCT6/ASTB	USB CHECK	IN	USB CNT CHECK
69	BV _{SS}	VDD	Supply	VDD
70	BV _{DD}	GND	Supply	GND
71	PDL0/AD0	Fan Out	OUT	PWM control
72	PDL1/AD1	XM 44.1/32K CHECK	IN	XM-44.1/32K-CHECK
73	PDL2/AD2	USB CPU UPGRAD CHECK	IN	USB-UPGRADE
74	PDL3/AD3	HDMI IRQ 1	IN	HDMI IRQ 1
75	PDL4/AD4	HDMI IRQ 2	IN	HDMI IRQ 2

PIN	PIN NAME	RECEIVER NAME	IN/OUT	FUNCTION
76	PDL5/AD5/FLMD1	JTAG	IN	Debug port
77	PDL6/AD6	Video I2C DATA-HDMI-SDA	IN/OUT	farodja,HDMI i2c
78	PDL7/AD7	Video I2C CLK-HDMI-SCK	OUT	farodja,HDMI i2c
79	PDL8/AD8	backup eeprom/HDMI eeprom1 I2C data	IN/OUT	EEPROM DATA
80	PDL9/AD9	backup eeprom/HDMI eeprom1 I2C clk	OUT	EEPROM CLK
81	PDL10/AD10	HDMI eeprom0 I2C data	IN/OUT	EEPROM DATA
82	PDL11/AD11	HDMI eeprom0 I2C clk	OUT	EEPROM CLK
83	PDL12/AD12	FLDM0,1 CONTROL	OUT	Flash programming mode
84	PDL13/AD13	CODEC_INT	IN	AK4114 INT0
85	PDL14/AD14	CODEC_SDA	IN/OUT	AK4114 SDA
86	PDL15/AD15	CODEC_SCL	IN/OUT	AK4114 SCL/CS4391A M2
87	PDH0/A16	CODEC_RESET	OUT	AK4114 PDN
88	PDH1/A17	AD1852 CE	IN	DAC CE
89	P711/ANI11	DSP_SDA	IN/OUT	DSP I2C DATA
90	P710/ANI10	DSP_SCL	OUT	DSP I2C CLOCK
91	P79/ANI9	DAC IN	IN	CS4391A M1
92	P78/ANI8	DSP_RESET	OUT	DA610 RESET
93	P77/ANI7	AD1852 DATA	OUT	DAC DATA
94	P76/ANI6	AD1852 CLK	OUT	DAC CLK
95	P75/ANI5	4051_IN	IN	4051_IN
96	P74/ANI4	4051_A	OUT	4051_A
97	P73/ANI3	4051_B	OUT	4051_B
98	P72/ANI2	4051_C	OUT	4051_C
99	P71/ANI1	Audio ic ce2	OUT	TC9162_CE
100	P70/ANI0	4094 ce	OUT	4094 CHIP ENABLE

Semiconductor pinout drawings

•IC

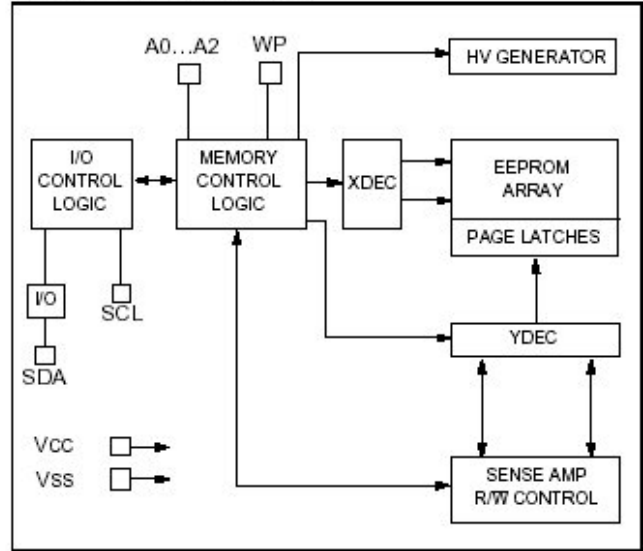
1. 24LC256 (DSP: IC53)



PIN FUNCTION TABLE

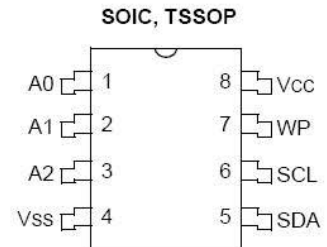
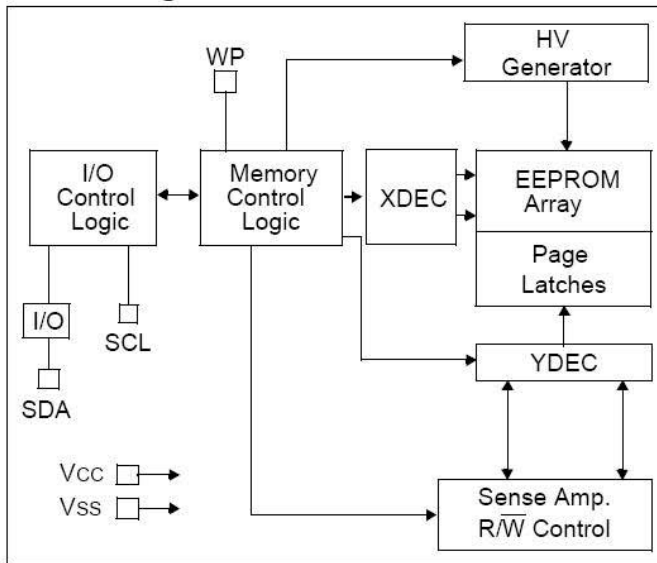
Name	Function
A0, A1, A2	User Configurable Chip Selects
Vss	Ground
SDA	Serial Data
SCL	Serial Clock
WP	Write Protect Input
Vcc	+1.8 to 5.5V (24AA256) +2.5 to 5.5V (24LC256)

BLOCK DIAGRAM



2. 24LC64-I/SNG (DSP: IC16)

Block Diagram

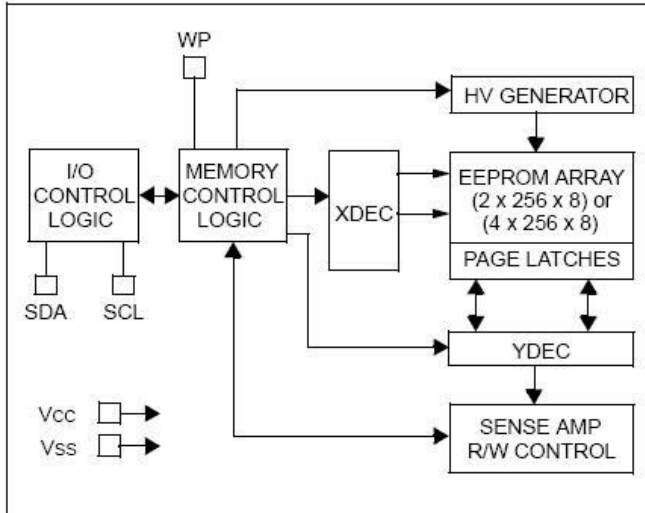


PIN FUNCTION TABLE

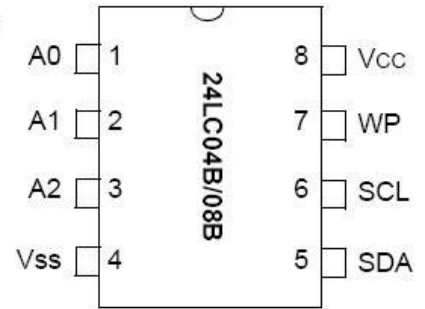
Name	Function
A0,A1,A2	User Configurable Chip Selects
Vss	Ground
SDA	Serial Data
SCL	Serial Clock
WP	Write Protect Input
Vcc	+1.8 to 5.5V (24AA64) +2.5 to 5.5V (24LC64)

3. 24LC08BT (VIDEO: IC43 IC46)

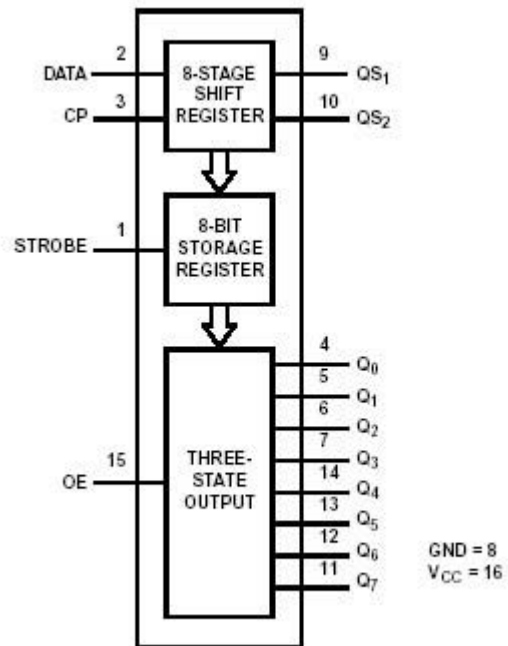
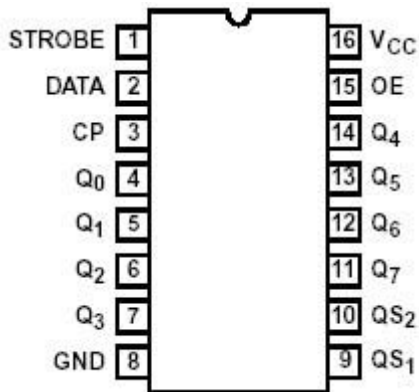
BLOCK DIAGRAM



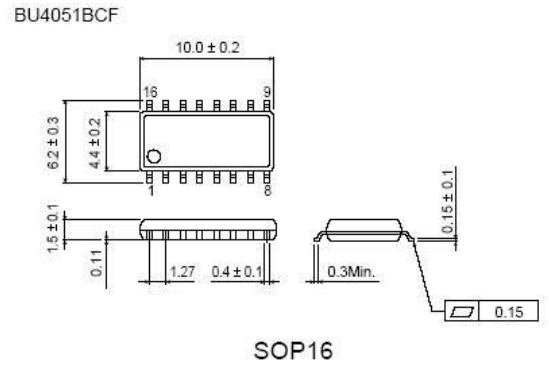
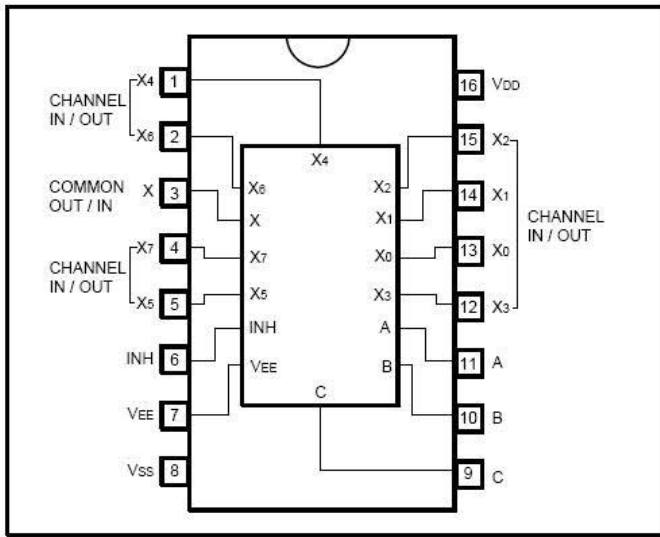
PDIP, SOIC



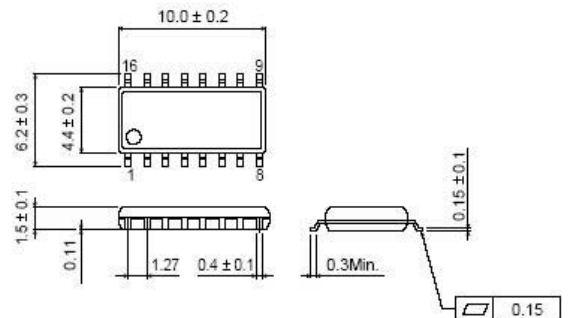
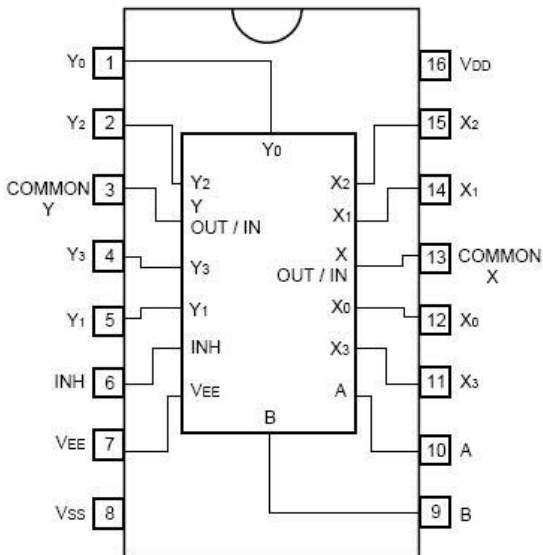
4. BU4094BCF SOP16 (DSP: IC23 IC24 IC28) (RS232: IC406) (VIDEO: IC18 IC19 IC20 IC21 IC22)



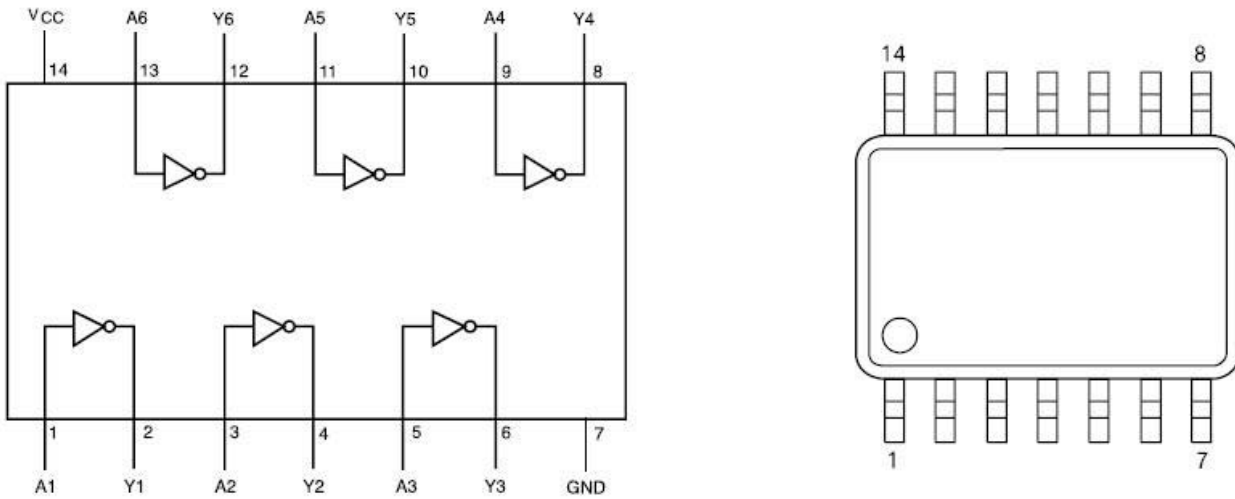
5. BU4051BCF SOP16 (DSP: IC21)



6. BU4052BCF SOP16 (RS232: IC34)

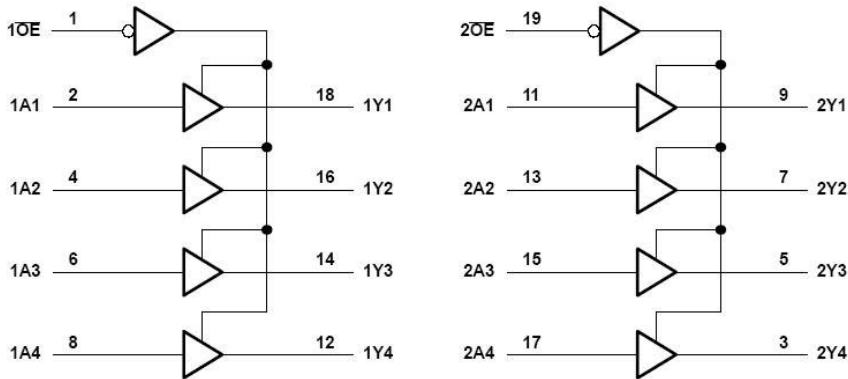


7. 74HCU04M (DSP: ICIC74 IC75)

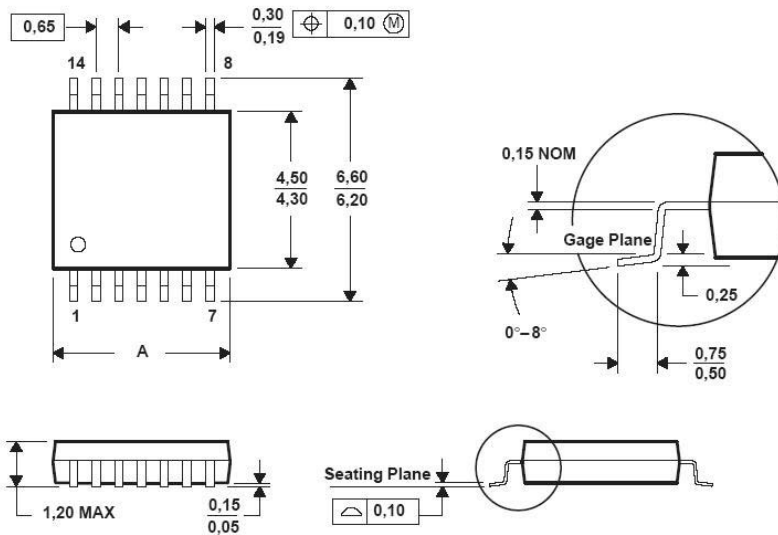


8. SN74ALVC244PWR (VIDEO: IC50 IC51 IC53)

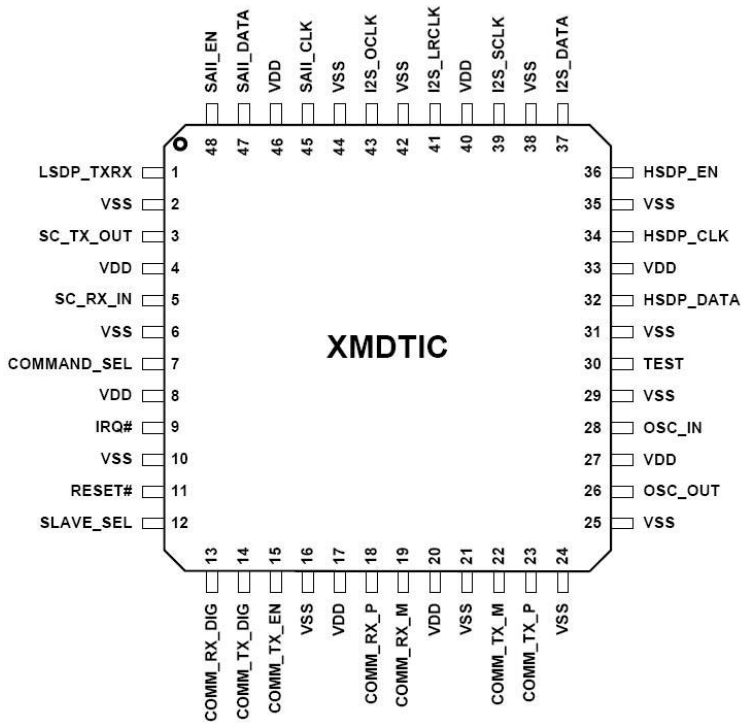
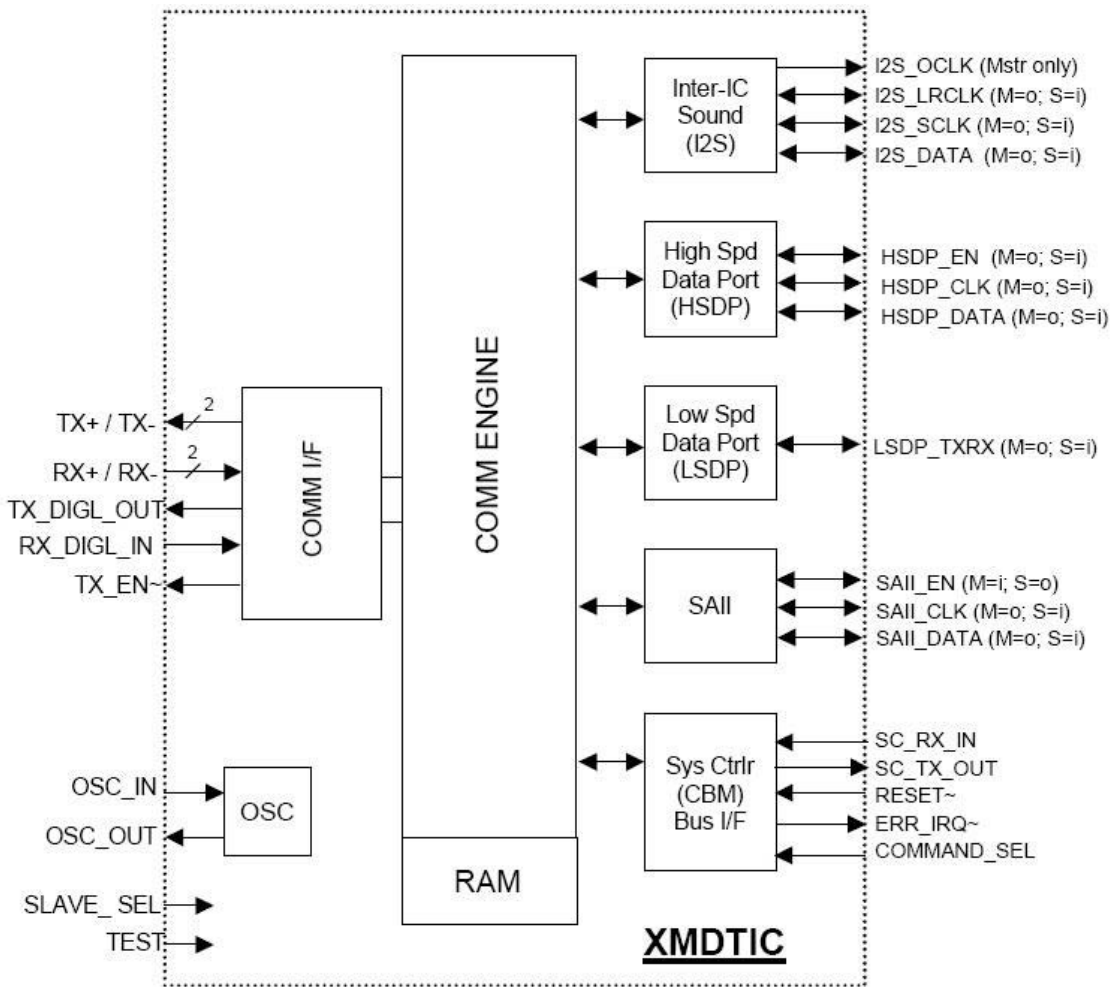
LOGIC DIAGRAM (POSITIVE LOGIC)



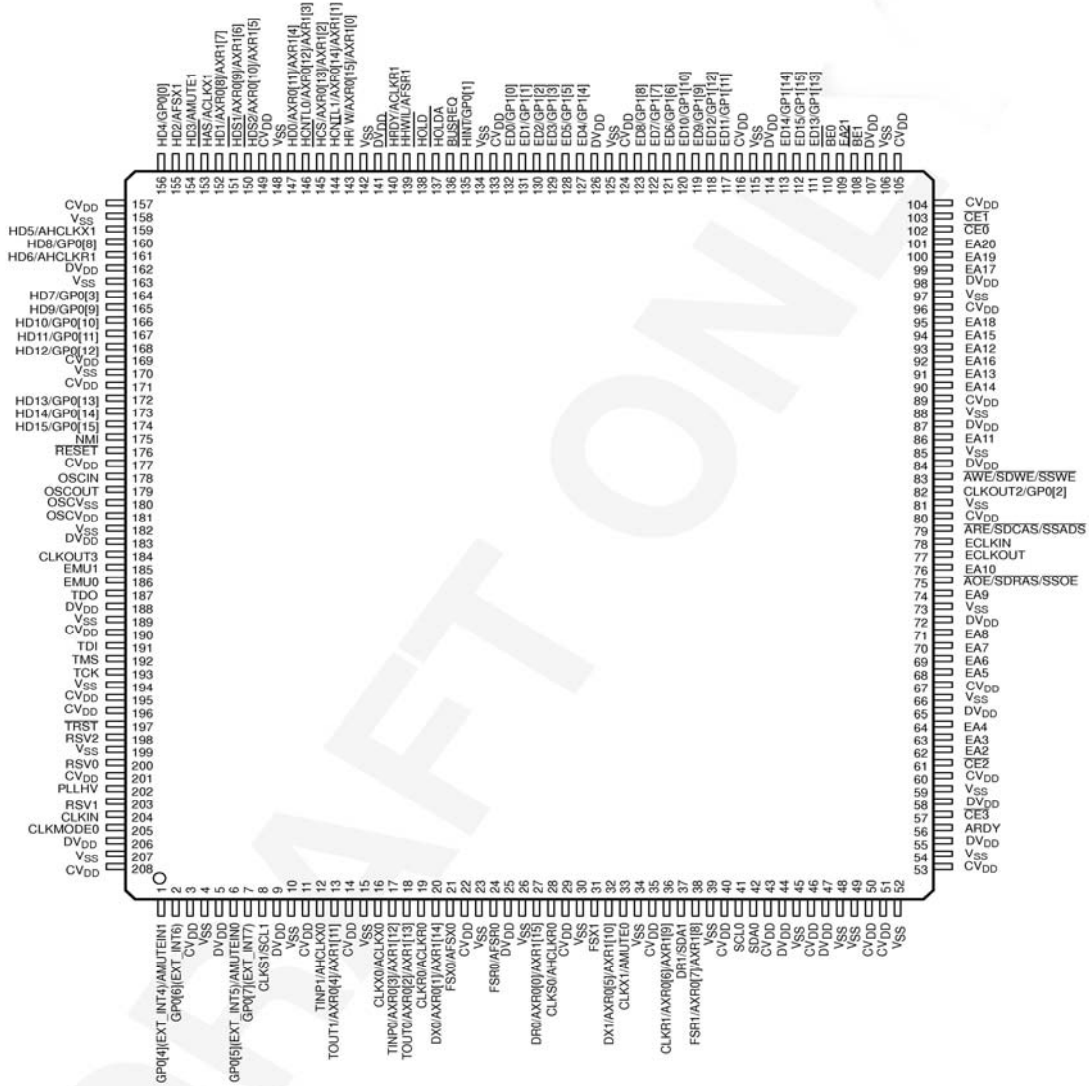
DIM	PINS **					
	8	14	16	20	24	28
A MAX	3,10	5,10	5,10	6,60	7,90	9,80
A MIN	2,90	4,90	4,90	6,40	7,70	9,60



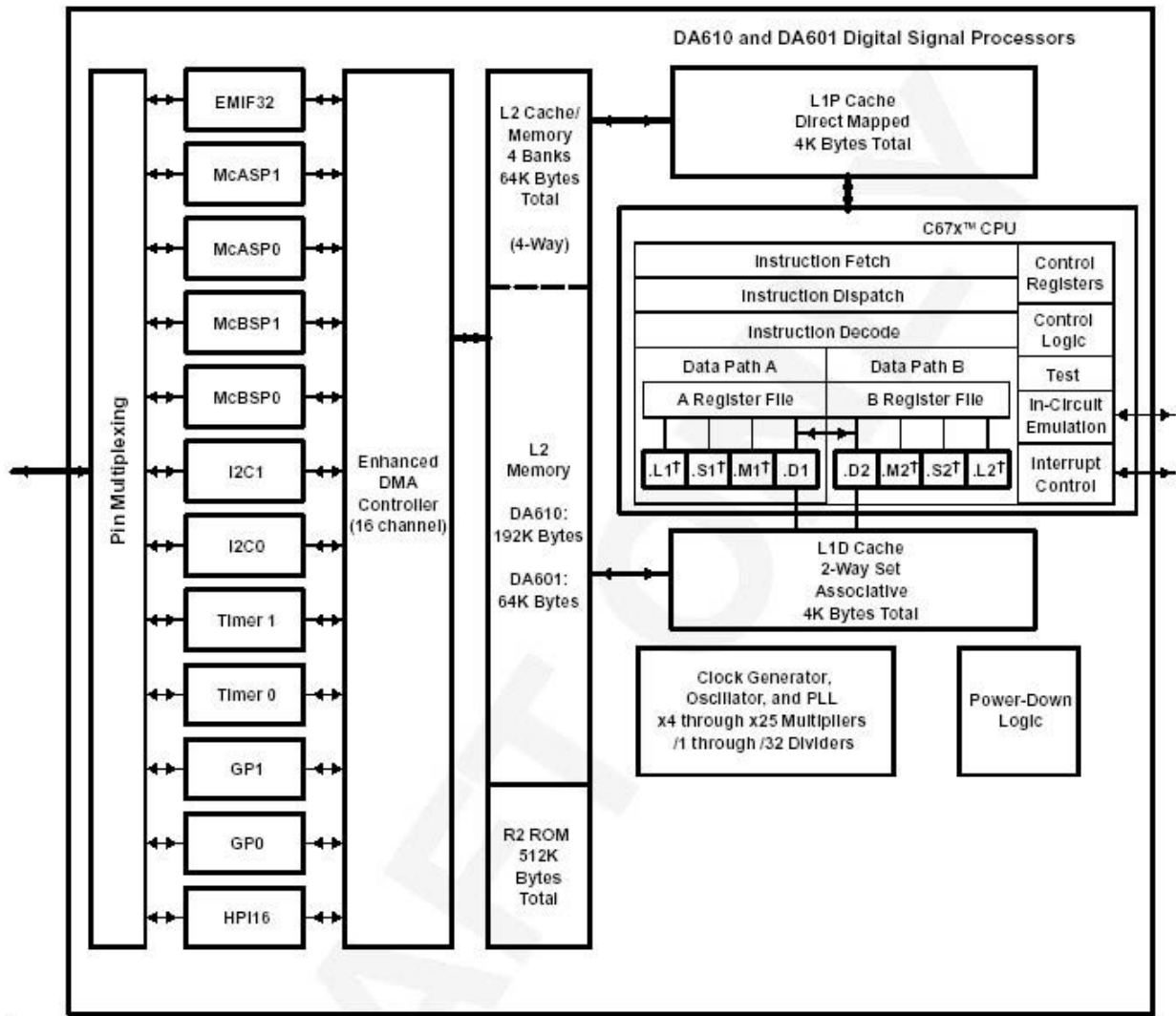
9. XMDIC QFP48 (DSP: IC15)



10. TMS320DA610-250 PQFP208 (DSP:IC91)



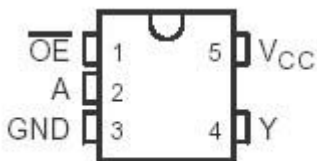
functional block and CPU (DSP core) diagram



11. SN74LVC1G125DVB (DSP:IC51,52 VIDEO: IC67,68)

FUNCTION TABLE

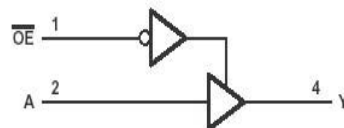
INPUTS		OUTPUT
OE	A	Y
L	H	H
L	L	L
H	X	Z



logic symbol†



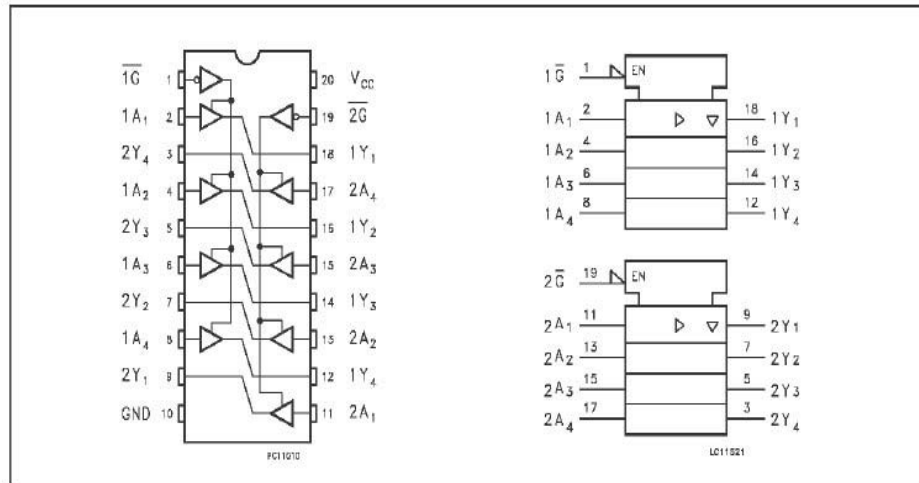
logic diagram (positive logic)



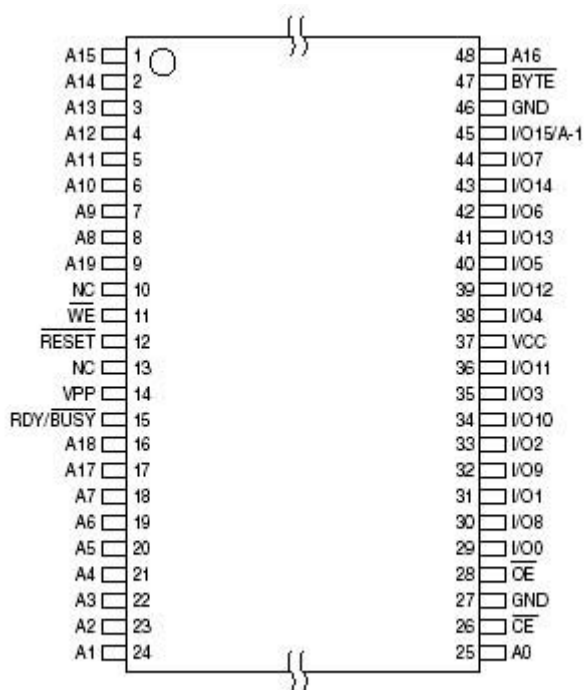
12. 74VHC244M (DSP:IC50)



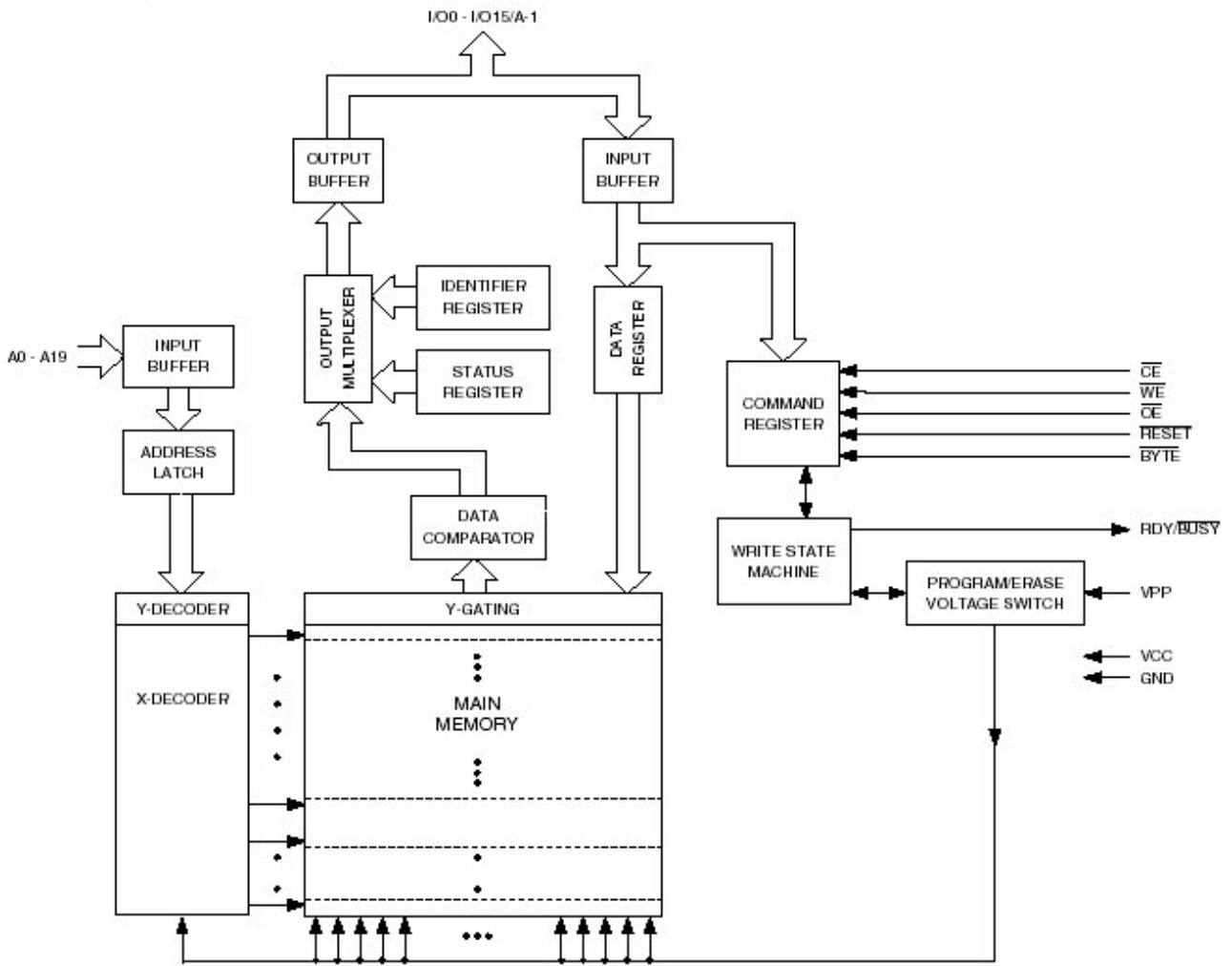
PIN CONNECTION AND IEC LOGIC SYMBOLS



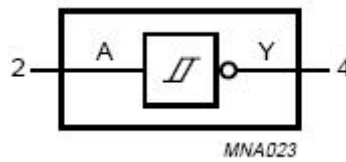
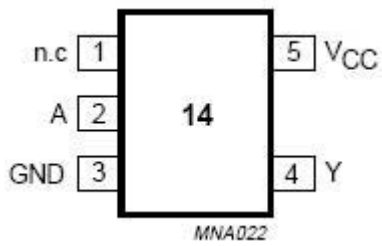
13. AT49BV163DT (DSP:IC92)



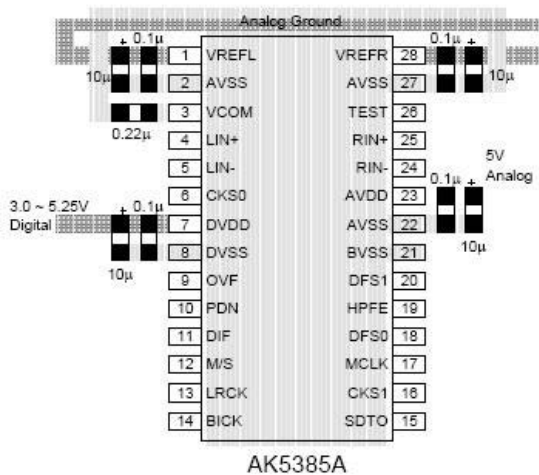
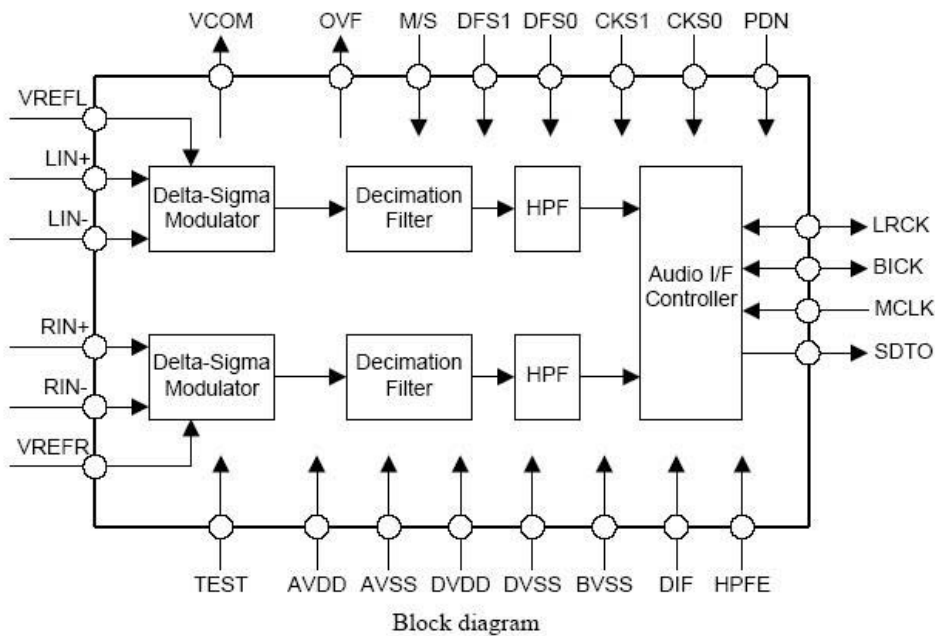
Block Diagram



14. 74AHC1G (DSP: IC45)

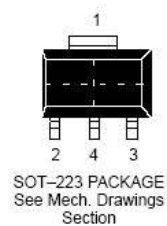
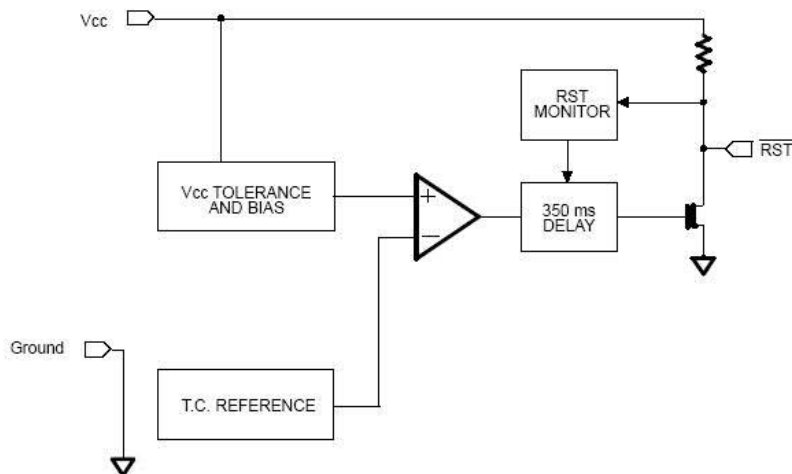


15. AK5385AVF (DSP: IC25 IC26 IC27 IC37)



16. DS1233AZ (DSP: IC40)

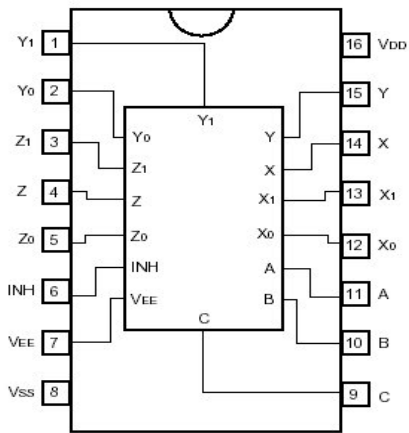
BLOCK DIAGRAM Figure 1



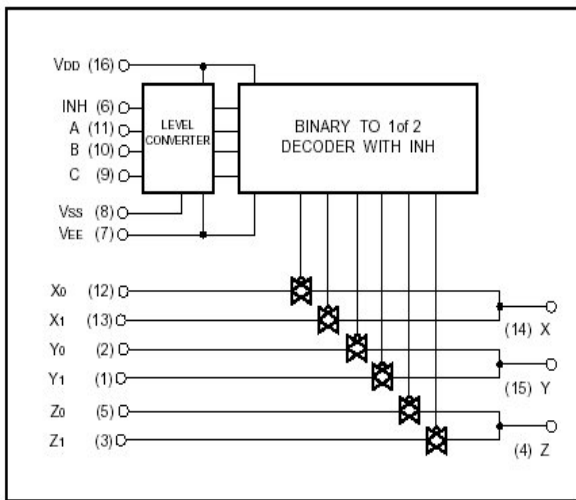
PIN DESCRIPTION

PIN 1	GROUND
PIN 2	RESET
PIN 3	V _{CC}
PIN 4	GROUND (SOT-223 ONLY)

17. BU4053BCF (DSP:IC23,24,28 VIDEO: IC12 IC42 IC45 IC59)



●Logic circuit diagram

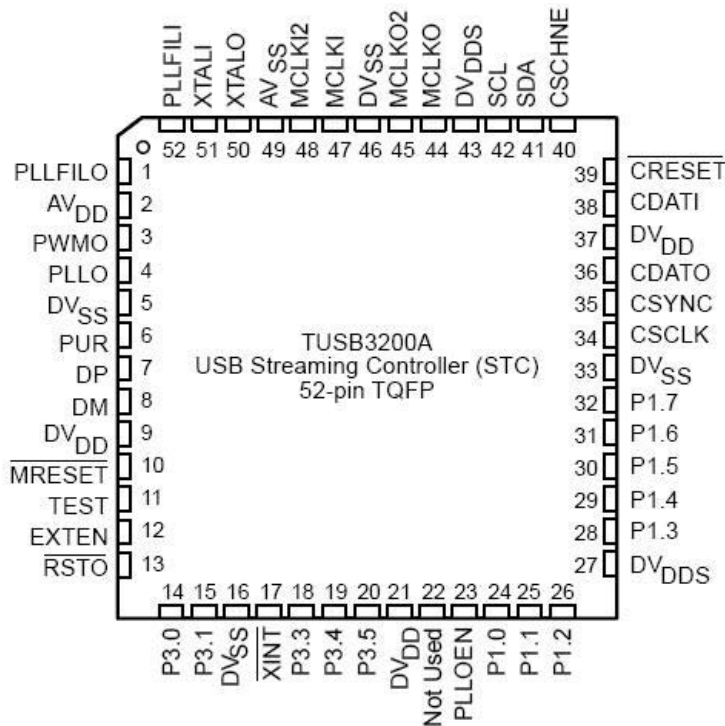
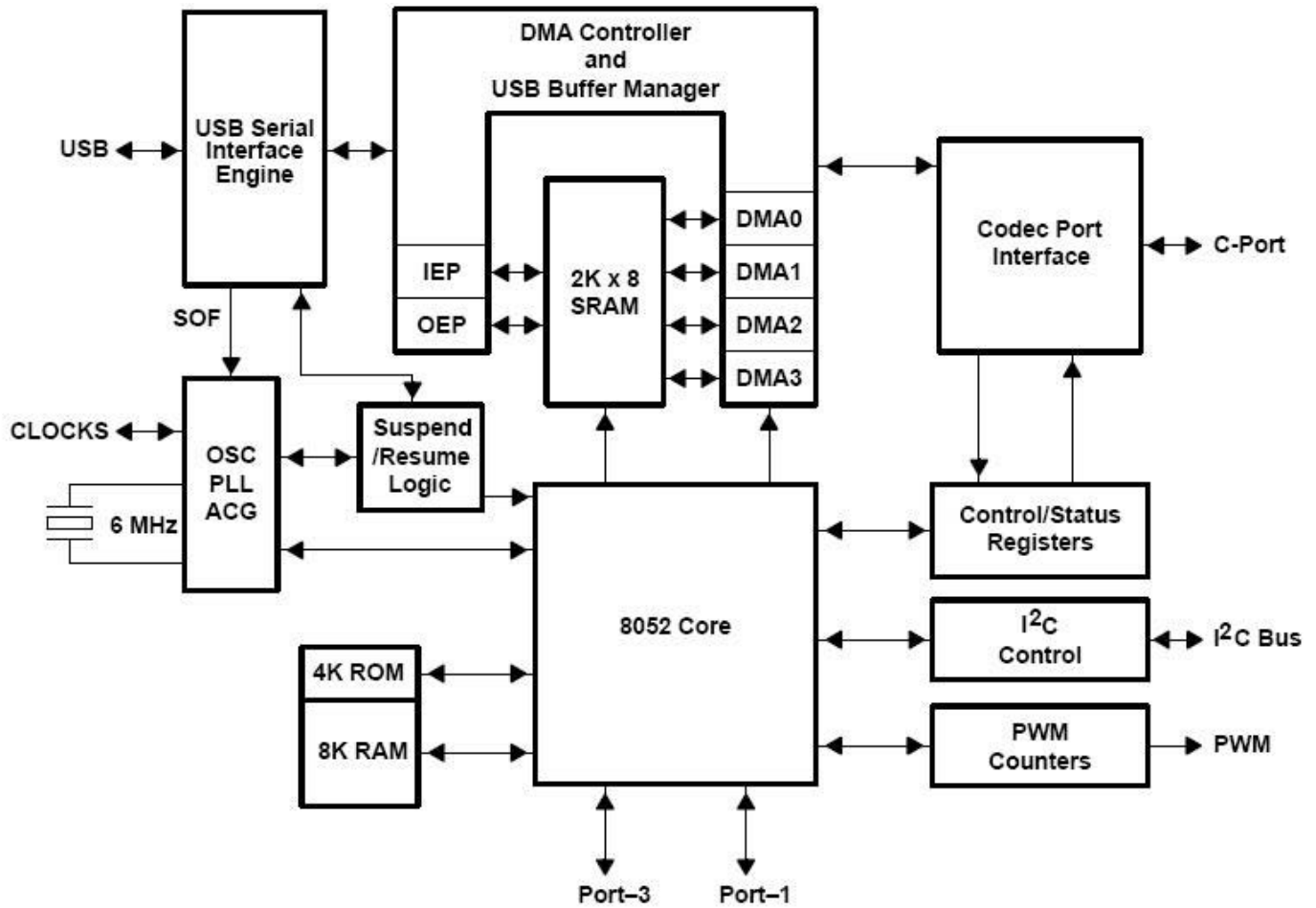


●Truth table

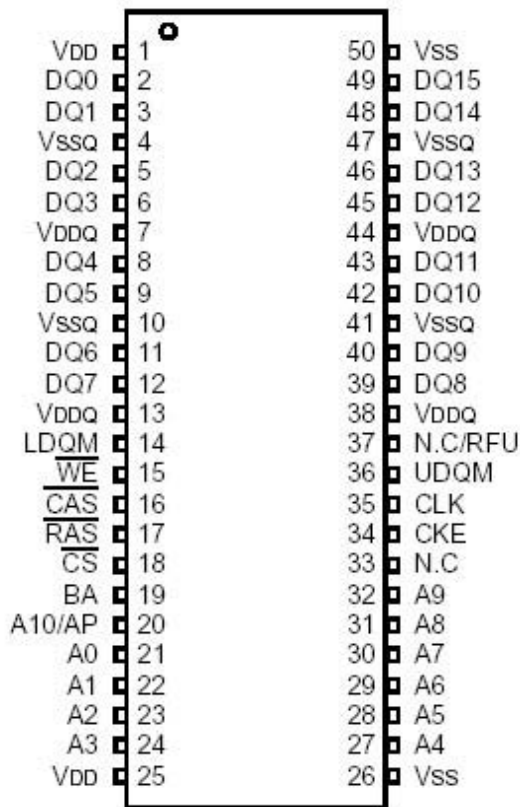
INH	A	B	C	ON SWITCH
L	L	L	L	X ₀ Y ₀ Z ₀
L	H	L	L	X ₁ Y ₀ Z ₀
L	L	H	L	X ₀ Y ₁ Z ₀
L	H	H	L	X ₁ Y ₁ Z ₀
L	L	L	H	X ₀ Y ₀ Z ₁
L	H	L	H	X ₁ Y ₀ Z ₁
L	L	H	H	X ₀ Y ₁ Z ₁
L	H	H	H	X ₁ Y ₁ Z ₁
H	X	X	X	NONE

X: Irrelevant

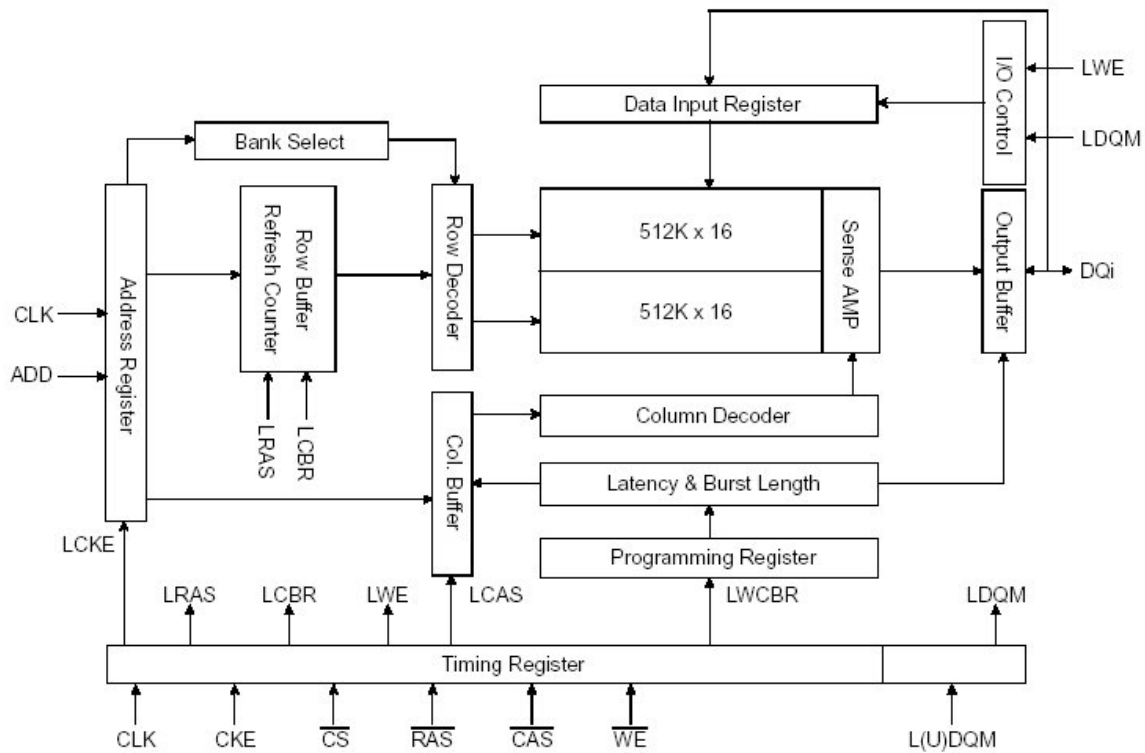
18. TUSB3200A (DSP: IC14)



19. K4S161622H-UC60 (DSP:IC93)



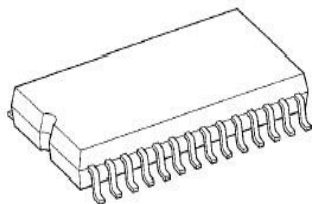
FUNCTIONAL BLOCK DIAGRAM



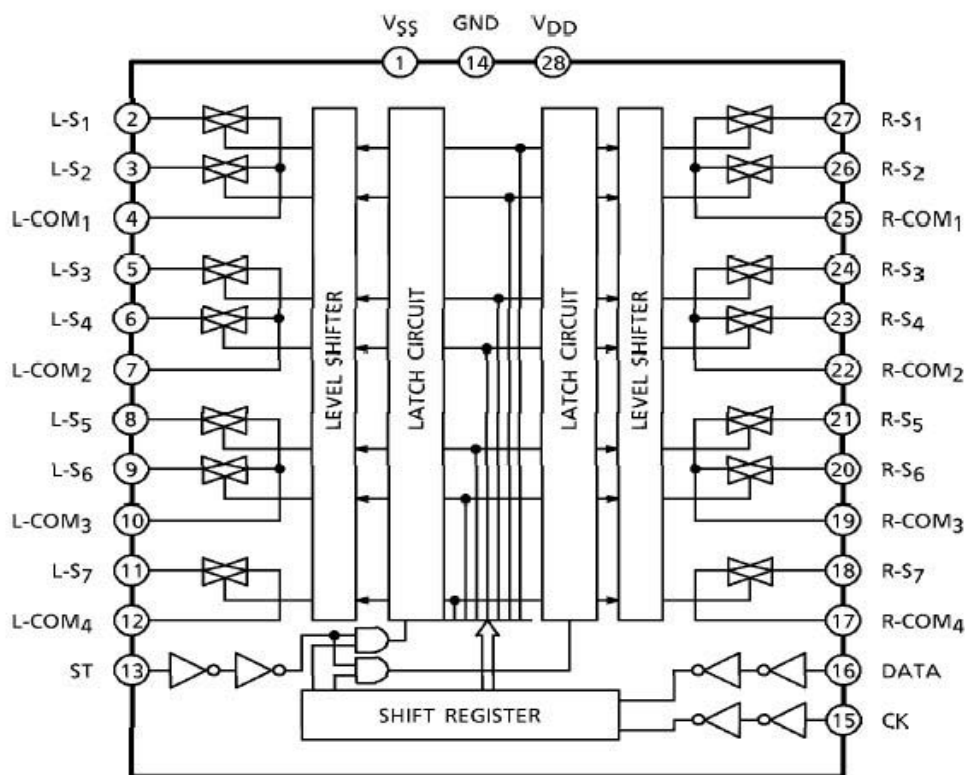
PIN FUNCTION DESCRIPTION

Pin	Name	Input Function
CLK	<i>System Clock</i>	Active on the positive going edge to sample all inputs.
$\overline{\text{CS}}$	<i>Chip Select</i>	Disables or enables device operation by masking or enabling all inputs except CLK, CKE and L(U)DQM
CKE	<i>Clock Enable</i>	Masks system clock to freeze operation from the next clock cycle. CKE should be enabled at least one cycle prior to new command. Disable input buffers for power down in standby.
A0 ~ A10/AP	<i>Address</i>	Row / column addresses are multiplexed on the same pins. Row address : RA0 ~ RA10, column address : CA0 ~ CA7
BA	<i>Bank Select Address</i>	Selects bank to be activated during row address latch time. Selects bank for read/write during column address latch time.
$\overline{\text{RAS}}$	<i>Row Address Strobe</i>	Latches row addresses on the positive going edge of the CLK with $\overline{\text{RAS}}$ low. Enables row access & precharge.
$\overline{\text{CAS}}$	<i>Column Address Strobe</i>	Latches column addresses on the positive going edge of the CLK with $\overline{\text{CAS}}$ low. Enables column access.
$\overline{\text{WE}}$	<i>Write Enable</i>	Enables write operation and row precharge. Latches data in starting from CAS, WE active.
L(U)DQM	<i>Data Input/Output Mask</i>	Makes data output Hi-Z, tSHZ after the clock and masks the output. Blocks data input when L(U)DQM active.
DQ0 ~ 15	<i>Data Input/Output</i>	Data inputs/outputs are multiplexed on the same pins.
VDD/VSS	<i>Power Supply/Ground</i>	Power and ground for the input buffers and the core logic.
VDDQ/VSSQ	<i>Data Output Power/Ground</i>	Isolated power supply and ground for the output buffers to provide improved noise immunity.
N.C/RFU	<i>No Connection/ Reserved for Future Use</i>	This pin is recommended to be left No Connection on the device.

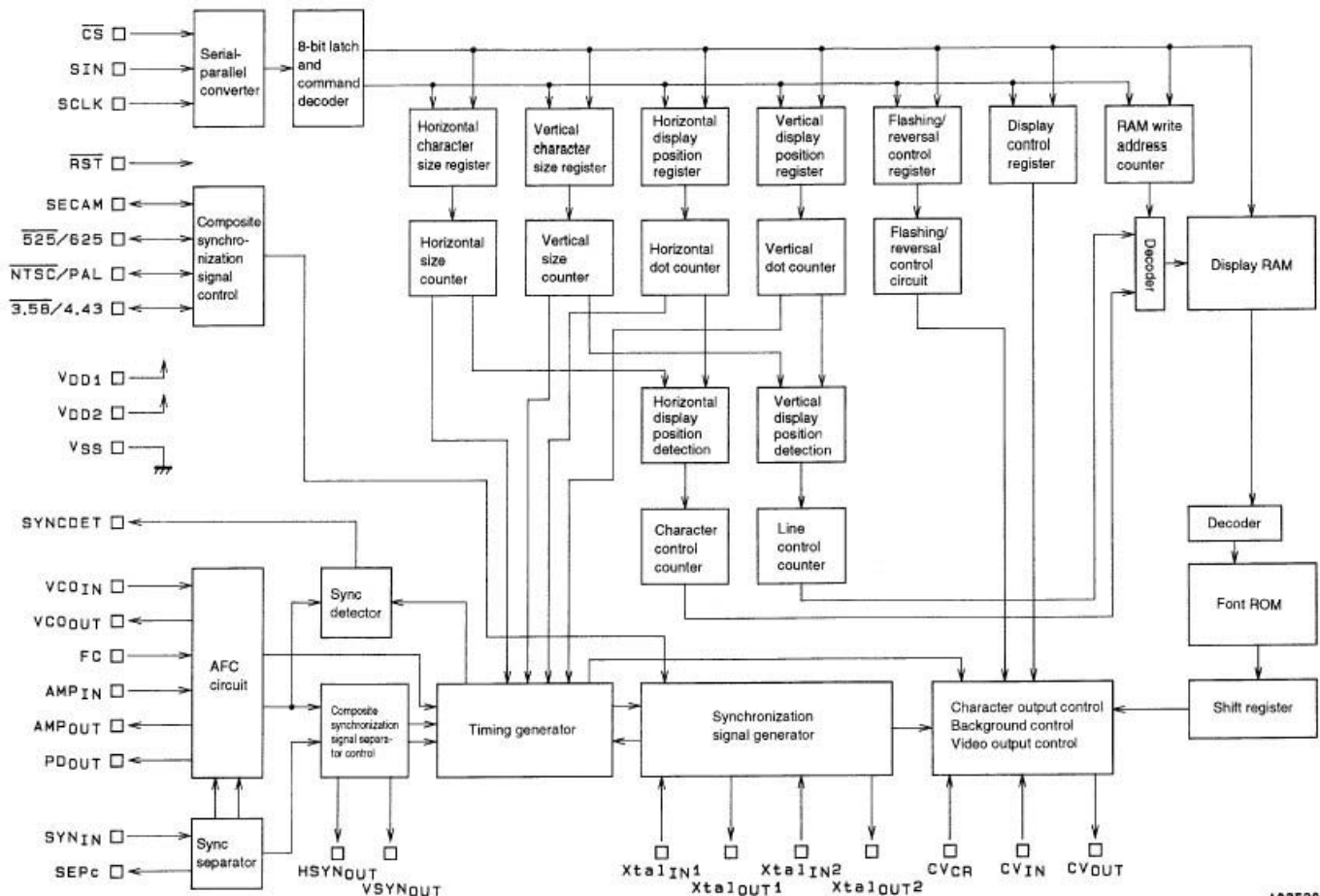
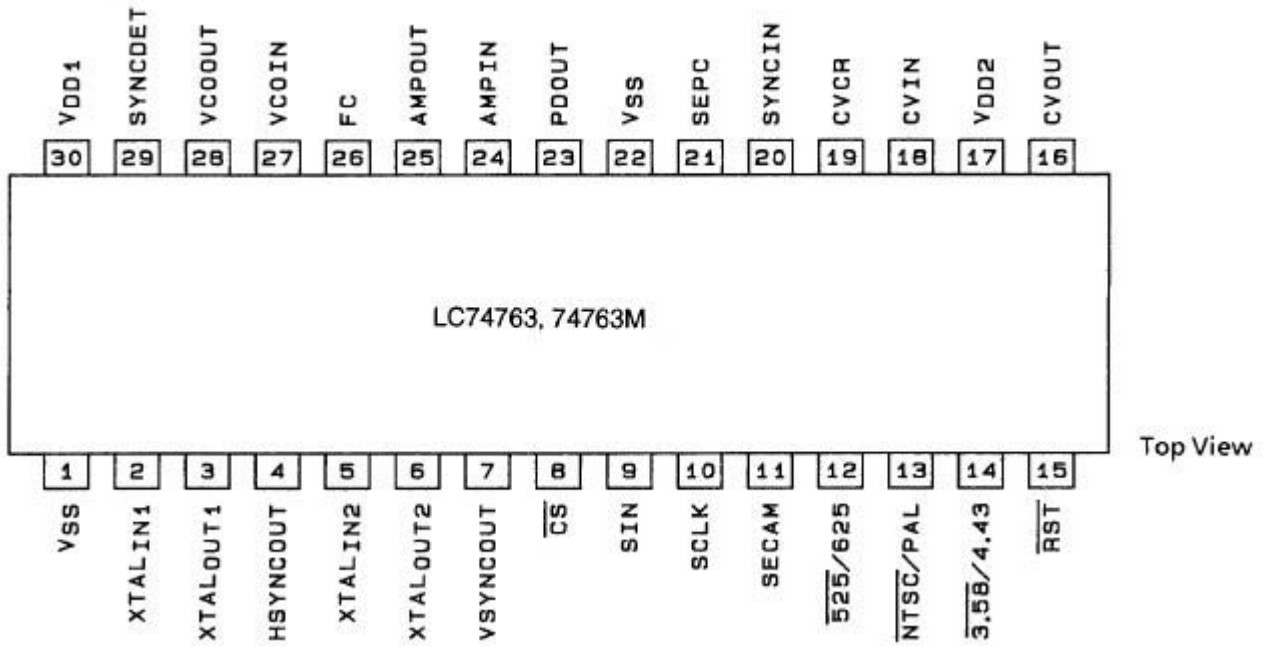
**20. KIC9162CFG (DSP: IC36 PROCESSOR: IC15)
KIC9163CFG (PROCESSOR: IC12)**



V _{SS}	1	28	V _{DD}
L-S ₁	2	27	R-S ₁
L-S ₂	3	26	R-S ₂
L-COM ₁	4	25	R-COM ₁
L-S ₃	5	24	R-S ₃
L-S ₄	6	23	R-S ₄
L-COM ₂	7	22	R-COM ₂
L-S ₅	8	21	R-S ₅
L-S ₆	9	20	R-S ₆
L-COM ₃	10	19	R-COM ₃
L-S ₇	11	18	R-S ₇
L-COM ₄	12	17	R-COM ₄
ST	13	16	DATA
GND	14	15	CK



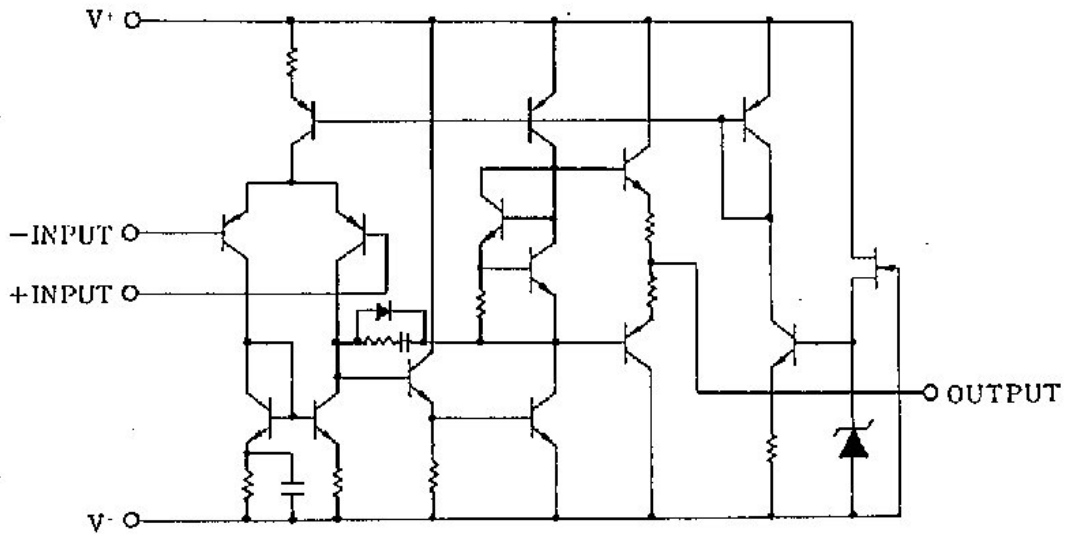
21. LC74763M (RS232: IC401 VIDEO:IC27)



A03520

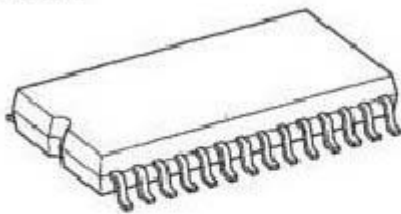
22. NJM2068M (DSP: IC13, 41, 42, 43, 44, 49, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 71, 72)
 (FRONT: IC50, MAIN: IC22)
 (PROCESSOR: IC2, 3, 4, 5, 6, 7, 10, 11, 25, 13, 14, 18, 19, 21, 22, 23, 24, 26)
 (RS232: IC61)

NJM4580M (PROCESSOR: IC1)



23. TC9482BFG (PROCESSOR:IC16, 17)

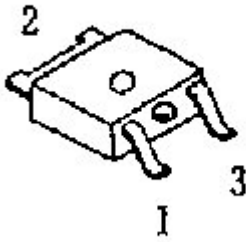
TC9482F



SOP28-P-450-1.27

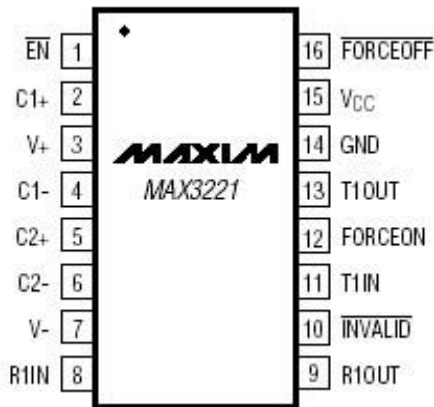
V _{SS}	1	28	V _{DD}
NC	2	27	TEST
L-OUTA	3	26	R-OUTA
L-INA	4	25	R-INA
L-A-GNDA	5	24	R-A-GNDA
L-OUTB	6	23	R-OUTB
L-INB	7	22	R-INB
L-A-GNDB	8	21	R-A-GNDB
L-OUTC	9	20	R-OUTC
L-INC	10	19	R-INC
L-A-GNDC	11	18	R-A-GNDC
CS1	12	17	CS2
GND	13	16	STB
CK	14	15	DATA

24. NJM317DL1 (DSP: IC94)



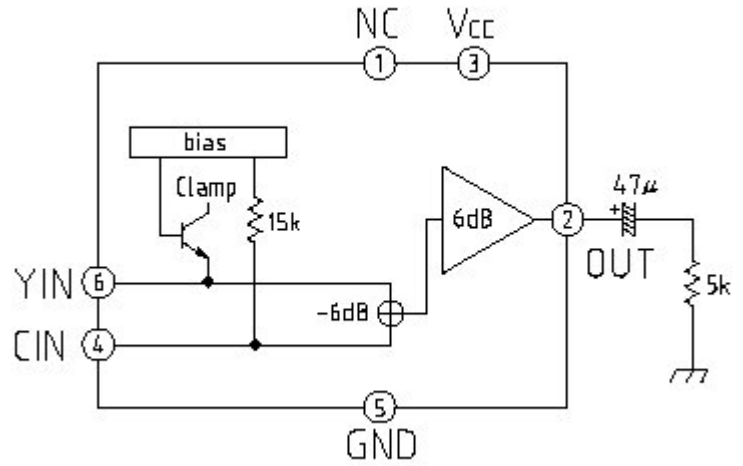
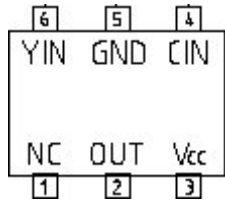
1. Adjustment
2. Output
3. Input

25. MAX3223CDWR (RS232: IC31)

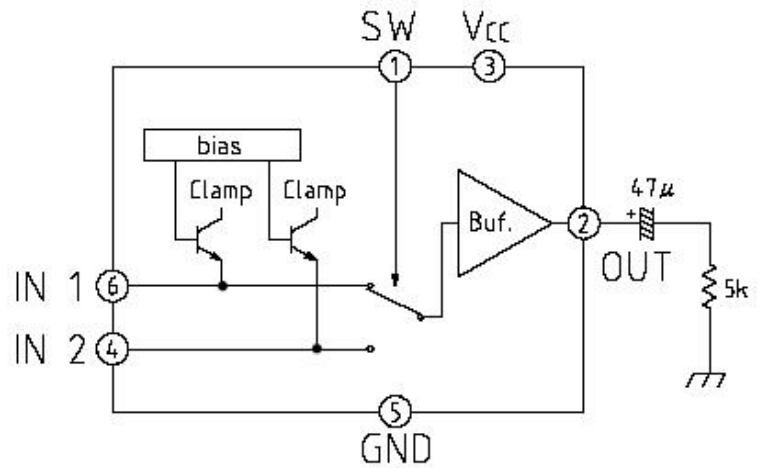
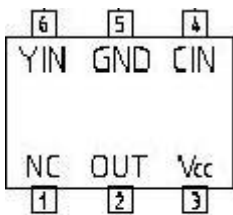


PIN			NAME	FUNCTION
MAX3221	MAX3223	MAX3243		
1	1	—	$\overline{\text{EN}}$	Receiver Enable Control. Drive low for normal operation. Drive high to force the receiver outputs into a high-Z state.
5	5	1	C2+	Positive terminal of inverting charge-pump capacitor
6	6	2	C2-	Negative terminal of inverting charge-pump capacitor
7	7	3	V-	-5.5V generated by the charge pump
8	9, 16	4-8	R_IN	RS-232 Receiver Inputs
13	8, 17	9, 10, 11	T_OUT	RS-232 Transmitter Outputs
11	12, 13	12, 13, 14	T_IN	TTL/CMOS Transmitter Inputs
9	10, 15	15-19	R_OUT	TTL/CMOS Receiver Outputs
—	—	20	R2OUTB	Noninverting Receiver Output—active in shutdown
10	11	21	INVALID	Output of the valid signal detector. Indicates if a valid RS-232 level is present on receiver inputs logic "1".
16	20	22	FORCEOFF	Drive low to shut down transmitters and on-board power supply. This overrides all automatic circuitry and FORCEON (Table 1).
12	14	23	FORCEON	Drive high to override automatic circuitry keeping transmitters on (FORCEOFF must be high) (Table 1).
4	4	24	C1-	Negative terminal of the voltage doubler charge-pump capacitor
14	18	25	GND	Ground
15	19	26	VCC	+3.0V to +5.5V Supply Voltage
3	3	27	V+	+5.5V generated by the charge pump
2	2	28	C1+	Positive terminal of the voltage doubler charge-pump capacitor

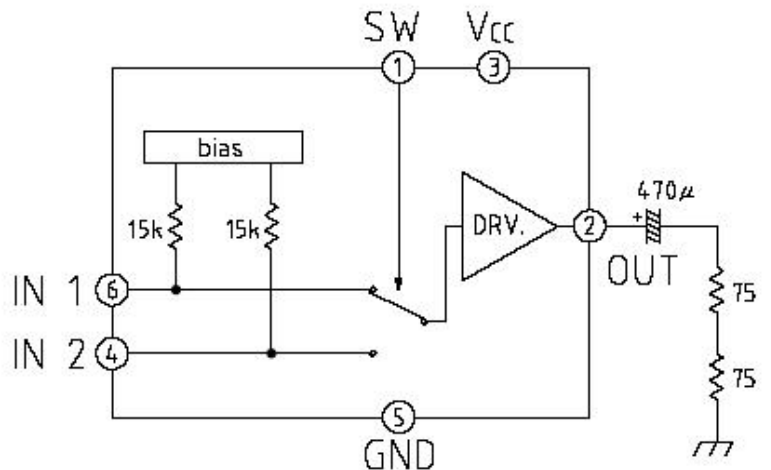
26. MM1511XNRE (VIDEO: IC32)



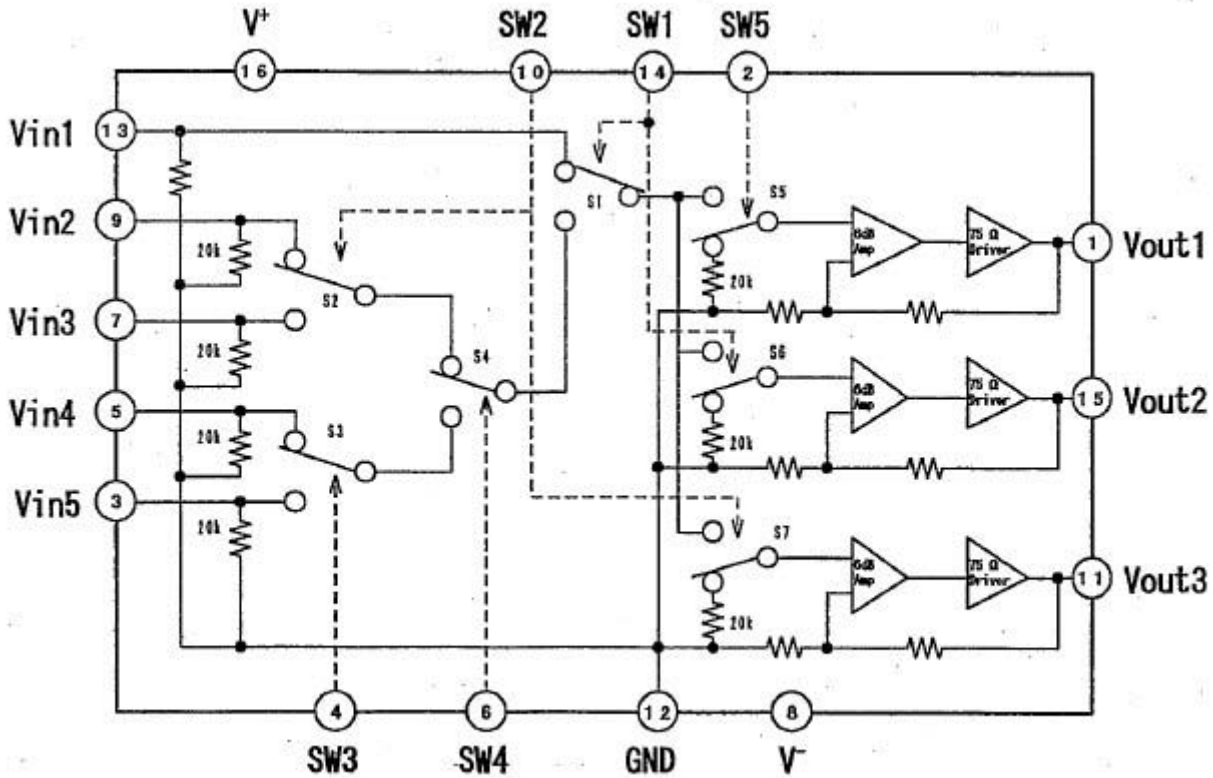
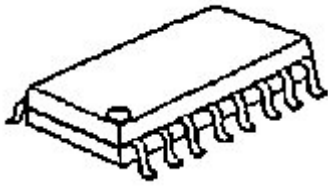
27. MM1503XNRE (VIDEO: IC17 IC25 IC26 IC33 IC34 IC35 IC36 IC37)



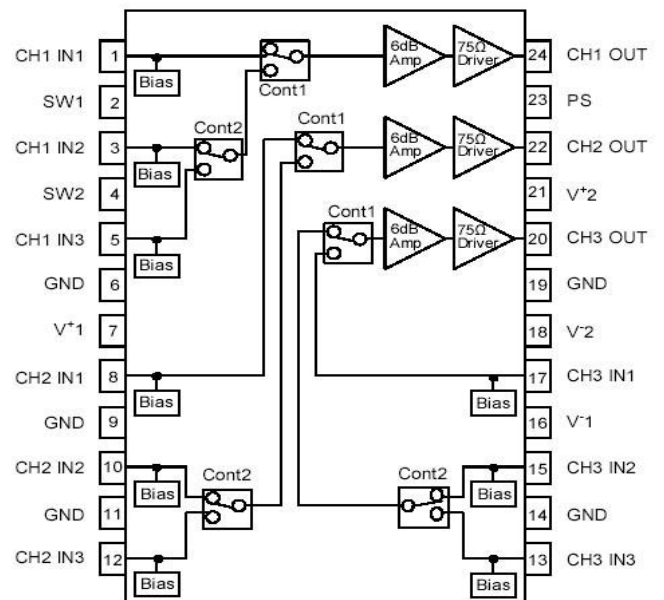
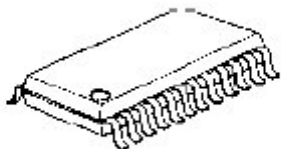
28. MM1505XNRE (RS232: IC405)



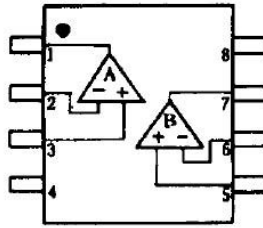
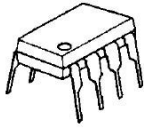
29. NJM2296M (VIDEO:IC13, 14, 15, 16)



30. NJM2586M (VIDEO:IC38)

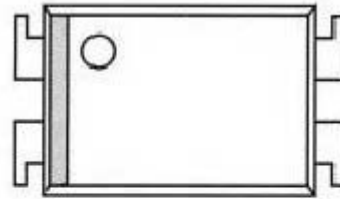
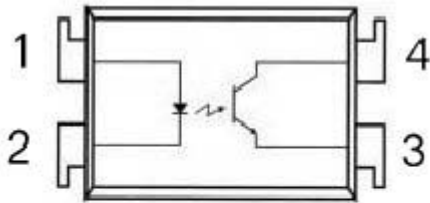


31. NJM4556AD (PROCESSOR:IC20)



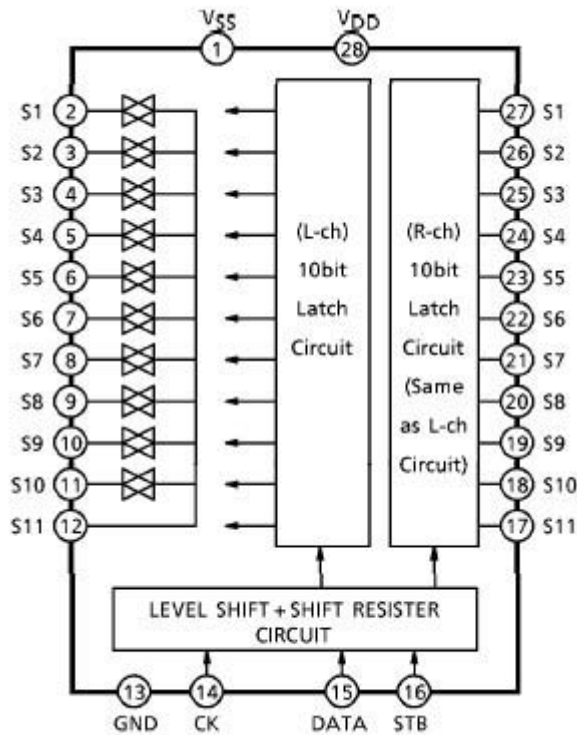
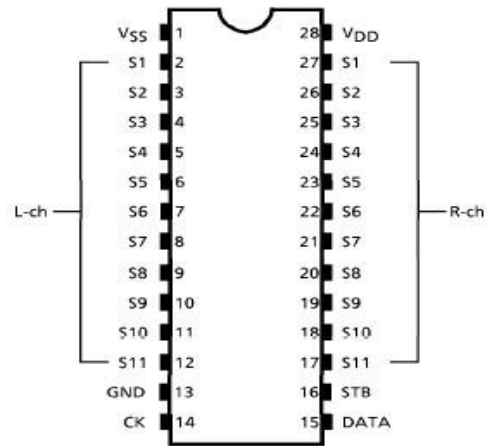
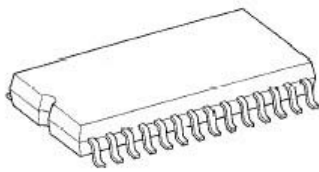
- PIN FUNCTION**
 1.A OUTPUT
 2.A -INPUT
 3.A +INPUT
 4.V⁻
 5.B +INPUT
 6.B -INPUT
 7.B OUTPUT
 8.V⁺

32. PC-17T1 (DSP: IC85 RS232: IC32, 33)

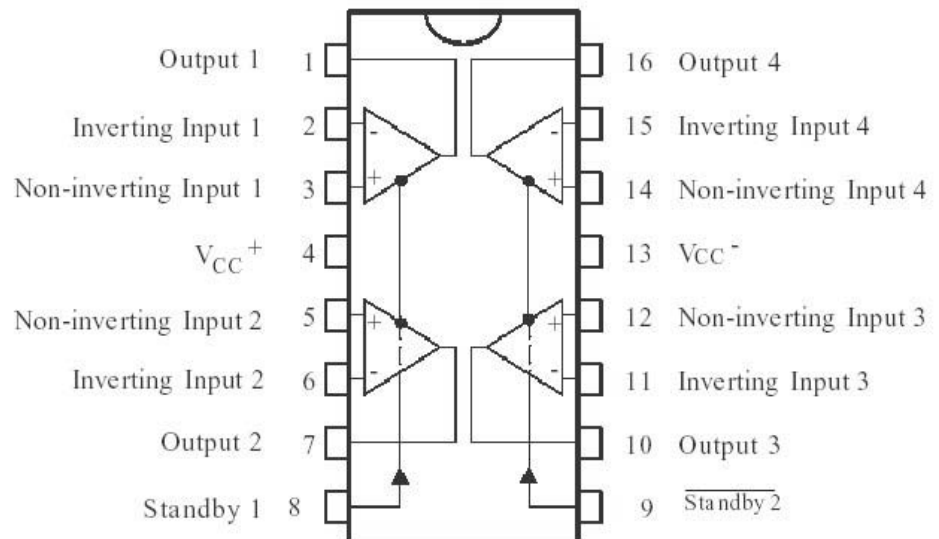
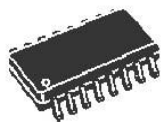


- PIN Connections**
 1.Anode
 2.Cathode
 3.Emitter
 4.Collector

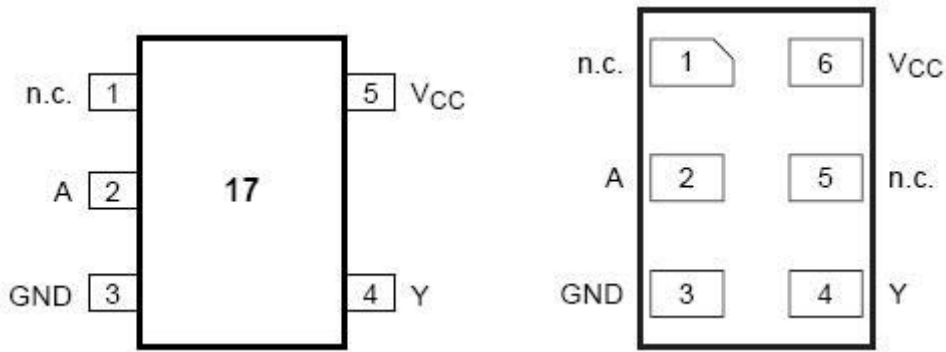
33. TC9273CFG-004 (PROCESSOR: IC8, 9)



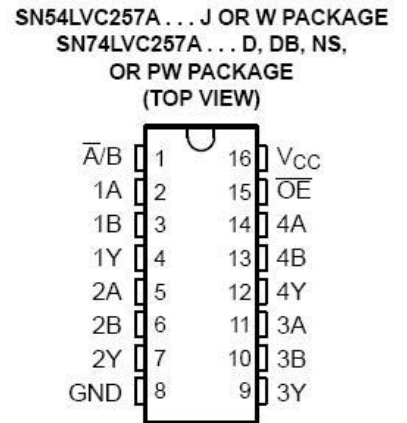
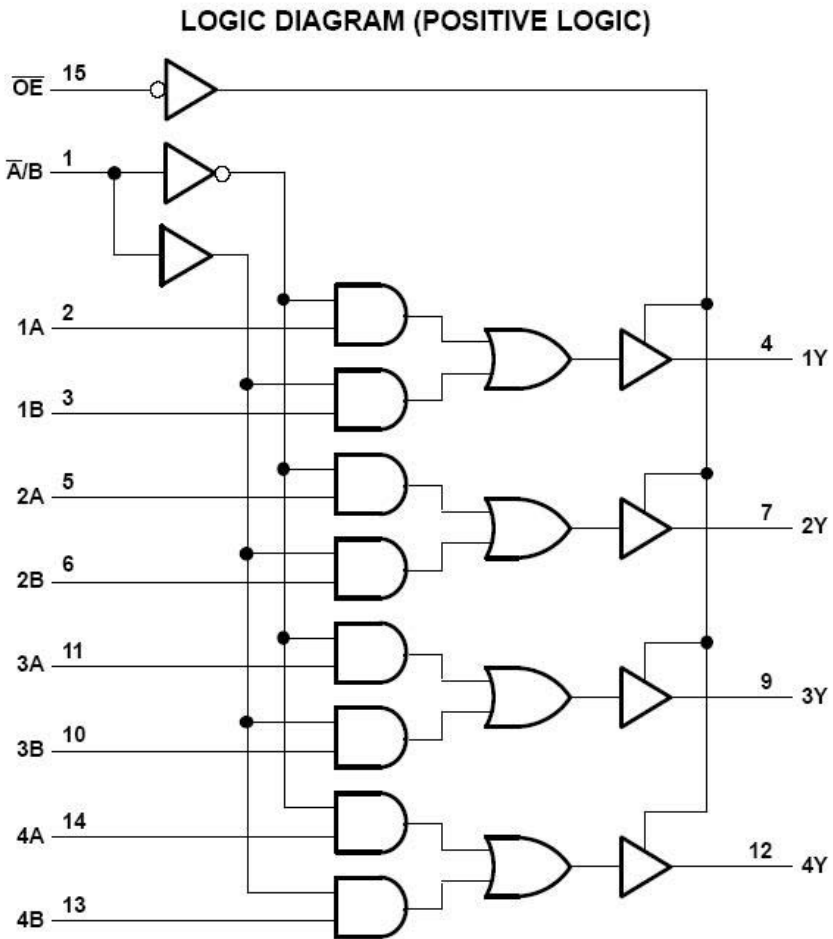
34. SH95ID (VIDEO: IC23, 28, 31)



35. SN74LVC1G17DBVR SOT(SOT-23)DBV (DSP: IC57 IC59)



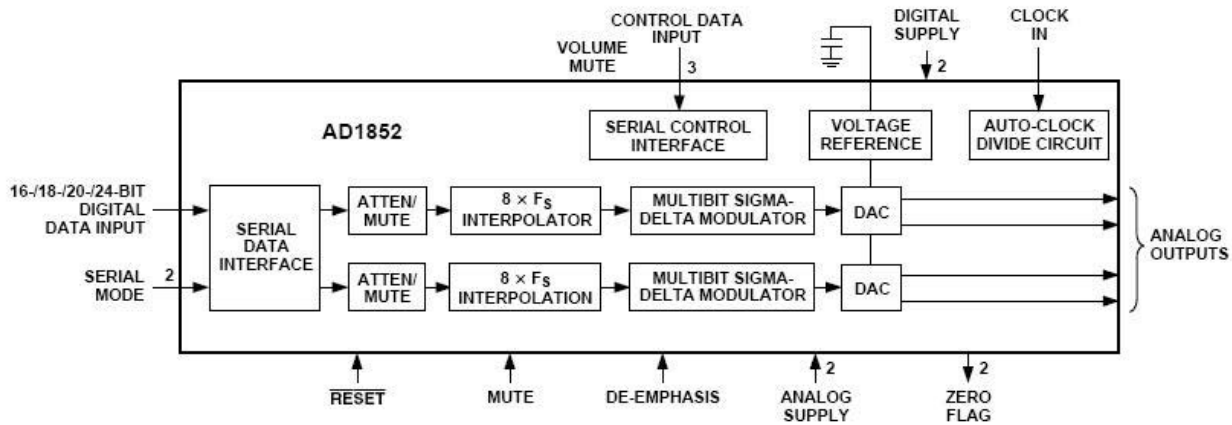
**36. SN74LVC257AD (DSP: IC78 IC17 IC18 IC19)
(VIDEO: IC49)**



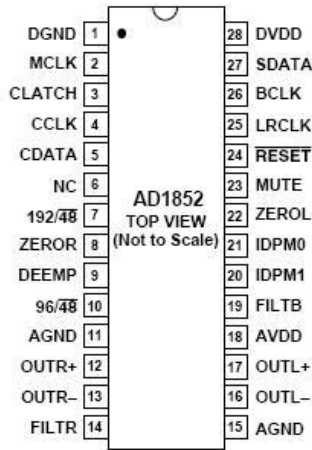
Pin numbers shown are for the D, DB, J, NS, PW, RGY, and W packages.

37. AD1852JRSZ SSOP28

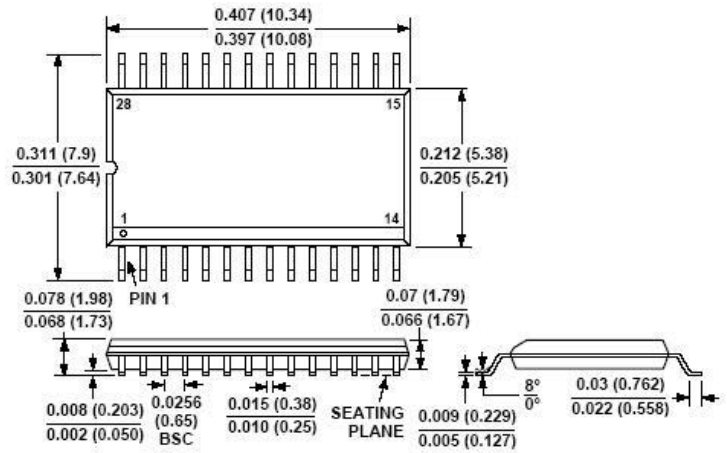
FUNCTIONAL BLOCK DIAGRAM



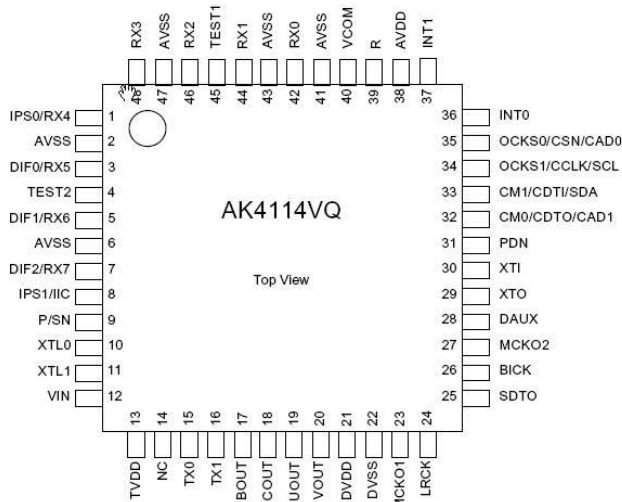
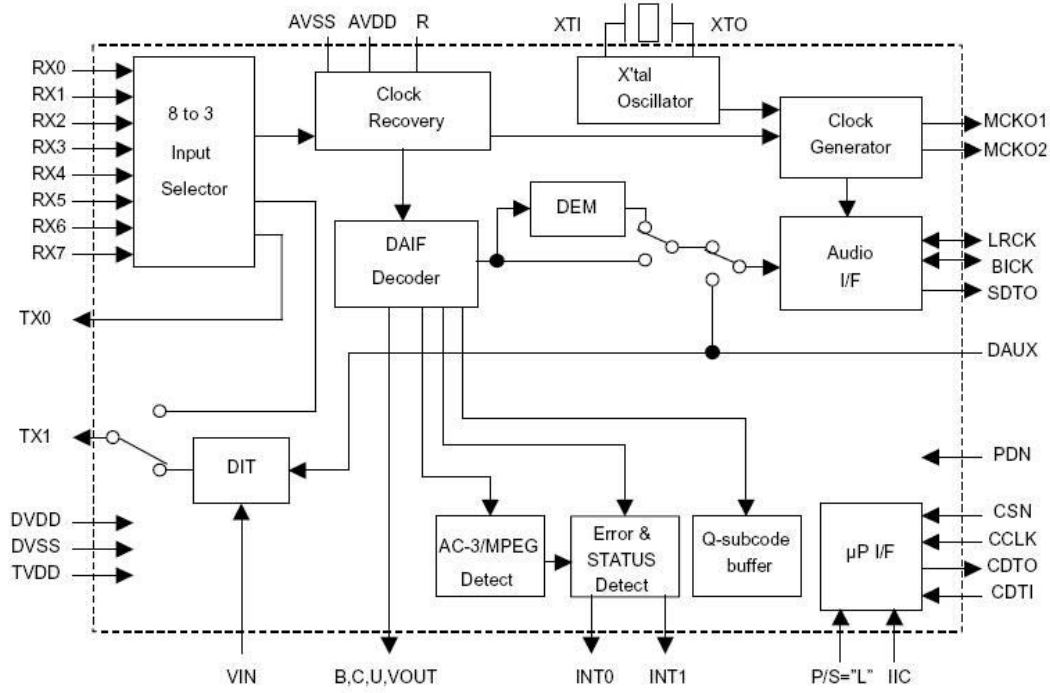
PIN CONFIGURATION



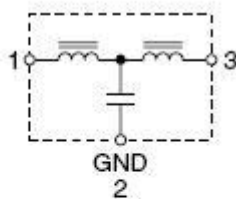
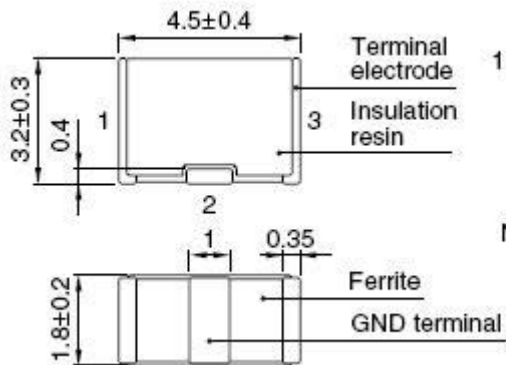
28-Lead Shrink Small Outline Package (SSOP) (RS-28)



38. AK4114VQ LQFP48 (DSP: IC20)



39. ACF451832-333-T (E901)

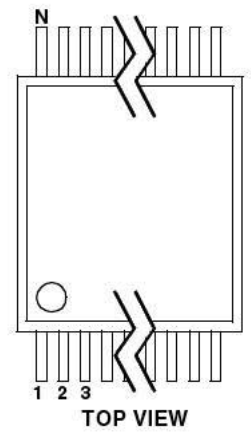
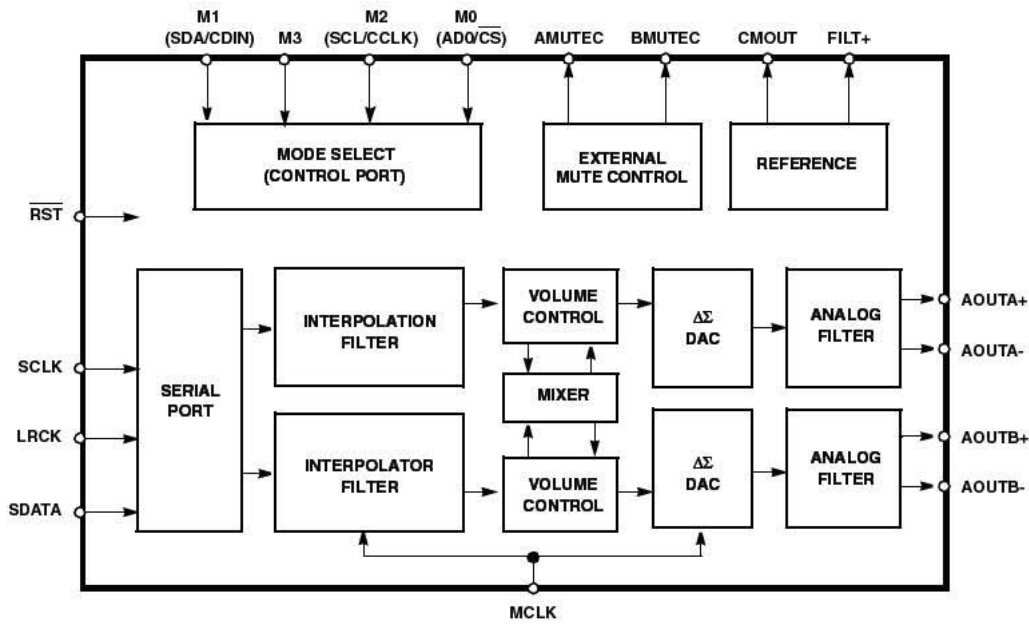


No polarity

Dimensions in mm



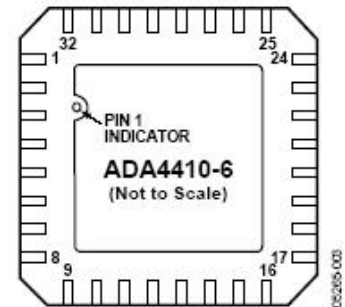
40. CS4391A-KZZ SOP20 (DSP: IC11 IC31)



$\overline{\text{RST}}$	1	20	AMUTEC
VL	2	19	AOUTA-
SDATA	3	18	AOUTA+
SCLK	4	17	VA
LRCK	5	16	AGND
MCLK	6	15	AOUTB+
M3	7	14	AOUTB-
(SCL/CCLK) M2	8	13	BMUTEC
(SDA/CDIN) M1	9	12	CMOUT
(AD0/CS) M0	10	11	FILT+

41. ADA4410-6ACPZ (VIDEO: IC40)

Pin No.	Name	Description
1	Pb1/B1_HD	Channel 1 Pb/B High Definition Input
2	GND	Signal Ground Reference
3	Pr1/R1_HD	Channel 1 Pr/R High Definition Input
4	F_SEL_A	Filter Cutoff Select Input A
5	F_SEL_B	Filter Cutoff Select Input B
6	Y2/G2_HD	Channel 2 Y/G High Definition Input
7	GND	Signal Ground Reference
8	Pb2/B2_HD	Channel 2 Pb/B High Definition Input
9	GND	Signal Ground Reference
10	Pr2/R2_HD	Channel 2 Pr/R High Definition Input
11	MUX_SD	Standard Definition Input MUX Select Line
12	Y1_SD	Channel 1 Y Standard Definition Input
13	Y2_SD	Channel 2 Y Standard Definition Input
14	C1_SD	Channel 1 C Standard Definition Input
15	C2_SD	Channel 2 C Standard Definition Input
16	VCC	Positive Power Supply
17	VEE	Negative Power Supply
18	CV_OUT	Composite Video Output
19	C_SD_OUT	C Standard Definition Output
20	Y_SD_OUT	Y Standard Definition Output
21	G_SEL	Gain Select
22	Pr/R_HD_OUT	Pr/R High Definition Output
23	Pb/B_HD_OUT	Pb/B High Definition Output
24	Y/G_HD_OUT	Y/G High Definition Output
25	VEE	Negative Power Supply
26	VCC	Positive Power Supply
27	DISABLE	Disable/Power Down/Logic Reference
28	LEVEL2	DC Level Adjust Pin 2
29	LEVEL1	DC Level Adjust Pin 1
30	MUX_HD	High Definition Input MUX Select Line
31	Y1/G1_HD	Channel 1 Y/G High Definition Input
32	GND	Signal Ground Reference



42. ADA4412-3ARQZ (VIDEO: IC39)

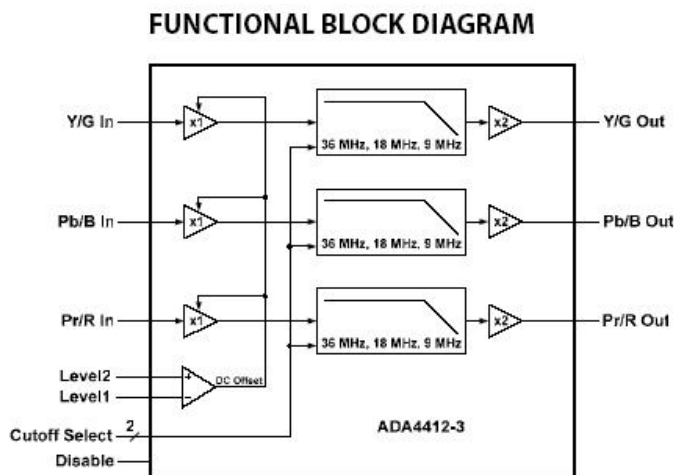
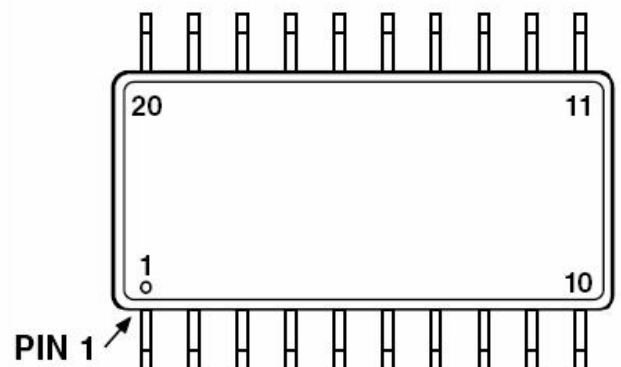
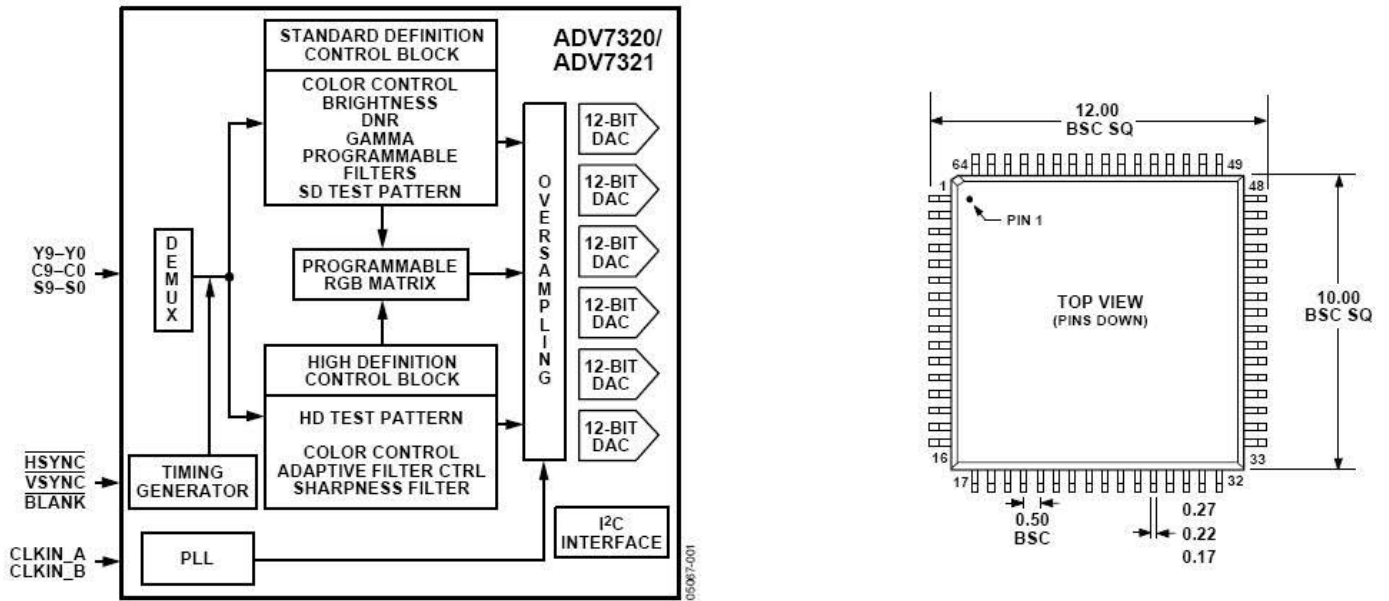


Figure 1.



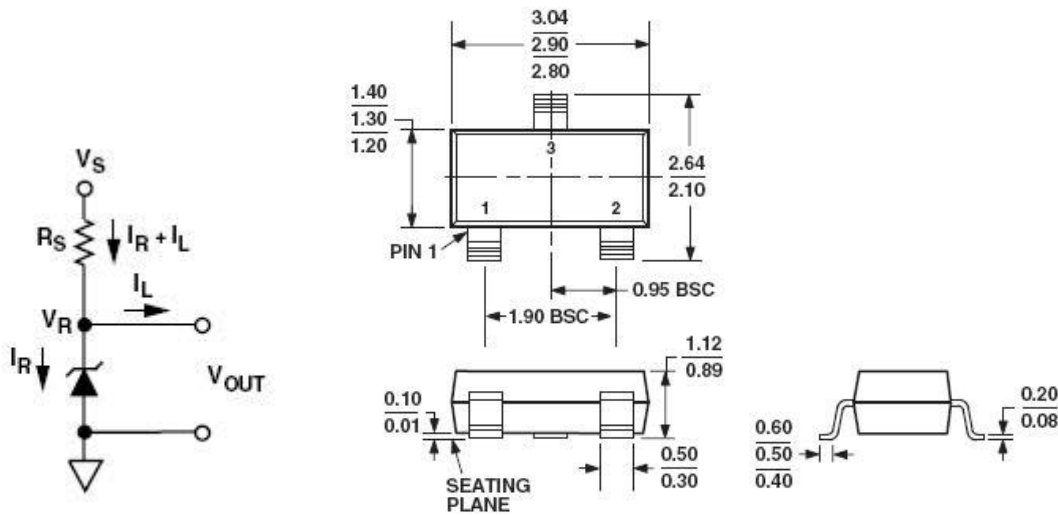
43. DV7320LKSTZ (VIDEO: IC29)



44. AD1580BRTZ (VIDEO: IC64)

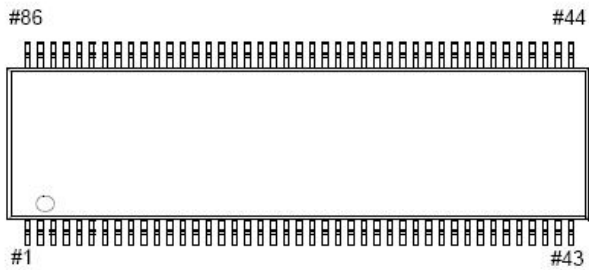
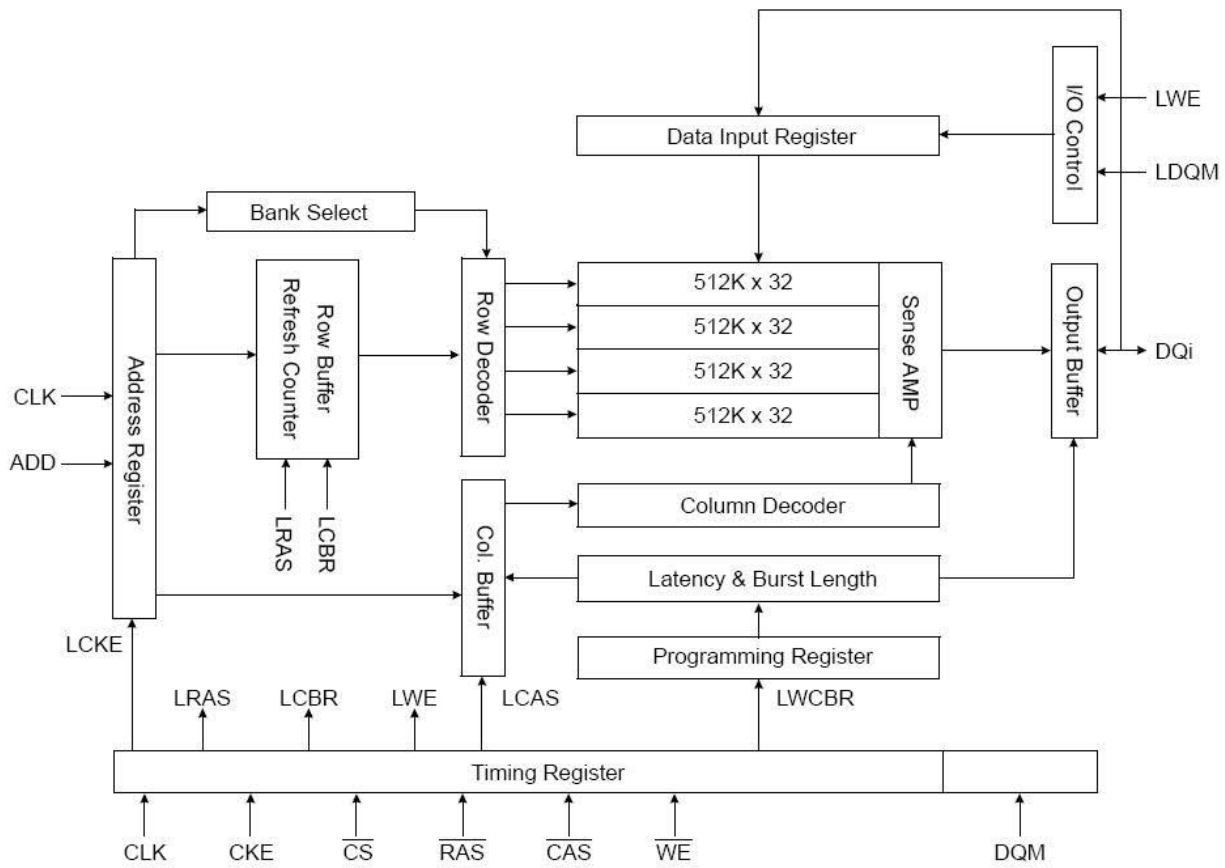
3-Lead Small Outline Transistor Package [SOT-23-3] (RT-3)

Dimensions shown in millimeters



45. SDRAMK4S643232H (VIDEO: IC48)

FUNCTIONAL BLOCK DIAGRAM



46. ADV7401BSTZ (VIDEO: IC24)

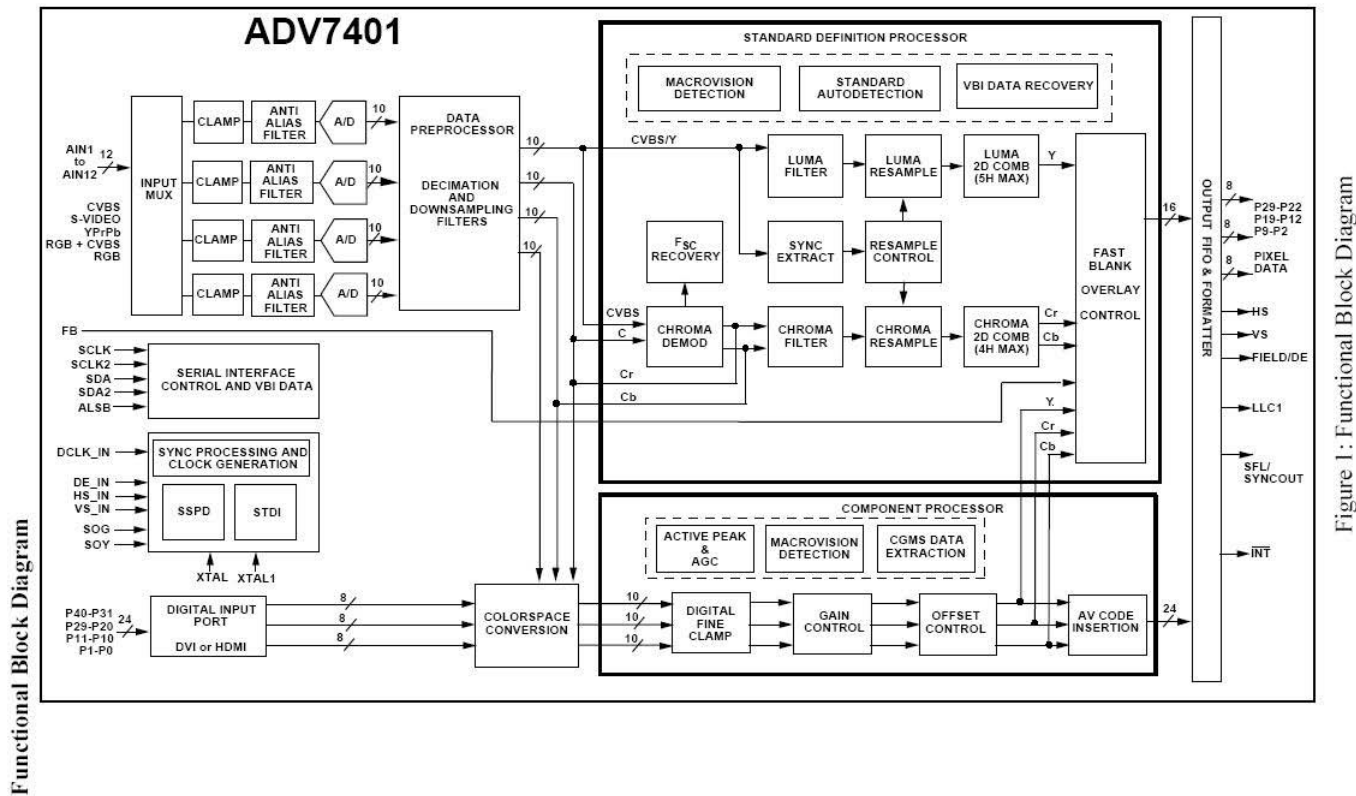
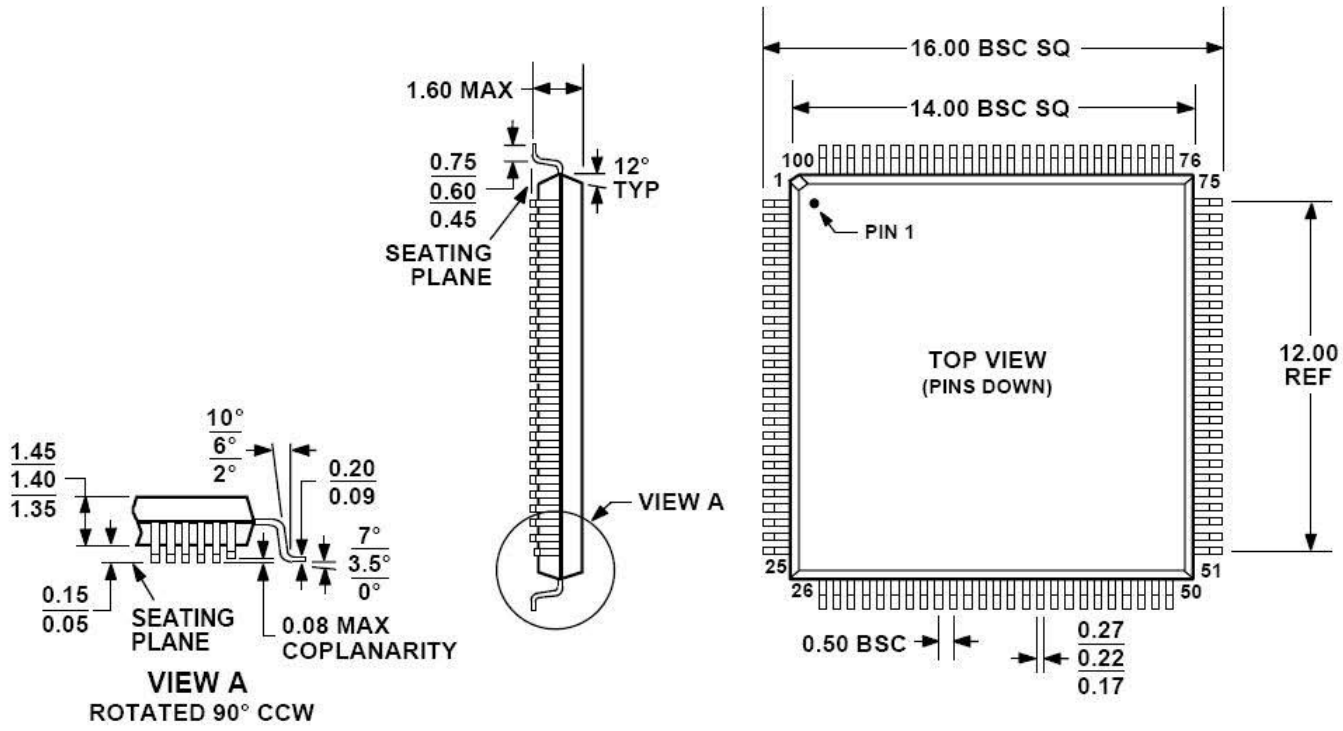


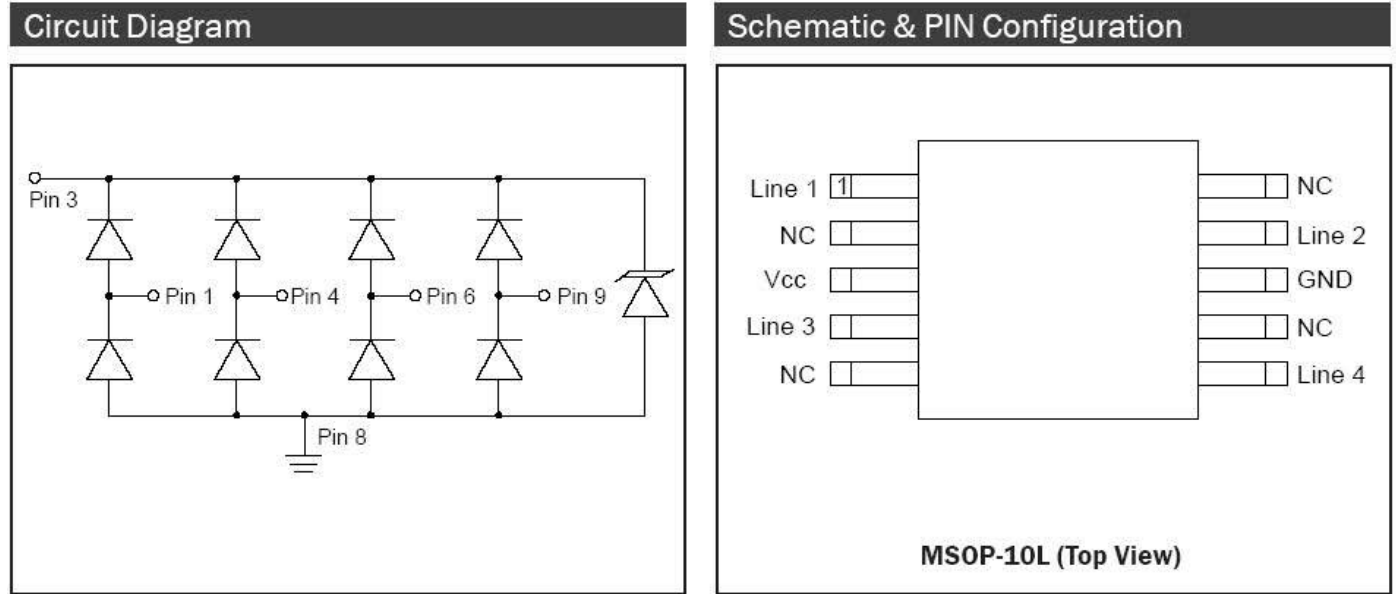
Figure 1: Functional Block Diagram

Functional Block Diagram

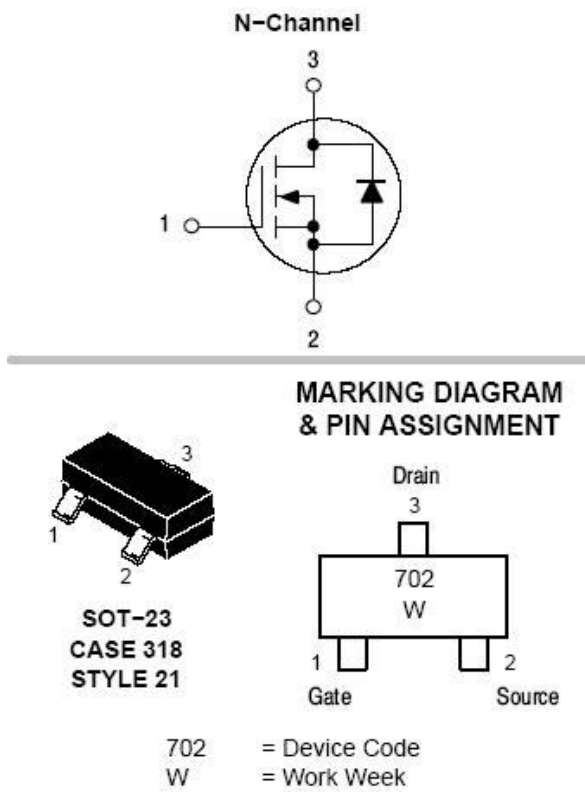


COMPLIANT TO JEDEC STANDARDS MS-026BED

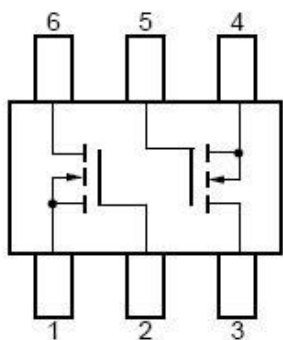
47. RCLAMP0514M (VIDEO: IC56 IC57 IC61 IC62)



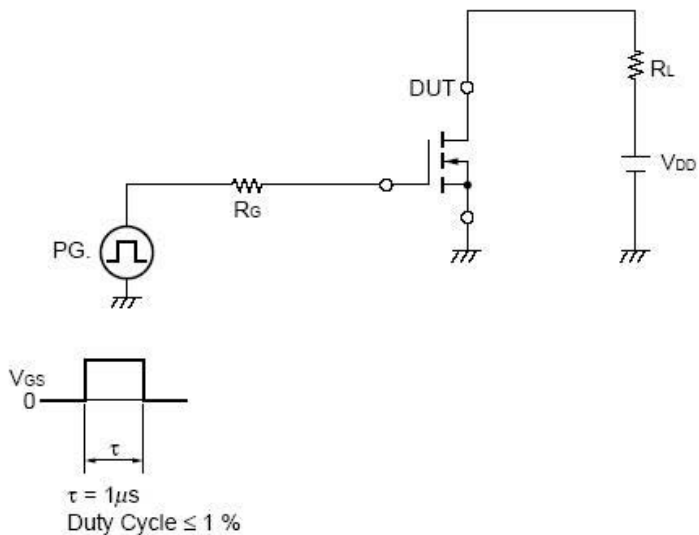
48. 2N7002LT1G (Q119 Q120 Q121 Q122)



49. UPA672T (VIDEO: IC41 IC44 IC58)

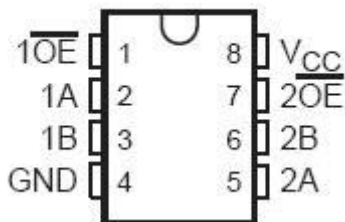


- 1. Source 1 (S1)
 - 2. Gate 1 (G1)
 - 3. Drain 2 (D2)
 - 4. Source 2 (S2)
 - 5. Gate 2 (G2)
 - 6. Drain 1 (D1)
- Marking: MA



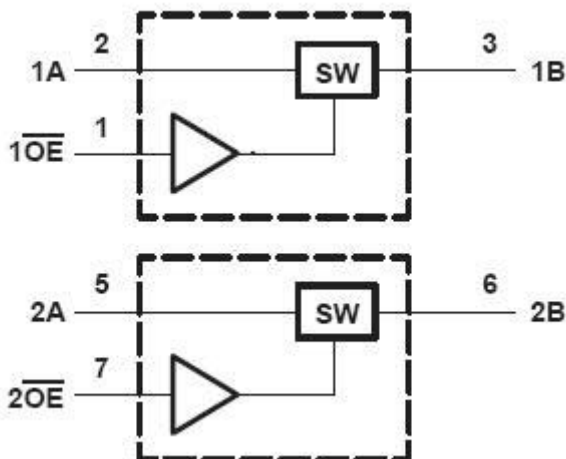
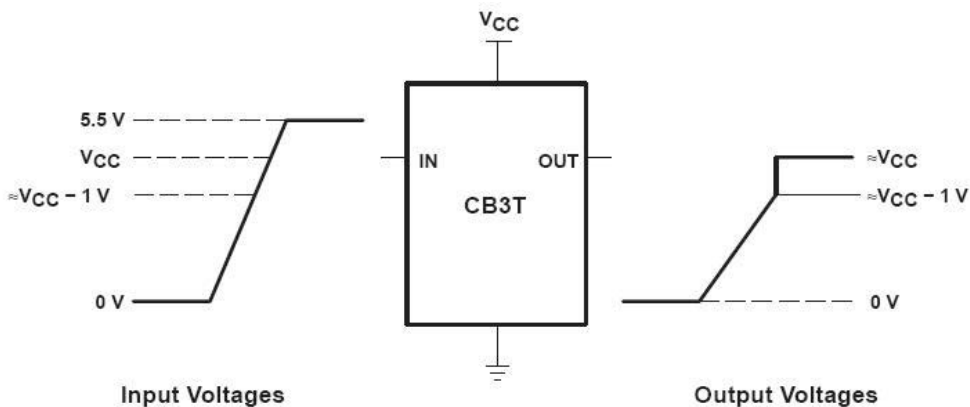
50. SN74CB3T3306DCTR (VIDEO: IC66)

(TOP VIEW)



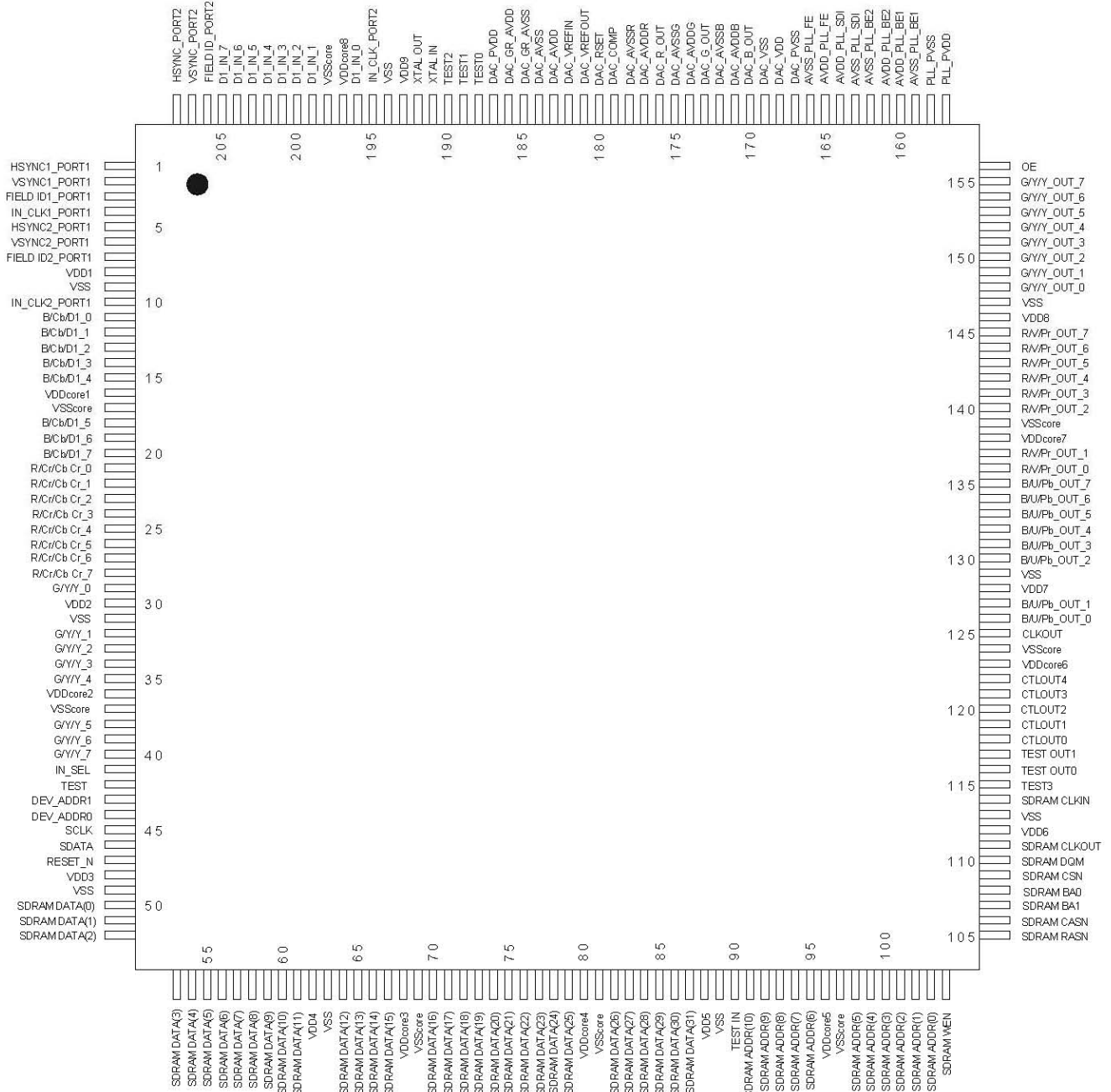
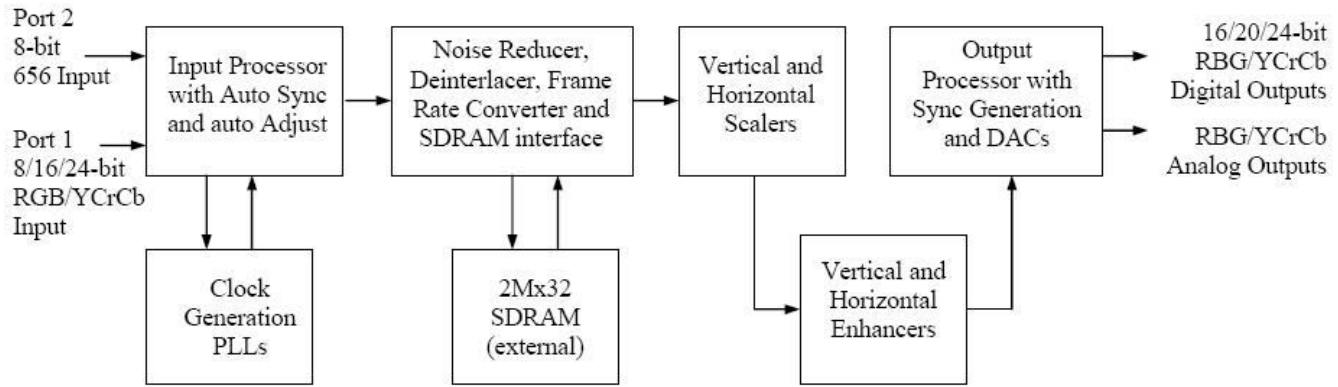
FUNCTION TABLE
(each bus switch)

INPUT \overline{OE}	INPUT/OUTPUT A	FUNCTION
L	B	A port = B port
H	Z	Disconnect



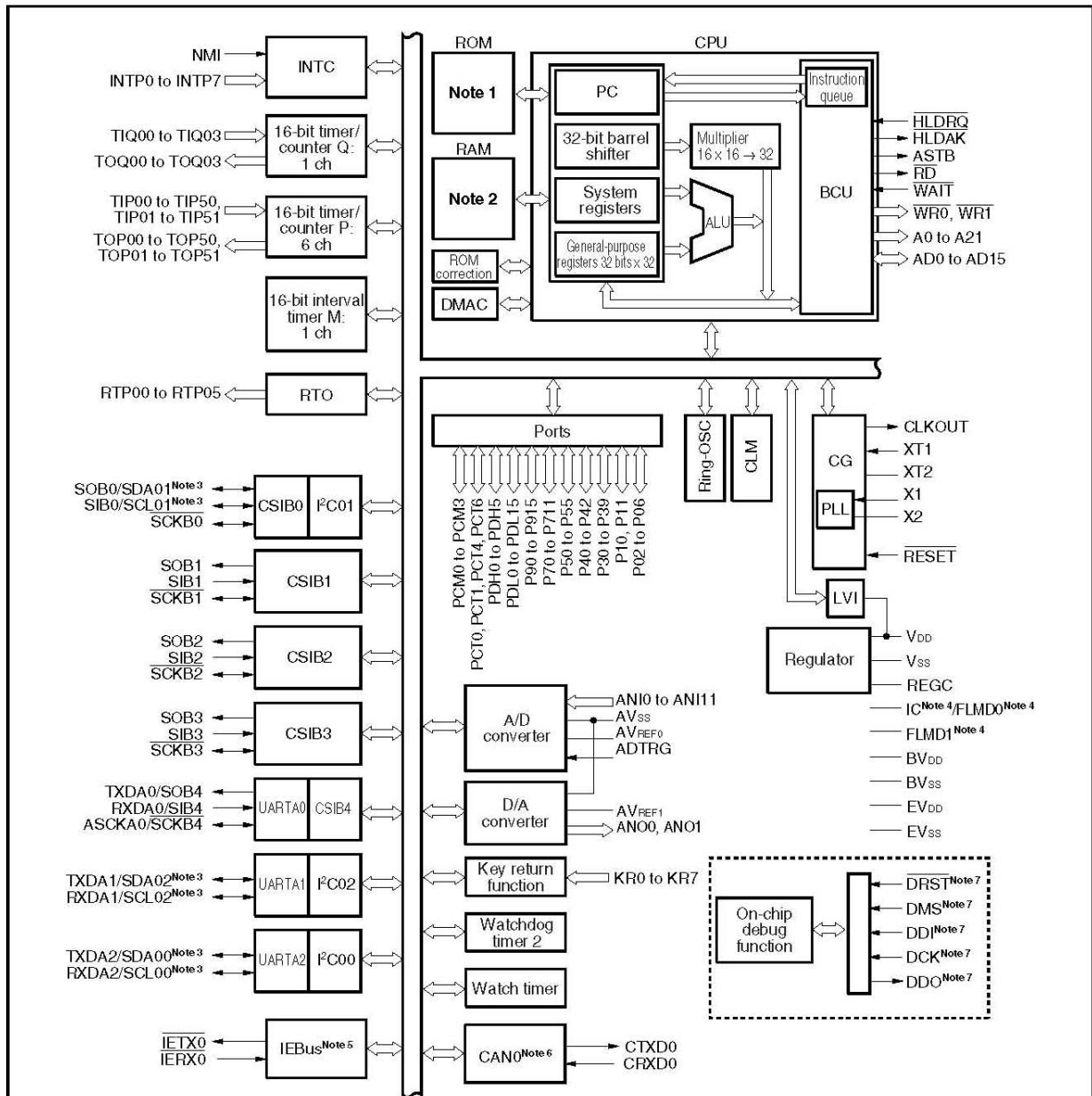
51. FLI2300-BD PQFP-208 (VIDEO: IC47)

Figure 2.1: FLI2300– Simplified Internal Block Diagram



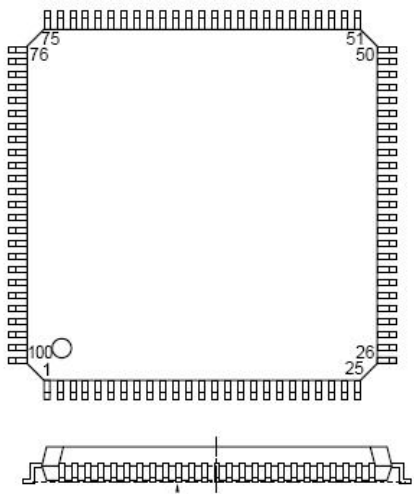
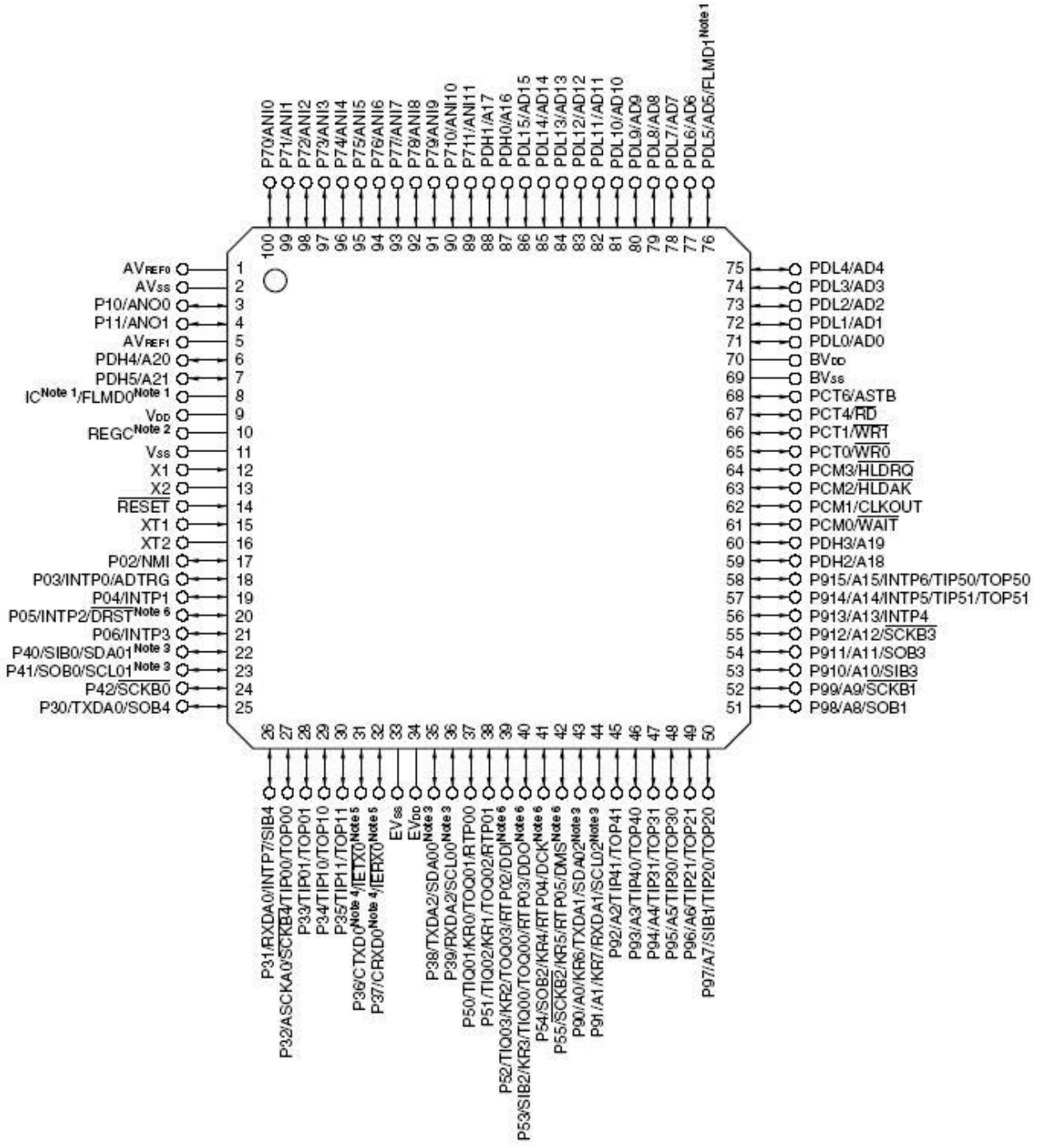
52. UPD70F3261YGC-8EA-A LQFP100 (DSP: IC22)

Internal block diagram



- Notes**
1. 256/384/512/640 KB (mask ROM) (see **Table 1-1**)
384/640 KB (flash memory) (see **Table 1-1**)
 2. 24/32/40/48 KB (see **Table 1-1**)
 3. I²C bus version (Y version) only
 4. IC: Mask ROM version only
FLMD0, FLMD1: Flash memory version
 5. IEBus controller version only
 6. CAN controller version only
 7. Flash memory version only

UPD70F3261YGC-8EA-A LQFP100



detail of lead end



53. SII9030CTU TQFP80 (VIDEO: IC54)

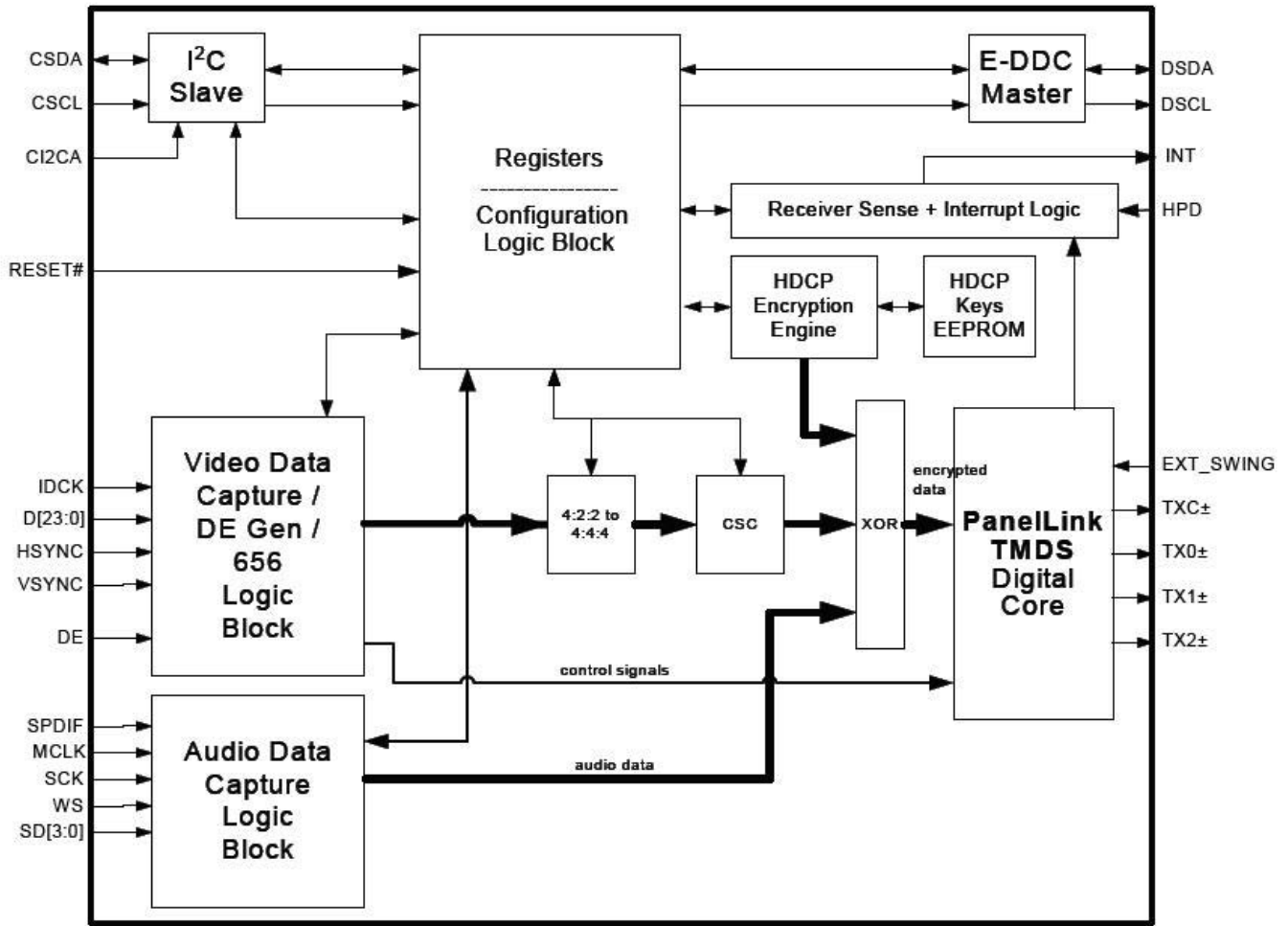
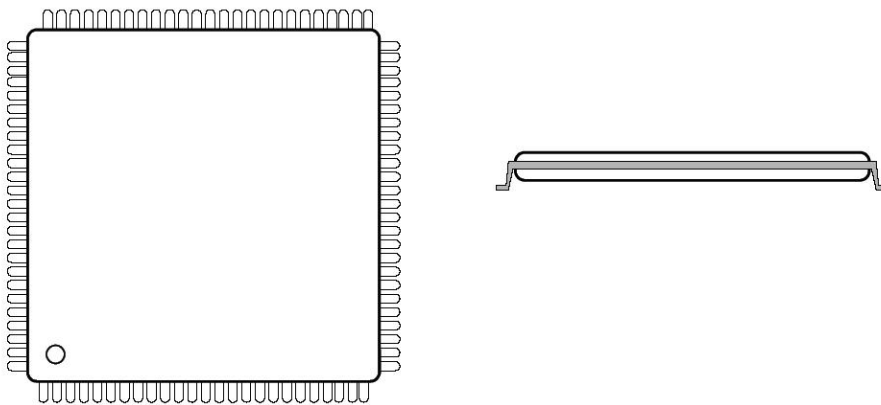


Figure 2. Functional Block Diagram



54. SIL9031CTU TQFP144 (VIDEO: IC55)

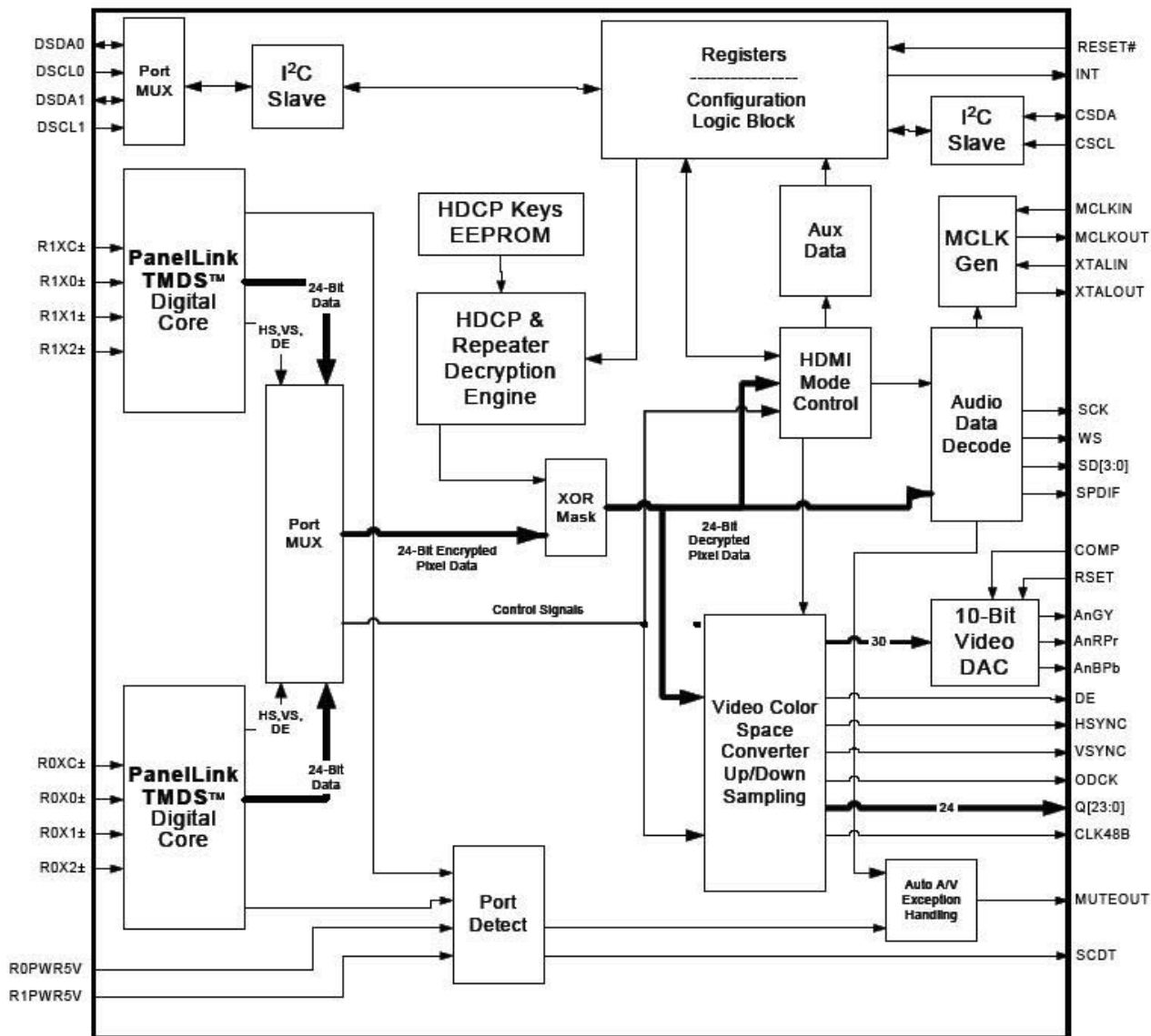
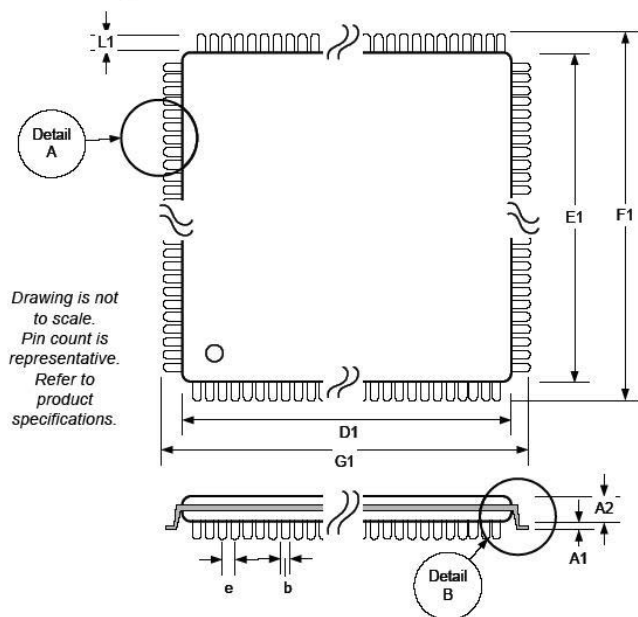
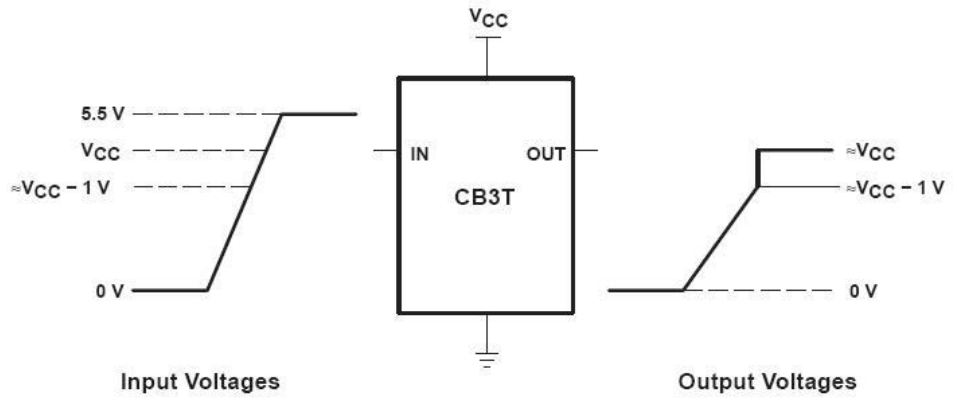
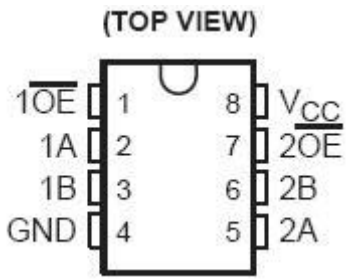


Figure 3. Functional Block Diagram

144-pin TQFP Package Dimensions

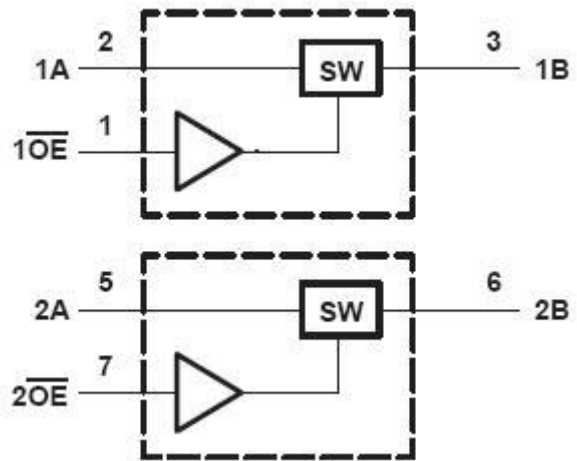


55. SN74CB3T3306DCTR SSOP-8 (DSP: IC96)

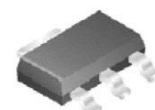
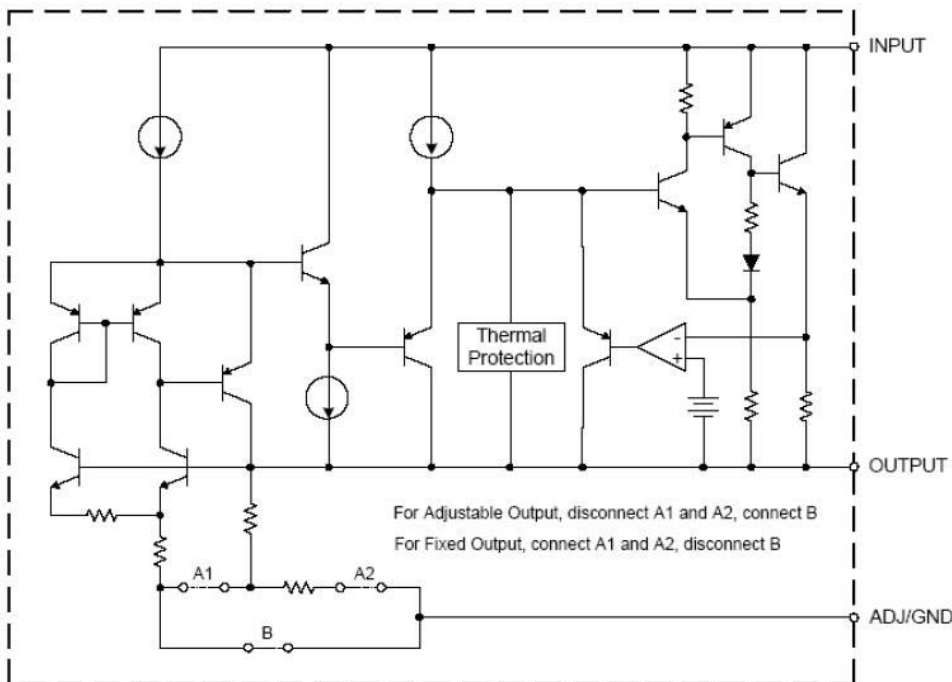


FUNCTION TABLE
(each bus switch)

INPUT OE	INPUT/OUTPUT A	FUNCTION
L	B	A port = B port
H	Z	Disconnect

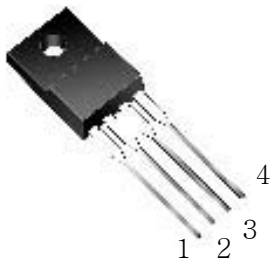


**56. CJT117-3.3 (DSP: IC30 VIDEO: IC11)
CJT117-2.5 (VIDEO: IC65)
IL1117S-1.8 (VIDEO: IC10)**



SOT-223

- 57. KIA278R33API (MAIN: IC71)
- KIA278R06API (MAIN: IC73)
- KIA378R05PI (SURROUND: IC64)



- ① DC INPUT (V_{IN})
- ② DC OUTPUT (V_O)
- ③ GND
- ④ ON/OFF CONTROL

- 58. KIA7805API (MAIN: IC72 SUPPLY: IC12)
- KIA7812API (MAIN: IC59)
- KIA7815API (MAIN: IC51, 60)
- KIA7824API (MAIN: IC54)
- KIA7806AP (VIDEO: IC30)
- KIA78D33PI (SUPPLY: IC11 SURROUND: IC61)



- 1. INPUT
- 2. COMMON
- 3. OUTPUT

- 59. KIA7915API (MAIN: IC52)
- KIA7905PI (SURROUNDY: IC63)



•TRANSISTORS

1. KRA107S

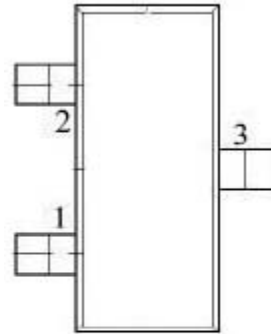
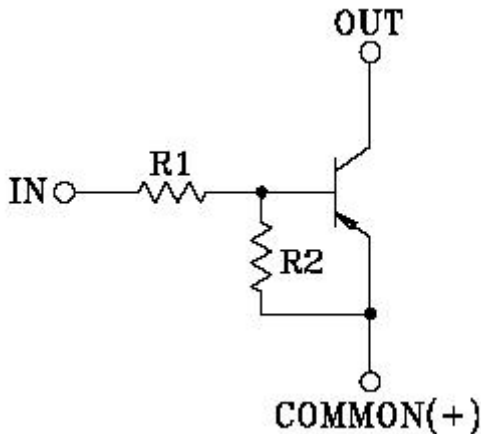
(DSP: Q851)

(FRONT: Q824, 831, 832)

(PROCESSOR: Q109, 203, 301, 605, 608, 611, 614, 615, 618, 620, 623, 626
629, 754, 692, 751)

(RS232: Q301, 302)

(VIDEO: Q110, 111, 112, 123)



- 1. COMMON (EMITTER)
- 2. IN (BASE)
- 3. OUT (COLLECTOR)

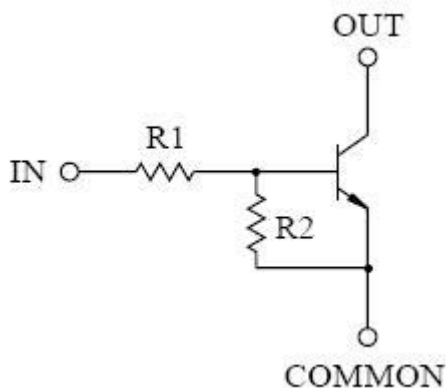
2. KRC107S

(DSP: Q401, 407, 408, 411, 502, 503, 505, 506, 509, 512, 700, 710, 188, 200, 405,
409, 500, 501, 504, 507, 508, 510, 513, 514)

(FRONT: Q800, 801, 802, 803, 820, 822, 833)

(RS232: Q303, 304, 307, 310, 311)

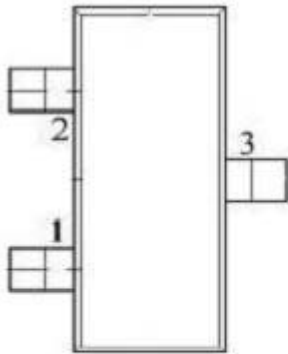
(VIDEO: Q103, 104, 105, 106, 113, 114, 115, 118)



3. KTA1504Y (RS232: Q305 Q306)

(FRONT: Q703)

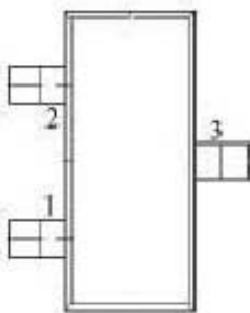
**(PROCESSOR: Q601, 602, 621, 622, 624, 625, 627, 628, 630, 631, 104, 105, 107, 108
201, 202, 204, 205, 221, 222, 302, 303, 603, 604, 606, 607, 609, 610, 612, 613, 616
617, 690, 691, 752, 753)**



- 1. COMMON (EMITTER)
- 2. IN (BASE)
- 3. OUT (COLLECTOR)

4. KTC3875S (FRONT: Q701 Q702)

(VIDEO: Q101)



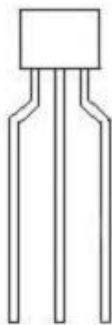
- 1. COMMON (EMITTER)
- 2. IN (BASE)
- 3. OUT (COLLECTOR)

5. KTC3199-GR (RS232: Q401

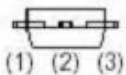
VIDEO: Q100 Q102)

KTA1267-GR (RS232: Q405

VIDEO: Q107 Q108 Q109 Q124)



- (1) Emitter
- (2) Collector
- (3) Base



6. KTA1360 (MAIN: Q327 Q328 Q431 Q432 -AVR745,645 ONLY) SURROUND: Q215 Q315 Q515)
 KTA1360 (MAIN: Q417 Q418 Q315 Q316 -AVR445 ONLY) SURROUND: Q208 Q508 Q308)
 KTC3114 (MAIN: Q701 Q702 Q703 Q704 SURROUND: Q214 Q314 Q514)
 KTC3423 (MAIN: Q323 Q324 Q429 Q430 -AVR745,645 ONLY) SURROUND: Q213 Q313 Q513)
 KTC3423 (MAIN: Q419 Q420 Q317 Q318 -AVR445 ONLY) SURROUND: Q209 Q509 Q309)



1. EMITTER
2. COLLECTOR
3. BASE

7. 2SA1859A (MAIN: Q329 Q330 Q433 Q434 SURROUND: Q216 Q316 Q516)
 2SC4883A (MAIN: Q331 Q332 Q435 Q436 SURROUND: Q217 Q317 Q517)



1. BASE
2. COLLECTOR
3. EMITTER

8. KTA1268BL (MAIN: Q311 Q312 Q410 Q413 Q414 SURROUND: Q101 Q206 Q306 Q506)
 KTC3198BL (MAIN: Q307 Q308 Q407 Q408 Q426 Q441 SURROUND: Q204 Q304 Q504)
 KTC3200BL (MAIN: Q301 Q302 Q303 Q304 Q305 Q306 Q313 Q314 Q337 Q338 Q401 Q402
 Q403 Q404 Q405 Q406 Q409 Q415 Q416 Q425)
 (SURROUND: Q201 Q202 Q203 Q207 Q220 Q301 Q302 Q303 Q307 Q320
 Q501 Q502 Q503 Q507 Q520)
 KTD1302 (MAIN: Q601)
 MPSA06 (DSP: Q511 FRONT: Q821 SUPPLY: Q102, Q102)
 MPSA56 (FRONT: Q823)



1. EMITTER
2. COLLECTOR
3. BASE

**9. KTA1024Y (MAIN: Q315 Q316 Q319 Q320 Q417 Q418 Q421 Q422 Q442
 SURROUND: Q208 Q211 Q308 Q311 Q508 Q511)-AVR745,645 ONLY
 KTC3206Y (MAIN: Q317 Q318 Q321 Q322 Q419 Q420 Q423 Q424
 SURROUND: Q209 Q212 Q309 Q312 Q509 Q512)-AVR745,645 ONLY**



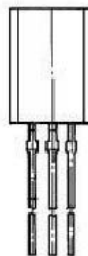
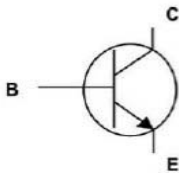
- 1. EMITTER
- 2. COLLECTOR
- 3. BASE

**10. KRA107M (DSP: Q851 RS232: Q301, 302)
 KRC107M (MAIN:C443)**



- 1. EMITTER
- 2. COLLECTOR
- 3. BASE

11. 2SA1145Y (MAIN: Q309 Q310 Q411 Q412 SURROUND: Q205 Q305 Q505)



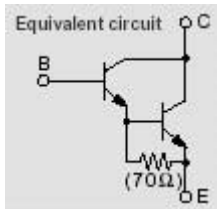
- 1. EMITTER
- 2. COLLECTOR
- 3. BASE

- 12. 2SA1986-R (MAIN: Q335 Q336 Q439 Q440
SURROUND: Q219 Q319 Q519)-AVR745,645 ONLY
- 2SC5358-R (MAIN: Q333 Q334 Q437 Q438
SURROUND: Q218 Q318 Q518)-AVR745,645 ONLY
- 2SD2560 (MAIN: Q333 Q334 Q437 Q438
SURROUND: Q218 Q318 Q518)-AVR445 ONLY
- 2SB1647 (MAIN: Q335 Q336 Q439 Q440
SURROUND: Q219 Q319 Q519)-AVR445 ONLY

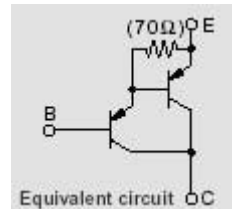


1.BASE
2.COLLECTOR
3.EMITTOR

2SD2560

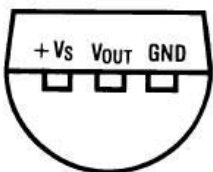


2SB1647

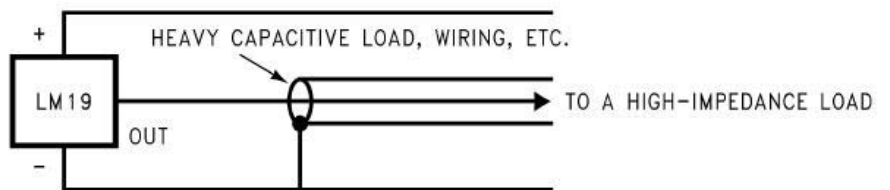


- 13. LM19CIZ 2.4V TO-92
(DSP: PO91 MAIN: PO71)

TO-92

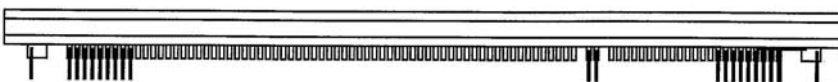
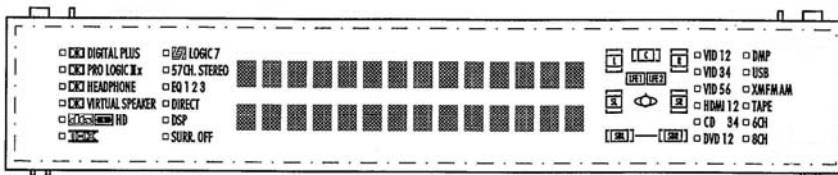
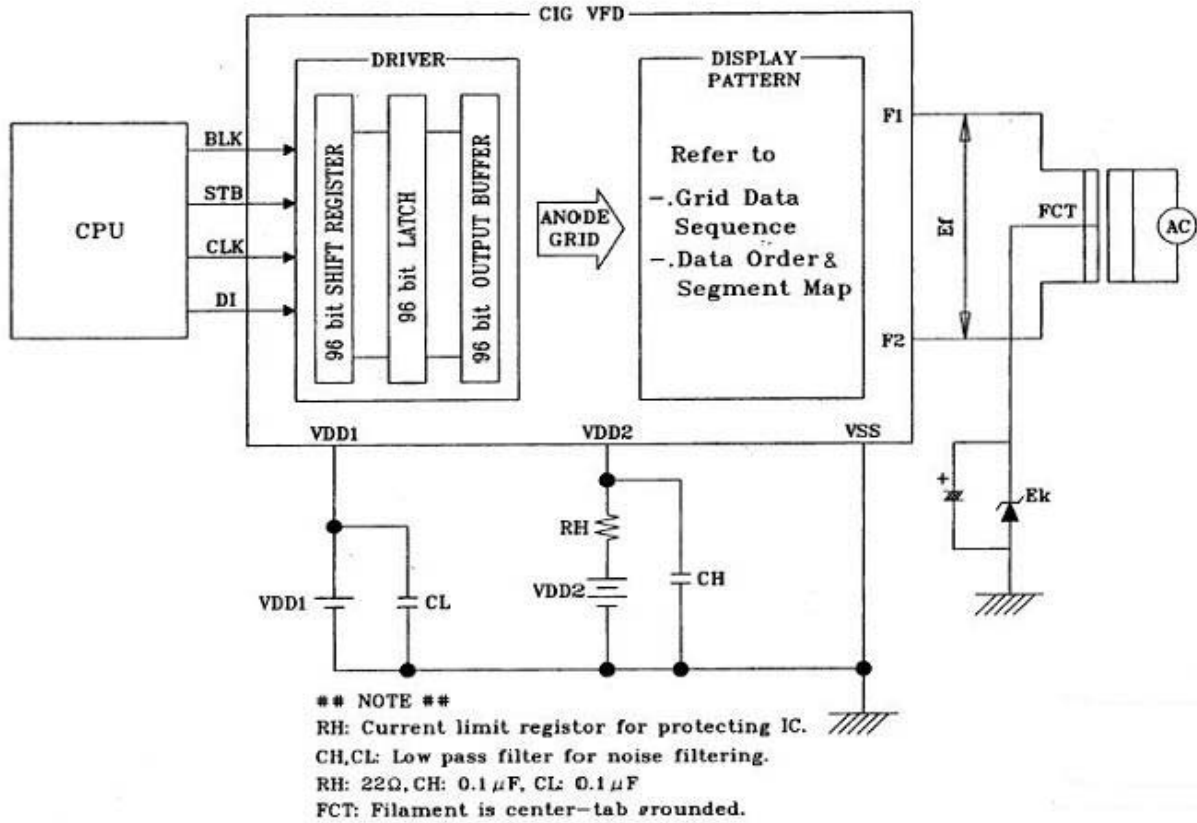


BOTTOM VIEW



•OTHERS

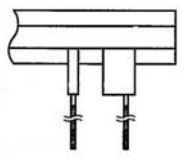
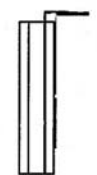
1. FL HCA-18-BT-19GINK (FRONT FL1)



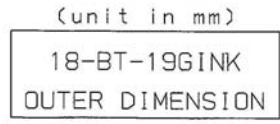
CONNECTION

N NO.	00	00	00	09	09	09	09	09	09	09	09	09	09	09	09	09	~	30	30	30	30	30	30	~	11	~	6	5	4	3	2	1	
SECTION	F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	X	N	F	F	F	F	F	N	X	N	C	N	N	N	N	N	F
	2	X	X	X	P	P	H	D	D	K	C	T	K	T	D		X	P	L	P	P	P	P		X		P	P	X	X	X	1	

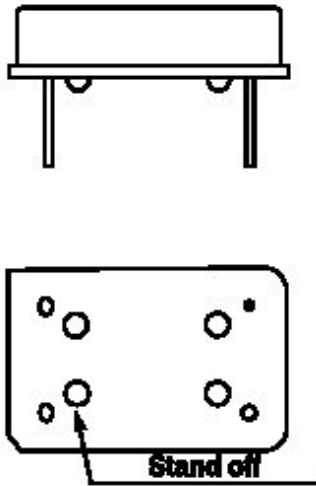
- 1) F1, F2 --- Filament
- 2) NP ----- No pin
- 3) NX ----- No extend pin
- 4) DL ----- Datum Line
- 5) LGND ---- Logic GND pin
- 6) PGND ---- Power GND pin
- 7) NC ----- No connection (NC pin should be electrically open on the PC board)
- 8) Fd terminals are to be supplied through 47kΩ from VH.
- 9) Field of vision is a minimum of 20.6° from the upper side, 20.6° from the lower side.
- 10) Solder composition is Sn-3Ag-0.5Cu.
- 11) VH ----- High Voltage Supply pin
- 12) VDD ---- Logic Voltage Supply pin
- 13) BK ----- Driver Output Blanking
- 14) LAT ---- Latch Control Input
- 15) CLK ---- Shift Register Clock
- 16) SI ----- Serial Data Input



LEAD FREE SOLDER



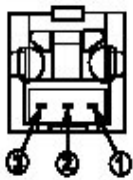
2. VCXO 24M576HZ (DSP Y413)



<14 PIN DIP>

PIN	CONNECTION
# 1	INH or No Connection
# 7	Ground
# 8	Output
# 14	Vdc

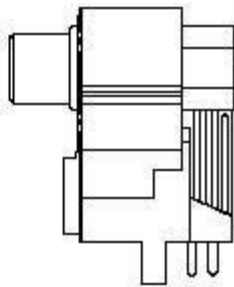
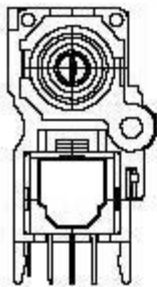
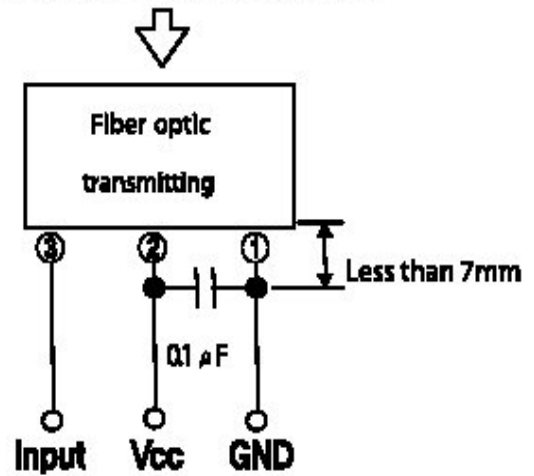
3. OPTICAL RX YKC22-0733N (DSP: J411 J413 J414)



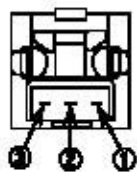
Pin connection

- 1. GND
- 2. Vcc
- 3. Input

Fiber optic connector insertion side



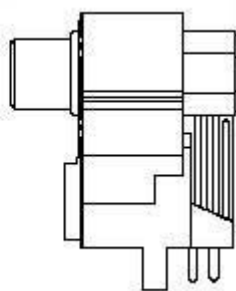
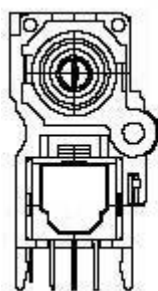
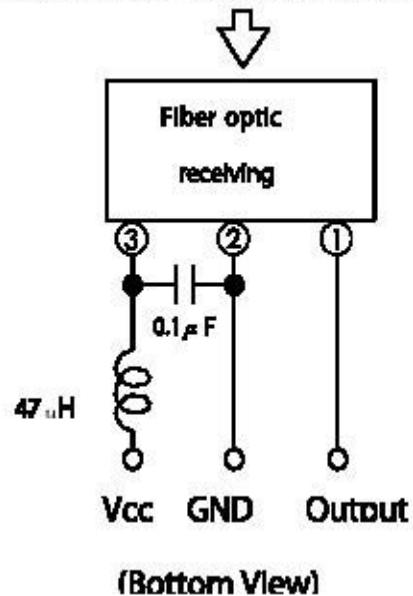
4. TX YKC22-0732N (DSP: J402)



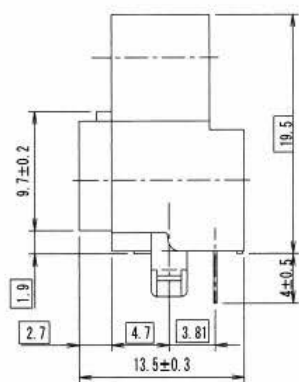
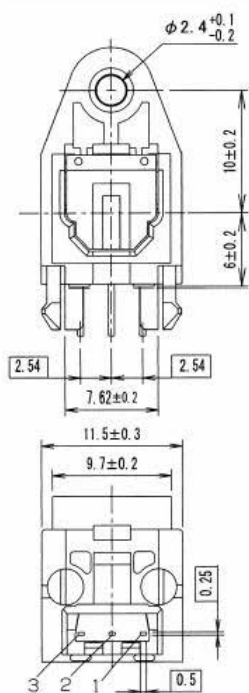
Pin connection

- 1. Output
- 2. GND
- 3. Vcc

Fiber optic connector insertion side



5. TORX177L (FRONT: NJ79)

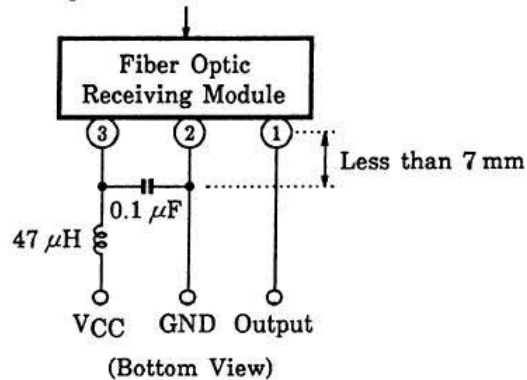


Shutter Color : Black

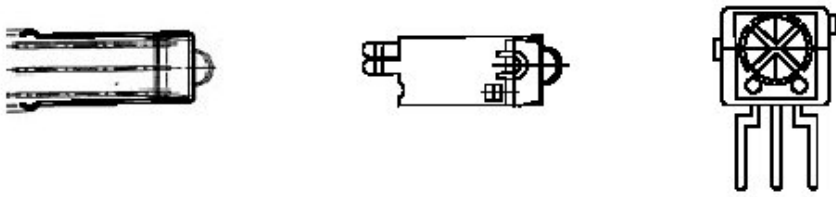
Pin Connection

- 1. Output
- 2. GND
- 3. Vcc

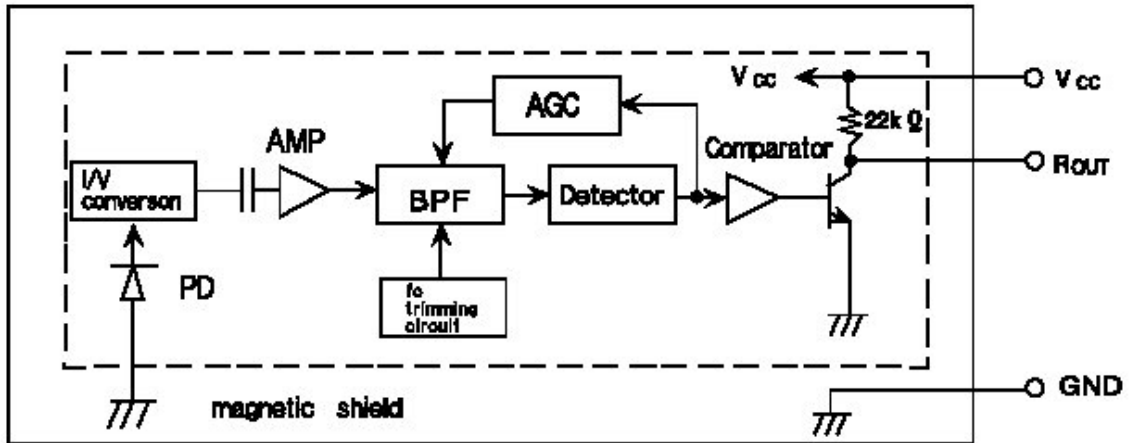
Fiber optic connector insertion side



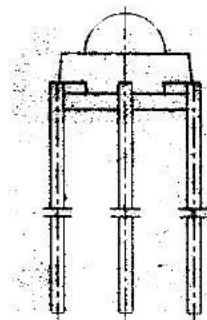
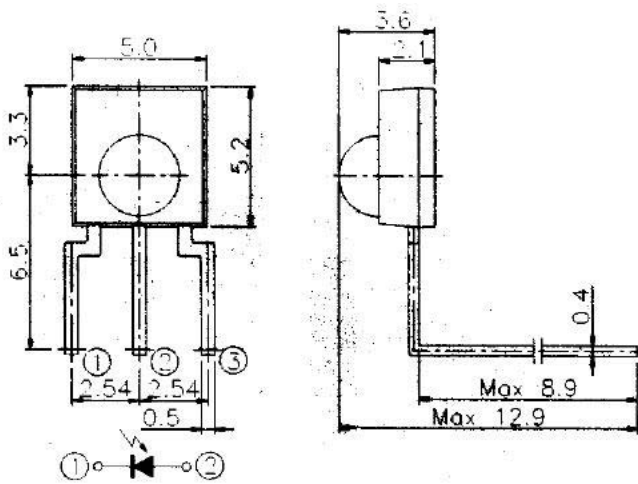
6. RPM6938-RSIP-A3 (FRONT: RM71)



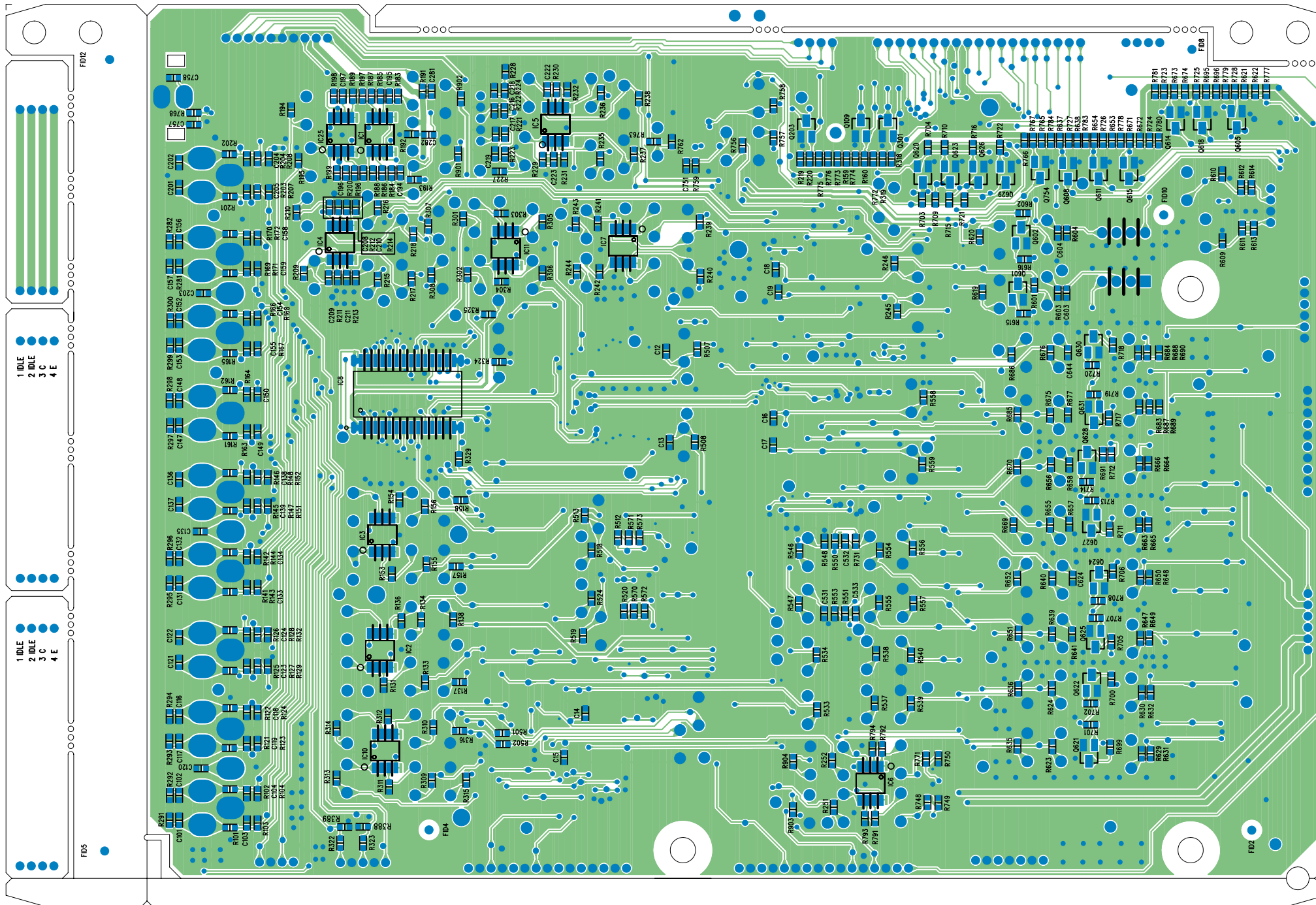
PIN NO.	
①	ROUT
②	GND
③	Vcc

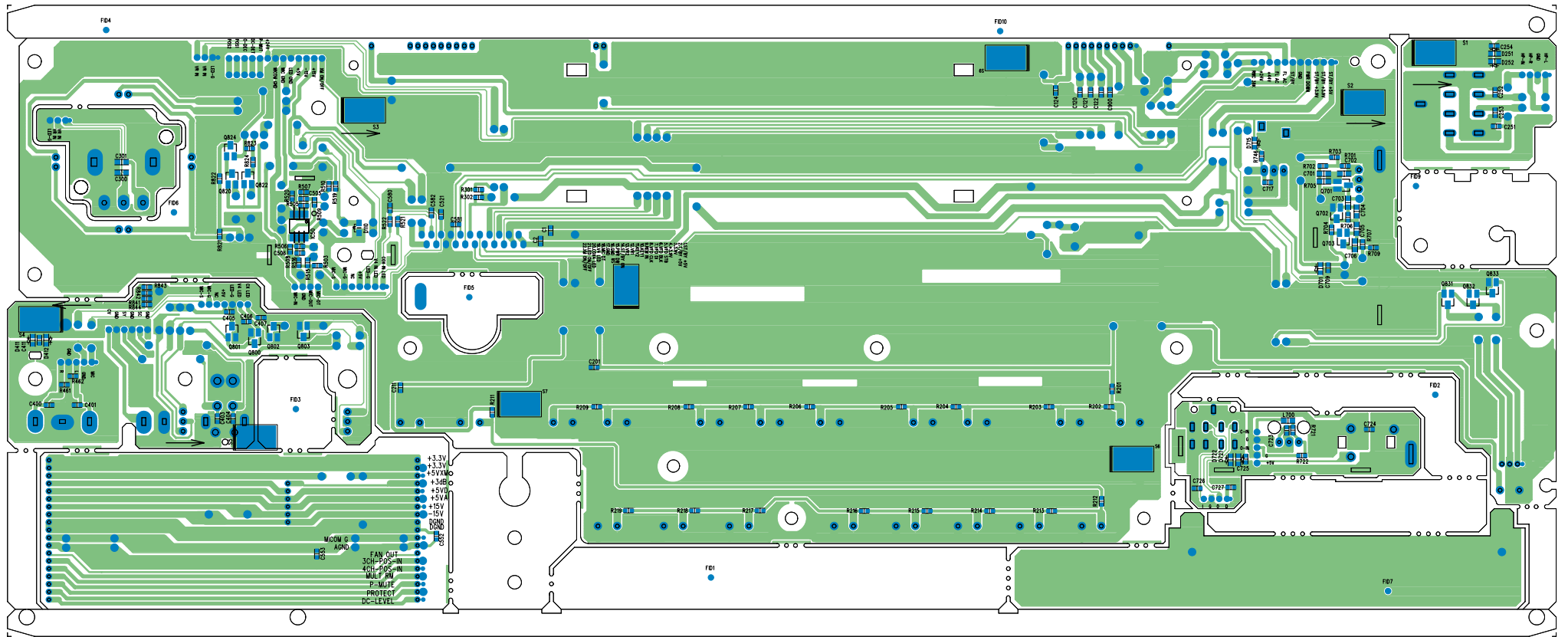


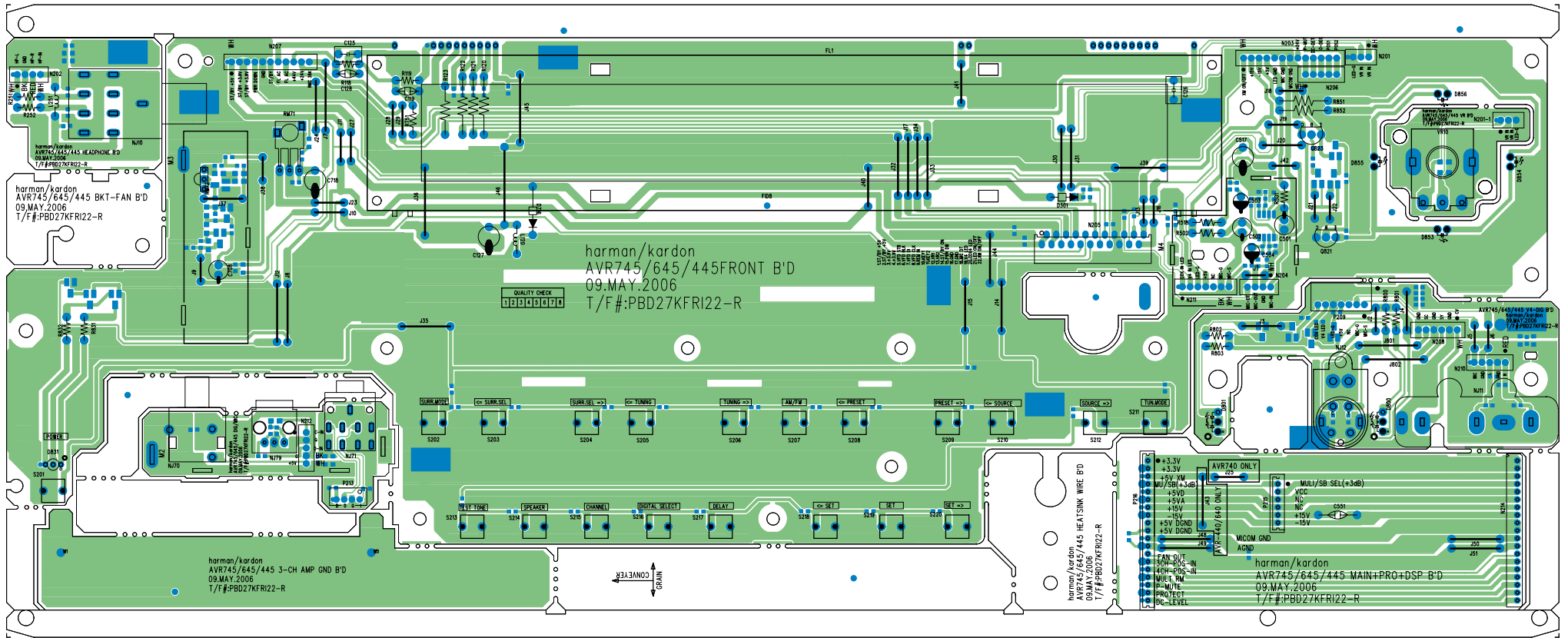
7. LP-200TL (FRONT: RM72)

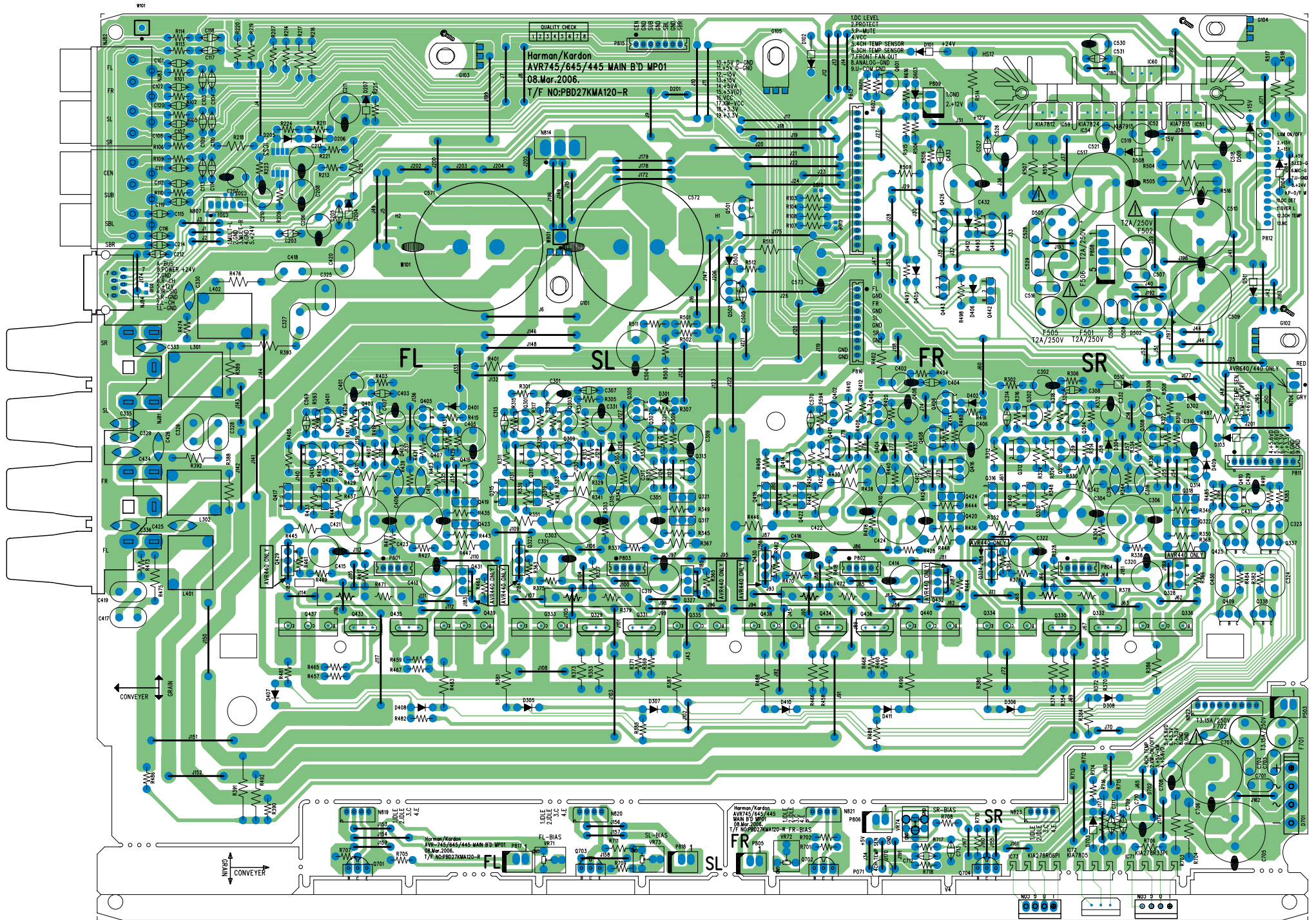


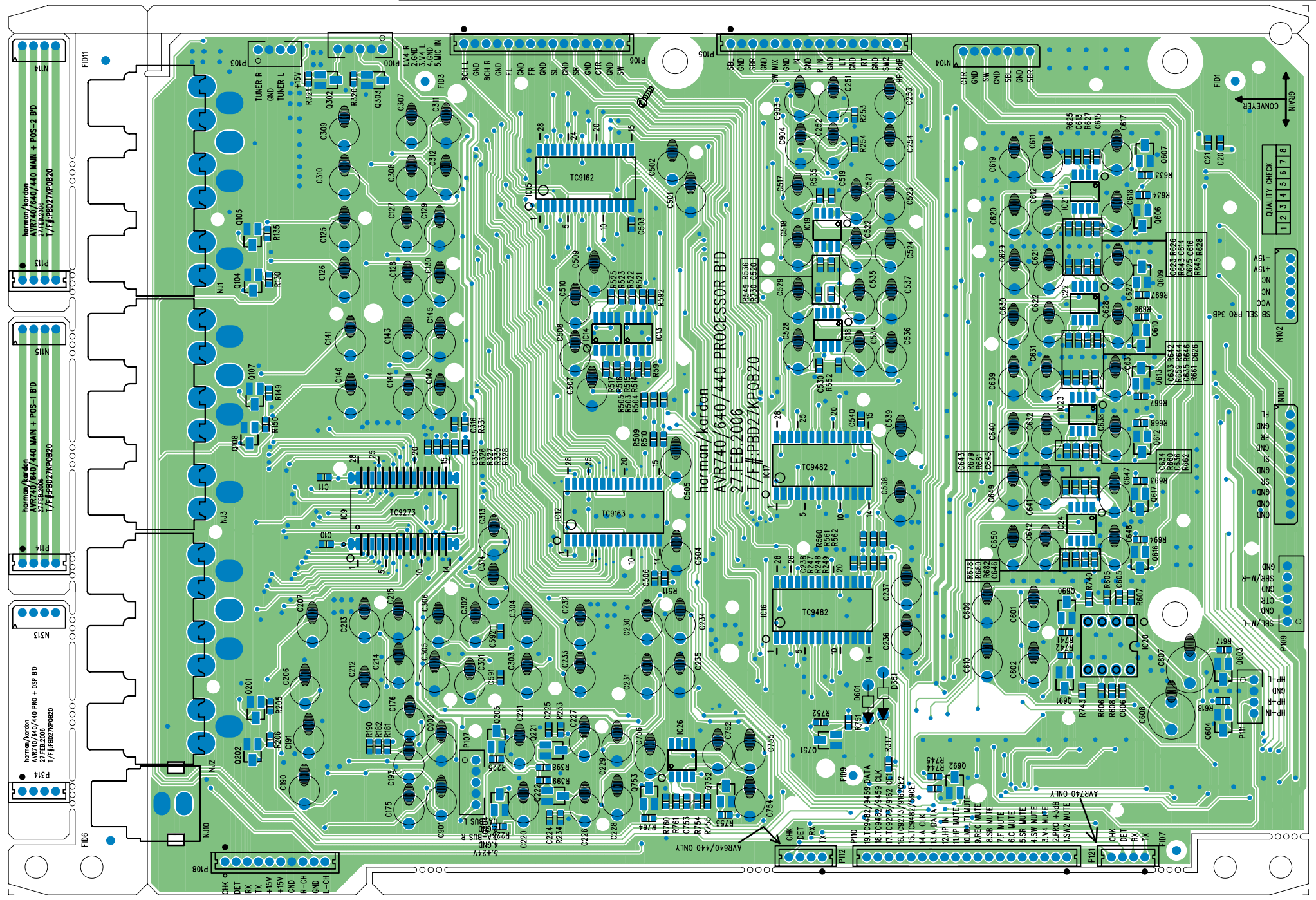
1. Pin Config.
 - ① Cathode
 - ② Anode
 - ③ No connect
2. G.T : ±0.2

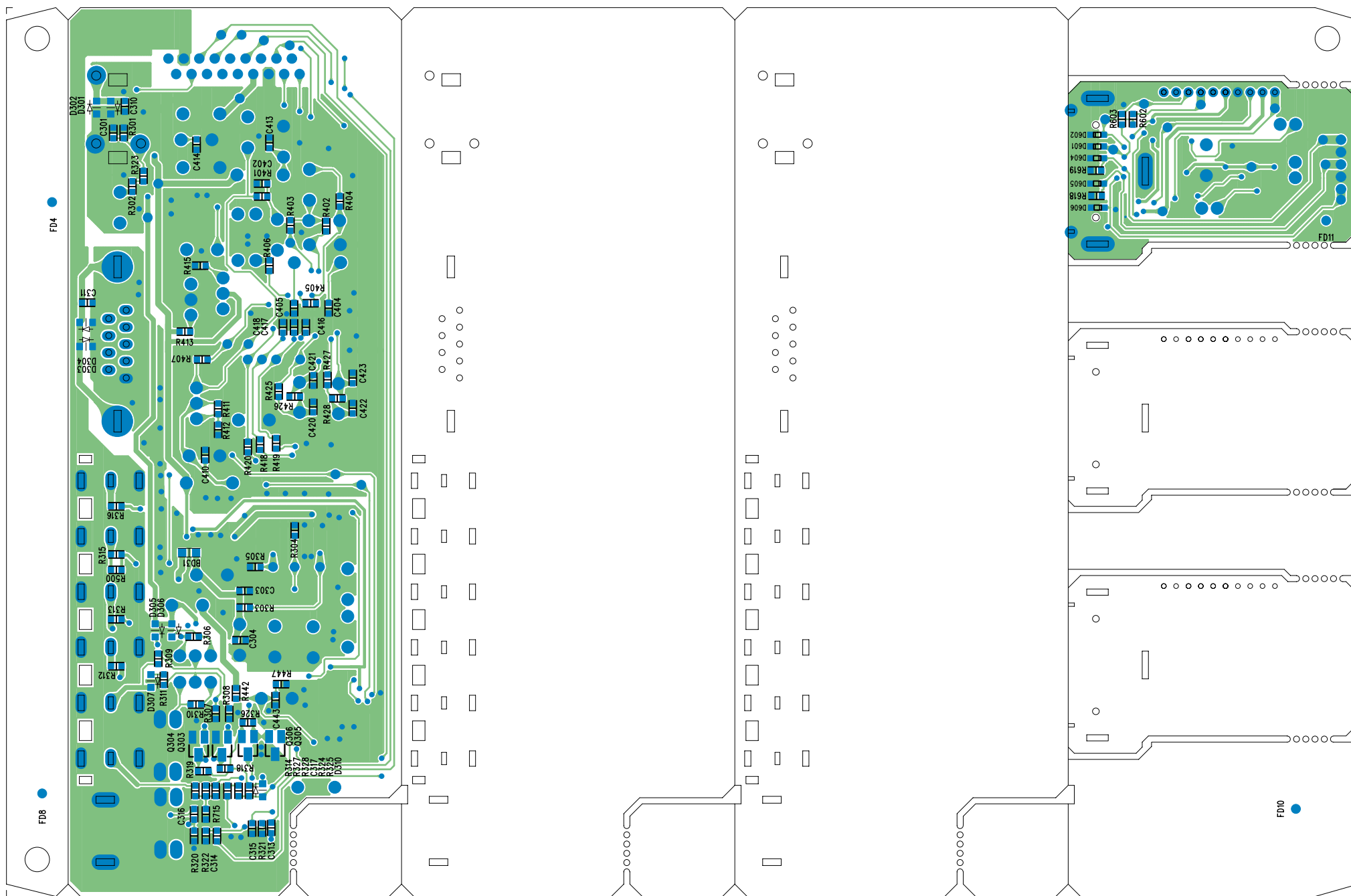


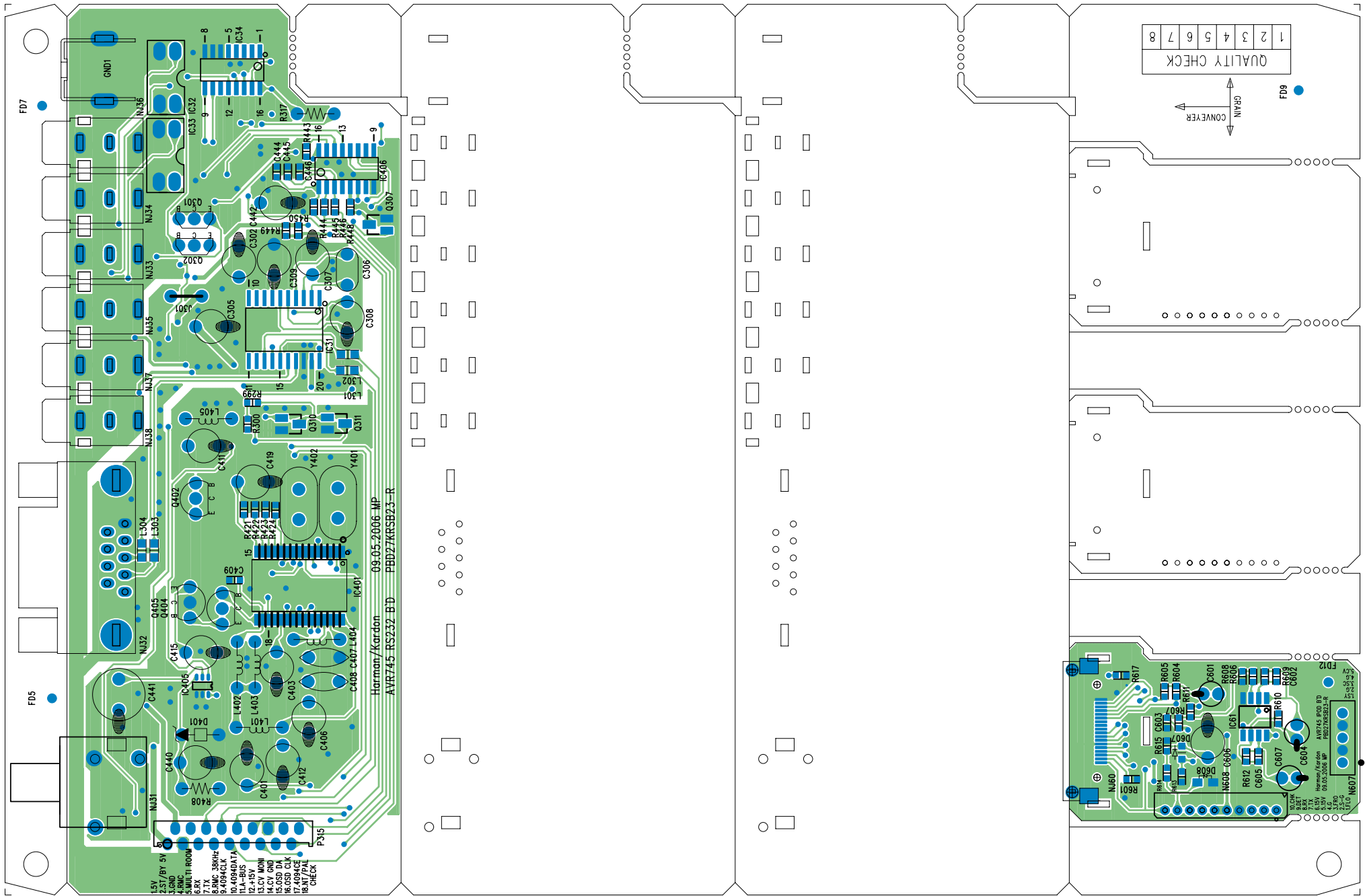


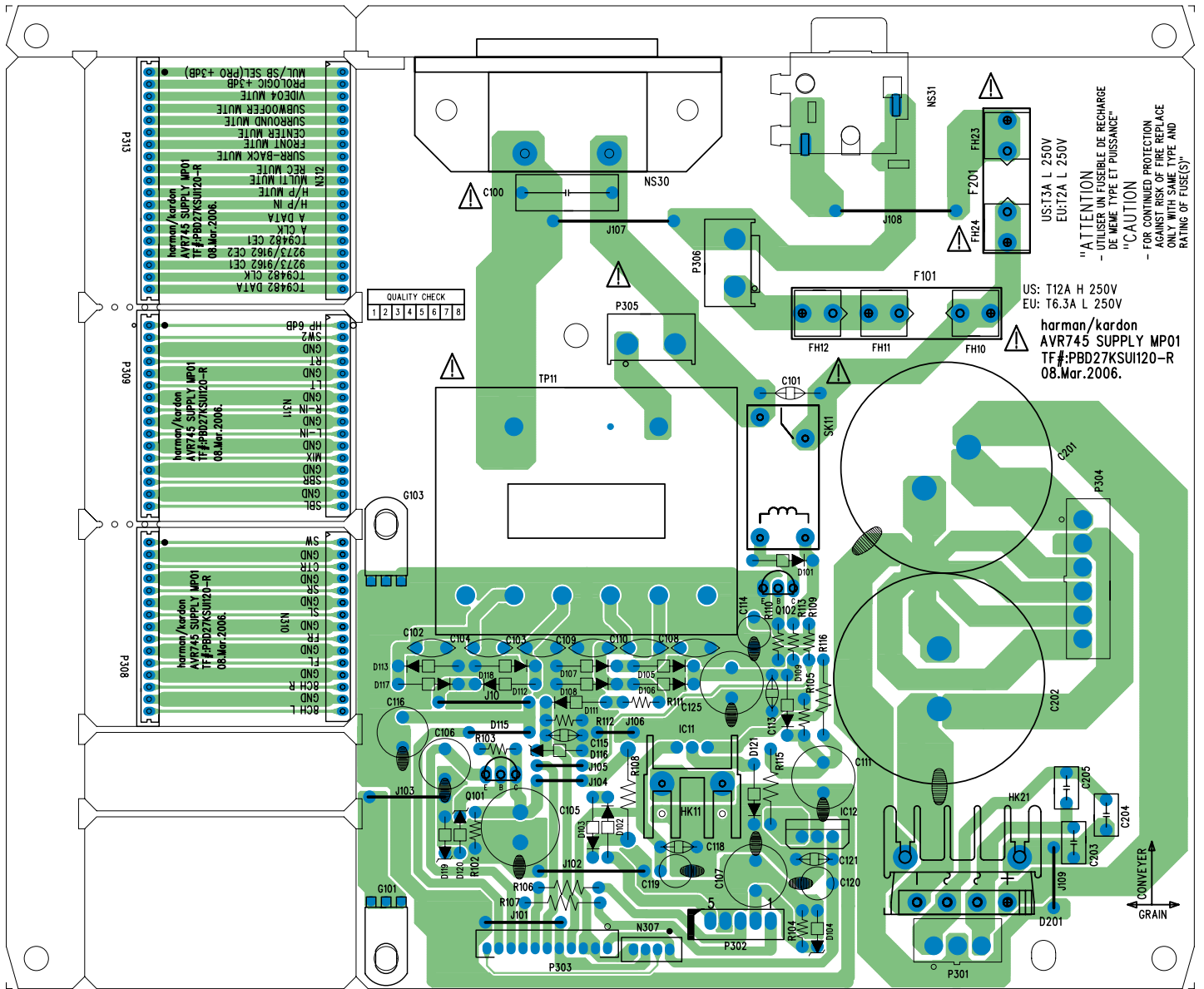


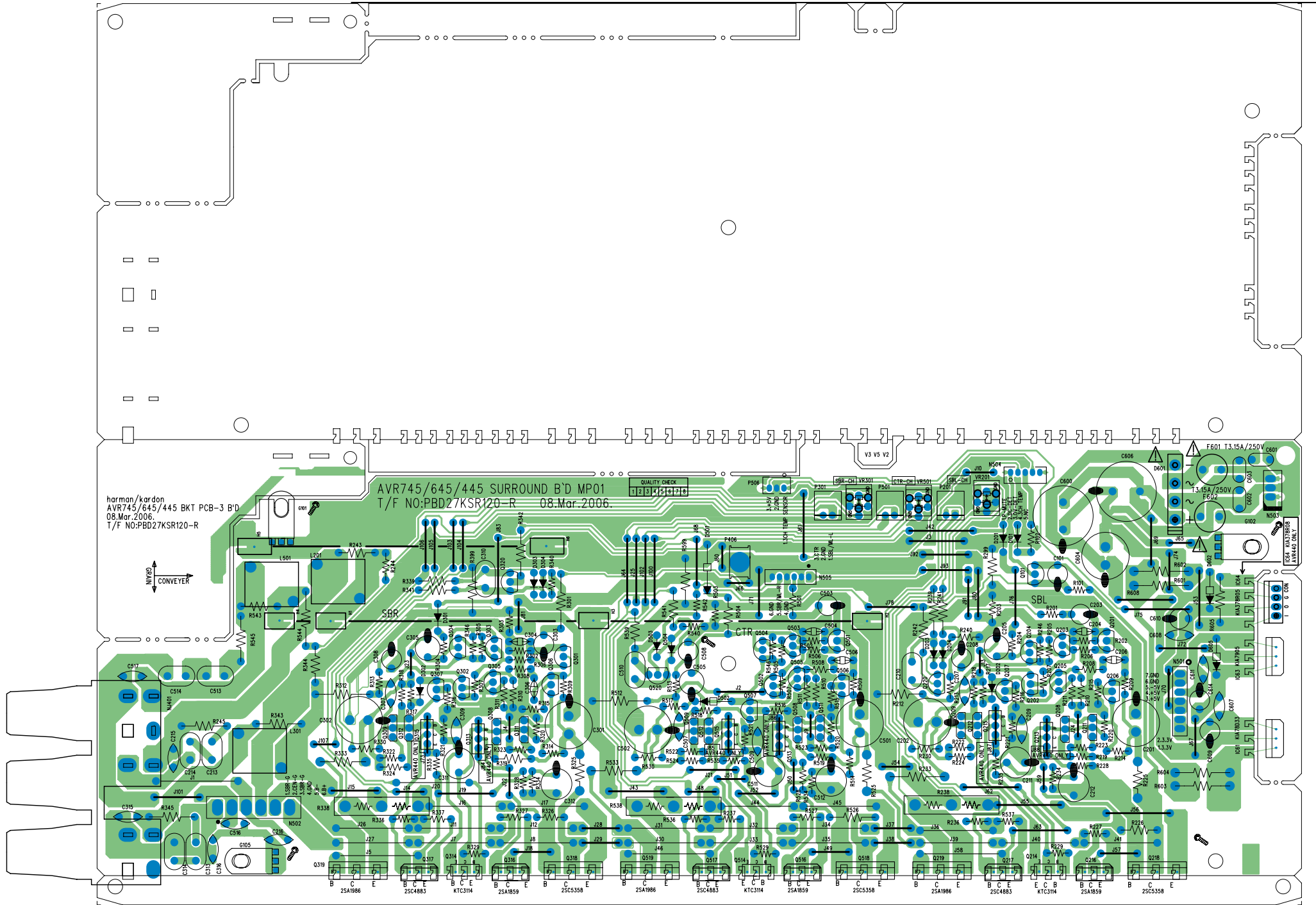


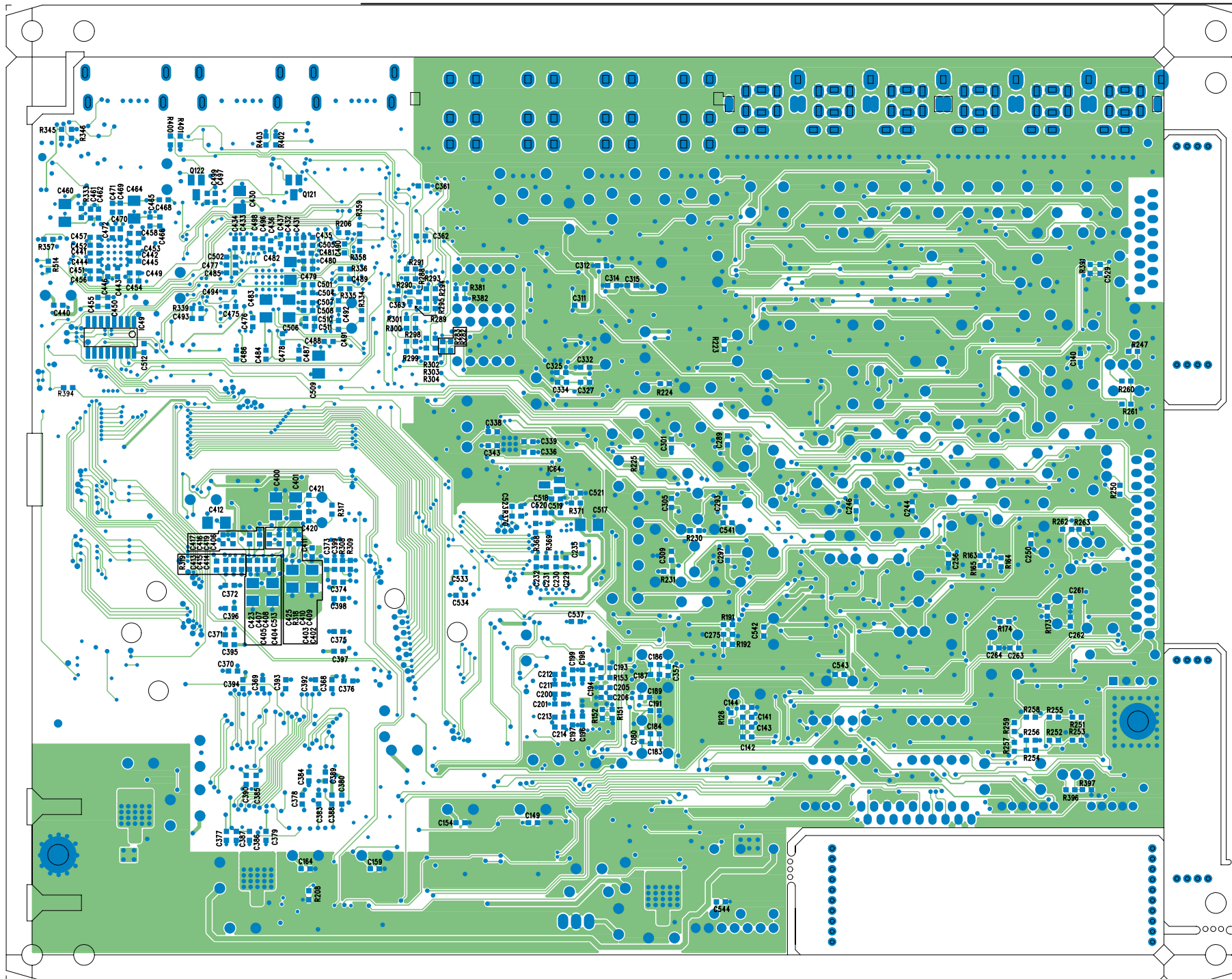




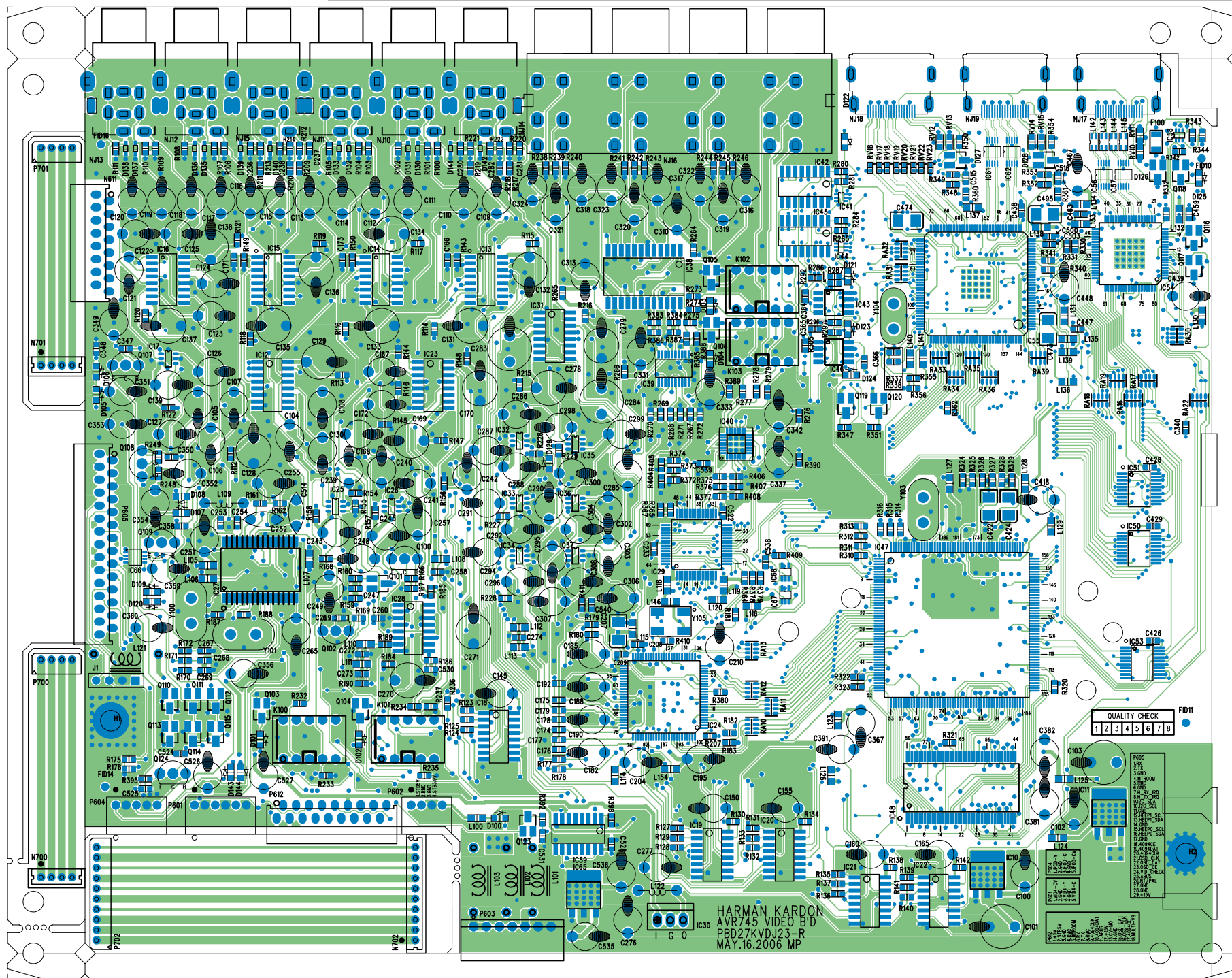








harman/kardon



SERVICE PROCEDURE

ALIGNMENT PROCEDURES

1.MAIN AMP idling Adjustment

SET CONDITION

- 1) SEMI VOLUME POSITION at MAIN/SURROUND AMP Board
 MAIN:VR71.VR72
 SURROUND:VR73.VR74

 NO Signal/No Load
 AC Line Voltage:120V/60Hz.230V/50Hz
- 2) After turning on the unit keep it over than 25min (keep the power/Driver TR as normal temperature)
- 3) Adjust the voltage value of primary&secondary of wafer to be 25mV by rotating the semi volume of each channel to the right

CHANNEL	ADJUSTMENT	MEASUREMENT	VOLTAGE
FRONT-L CH	VR71	P817	23+/-2mV
FRONT-R CH	VR72	P805	23+/-2mV
SURROUND-L CH	VR73	P818	23+/-2mV
SURROUND-R CH	VR74	P806	23+/-2mV

- 4) CAUTION
 In case that power TR or DRIVER TR is needed to be replace for repairing the corresponding channel should be adjusted again

 FRONT AMP:Q437.Q433.Q435.Q439.Q438.Q434.Q436.Q440
 SURROUND AMP:Q333.Q329.Q331.Q335.Q334.Q330.Q332.Q336

2.SURROUND BACK AMP idling Adjustment

SET CONDITION

- 1) SEMI VOLUME POSITION at CENTER/SURROUND BACK AMP Board
 CENTER:VR501
 SURROUND BACK:VR201.VR301

 NO Signal/No Load
 AC Line Voltage:120V/60Hz.230V/50Hz
- 2) After turning on the unit keep it over than 25min (keep the power/Driver TR as normal temperature)
- 3) Adjust the voltage value of primary&secondary of wafer to be 25mV by rotating the semi volume of each channel to the right

CHANNEL	ADJUSTMENT	MEASUREMENT	VOLTAGE
CENTER	VR501	P501	23+/-2mV
SURR BACK-L CH	VR201	P201	23+/-2mV
SURR BACK-R CH	VR301	P301	23+/-2mV

- 4) CAUTION
 In case that power TR or DVIER TR is needed to be replace for repairing the corresponding channel should be adjusted again

 CENTER AMP:Q519,Q517.Q516,Q518
 SUR BACK AMP:Q319.Q317.Q316.Q318.Q219.Q217.Q216.Q218

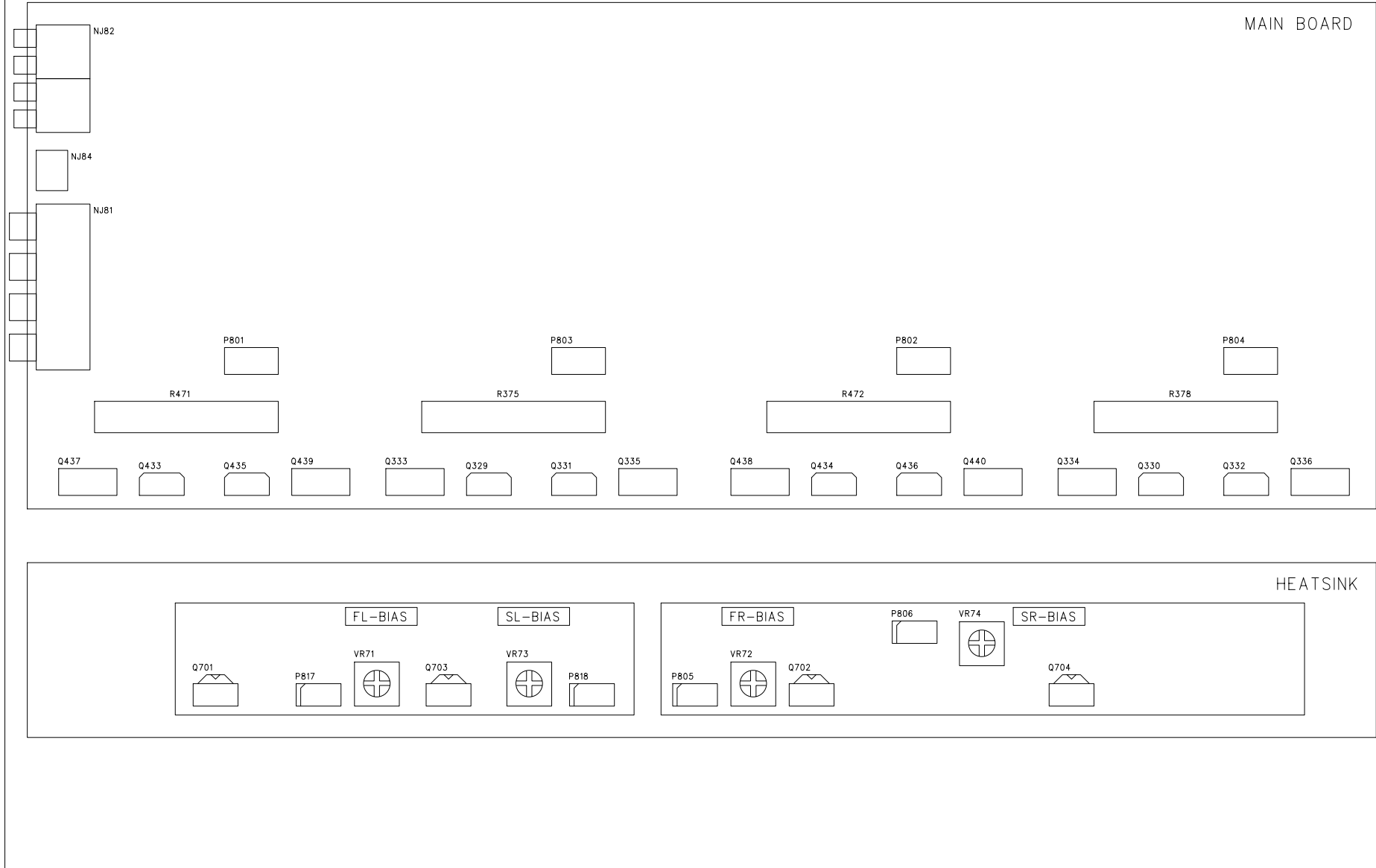
3.Cautions for main adjustment

- 1) At MAIN/SUPPLY BOARD.use the below capacitor after discharging for sufficient time for preventing possible damage from electrical spark

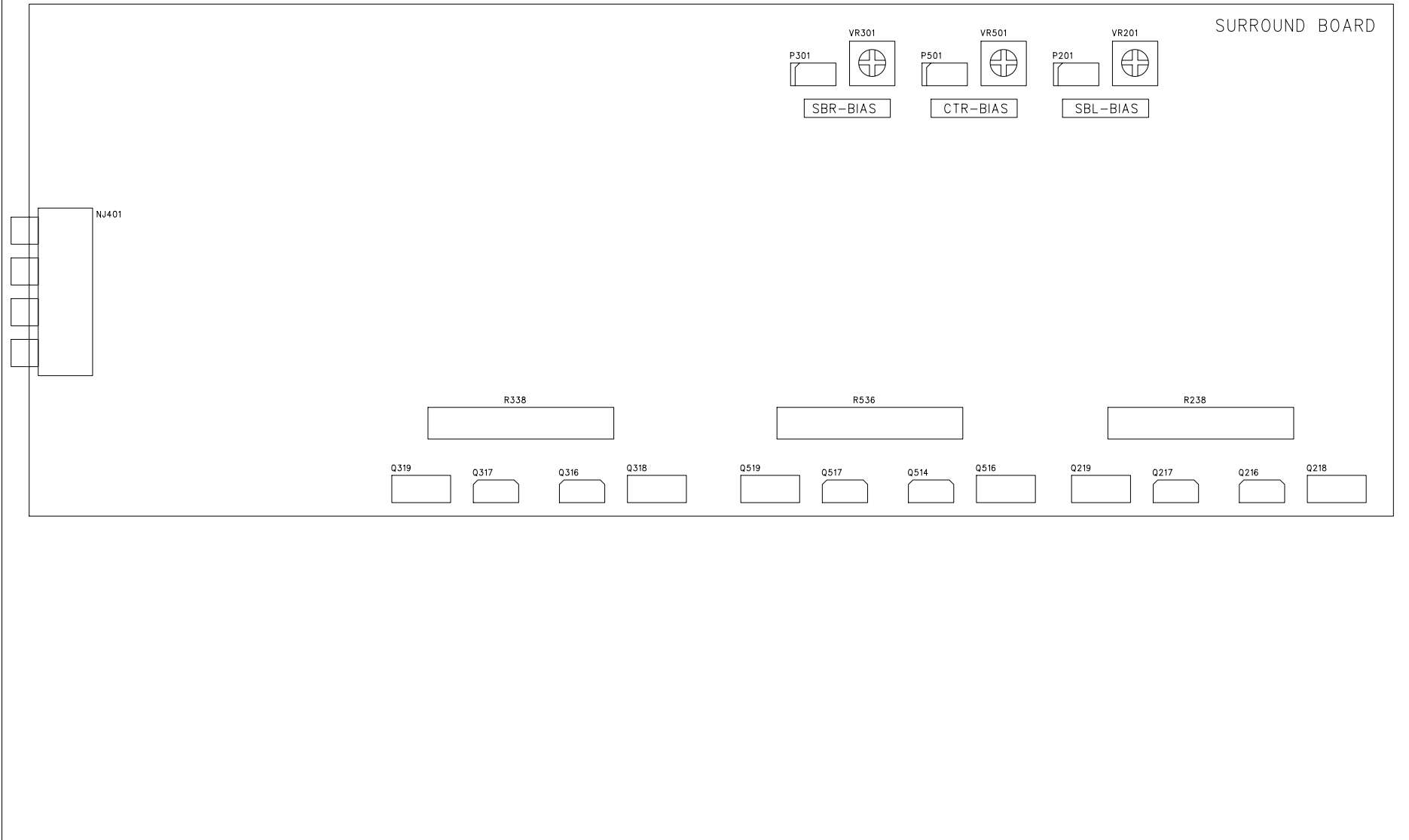
MAIN BOARD	C571.C572	AVR745/645 15000/63V
	C571.C572	AVR445 12000/63V
SUPPLY BOARD	C201,C202	AVR745/645 10000/63V
	C201,C202	AVR445 8200/63V

- 2)The checking for MAIN/SUPPLY BOARD should have the discharging circuit discharge over 30sec.through(4R70hm 10W)resistor after push power sw off

Alignment and test position (MAIN AMP BOARD)

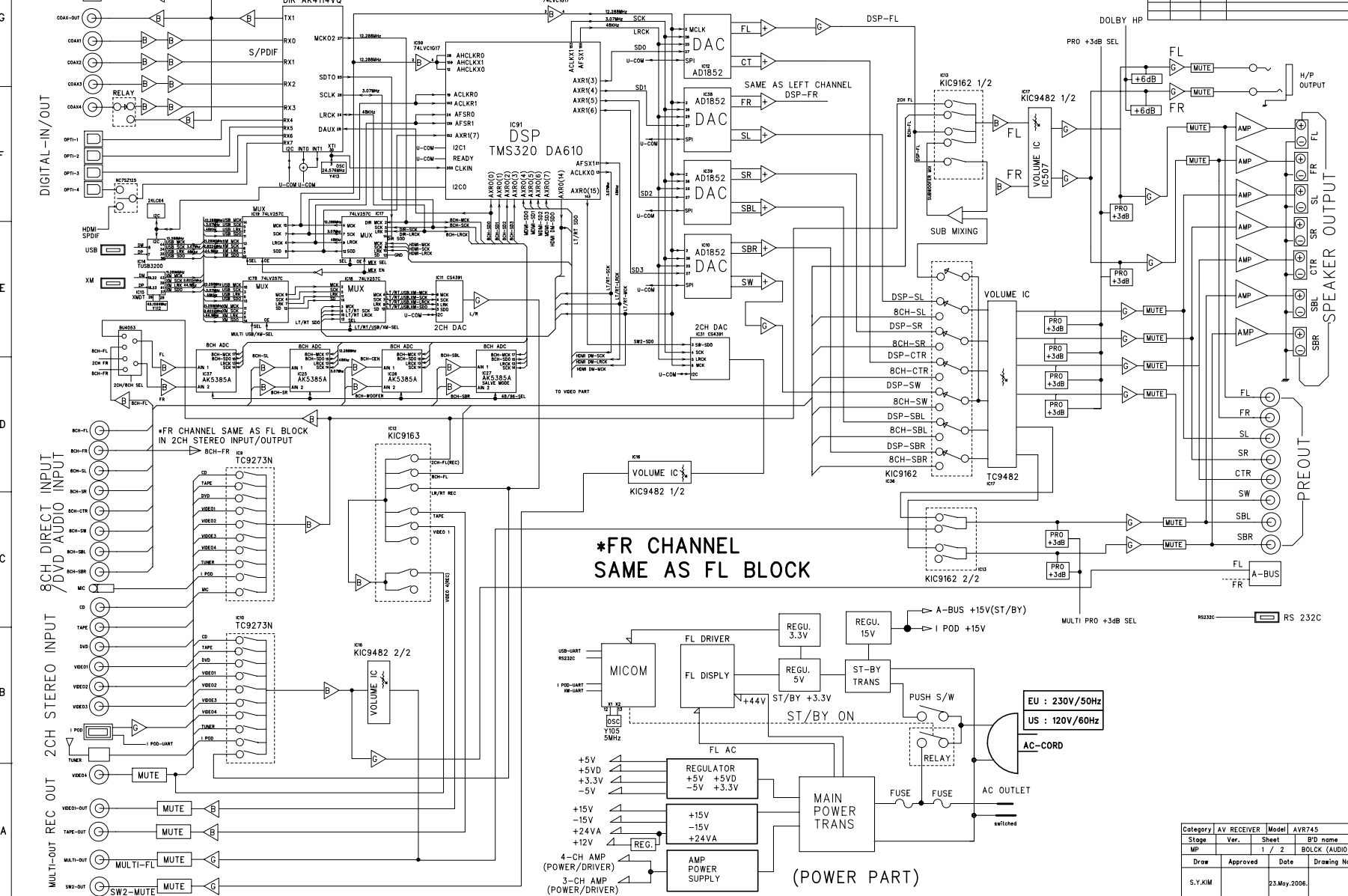


Alignment and test position (SURROUND BOARD)



(AUDIO PART) AVR745 BLOCK DIAGRAM

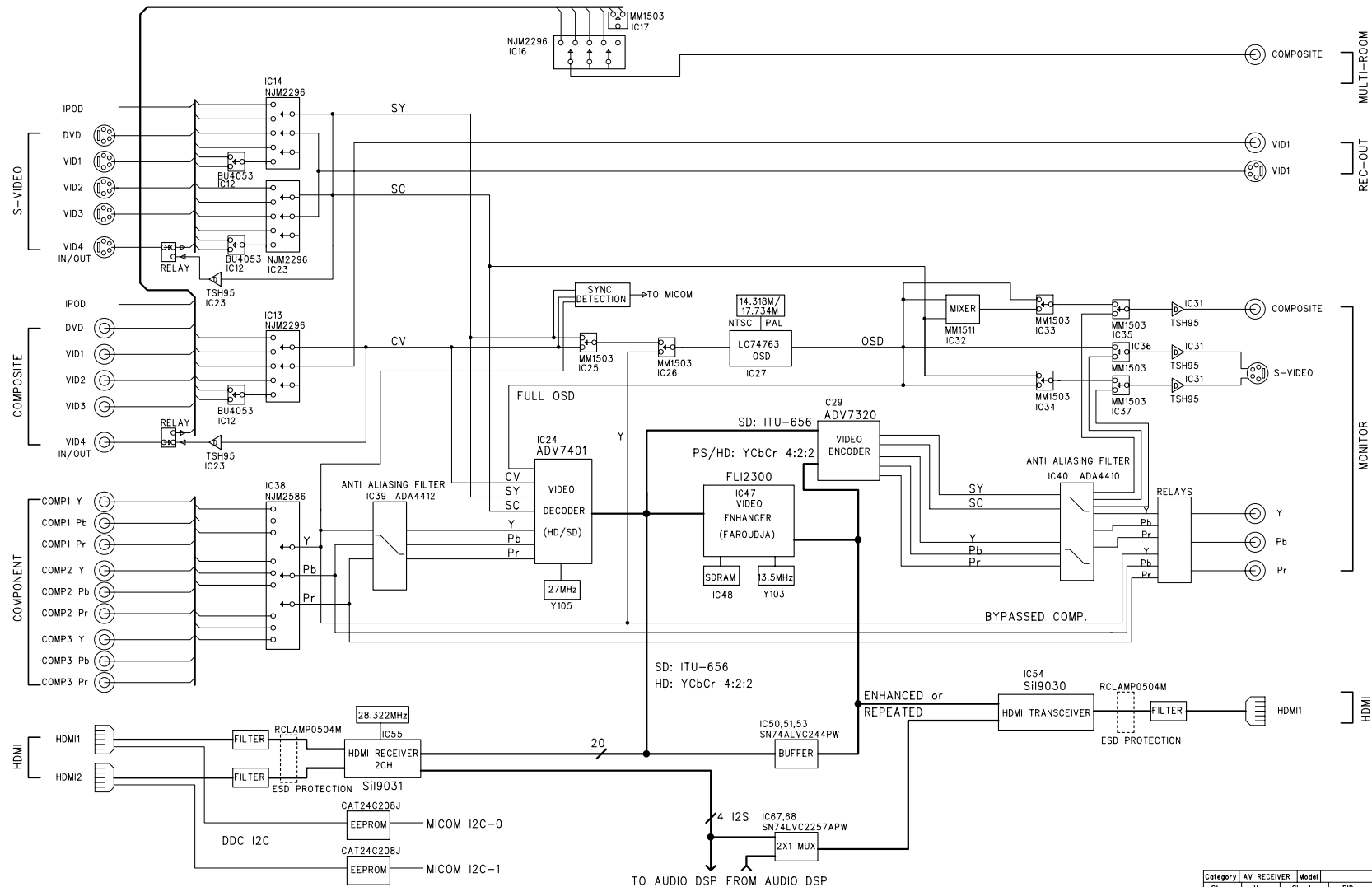
REVISION RECORD		
NO.	Date	Contents



Category	AV RECEIVER	Model	AVR745
Stage	Ver.	Sheet	B'D name
MP		1 / 2	BOLCK (AUDIO)
Draw	Approved	Date	Drawing No
S.Y.KIM		23.May.2006	

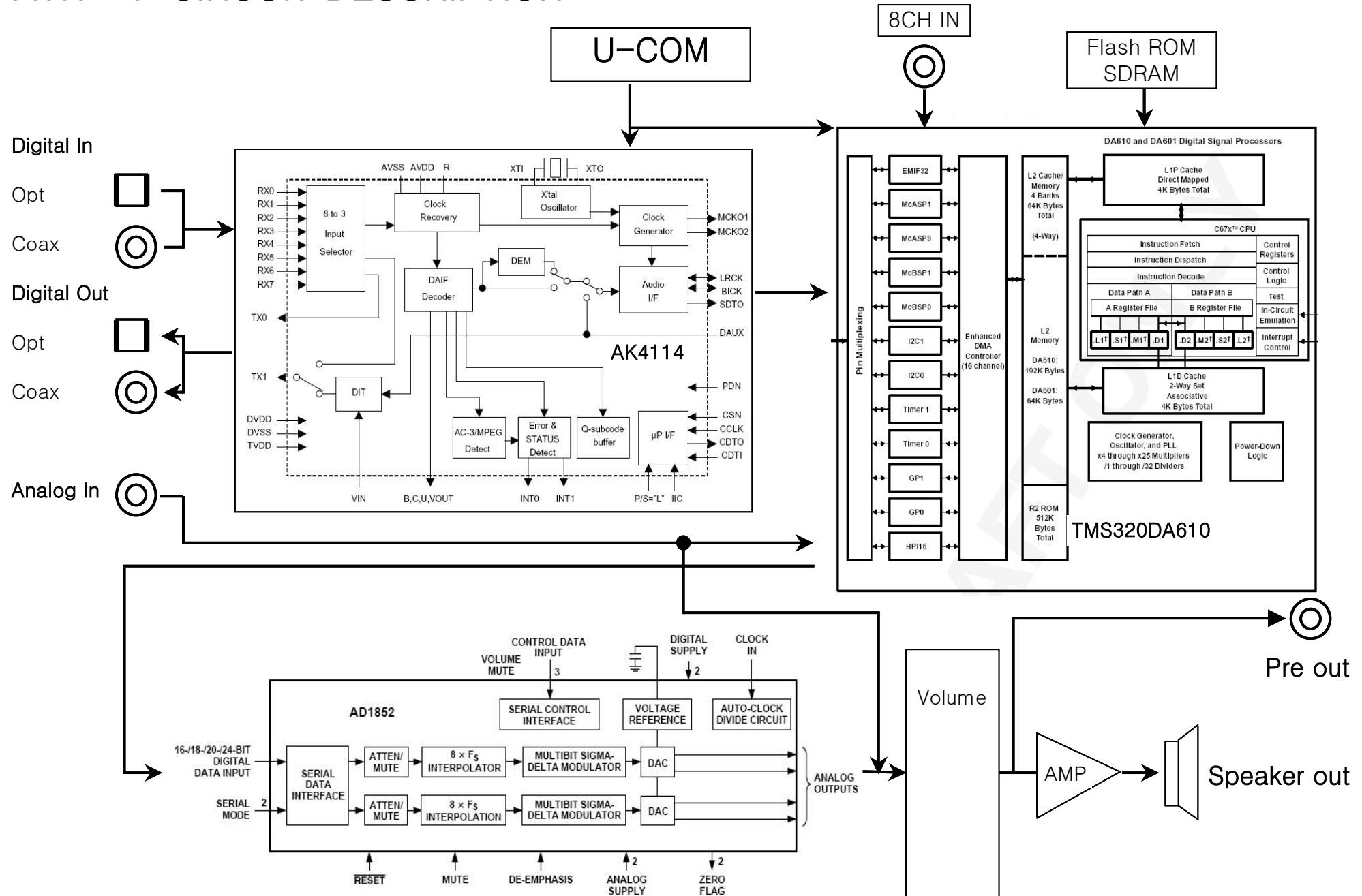
AVR745 BLOCK DIAGRAM of VIDEO PART

REVISION RECORD		
No.	Date	Contents



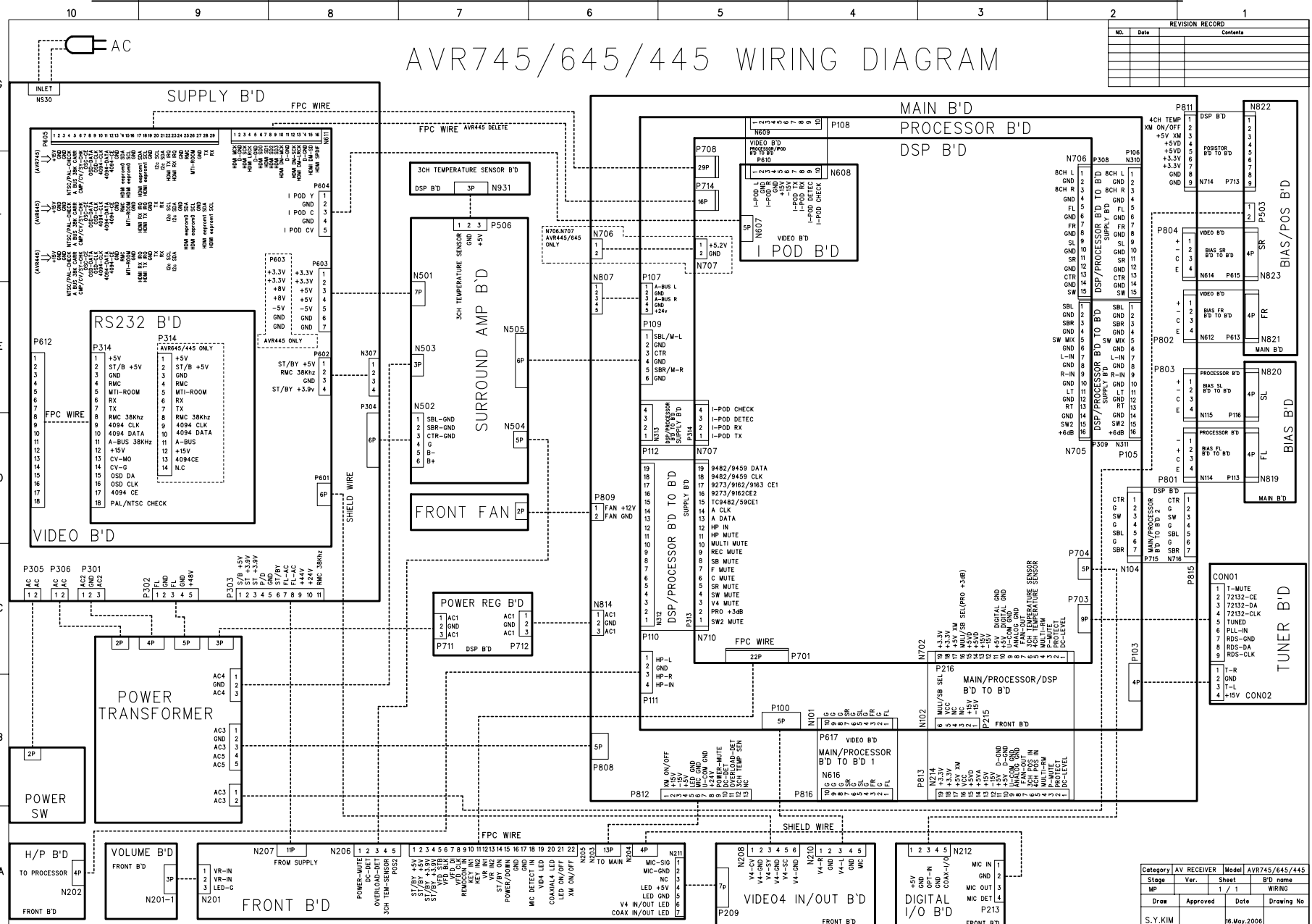
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Stage	Ver.	Sheet
Draw	Approved	Date
B'D name		
BLOCK (VIDEO)		
Drawing No.		

AVR745-CIRCUIT DESCRIPTION

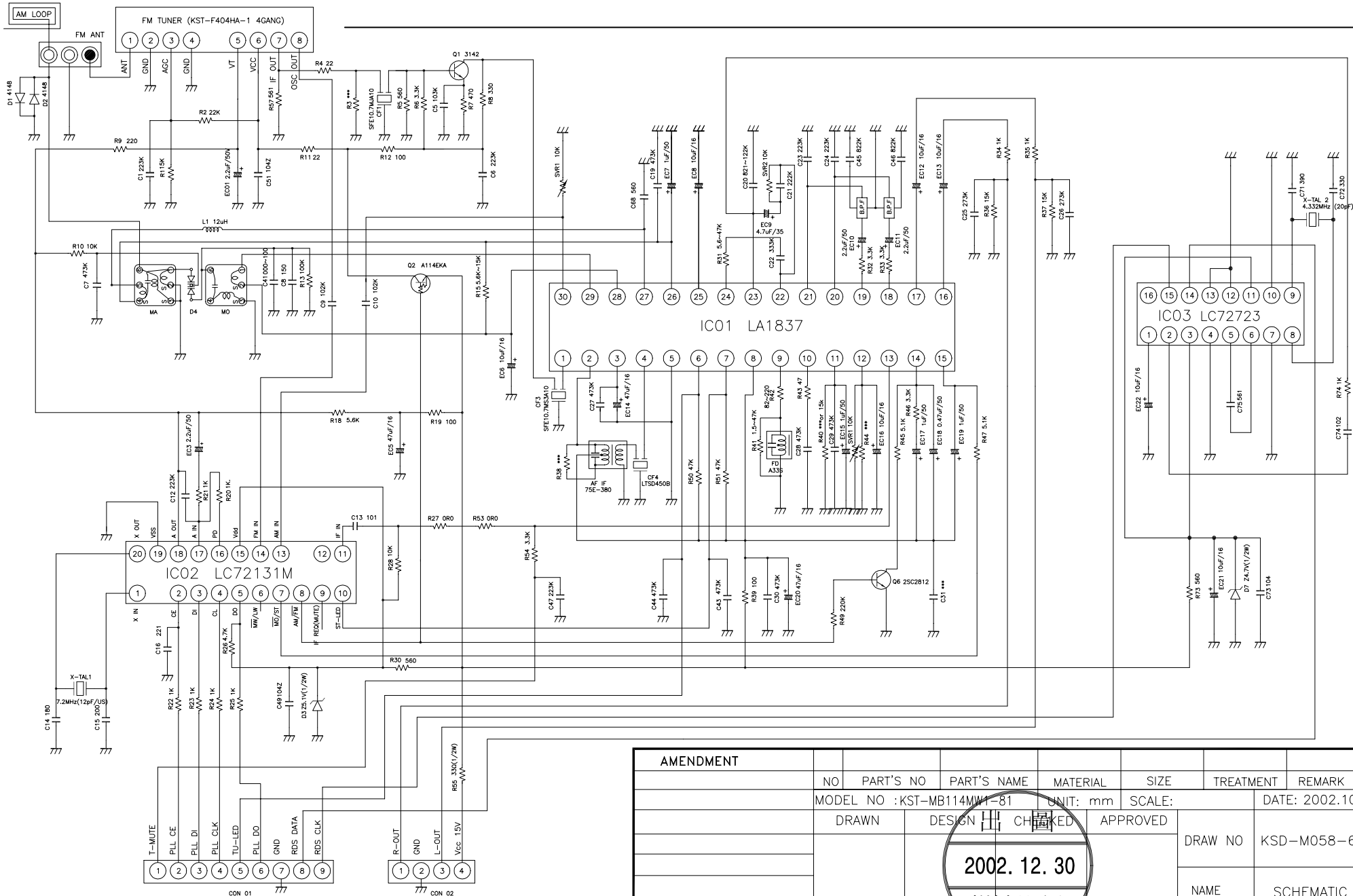


AVR745/645/445 WIRING DIAGRAM

REVISION RECORD	
No.	Contents



Category	AV RECEIVER	Model	AVR745/645/445
Stage	Ver.	Sheet	B'D name
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Draw	Approved	Date	Drawing No
S.Y.KIM		16.May.2006	

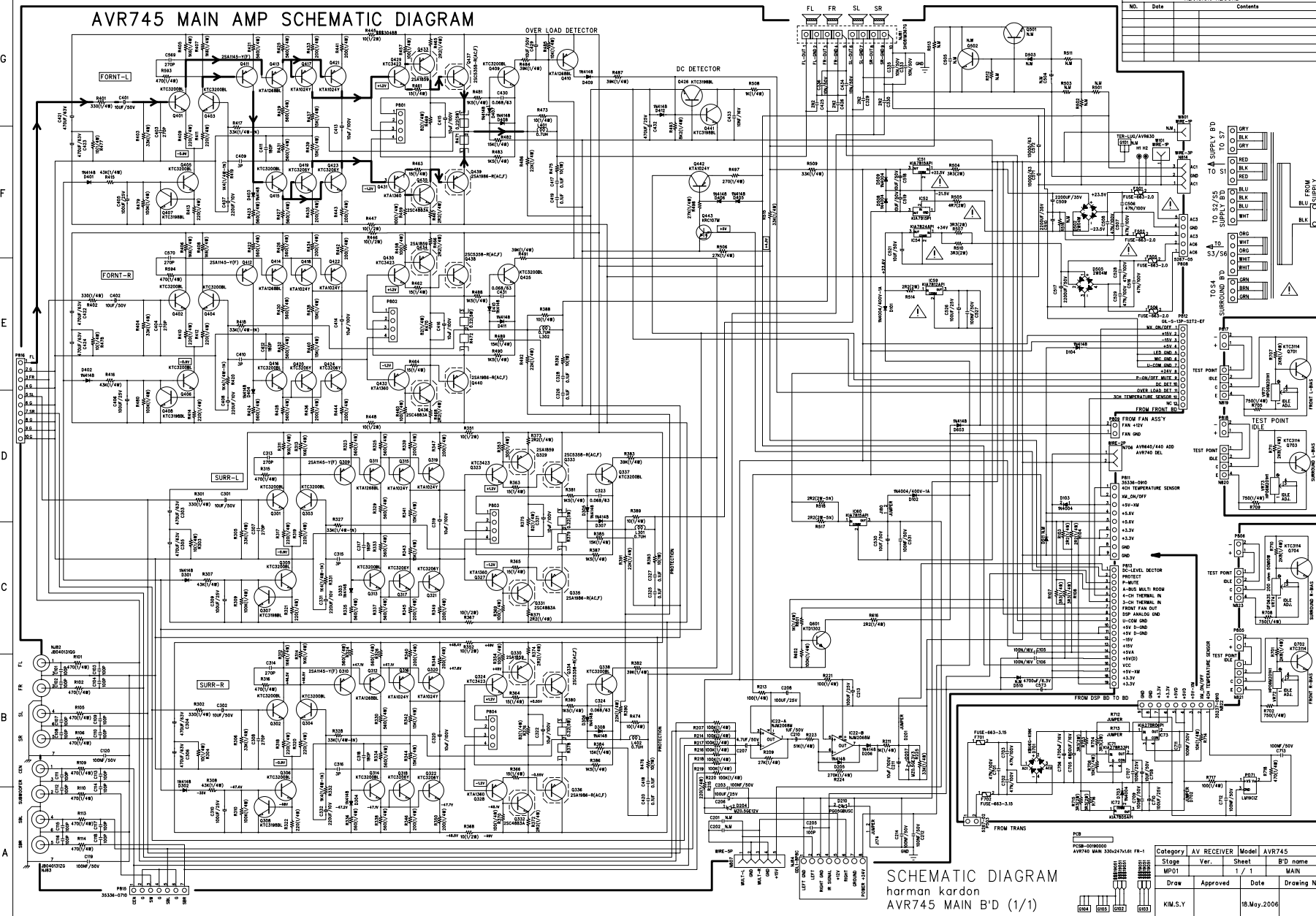


AMENDMENT							
NO	PART'S NO	PART'S NAME	MATERIAL	SIZE	TREATMENT	REMARK	
MODEL NO : KST-MB114MM1-81			UNIT: mm	SCALE:	DATE: 2002.10.19		
DRAWN	DESIGN	CHECKED	APPROVED	DRAW NO		KSD-M058-67RS	
2002.12.30 (株)光星電子				NAME		SCHEMATIC DIAGRAM	

*Note. The Component values of this Schematic diagram are subject to change without notice for improvement.

10 9 8 7 6 5 4 3 2 1

AVR745 MAIN AMP SCHEMATIC DIAGRAM



REVISION RECORD

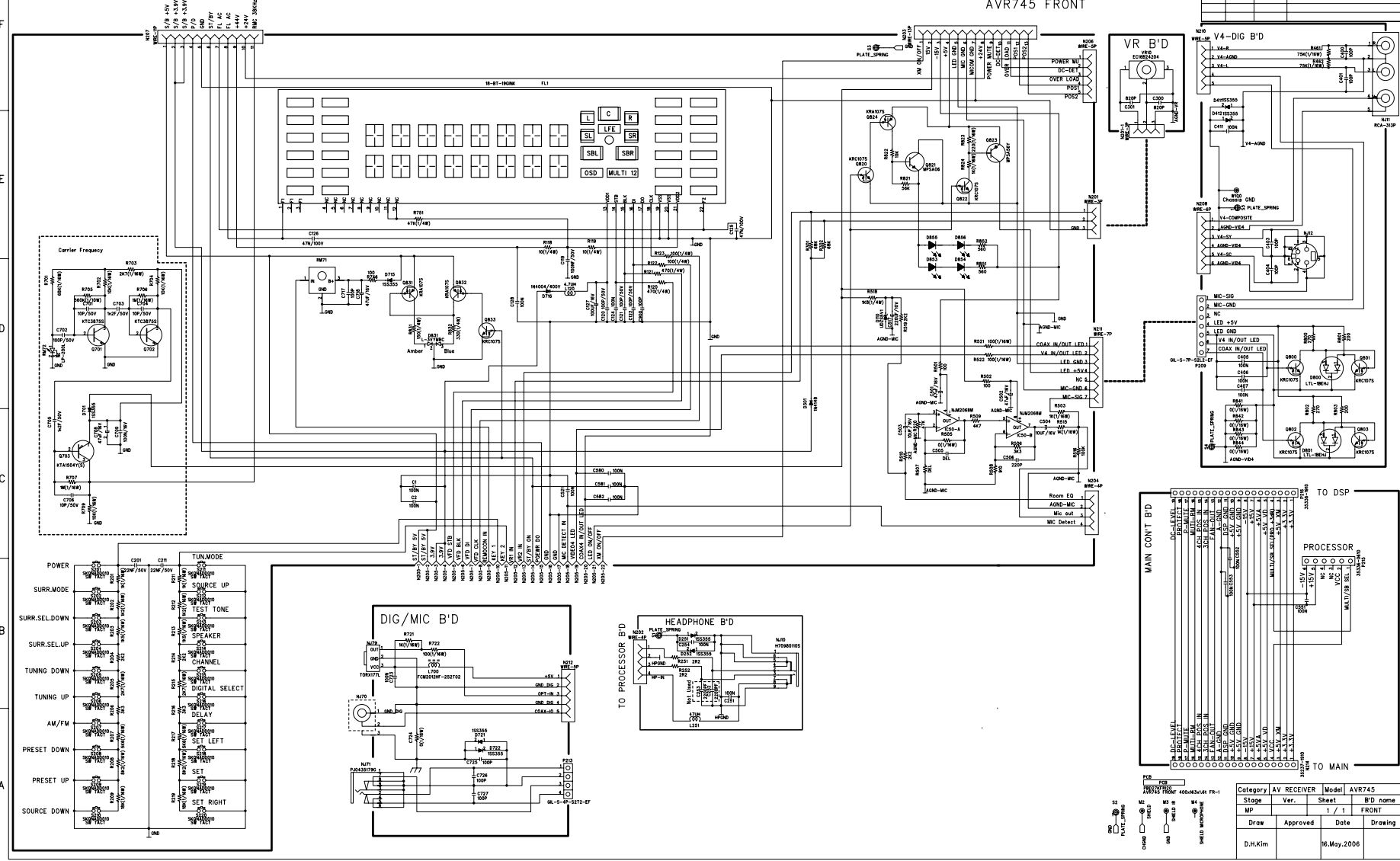
NO.	Date	Contents

SCHEMATIC DIAGRAM
harman kardon
AVR745 MAIN B'D (1/1)

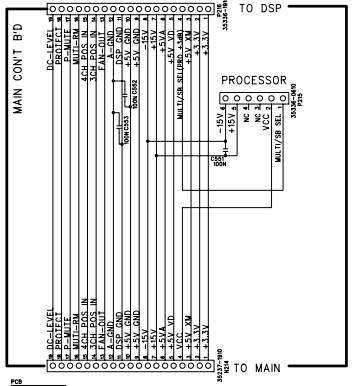
Category	AV RECEIVER	Model	AVR745
Stage	Ver.	Sheet	B'D name
MP01	1 / 1	1 / 1	MAIN
Draw	Approved	Date	Drawing No
KIM.S.Y		18.May.2006	

SCHEMATIC DIAGRAM

harman/kardon
AVR745 FRONT



REVISION RECORD		
NO.	Date	Contents

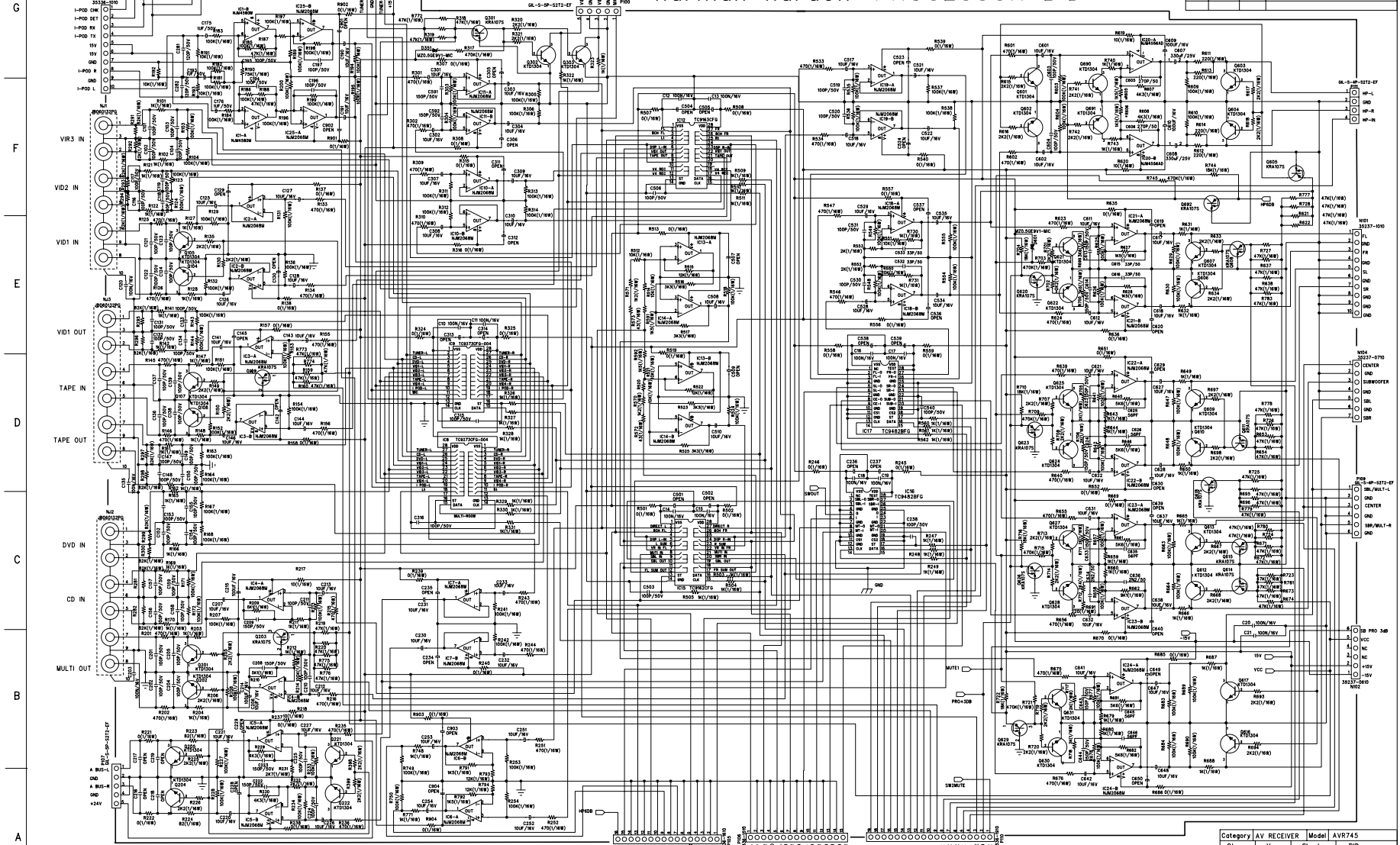


Category	AV RECEIVER	Model	AVR745
Stage	Ver.	Sheet	B'D name
MP		1 / 1	FRONT
Draw	Approved	Date	Drawing No
D.H.Kim		16.May.2006	

SCHEMATIC DIAGRAM AVR745 PROCESSOR(1/2)

harman kardon PROCESSOR B'D

REVISION RECORD		
NO.	Date	Contents

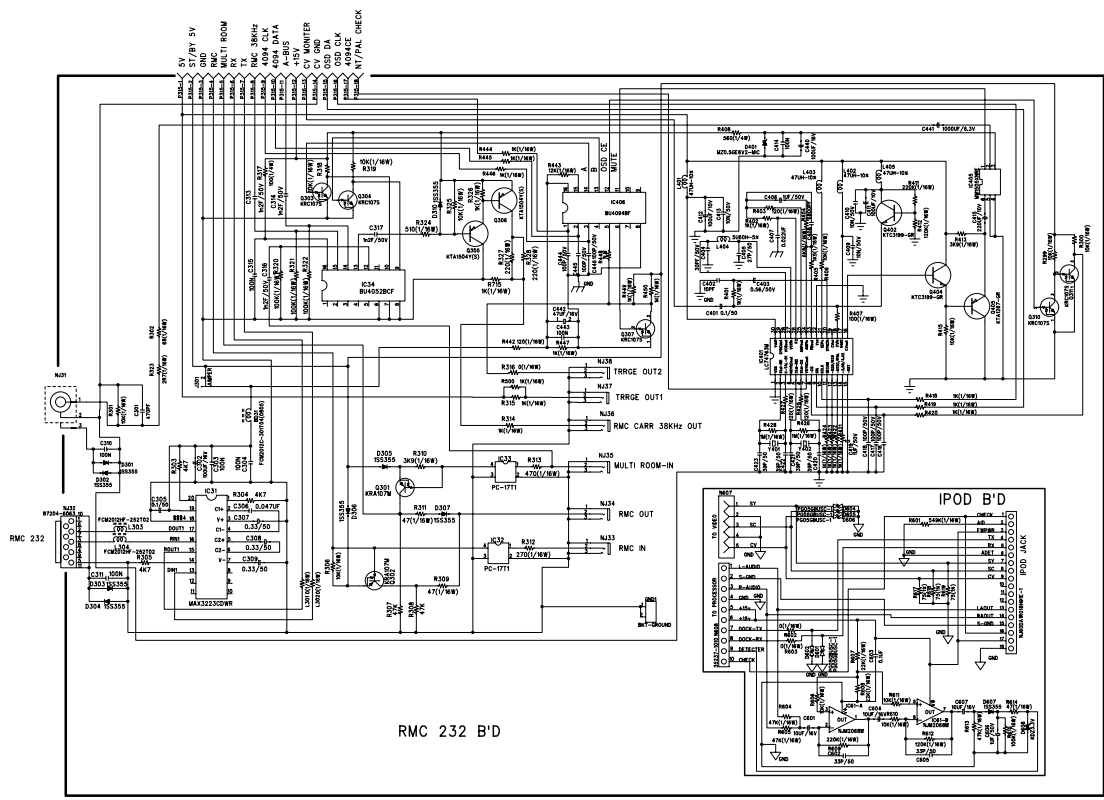


Category	AV RECEIVER	Model	AVR745
Stage	Ver.	Sheet	B'D name
MP	1	2	PROCESSOR
Draw	Approved	Date	Drawing No
J.S.CHOI			16.May.2006

10 9 8 7 6 5 4 3 2 1

NO.		REVISION RECORD	
Date	Contents		

AVR745 RS232 SCHEMATIC DIAGRAM



RMC 232 B'D

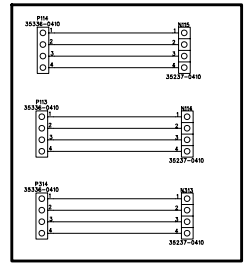
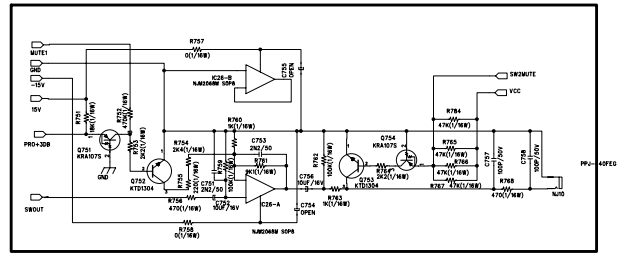
IPOD B'D

Category	AV RECEIVER	Model	AVR745
Stage	Ver.	Sheet	S/D name
MP			RS232
Draw	Approved	Date	Drawing No
S.Y.	KM	16.May.2006	

REVISION RECORD		
NO.	Date	Contents

SCHEMATIC DIAGRAM AVR745 PROCESSOR (2/2)

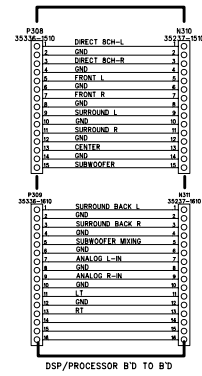
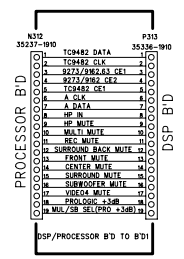
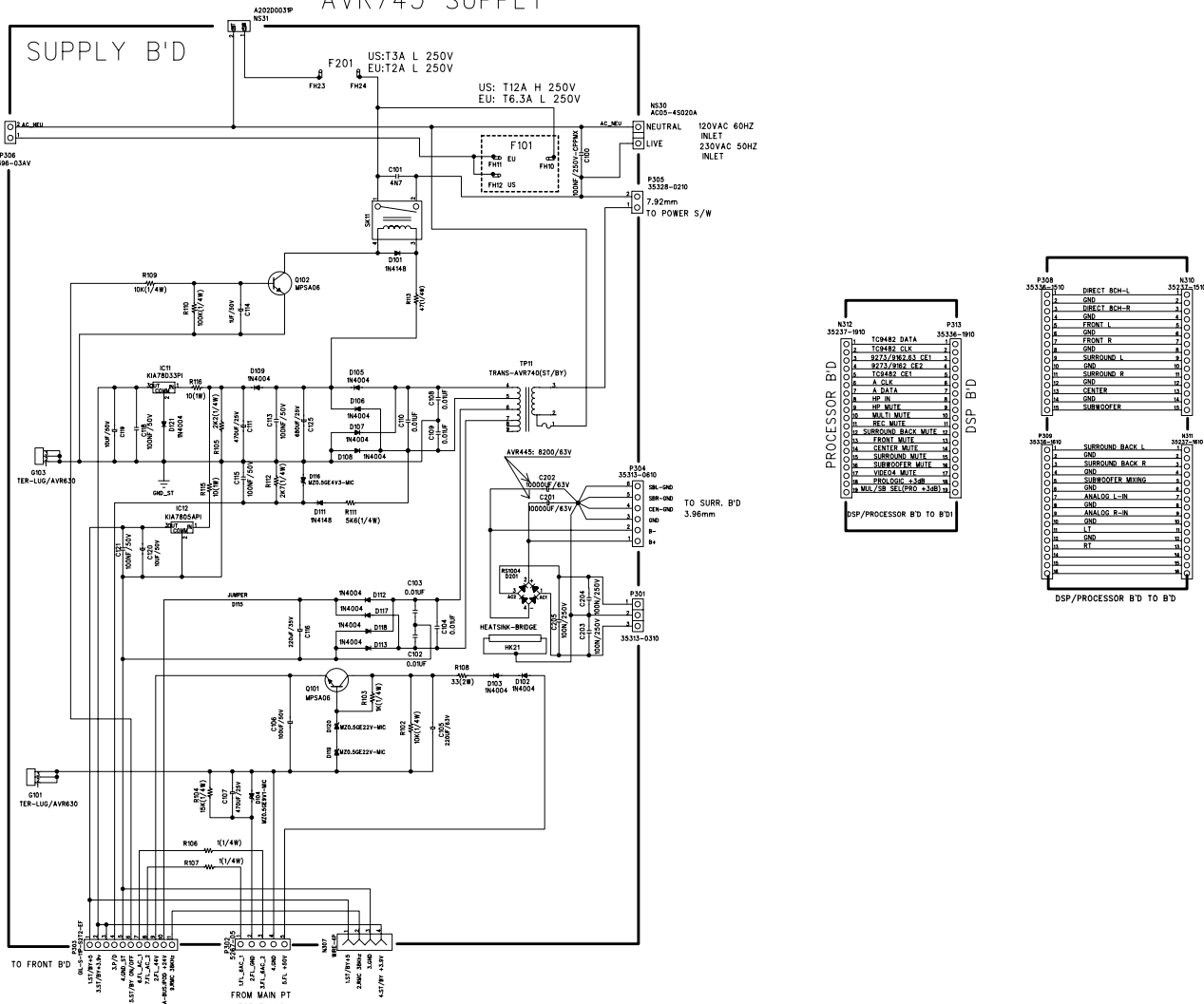
harman kardon PROCESSOR B'D



Category	AV RECEIVER	Model	AVR745
Scope	Ver.	Sheet	B'D name
MP		2 / 2	PROCESSOR
Draw	Approved	Date	Drawing No
J.S.CHOI		16.May.2006	

SCHEMATIC DIAGRAM
harman kardon
AVR745 SUPPLY

REVISION RECORD		
No.	Date	Contents



Category	AV RECEIVER	Model	AVR745
Sheet	Ver.	1 / 1	BD name
MP01	Draw	Approved	SUPP/REGU
HK11	Drawn		
S.Y. KIM	Approved	Date	Drawing No
		16.May.2006	

10

9

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3

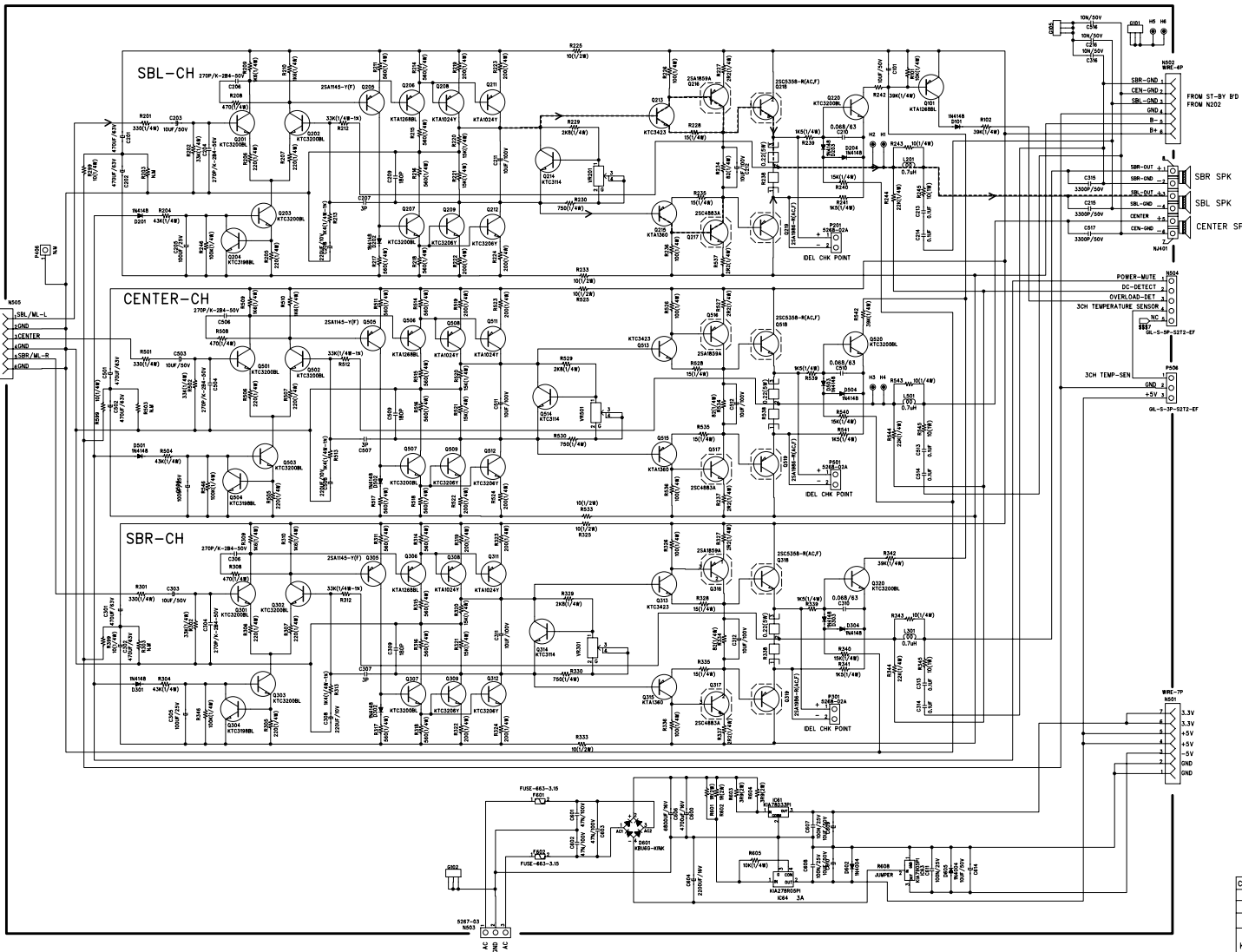
2

1

SCHEMATIC DIAGRAM AVR745 CENTER SB AMP B'D

harman kardon

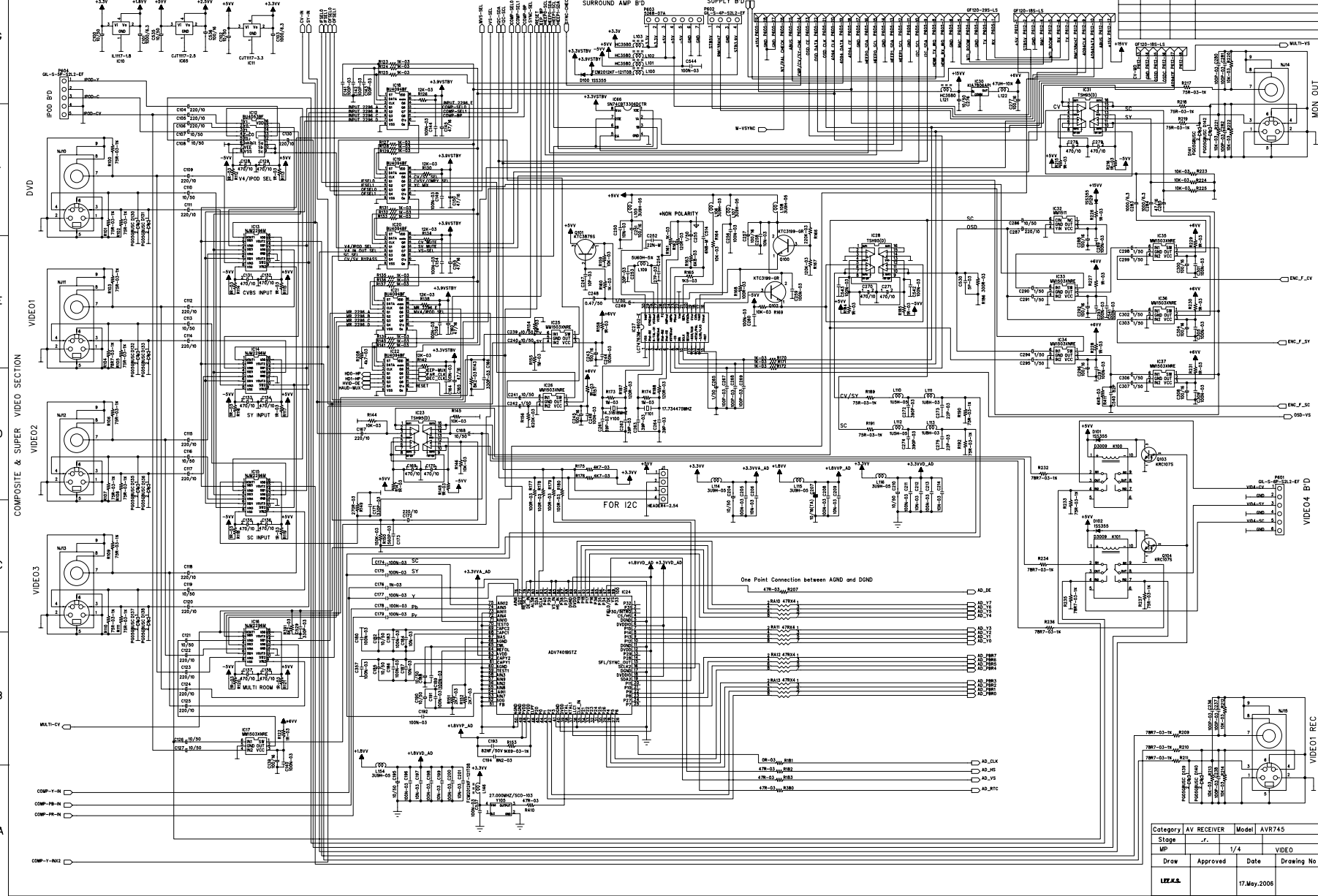
REVISION RECORD	
NO.	Contents



Category	AV RECEIVER	Model	AVR745
Stage	Ver.	Sheet	B'D name
MP01		1 / 1	SURROUND
Draw	Approved	Date	Drawing No
KIM.S.Y		16.May.2006	

Schematic Diagram

REVISION RECORD		
NO.	Date	Contents

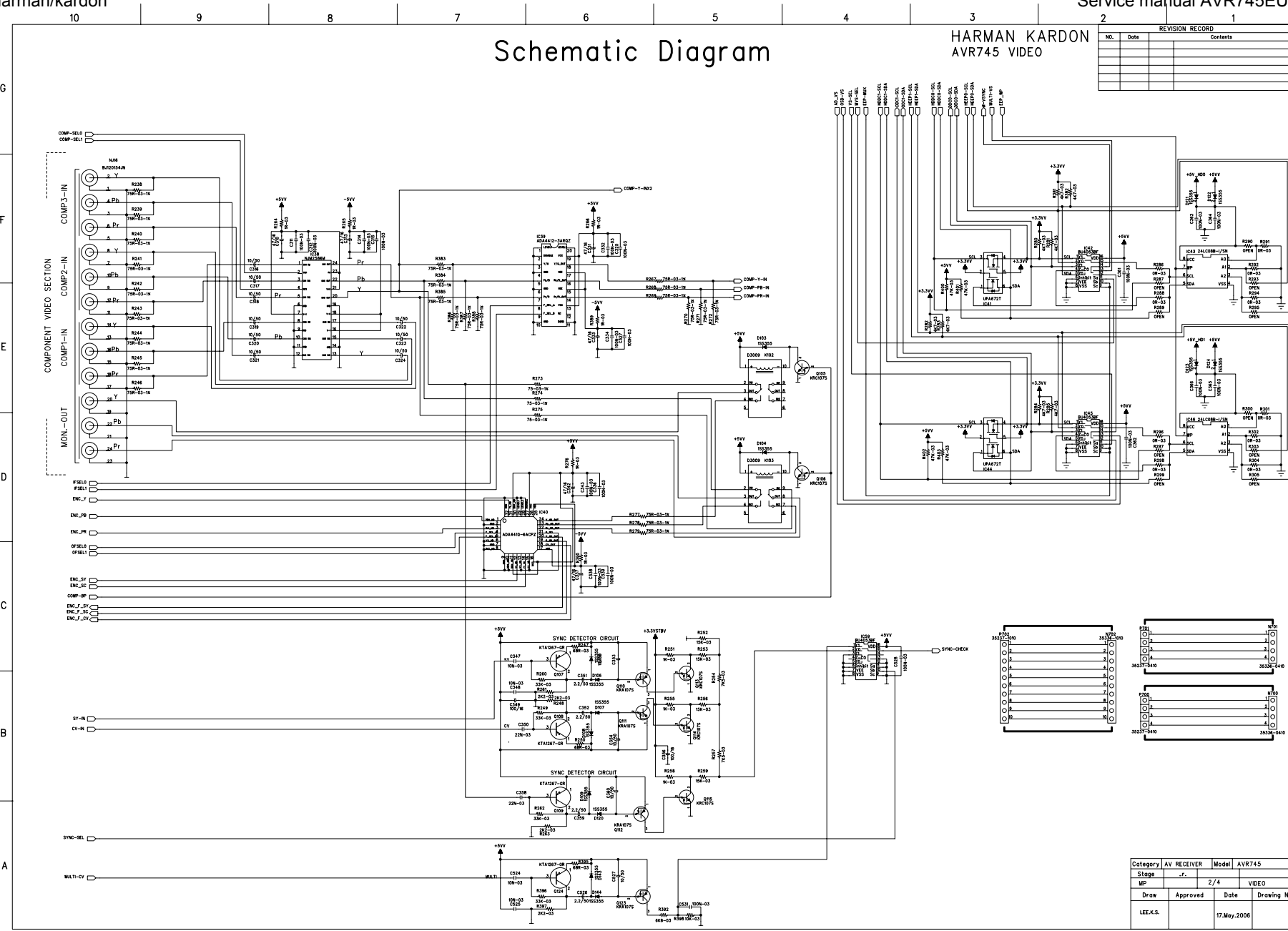


Category	AV RECEIVER	Model	AVR745
Scale	.		
MP	1/4	VIDEO	
Draw	Approved	Date	Drawing No
LEE.S.		17.May.2006	

Schematic Diagram

HARMAN KARDON
AVR745 VIDEO

REVISION RECORD		
No.	Date	Contents



Category	AV RECEIVER	Model	AVR745
Stage	-r-	2/4	VIDEO
Draw	Approved	Date	17.May.2006
LEE.K.S.			

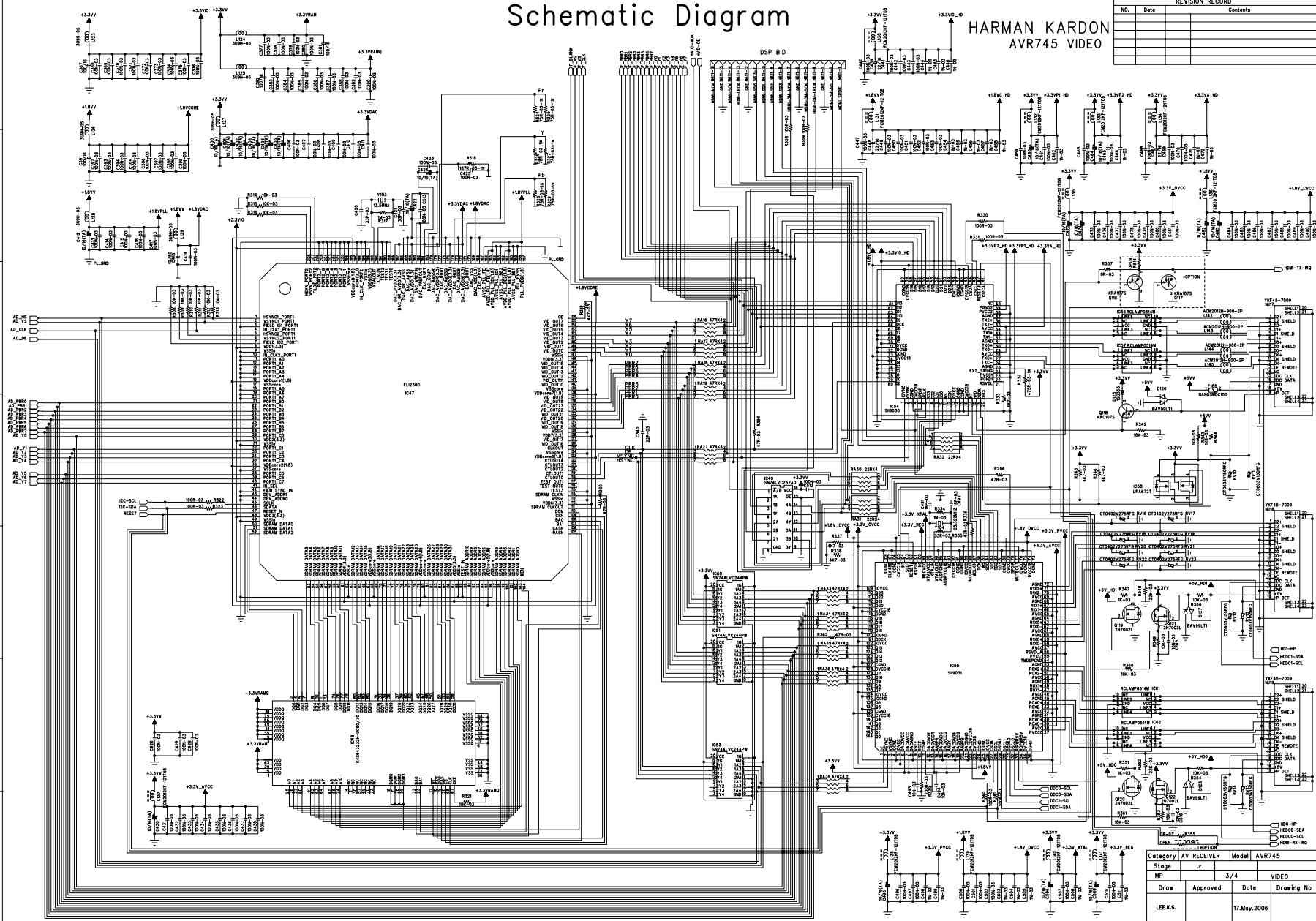
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Schematic Diagram

HARMAN KARDON
AVR745 VIDEO

REVISION RECORD		
NO.	Date	Contents

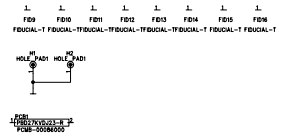
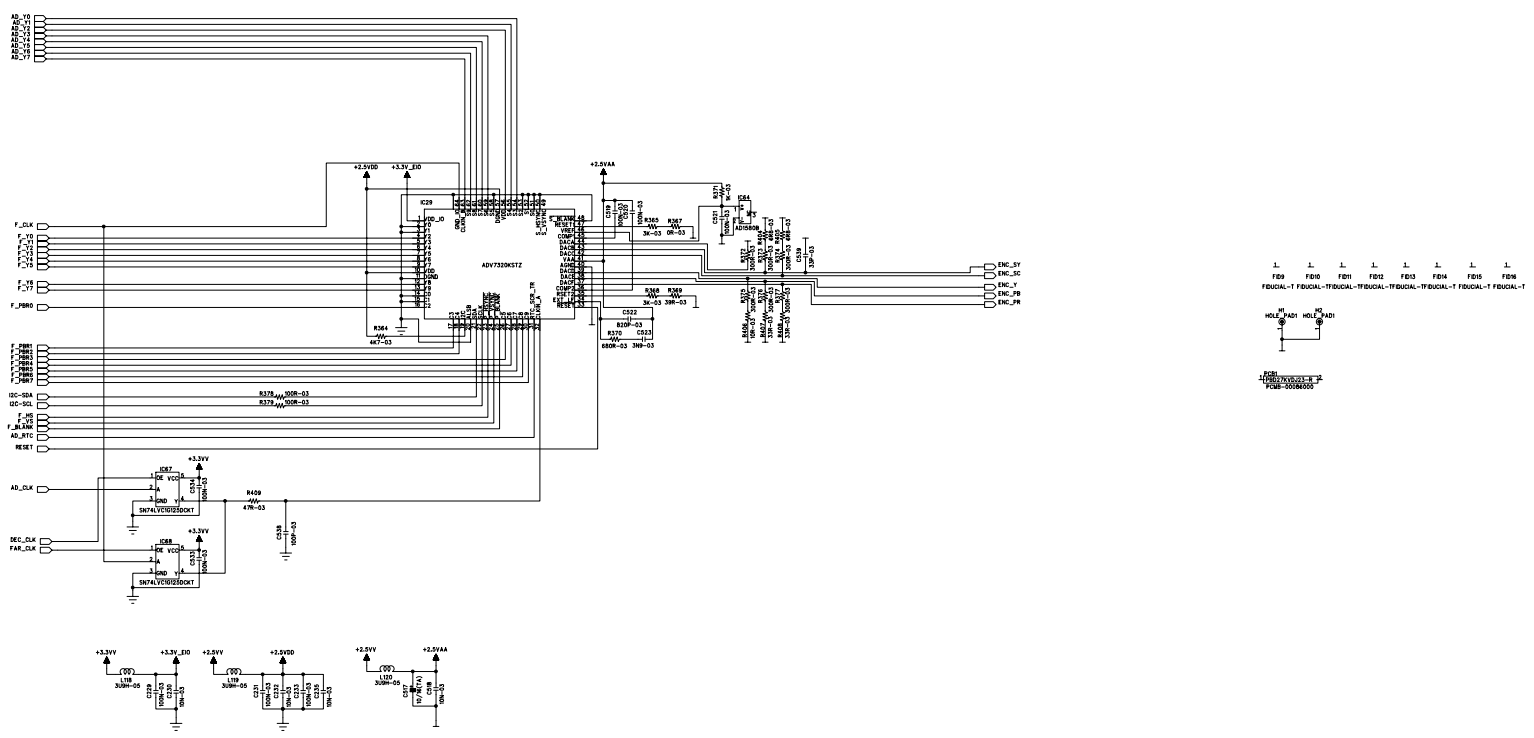
G
F
E
D
C
B
A



Schematic Diagram

HARMAN KARDON
AVR745 VIDEO

REVISION RECORD		
No.	Date	Contents



Category	AV RECEIVER	Model	AVR745
Stage	Ver.	Sheet	B'D n
MP		4/4	VIDEO
Draw	Approved	Date	Drawing No.
LEEKS.		17.May.2006	