TEAC

SERVICE MANUAL

AG-D8900

AV Digital Surround Receiver

CONTENTS

目 次

NOTES

- PC boards shown are viewed from parts side.
- The parts with no reference number or no parts number in the exploded views are not supplied.
- As regards the resistors and capacitors, refer to the circuit diagrams contained in this manual.
- ⚠ Parts marked with this sign are safety critical components. They must be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Parts of [ ] mark can be used only with the version designated.
  [J]:JAPAN [US]:U.S.A. [C]:CANADA

注　意

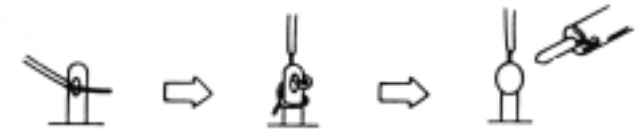
- プリント基板図は部品面を示しています。
- 分解図に部番のない部品および品番のない部品は供給できません。
- 標準の抵抗、コンデンサーは省略してあります。
  回路図を参照してください。
- ⚠印は安全重要部品です。
  交換する時は必ず指定の部品を使用してください。
- 仕向先
  [J]:JAPAN [US]:U.S.A. [C]:CANADA

Effective : January, 2002

SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identifide by the ⚠ (*)symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specifide replacements.
   Examples :RF converters, tuner units, antenna selectswitches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially :
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers(insulating barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Make sure that wires to do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.

Please leave them at an appropriate depot. All other household batteries can be thrown out with the household waste.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.

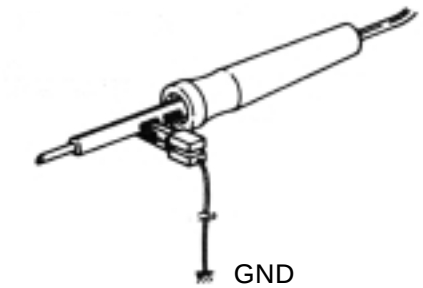
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resister of 1500 ohms paralleled with a 0.15 μF capacitor, under the unit's normal working conditions.

The leakage-current should be less than 0.5mA rms AC. The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2M Ohms.

PRECAUTIONS IN REPAIRING

When repairing or adjusting the unit, please note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair adjustment, make sure that there are no metal obiects in the narrow gap between the P. C. board or the mecha parts and the base
3. The Micro-Computer and the CD signal processing ICs can be damaged by static electricity or leakage from a soldering iron during repairing. While soldering, please take the precautions against leakage as in the illustrat



4. Do not loosen any screws in the pick-up block.
   When handing the pick-up block, please refer to the points to NOTE when replacing the pick-up block.
5. Keep safety for hazardous invisible Laser Radiation, DO NOT watch the Laser Beam (Objective lens) directly.
6. Models for some countries, laser warning labels are affixed on the unit and inside of the unit, as shown below. Read it carefully for your safety, when repairing or adjusting the unit.

SPECIFICATIONS

Amplifier Section

Surround Output Power (0.9 % THD, 1 kHz, 8 ohms):
100 + 100 watts (Front)
100 watts (Center)
100 + 100 watts (Rear)

Delay Time:
DOLBY DIGITAL: REAR 0 – 15 ms
CENTER 0 – 5 ms
DOLBY PRO LOGIC: REAR 15 – 30 ms

Audio Input Sensitivity/Impedance:
*LINE: 220 mV/47 k ohms

Output Level/Impedance:
CD-R/TAPE REC: 200 mV/2.2 k ohms

Frequency Response:
*LINE: 20 Hz – 65 kHz, +1/ –3 dB

Signal-to-Noise Ratio:
*LINE: 95dB (IHF-A)

Tone Control:
BASS: ± 10 dB at 100 Hz
TREBLE: ± 10 dB at 10 kHz

Digital Audio Section

Sampling Frequency: 32 kHz, 44.1 kHz, 48 kHz, 96 kHz

DIGITAL Input Level/Impedance:
DIGITAL 1, 2 (OPTICAL): –15 dBm — –21 dBm
DIGITAL 3 (COAXIAL): 0.5 Vp-p / 75 ohms

FM Tuner Section

(Without notes 100.1 MHz, 65 dBf)

Tuning Range:
87.5 MHz – 108.0 MHz (50 kHz steps, [us/c]:100kHz steps)

Usable Sensitivity (IHF):
Mono: 11.2 dBf

50 dB Quieting Sensitivity:
Mono: 15.3 dBf
Stereo: 38.5 dBf

Capture Ratio: 2.0 dB

Image Rejection Ratio: 80 dB ([us/c]: 45dB)

AM Suppression Ratio: 55 dB

Total Harmonic Distortion (1 kHz):
Mono: 0.4%
Stereo: 0.5%

Frequency Response: 30 Hz – 15 kHz, +1/ –1.5 dB

Stereo Separation (1 kHz): 40 dB

Signal-to-Noise Ratio:
Mono: 75 dB
Stereo: 70 dB

AM Tuner Section

Tuning Range:
522 kHz – 1,620 kHz (10 kHz steps)
539 kHz – 1,720 kHz (10 kHz steps: [us/c])

Usable Sensitivity: 55 dB/m

Total Harmonic Distortion: 0.8% at 85 dB/m

Signal-to-Noise Ratio: 45 dB at 85 dB/m

Video Section

Input Sensitivity/Impedance: 1.0 Vp-p/75 ohms

Output Level/Impedance: 1.0 Vp-p/75 ohms

General

Power Requirements:
[E/UK] : 230V AC, 50Hz
[US/C] : 120V AC, 60Hz
[J] : 100V AC, 50/60Hz

Power Consumption:
[E/UK] : 300W
[US/C] : 2.8A
[J] : 160W

AC Outlets:
Switched x 2, Total 100 W max. (1 A max.)
(U.S.A./Canada model)

Dimensions (W x H x D)
435 x 165 x 350 mm (17-1/8" x 6-1/2" x 13-3/4")

Weight (net):
[E/UK] : 9.5kg
[US/C] : 9.4kg(20-11/16lb)
[J] : 9.4kg

Standard Accessories:
AM Loop Antenna x 1
FM T-type Antenna x 1[E/uk]
FM T-type Antenna x 1
Remote Control Unit (UR-417) x 1

* LINE means CD, CD-R/TAPE, VCR/VIDEO 1, DBS/VIDEO 2, DVD/VIDEO 3 and AUX/VIDEO 4.

< Improvements may result in specifications and features changing without notice.

< Illustrations may differ slightly from production models.

仕　様

■アンプ部

サラウンド出力 (0.9% THD, 1kHz, 6Ω)
- フロント ..... 100W＋100W
- センター 100W
- リア ..... 100W＋100W

ディレイタイム
- ドルビーデジタル ..... リア：0～15ms
  センター：0～5ms
- ドルビープロロジック ..... リア：15～30ms

周波数特性 ..... * ライン：20Hz～65kHz, ＋1/－3dB
SN比 ..... * ライン：95dB (IHF-A)
入力感度/インピーダンス ..... * ライン：220mV/47kΩ
出力レベル/インピーダンス .....
CD-R/TAPE REC：200mV/2.2kΩ
トーンコントロール ..... BASS：±10dB (100Hz)
TREBLE：±10dB (10kHz)

■デジタルオーディオ部

サンプリング周波数 32kHz, 44.1kHz, 48kHz, 96kHz
デジタル入力レベル/インピーダンス
- DIGITAL1, 2 (光) ..... －15dBm～－21dBm
- DIGITAL 3 (同軸) 0.5Vp-p/75Ω

■FMチューナー部

受信周波数 ..... 76.0MHz～90.0MHz (100kHzステップ)
感度 (IHF) ..... モノ：11.2dBf
50dBクワイティング感度
- モノ 15.3dBf
- ステレオ 38.5dBf

キャプチャーレシオ 2.0dB
イメージ妨害比 45dB
AM抑圧比 55dB
高調波歪み率 (1kHz)
- モノ 0.4%
- ステレオ 0.5%

周波数特性 ..... 30Hz～15kHz, ＋1/－1.5dB
ステレオセパレーション (1kHz) 40dB
S/N比 (1kHz)
- モノ 75dB
- ステレオ 70dB

■AMチューナー部

受信周波数 ..... 522kHz～1,620kHz (9kHzステップ)
感度 55dB/m
高調波歪み率 0.8% (85dB/m)
S/N比 45dB (85dB/m)

■ビデオ部

入力感度/インピーダンス 1.0Vp-p/75Ω
出力レベル/インピーダンス 1.0Vp-p/75Ω

■共通

消費電力 160W
外形寸法 (mm) ..... 435 (W) x 165 (H) x 350 (D)
質　量 9.4kg

■付属品

リモコン (UR-417)
リモコン用乾電池 (単4) x 2本
AMループアンテナ
FM室内アンテナ
取扱説明書
保証書

* ライン：CD, CD-R/TAPE, VCR/VIDEO1, DBS/VIDEO2, DVD/VIDEO3, AUX/VIDEO4

仕様および外観は改善のため予告なく変更することがあります。

DTSは米国Digital Theater Systems,Inc.の商標です。

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTIONS

EQUIPMENT NEEDED:

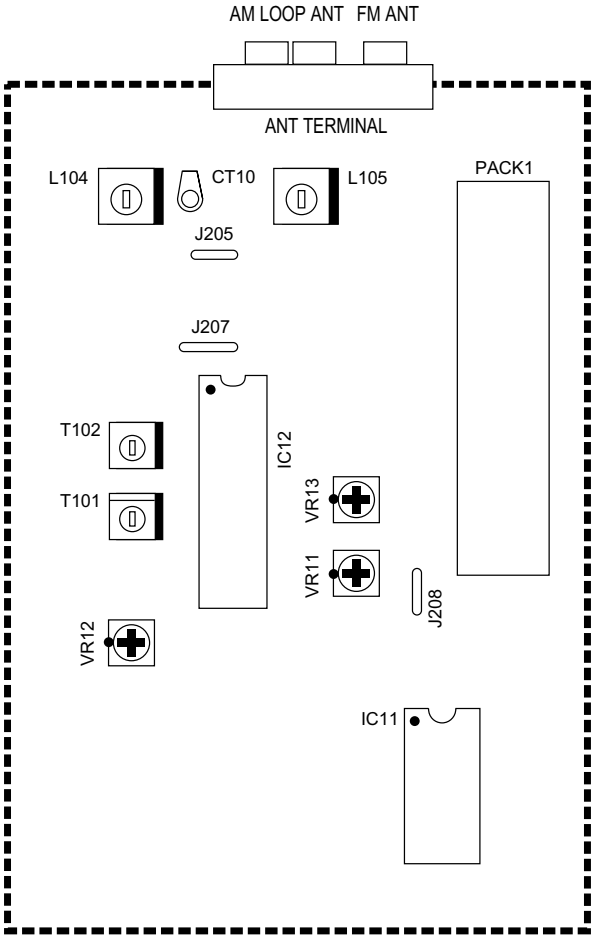
AM Signal Generator
FM Signal Generator
Oscilloscope
VTVM(AC, DC)
Test loop antenna (AM Adjustment)
Dummy antenna (FM Adjustment)
Distortion analyser

IMPORTANT

1. Check power-source voltage.
2. Set the function switch to band aligned.
3. Keep the signal input as low as possible to adjust accurately.
4. Modulation and modulation frequency.

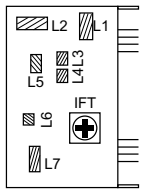
Item / Band	Modulation	Modulation frequency
AM	30%	400Hz
FM	100% (40 kHz Dev.) [E/UK] 100% (75 kHz Dev.) [US/J]	400Hz

■ ADJUSTMENT POINT



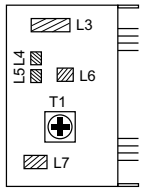
<PACK DETAIL>

(FOR EUR version)



L1 — FM ANT COIL
L2 — FM ANT COIL
L3 — FM RF COIL
L4 — FM RF COIL
L5 — FM RF COIL
L6 — FM OSC COIL
L7 — FM OSC COIL

(FOR UL[J] version)

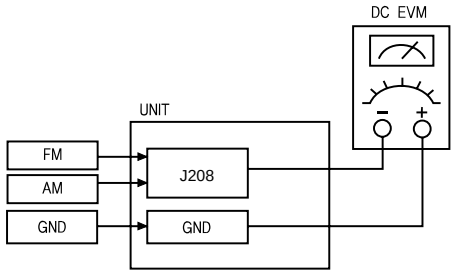


L3 — FM ANT COIL
L4 — FM RF COIL
L5 — FM RF COIL
L6 — FM RF COIL
L7 — FM OSC COIL
T1 — FM IFT

CT10 — AM ANT TRIMMER (1503kHz/1510kHz)
L104 — AM ANT COIL
L105 — AM OSC COIL
T101 — FM IFT COIL
T102 — AM IFT COIL (612kHz/610kHz)
VR13 — FM SD ADJUSTMENT
VR12 — AM SD ADJUSTMENT
VR11 — FM SEPARATION ADJ
J208 — FM/AM VT
J205 — FM OFFSET ADJ TP
J207 — FM OFFSET ADJ TP

1. TUNING FREQUENCY RANGE ADJUSTMENTS

(FM) DC VOLTMETER ..... CONNECT TO TEST POINT J208 and GND

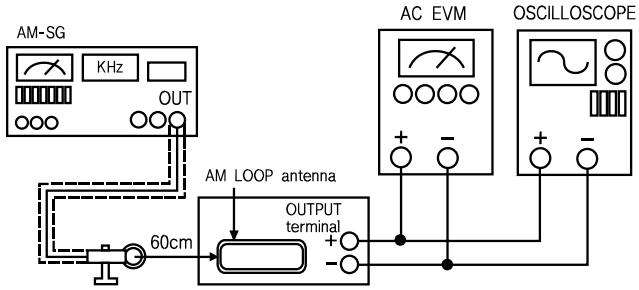


NO.	Band	Frequency	Adjust for	Adjustment
1	FM [J]	87.50MHz [76.00MHz]	1.6V [1.6V]	L7 [L7]
2	AM [US/C]	530 kHz [530 kHz]	1V [1V]	L105 [L105]

2. AM TRACKING ADJUSTMENT

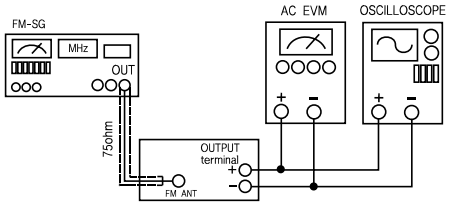
Signal Generator ..... Connects to the AM ANT. Coil through the loop antenna.
Adjust for the indication of VTVM of the wave form of scope to be maximum.

BAND	Step	Frequency	Adjust for	Adjustment
AM	1 [US/C]	610 kHz [610 kHz]	Maximum sensitivity Maximum sensitivity	T102, L104 T102, L104
	2 [US/C]	1510 kHz [1510 kHz]	Maximum sensitivity Maximum sensitivity	CT10 CT10
	3	Repeat steps 1 and 2 several times.		



3. FM-RF ADJUSTMENT

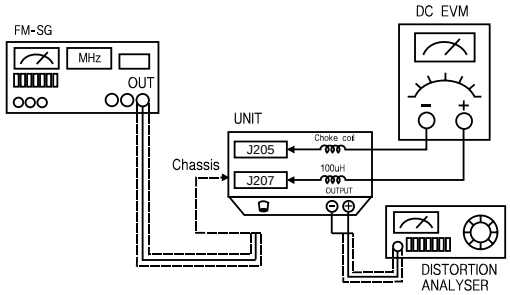
Signal Generator ..... Connect to FM ANT JACK (FM IN) through the dummy.



NO.	Frequency	Adjust for	Adjustment
1 [J]	90.10MHz [77.00MHz]	Maximum Sensitivity Maximum Sensitivity	L3, L5, L6 L3, L5, L6
2	Repeat step 1 several times.		

4. FM MONO DISTORTION ADJUSTMENT

DC VOLT METER .....Connect to J205 (-), J207 (+) through the chock coil (100uH).
Signal Generator .....Connect to FM ANT Jack (FM IN) through the dummy.
Distortion Meter .....Connect to the output.



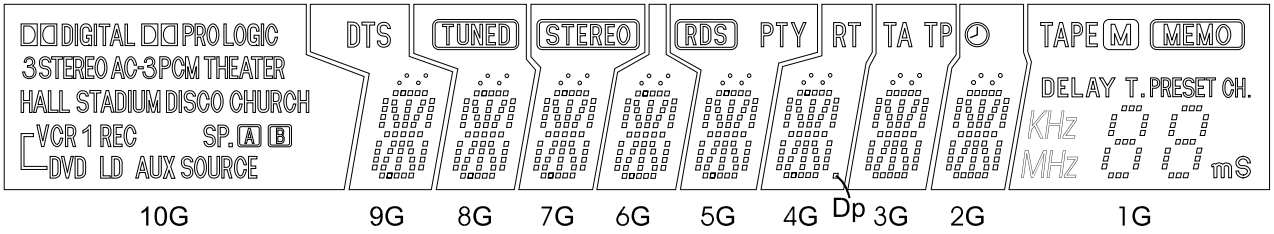
NO.	Frequency	Adjust for	Adjustment
1 [J]	100.10MHz [83.10MHz]	DC Voltmeter 0V	T101
2 [J]	100.10MHz [83.10MHz]	DC Voltmeter 0V Minimum T.H.D	T101
3	Repeat steps 1 and 2 several times.		

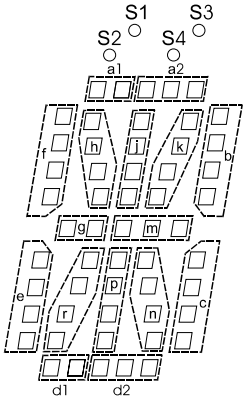
5. FM/AM AUTO STOP LEVEL ADJUSTMENT

FM Signal Generator.....Connect to FM ANT Jack (FM IN) through the dummy.
AM Signal Generator .....Connect to AM ANT. Coil through the Loop antenna.

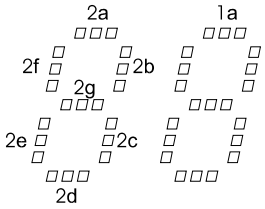
BAND	Step	Signal Generator	Adjust for	Adjustment
AM	1 [US/C]	990KHz 82dB [990KHz]	TUNED Display ON	VR12
	2 [US/C]	990KHz 81dB [990KHz]	TUNED Display OFF	VR12
FM	1 [J]	100.1MHz 32dB (83.10MHz 32dB)	TUNED Display ON	VR13
	2 [J]	100.1MHz 31dB (83.10MHz 32dB)	TUNED Display OFF	VR13

FIP DISPLAY





(2G~9G)

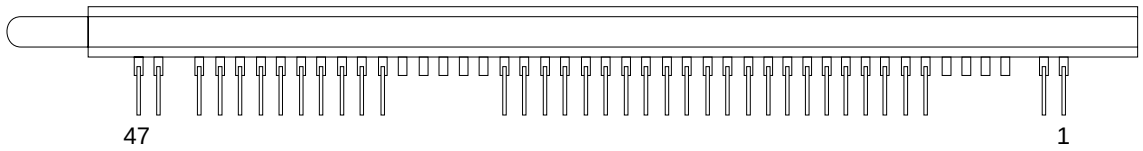


(1G)

ANODE CONNECTION

	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	SOURCE	d2	d2	d2	d2	d2	d2	d2	d2	kHz
P2	AUX	d1	d1	d1	d1	d1	d1	d1	d1	1d
P3	LD	e	e	e	e	e	e	e	e	1e
P4	DVD	r	r	r	r	r	r	r	r	1c
P5	VCR 1	p	p	p	p	p	p	p	p	1g
P6	REC	n	n	n	n	n	n	n	n	1f
P7	⌐	c	c	c	c	c	c	c	c	1b
P8	SP.	f	f	f	f	f	f	f	f	1a
P9	A	g	g	g	g	g	g	g	g	M
P10	B	m	m	m	m	m	m	m	m	2d
P11	CHURCH	h	h	h	h	h	h	h	h	2e
P12	DISCO	j	j	j	j	j	j	j	j	2c
P13	STADIUM	k	k	k	k	k	k	k	k	2g
P14	HALL	b	b	b	b	b	b	b	b	2f
P15	THEATER	a2	a2	a2	a2	a2	a2	a2	a2	2b
P16	PCM	a1	a1	a1	a1	a1	a1	a1	a1	2a
P17	AC-3	S1	S1	S1	S1	S1	S1	S1	S1	DELAY.T
P18	STEREO	S2	S2	S2	S2	S2	S2	S2	S2	PRESET CH.
P19	3	S3	S3	S3	S3	S3	S3	S3	S3	MEMO
P20	DD	S4	S4	S4	S4	S4	S4	S4	S4	TAPE
P21	DIGITAL					RDS	Dp	TA	🕘	MHz
P22	DD PRO LOGIC	DTS	TUNED	STEREO		PTY	RT	TP		mS

PIN CONNECTION



Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Connection	F2	F2	NP	NX	NX	NX	NX	P22	P21	P20	P19	P18	P17	P16	P15

Pin No.	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Connection	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NX

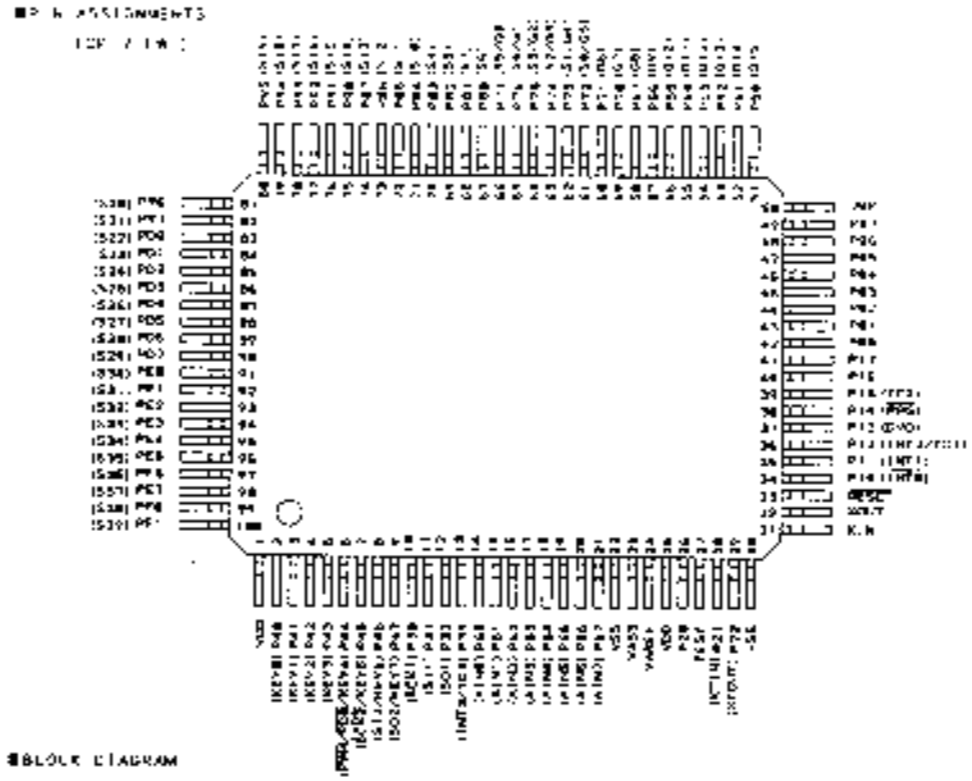
Pin No.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Connection	NX	NX	NX	NX	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	NP

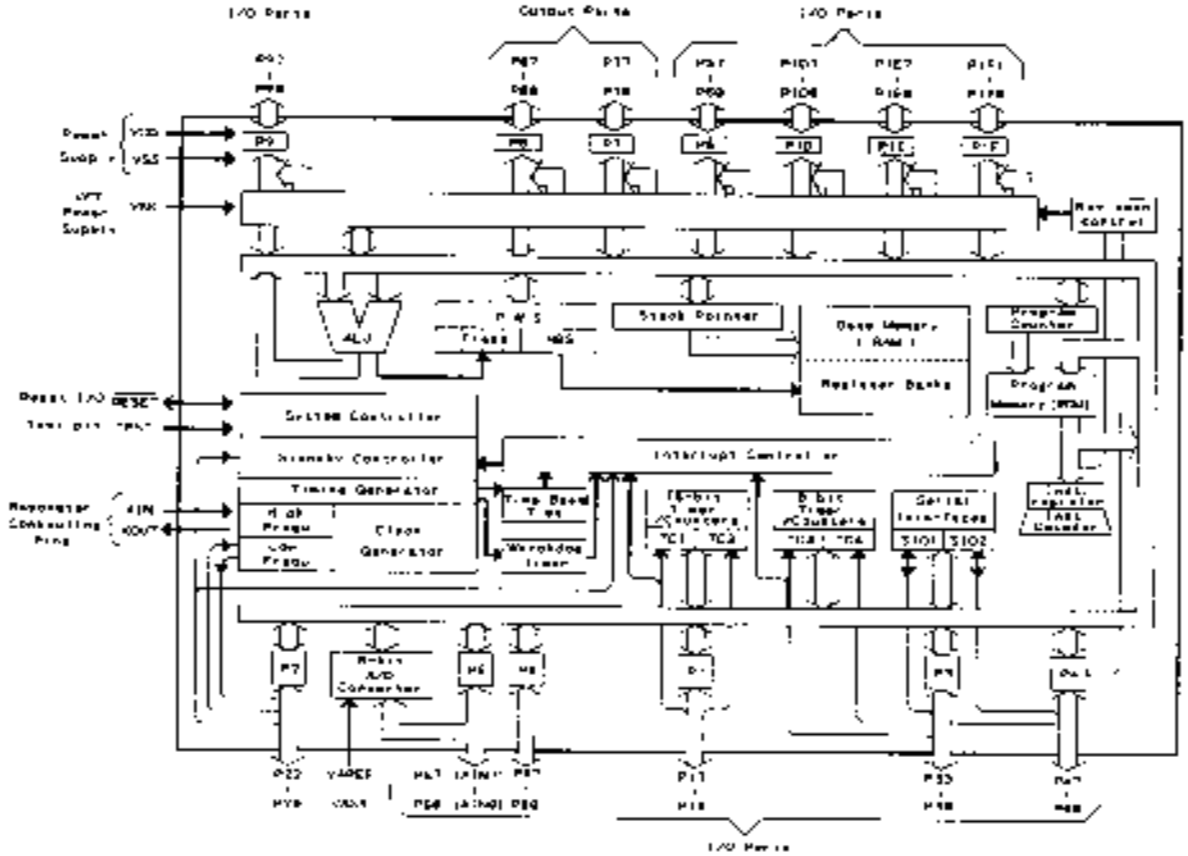
Pin No.	46	47
Connection	F1	F1

IC PIN FUNCTION (u-COM : ANAM1308AT,O.T.P :TMP87PM78F) : IC71

PIN No.	SYMBOL	I/O	DESCRIPTION
1,25	VDD	-	Power Supply Port(+5V)
2,3	Function SW1,SW2	I	Function Encoder Control Port
4	Speaker ON/OFF	O	Front Speaker Relay Drive Port(“H”)
5	NC	-	Not Use(No connection)
6	DSP Reset	O	Reset (Initial Clear) Port for YSS912
7	Surr. CLK	O	Surr. CLK Output Port
8	DATA OUT	O	Data Output Port for YSS912
9	Surr. DATA	O	Surr. DATA Output Port
10	CS	O	Chip Selector Port for YSS912
11	CS	O	Chip Selector Port for AK4112
12	CSBN	O	Sub DSP Chip Selector for YSS912
13,14	RDS CLK/DATA	I	RDS IC(SA6579TV1) CLK/DATA Port
15	Stereo IN	I	Stereo Display Control Port("L")
16	Tuned IN	I	Tuned Display Control Port("L")
17 ~ 21	KEY Matrix	I	Resistor Divide Key Control Input (17,18 Pin: NOT USE)
22,30	Vss	-	Device GND Port
23	Vass	-	Device Analog GND Port
24	Varef	-	A/D Converter Reference Voltage
26	BACKUP	I	Back Up Mode Control Input
27	TEST	-	NC(GND)
28,29	VOLUME UP/DOWN	I	Master Volume Up/Down Control Port
31	X IN	I	8MHz Crystal Connection Port
32	X OUT	O	
33	RESET (L)	I	Reset Input
34	REMOTE IN	I	Remote Control Sensor Data Input
35	BUS IN(NC)	I	System Remote Control Input(No Connection))
36	HEADPHONE IN	O	Headphone JACK INPUT(“H”) - Connet to GND
37	E.VOL.DATA	O	Electronic Vol. IC(M62446FP) DATA/CLK/STB Port
38	E.VOL.CLK	I	
39	E.VOL.CE	O	
40	PLL.DATA IN	I	PLL IC (LC72131) DATA Input Port
41	PLL.CE	O	PLL IC (LC72131) Chip Enable Control Port
42	DATA 3	O	Function IC Data Input Port
43	CLK 3	O	Func./PLL IC CLK Control Port
44	FUNC. STB	O	Function Strobe Control Output
45	FUNC. MUTE	O	Function Mute Control Output(“H”)
46	SURR. MUTE	O	Surrounc Mute Control Output(“H”)
47	Power ON/OFF	O	Power ON/OFF Control Port("H")
48	SURR. H	O	Surr. ON/OFF Contol Port("H")
49	PROTECT IN	I	Protect Input Port("L")
50	FIP Vkk	-	FIP (FLT) -28V Negative Power Supply For FIP Blinking
51 ~ 60	FIP Grid	O	FIP (FLT) Grid Control Outputs
61 ~ 82	FIP Segment	O	FIP (FLT) Segment Control Outputs
83 ~ 86	Option	I	Area/Function Option Ports
87 ~ 94	N.C	-	Not Use(No connection)
95	SUB. LED	O	Subwoofer LED Drive Port
96	MUTE LED	O	MUTE LED Drive Port
97 ~ 99	VIDED A/B/C	O	Video IC(NJM2296M/LA7952) Control Ports
100	N.C	-	Not Use(No connection)

Micom IC Pin Assignment & Block Diagram





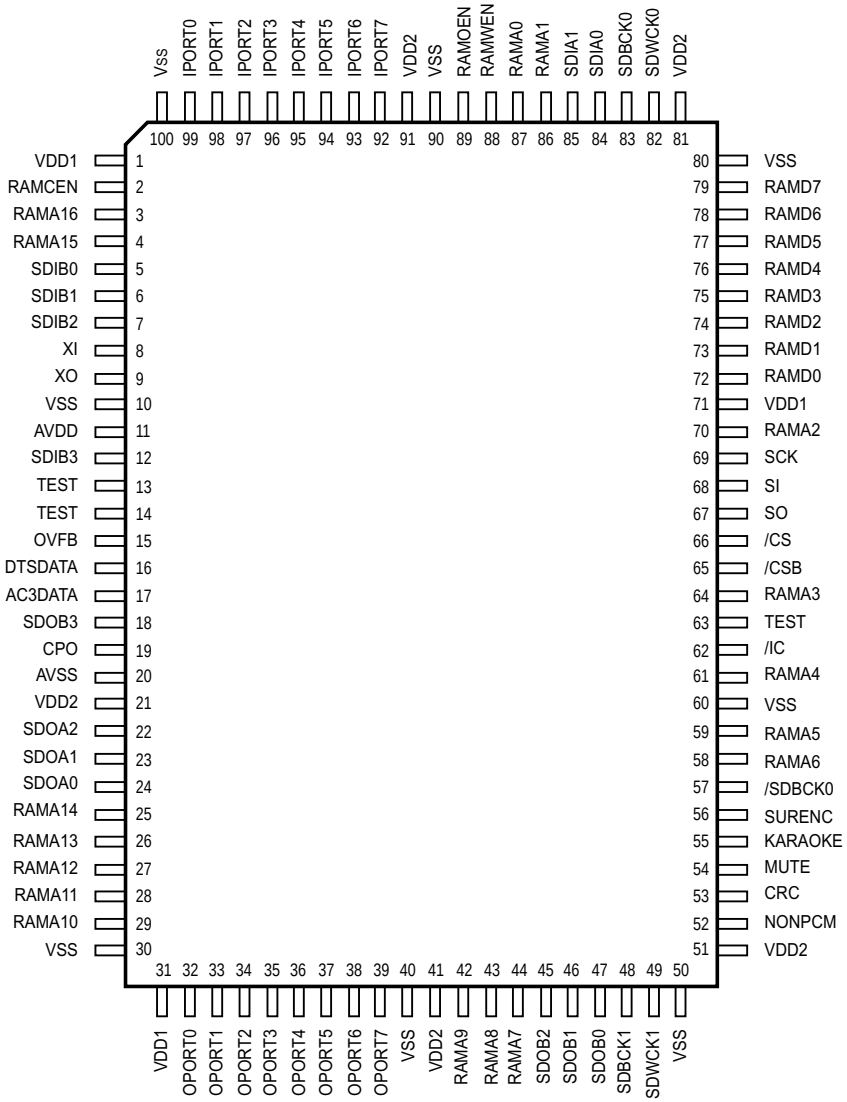
Dolby Digital/Pro Logic DTS DECODER (YSS912C:INPUT IC43)

PIN No.	SYMBOL	I/O	DESCRIPTION
1,31,71	VDD1	-	+5V Power Supply(for I/Os)
2	RAMCEN	O	External SRAM interface /CE
3	RAMA16	O	External SRAM interface address 16
4	RAMA15	O	External SRAM interface address 15
5	SDIB0	I+	PCM input 0 to Sub DSP(not use)
6	SDIB1	I+	PCM input 1 to Sub DSP(not use)
7	SDIB2	I+	PCM input 2 to Sub DSP(not use)
8	XI	I+	Crystal oscillator connection(12.288MHz)
9	XO	O	
10, 30	VSS	-	Ground
11	AVDD	-	+3.3V power supply (for PLL circuit)
12	SDIB3	I+	PCM input 3 to Sub DSP(not use)
13	TEST	-	Test terminal(to be open in normal use)
14	TEST	-	Test terminal(to be open in normal use)
15	OVFB	O	Detection of overflow at Sub DSP (not use)
16	DTSDATA	O	Detection of DTS data (not use)
17	AC3DATA	O	Detection of AC-3 data (not use)
18	SDOB3	O	PCM output from Sub DSP
19	CPO	A	Output terminal for PLL,to be connected to ground through the external analog filter circuit
20	AVSS	-	Ground for PLL circuit)
21,41,51,81,91	VDD2	-	+3.3V power supply (for core logic)
22	SDOA2	O	PCM output from Main DSP (C,LFE)
23	SDOA1	O	PCM output from Main DSP (LS,RS)
24	SDOA0	O	PCM output from Main DSP (L,R)
25 ~ 29	RAMA 14~10	O	External SRAM interface address 14~10
32 ~ 35	OPORT 0~3	O	Output port for general purpose
36 ~ 39	OPORT 4~7	O	Output port for general purpose (not use)
40,50,60,80,90,100	VSS	-	Ground
42 ~ 44	RAAM 9~7	O	External SRAM interface address 9~7
45 ~ 47	SDOB 2~0	O	PCM output from Sub DSP
48	SDBCK1	I+	Bit clock input for SDOA,SDIB,SDOB (not use)
49	SDWCK1	I+	Word clock input for SDOA,SDIB,SDOB (not use)
52	NONPCM	O	Detection of non-PCM data (not use)
53	CRC	O	Detection of AC-3 CRC error (not use)
54	MUTE	O	Detection of auto mute (not use)
55	KARAOKE	O	Detection of AC-3 karaoke data (not use)
56	SURENC	O	Detection of AC-3 2/0 mode Dolby surround encoded input (not use)
57	/SDBCK 0	O	Inverted SDBCK0 clock output (refer to Block diagram)
58	RAMA6	O	External SRAM interface address 6
59	RAMA5	O	External SRAM interface address 5
61	RAMA4	O	External SRAM interface address 4
62	/IC	Is	Initial clear
63	TEST	-	Test terminal (to be ofen in normal use)
64	RAMA3	O	External SRAM interface address 3
65	/CSB	Is+	Sub DSP Chip select
66	/CS	Is	Microprocessor interface Chip select input
67	SO	Ot	Microprocessor interface serial data output
68	SI	Is	Microprocessor interface /Sub DSP Serial data input
69	SCK	Is	Microprocessor interface /Sub DSP clock input

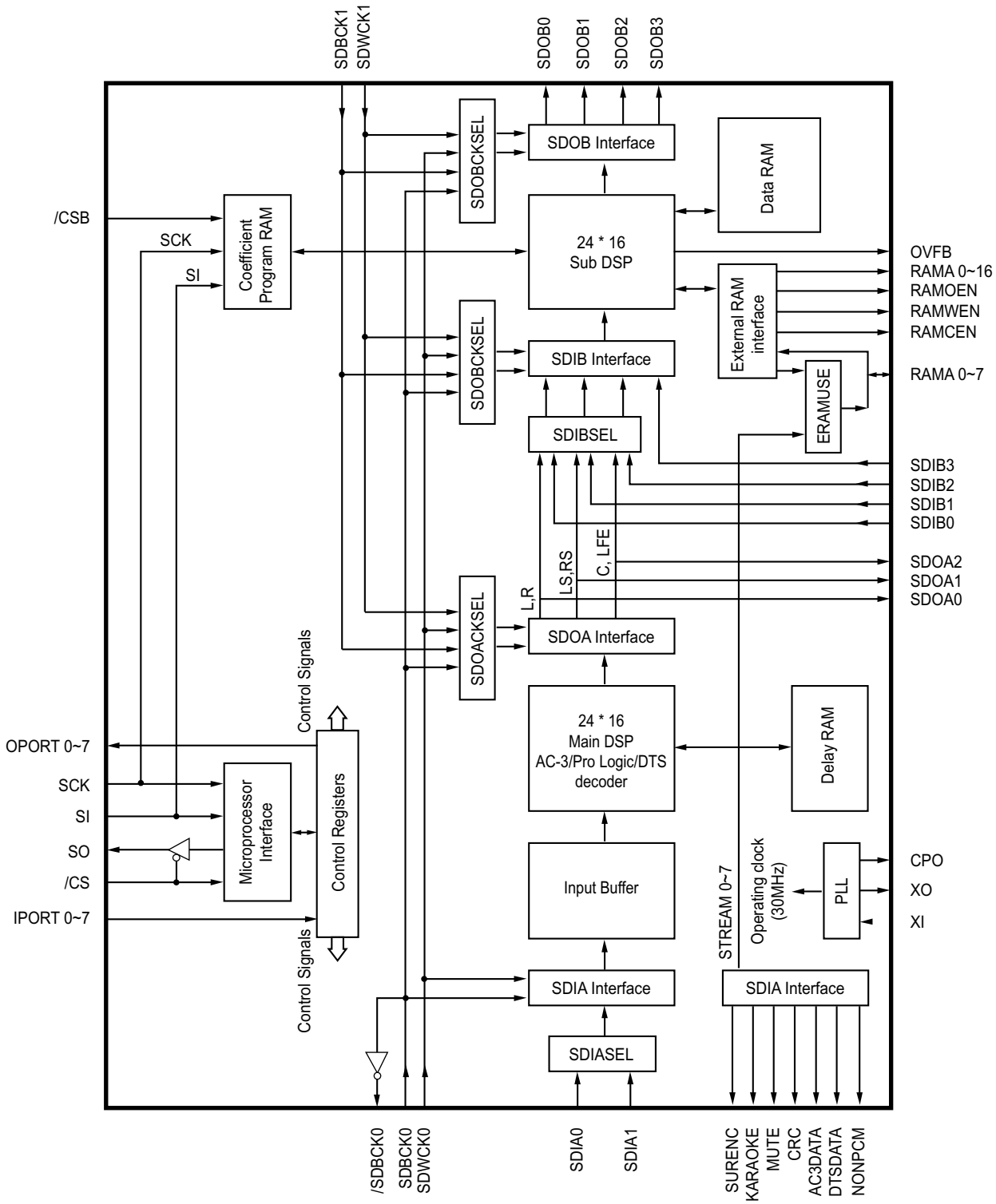
PIN No.	SYMBOL	I/O	DESCRIPTION
70	RAMA2	O	External SRAM interface address 2
72 ~ 79	RAMD0~7	I+/O	External SRAM interface data (STREAM0~7 output when External SRAM is not in use)
82	SDWCK0	I	Word clock input for SDIA, SDOA, SDIB, SDOB
83	SDBCK0	I	Bit clock input for SDIA,SDOA,SDIB,SDOB
84	SDIA0	I	AC-3 Bitstream (or PCM) data input for Main DSP
85	SDIA1	I	AC-3 Bitstream (or PCM) data input for Main DSP
86	RAMA1	O	External SRAM interface address 1
87	RAMA0	O	External SRAM interface address 0
88	RAMWEN	O	External SRAM interface /WE
89	RAMOEN	O	External SRAM interface /OE
92 ~ 99	IPORT7~0	I+	Input port for general purpose (not use)

NOTE) Is: Schmidt trigger input terminal
It: Input terminal with pull-up resistor
O: Digital output terminal
Ot: Tri-state digital output terminal
A: Analog terminal

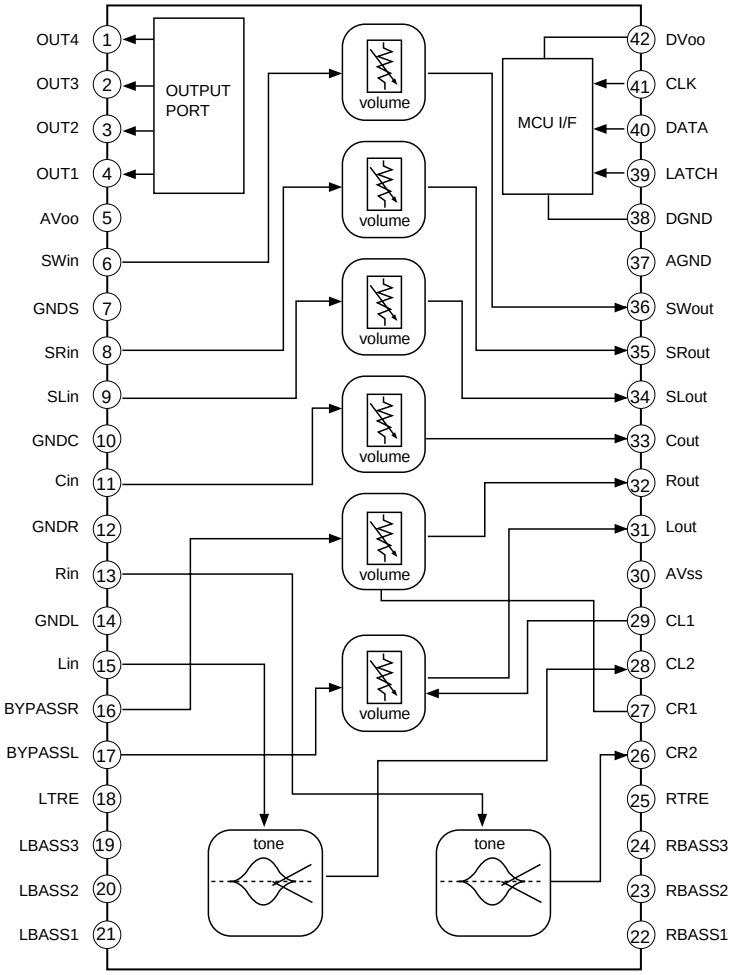
YSS912C PIN CONFIGURATION



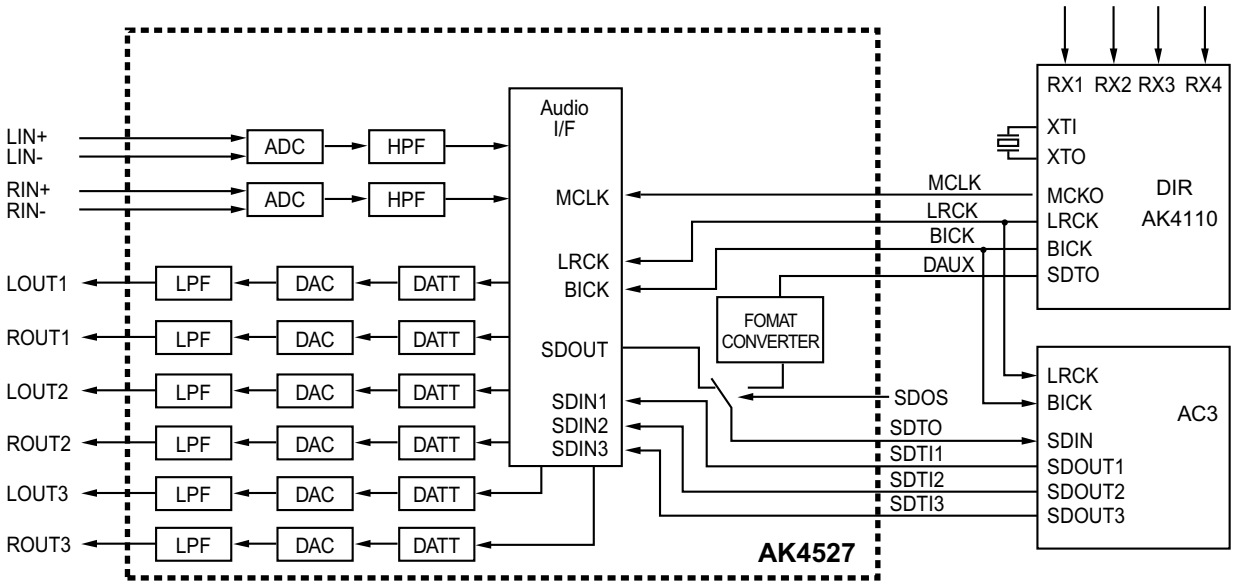
YSS912C BLOCK DIAGRAM



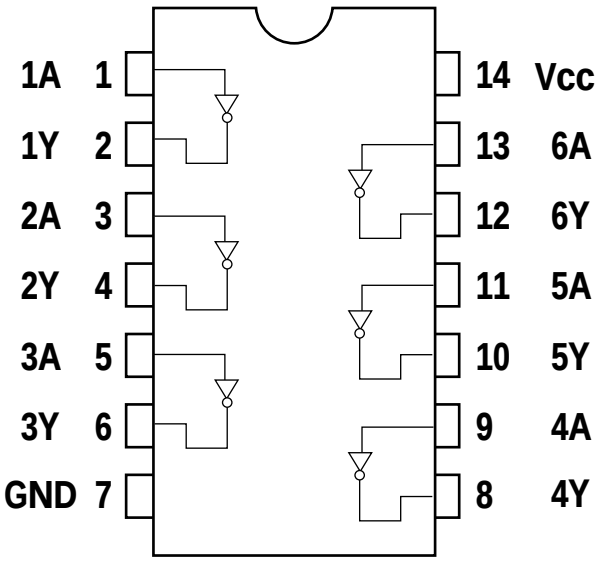
M62446FP (ELECTRONIC VOLUME/INPUT IC31)



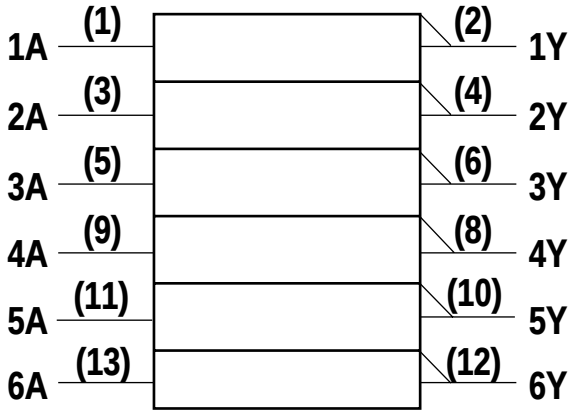
AV4527VQ (ADC/DAC/INPUT IC42)



■ PIN ASSIGNMENT (74HCU04AFN : IC40)



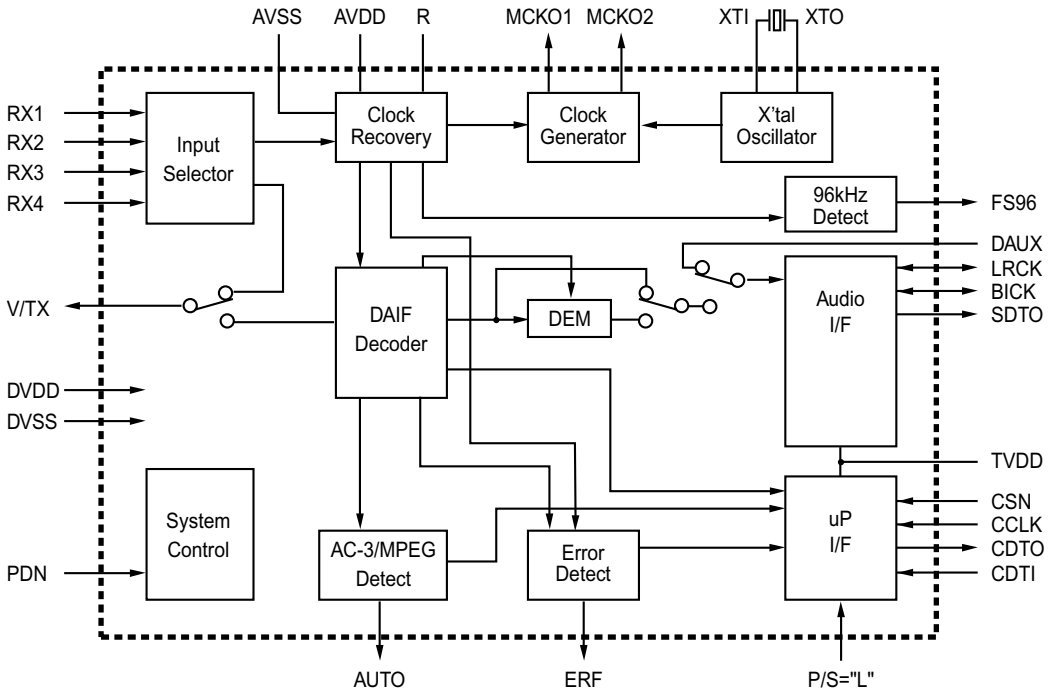
■ LOGIC SYMBOL



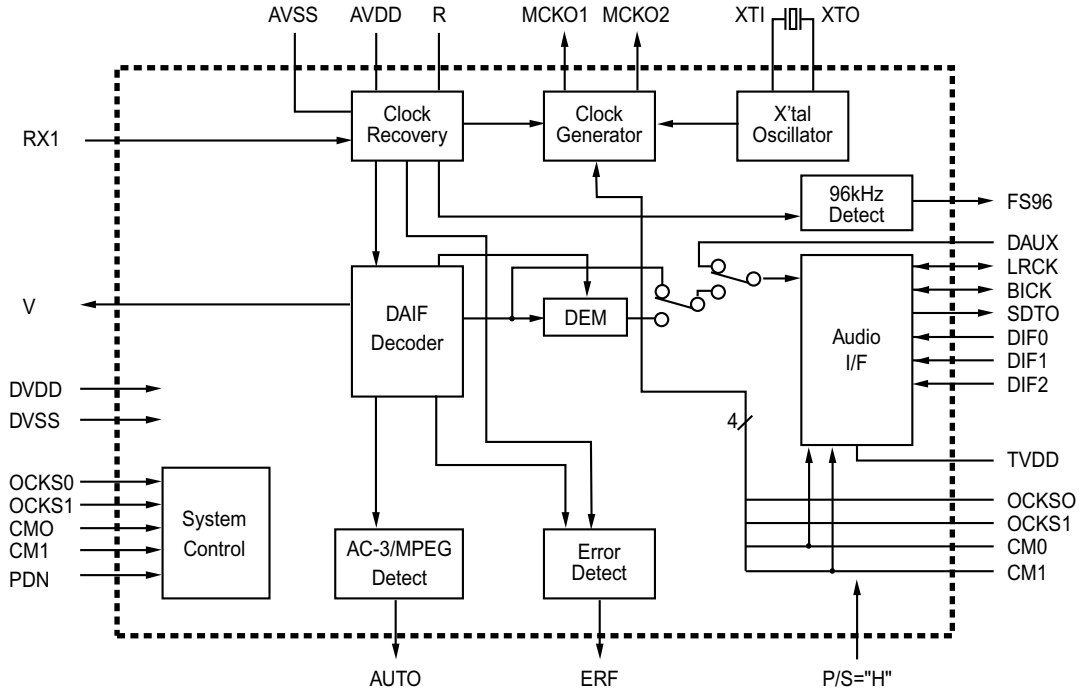
■ TRUTH TABLE

A	Y
L	H
H	L

AK4112AVF (DIR/INPUT IC41)

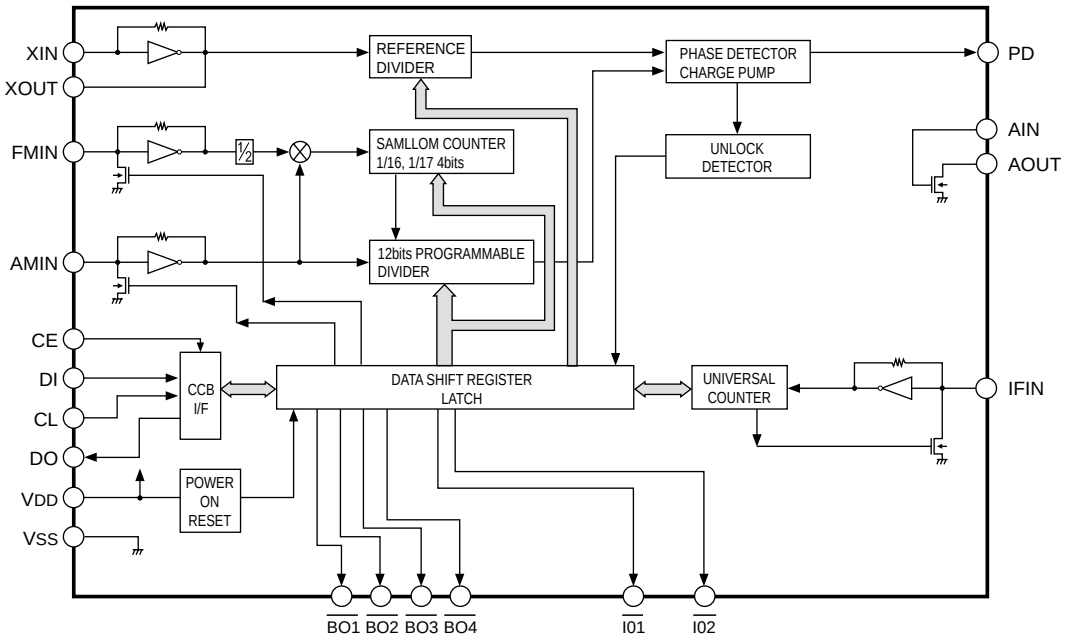


[Serial Control Mode]

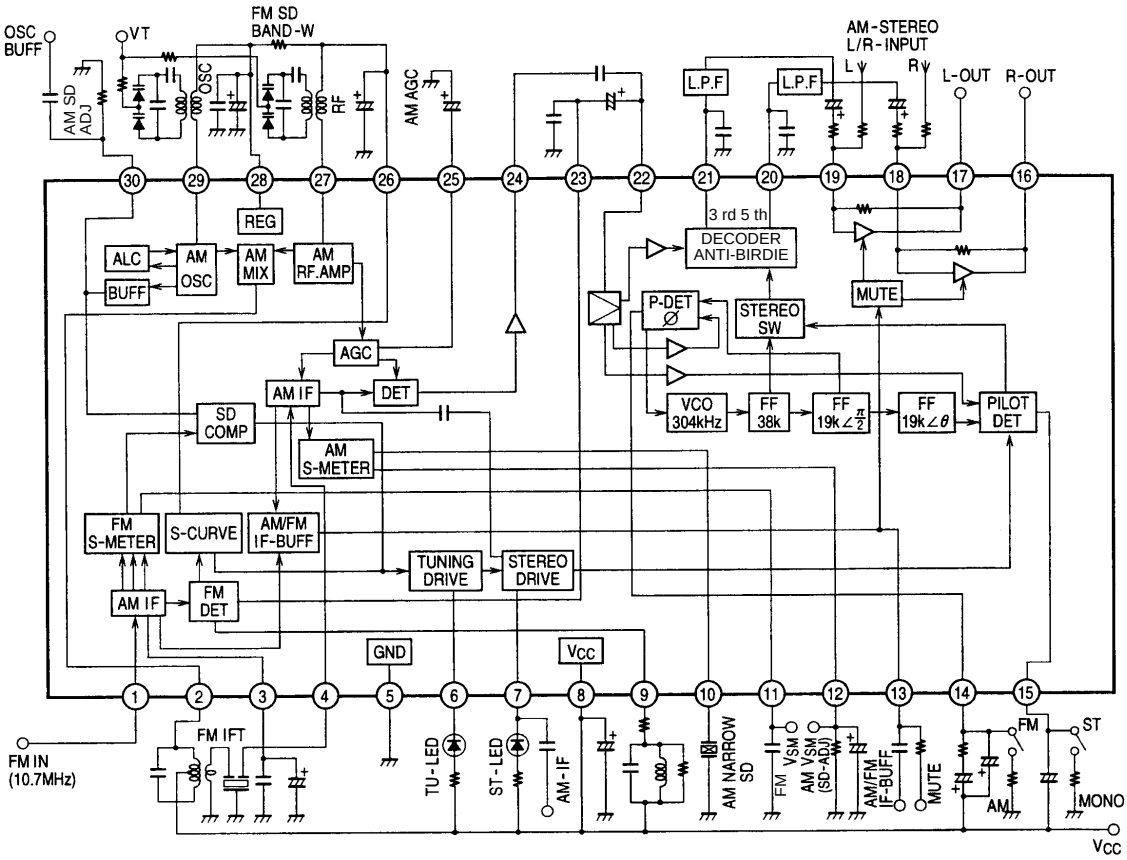


[Parallel Control Mode]

LC72131 (PLL SYNTHESIZER/ TUNER IC11)

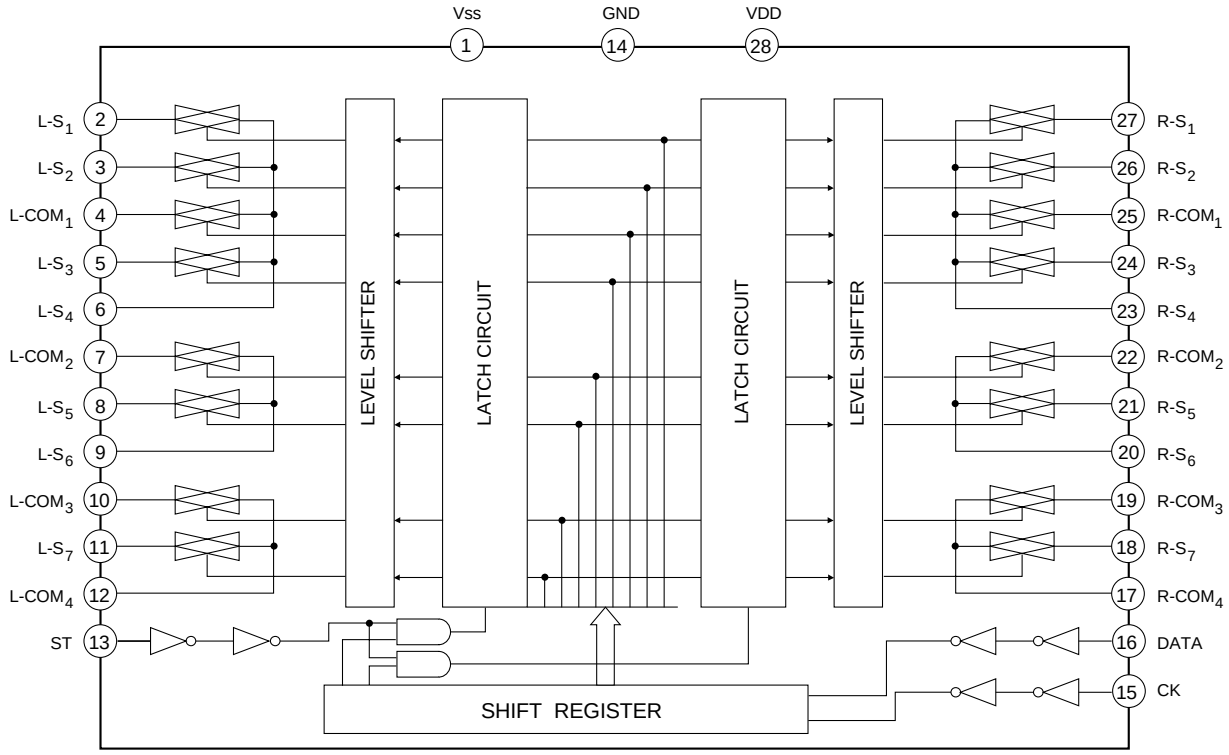


LA1837 (MPX + IF / TUNER IC12)



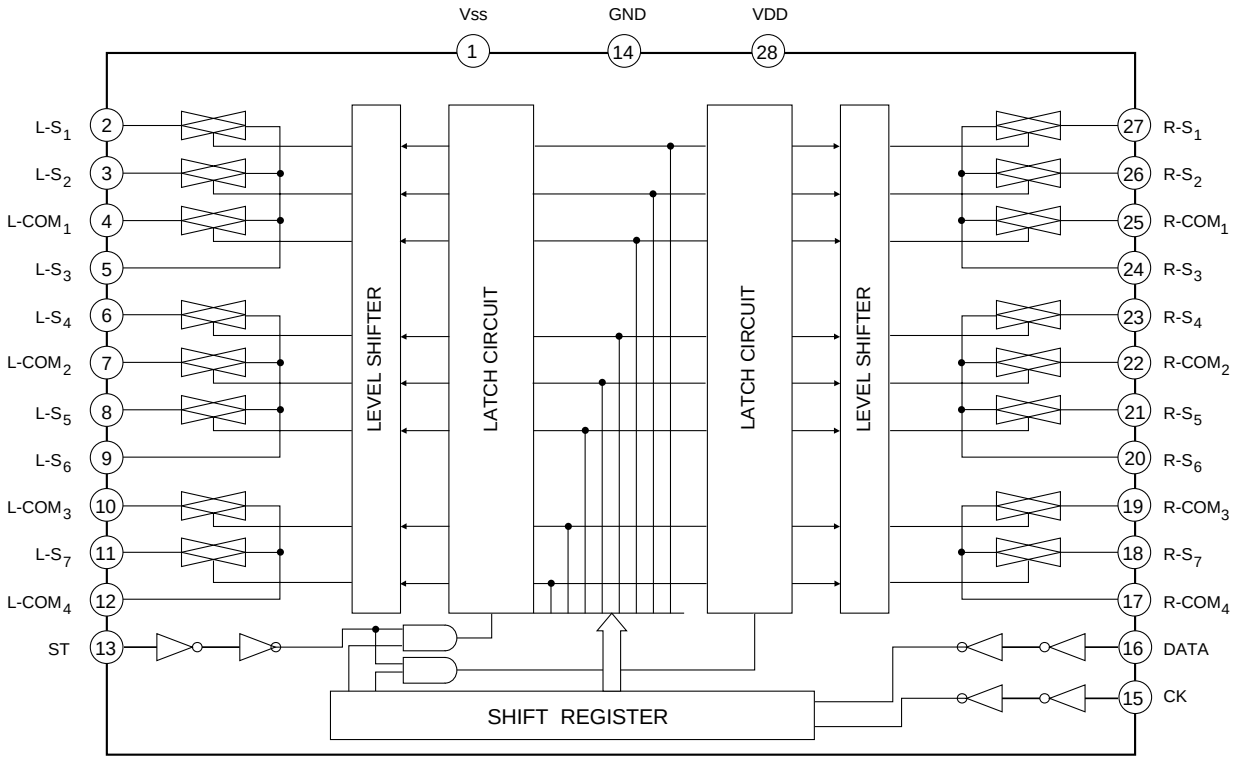
KIC9164AF (FUNCTION/INPUT IC20)

■ BLOCK DIAGRAM

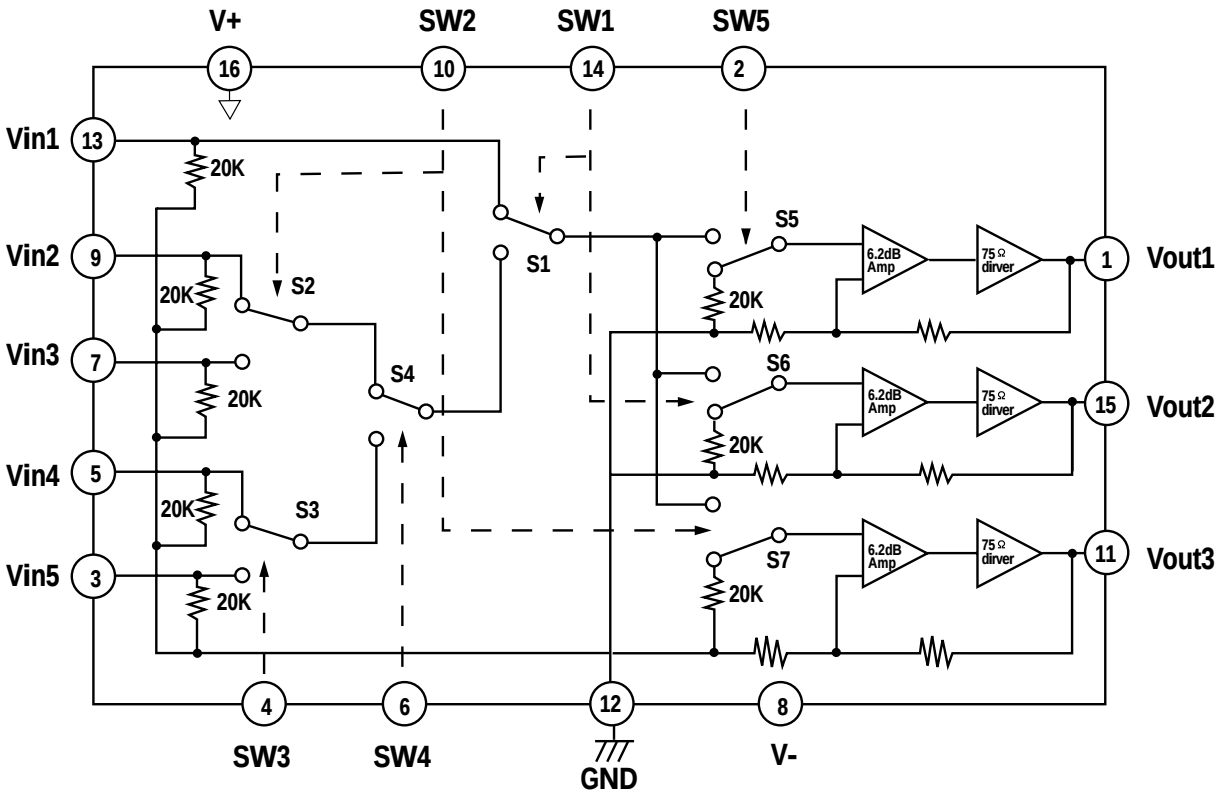


KIC9163AF (FUNCTION/INPUT IC21)

■ BLOCK DIAGRAM



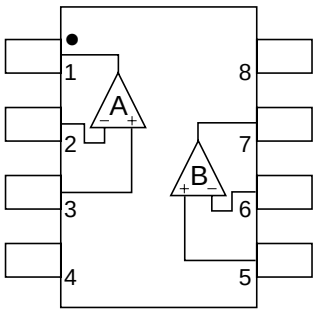
■ BLOCK DIAGAM (NJM2296M /MAIN IC96)



∗ **Normally mute**
Above circuits show that the switches are set at low.

LA6462M/6458M

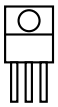
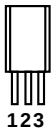
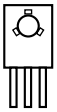
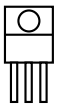
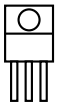
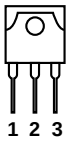
■ PIN CONFIGURATION



LA6462M/
LA6458M

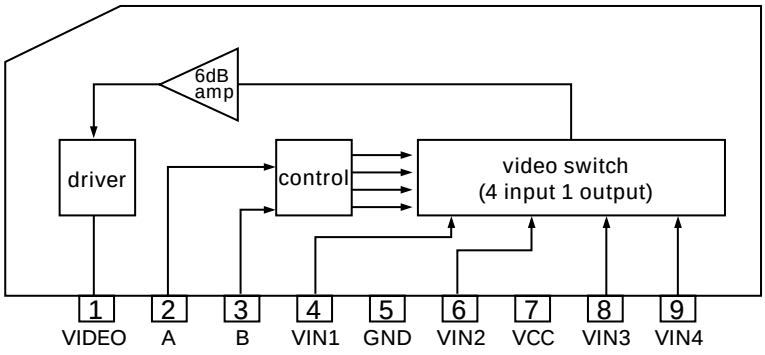
PIN FUNCITON
1. A OUTPUT
2. A-INPUT
3. A+INPUT
4. V^-
5. B+INPUT
6. B-INPUT
7. B OUTPUT
8. V^+

TRANSISTOR, REGULATOR IC BLOCK DIAGRAM

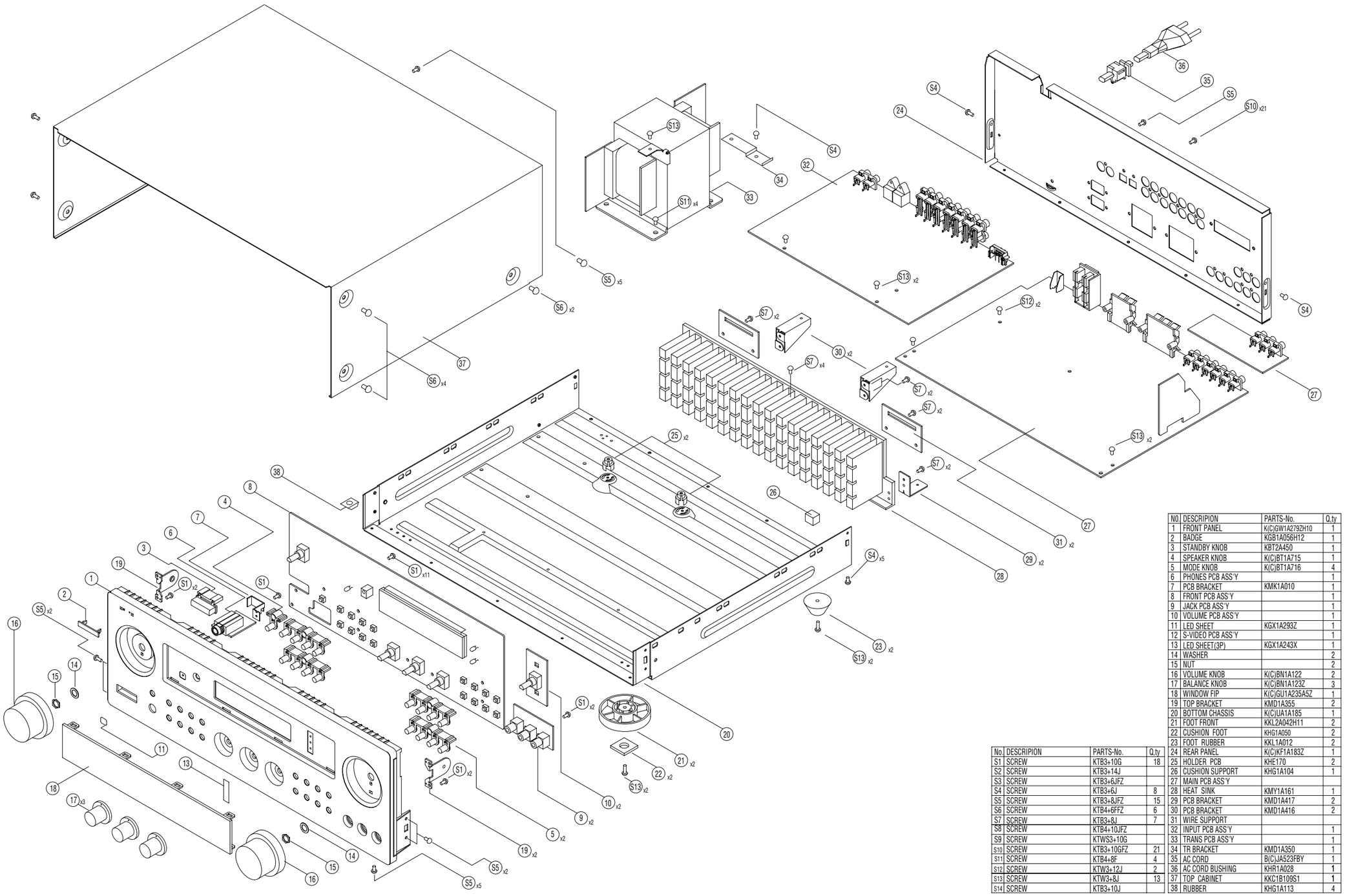
TO-92S  123 1. Emitter 2. Collector 3. Base KSA1175Y KRC114M KTA1271Y KSD811Y DTC144ES DTA144ES DTA114YS DTC114YS DTC143TS DTA144TS	TO-92  123 1. Emitter 2. Collector 3. Base KTD1302T KTA1268GR KTC3200GR KSC2785Y KTC31940	TO-220  123 1. INPUT 2. OUTPUT 3. GND MC7912C	TO-92L  123 1. Emitter 2. Collector 3. Base KSA916Y KSC2316Y
TO-126  123 1. Emitter 2. Collector 3. Base 2SC4137V 2SC34230 2SA1360O	TO-220  123 1. Base 2. Collector 3. Emitter KSA614Y KSD288Y 2SB1186AE 2SD1763AE	TO-220  123 1. INPUT 2. GND 3. OUTPUT MC7812C MC7805C	TO-3P  1 2 3 1. Base 2. Collector 3. Emitter 2SC4468 2SA1695

LA7952(I.C, Video sw/ Input: IC51, IC52)

■ BLOCK DIAGAM/ PIN CONFIGURATION



EXPLODED VIEW (AG-D8900T/C)

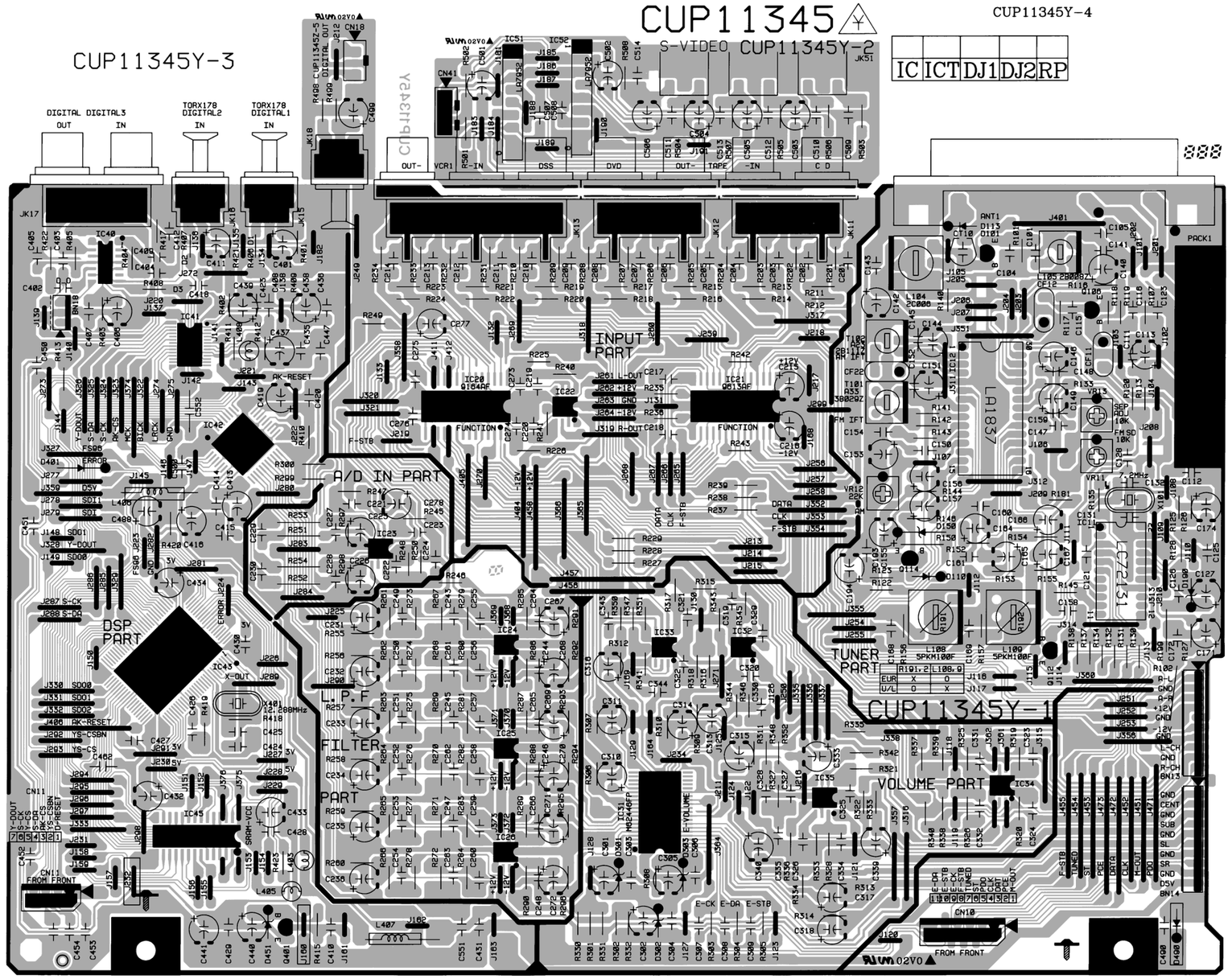


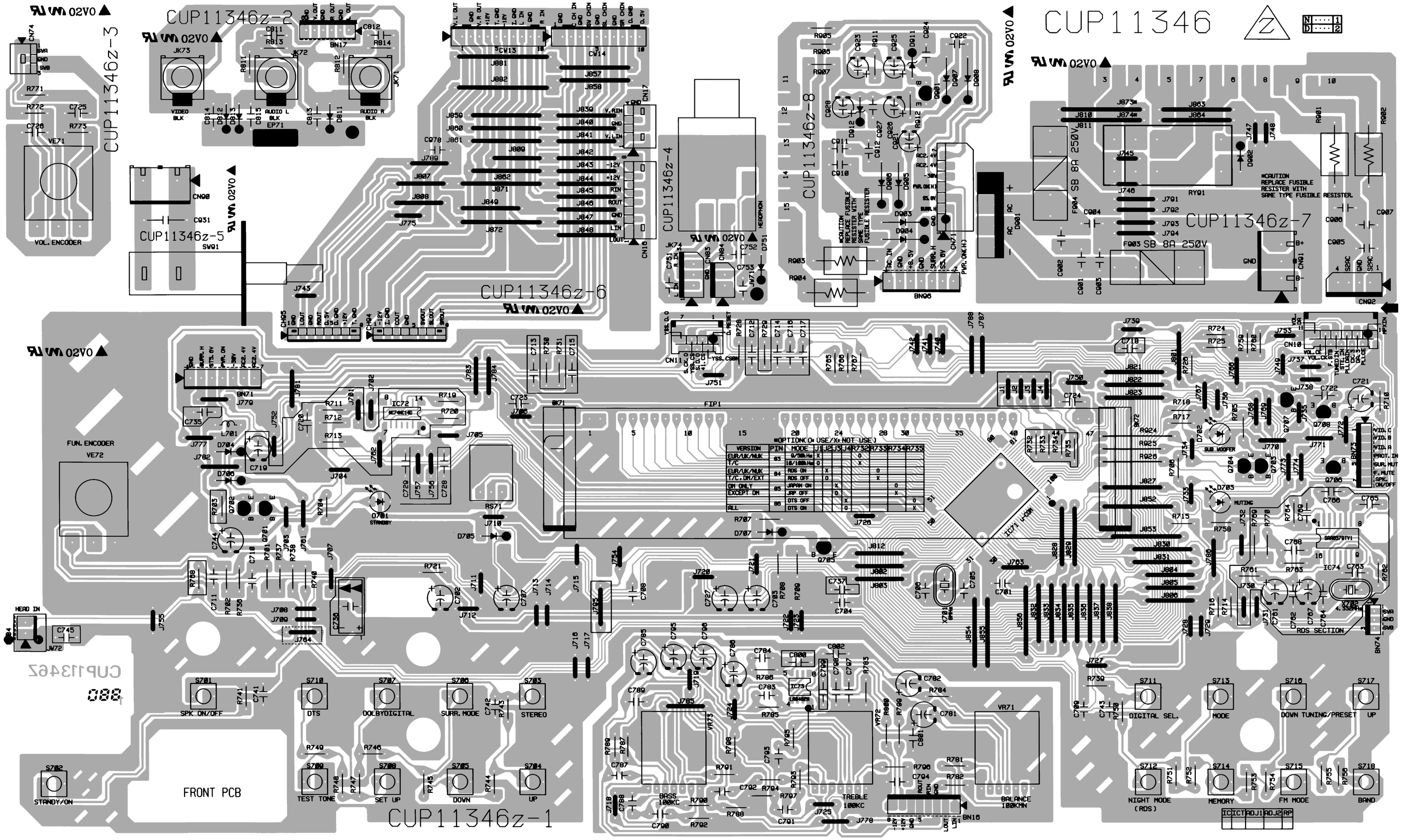
NO.	DESCRIPION	PARTS-No.	Q.ty
1	FRONT PANEL	K(C)GW1A279ZH10	1
2	BADGE	KGB1A056H12	1
3	STANDBY KNOB	KBT2A450	1
4	SPEAKER KNOB	K(C)BT1A715	1
5	MODE KNOB	K(C)BT1A716	4
6	PHONES PCB ASS'Y		1
7	PCB BRACKET	KMK1A010	1
8	FRONT PCB ASS'Y		1
9	JACK PCB ASS'Y		1
10	VOLUME PCB ASS'Y		1
11	LED SHEET	KGX1A293Z	1
12	S-VIDEO PCB ASS'Y		1
13	LED SHEET(3P)	KGX1A243X	1
14	WASHER		2
15	NUT		2
16	VOLUME KNOB	K(C)BN1A122	2
17	BALANCE KNOB	K(C)BN1A123Z	3
18	WINDOW FIP	K(C)GU1A235A5Z	1
19	TOP BRACKET	KMD1A355	2
20	BOTTOM CHASSIS	K(C)UA1A185	1
21	FOOT FRONT	KKL2A042H11	2
22	CUSHION FOOT	KHG1A050	2
23	FOOT RUBBER	KKL1A012	2
24	REAR PANEL	K(C)KF1A183Z	1
25	HOLDER PCB	KHE170	2
26	CUSHION SUPPORT	KHG1A104	1
27	MAIN PCB ASS'Y		
28	HEAT SINK	KMY1A161	1
29	PCB BRACKET	KMD1A417	2
30	PCB BRACKET	KMD1A416	2
31	WIRE SUPPORT		
32	INPUT PCB ASS'Y		1
33	TRANS PCB ASS'Y		1
34	TR BRACKET	KMD1A350	1
35	AC CORD	B(C)JA523FBY	1
36	AC CORD BUSHING	KHR1A028	1
37	TOP CABINET	KKC1B109S1	1
38	RUBBER	KHG1A113	4

No.	DESCRIPION	PARTS-No.	Q.ty
S1	SCREW	KTB3+10G	18
S2	SCREW	KTB3+14J	
S3	SCREW	KTB3+6JFZ	
S4	SCREW	KTB3+6J	8
S5	SCREW	KTB3+8JFZ	15
S6	SCREW	KTB4+6FFZ	6
S7	SCREW	KTB3+8J	7
S8	SCREW	KTB4+10JFZ	
S9	SCREW	KTWS3+10G	
S10	SCREW	KTB3+10GFZ	21
S11	SCREW	KTB4+8F	4
S12	SCREW	KTW3+12J	2
S13	SCREW	KTW3+8J	13
S14	SCREW	KTB3+10J	

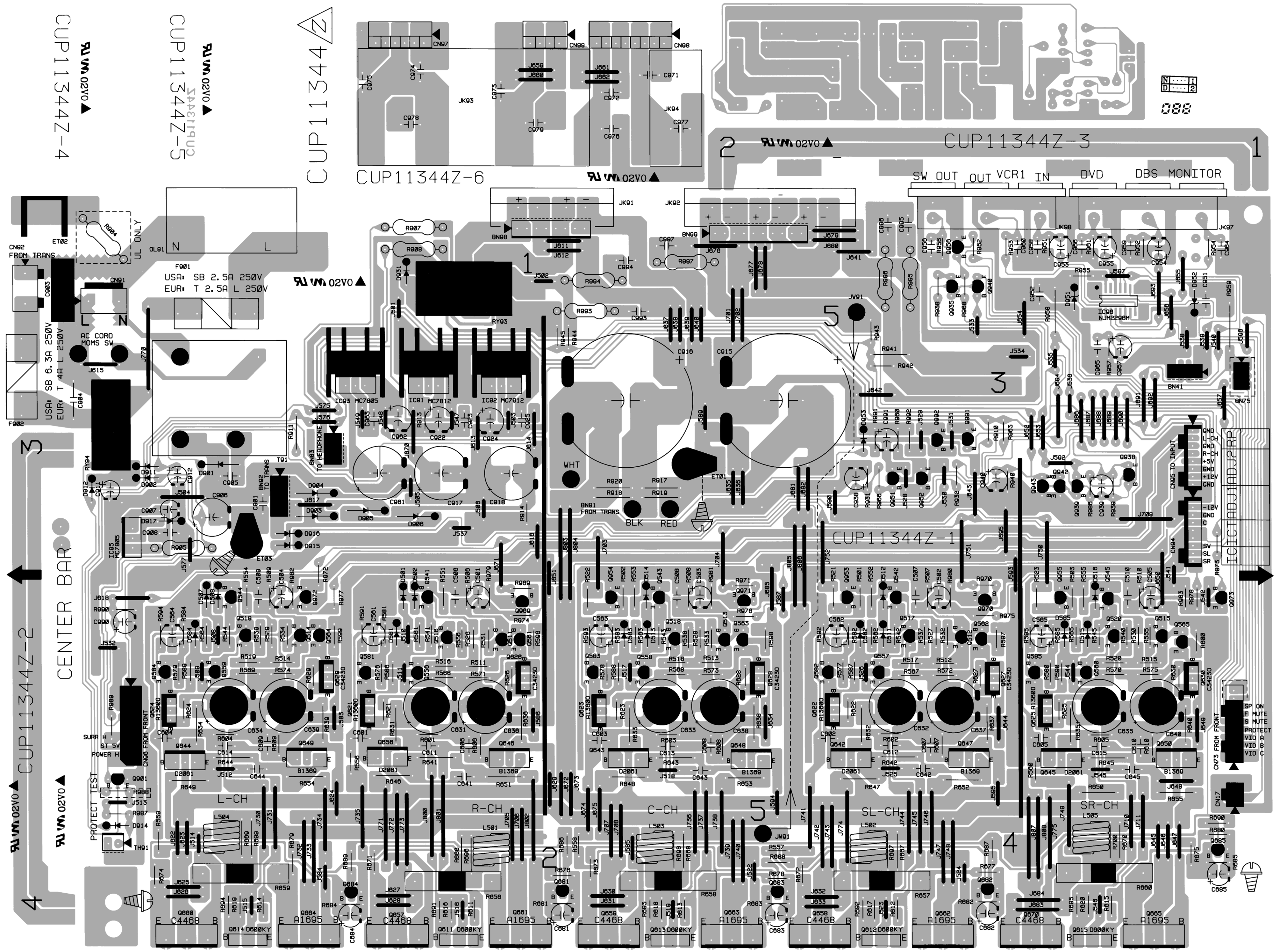
EXPLODED VIEW

REF.NO.		PARTS NO.	DESCRIPTION	REMARKS
1		9A08886700	PANEL,FRONT [J]	
		9A08956000	PANEL,FRONT [US,C]	
2		9A08887100	BADGE	
3		9A08886600	KNOB,STANDBY [J]	
		9A06777500	KNOB,POWER [US,C]	
4		9A08886400	KNOB,SPEAKER [J]	
		9A08955800	KNOB,SPEAKER [US,C]	
5		9A08886500	KNOB,MODE [J]	
		9A08955900	KNOB,MODE [US,C]	
6		----------	PHONES PCB ASSY	
7		9A08886900	BRACKET,PCB	
8		9A08887000	FRONT PCB ASSY [J]	
		9A08887010	FRONT PCB ASSY [US,C]	
9		----------	JACK PCB ASSY	
10		----------	VOLUME PCB ASSY	
11		9A08887200	SHEET,LED	
12		----------	S-VIDEO PCB ASSY	
13		9A08045300	SHEET,LED(3P)	
16		9A08885300	KNOB,VOLUME [J]	
		9A08955600	KNOB,VOLUME [US,C]	
17		9A08885400	KNOB,TONE [J]	
		9A08955700	KNOB,TONE [US,C]	
18		9A08885500	WINDOW,FIP	
19		9A08886800	BRACKET,TOP	
20		9A08888100	CHASSIS,BOTTOM	
21		9A08887600	FOOT,FRONT	
22		9A06754800	RUBBER,CUSHION	
23		9A06755300	FOOT,RUBBER(BLACK)	
24		9A08887500	PANEL,REAR [J]	
		9A08956100	PANEL,REAR [US,C]	
25		9A01375500	PCB HOLDER	
26		9A06327100	SUPPORT,CUSHION	
27		9A08887900	MAIN PCB ASSY [J]	
		9A08887910	MAIN PCB ASSY [US,C]	
28		9A08952200	HEAT SINK	
29		9A08952300	BRACKET,PCB	
30		9A08745400	BRACKET,PCB(H/T)	
31		----------	WIRE HOLDER PCB	
32		9A08888000	INPUT PCB ASSY [J]	
		9A08888010	INPUT PCB ASSY [US,C]	
33	⚠	9A08887700	TRANSFORMER,POWER [J]	
	⚠	9A08939300	TRANSFORMER,POWER [US,C]	
34		9A08887800	BRACKET,TR	
35	⚠	9A07872600	POWER CORD [US,C]	
	⚠	9A08125200	POWER CORD [J]	
36	⚠	9A06754900	BUSHING,AC CORD	
37		9A08810200	CABINET,TOP [US,C]	
		9A08885800	CABINET,TOP [J]	
38		9A08885700	RUBBER	
		9A08038100	RING,FERRITE	
CN10		9A08887300	CABLE,CARD	
CN11		9A08887400	CABLE,CARD	
F901	⚠	9A06756100	FUSE,2.5A 250V [US,C]	
F901	⚠	9A08888200	FUSE,2.5A 250V [J]	
F902	⚠	9A07371000	FUSE,6.3A 250V [US,C]	
F902	⚠	9A08888300	FUSE,6.3A 250V [J]	
F903,F904	⚠	9A07044800	FUSE,8A 250V [US,C]	
F903,F904	⚠	9A08888400	FUSE,8A 250V [J]	


CUP11345
CUP11345Y-4
CUP11345Y-3
S-VIDEO CUP11345Y-2
CUP11345Y-1
IC ICT DJ1 DJ2 RP
DIGITAL OUT
DIGITAL3 OUT
DIGITAL3 IN
TORX178 DIGITAL2 IN
TORX178 DIGITAL1 IN
INPUT PART
A/D IN PART
DSP PART
L.P.F FILTER PART
TUNER PART
VOLUME PART
FUNCTION
FROM FRONT



CUP11346
CUP11346z-1
CUP11346z-2
CUP11346z-3
CUP11346z-4
CUP11346z-5
CUP11346z-6
CUP11346z-7
CUP11346z-8
FRONT PCB
VOL. ENCODER
FUN. ENCODER
SB 8A 250V
SPK ON/OFF
DTS
DOLBYDIGITAL
SURR. MODE
STEREO
DIGITAL SEL.
MODE
DOWN TUNING/PRESET
UP
STANDY/ON
TEST TONE
SET UP
DOWN
UP
NIGHT MODE (RDS)
MEMORY
FM MODE
BAND
BASS 100KC
TREBLE 100KC
BALANCE 100KMN
RDS SECTION


CUP11344Z-4
CUP11344Z-5
CUP11344Z-6
CUP11344Z-3
CUP11344Z-1
CUP11344Z-2
CENTER BAR
SW OUT
OUT
VCR1 IN
DVD
DBS MONITOR
USA: SB 2.5A 250V
EUR: T 2.5A L 250V
AC CORD
L-CH
R-CH
C-CH
SL-CH
SR-CH
PROTECT TEST

INPUT PCB ASSY

REF.NO.		PARTS NO.	DESCRIPTION
		9A08888000	INPUT PCB ASSY [J]
		9A08888010	INPUT PCB ASSY [US,C]
		9A08953300	PCB,INPUT
		9A08215300	PACK,FRONT END [US,C]
		9A08947100	PACK,FRONT END [J]
ANT1		9A07371900	TERMINAL,ANT
BN13,BN14		9A08036700	WAFER
CF11,CF12		9A06544600	FILTER,CERAMIC E107MSHAT
CF22		9A07006300	FILTER,CERAMIC PBF450JR3
CN10		9A08947300	WAFER,CARDCABLE
CN11		9A08947400	WAFER,CARDCABLE
CN41		9A05356300	WAFER,04GA19ZM
CT10		9A01405900	C,VARIABLE 20PF
D101		9A08163000	DIODE,VARICAP SVC342-L-AA
D110,D113		9A08878200	DIODE,1SS133T-77
D150		9A07892400	DIODE,ZENER 9.1V 1/2W
D190		9A08954100	DIODE,ZENER MTZJ5.1BT
D301,D302		9A08951100	DIODE,ZENER MTZJ6.8BT
D303		9A08954100	DIODE,ZENER MTZJ5.1BT
D401		9A08954200	DIODE,1N4148T
D451		9A08954300	DIODE,ZENER MTZJ4.7BT
D490		9A08878200	DIODE,1SS133T-77
IC11		9A08947500	IC,PLL
IC12		9A08033000	IC,LA1837
IC20		9A08947600	IC,KIC9164AF
IC21		9A08947700	IC,KIC9163AF
IC22		9A08889900	IC,LA6462M
IC23-IC26		9A08947800	IC,LA6458M
IC31		9A08947900	IC,M62446FP
IC32,IC34		9A08889900	IC,LA6462M
IC33,IC35		9A08947800	IC,LA6458M
IC40		9A08948000	IC,TC74HCU04AFN
IC41		9A08948100	IC,AK4112A-VF-E2
IC42		9A08903900	IC,AK4527VQ
IC43		9A08033700	IC,YSS912C-F
IC45		9A08032900	IC,IS61C256AH-15J
IC51,IC52		9A08948200	IC,LA7952
JK11,JK12		9A07425400	JACK,IN/OUT
JK13		9A07425500	TERMINAL,IN/OUT
JK15,JK16		9A08948300	MODULE,OPTICAL TORX178A
JK17		9A08948400	JACK,BOARD(2P)
JK51		9A08948500	JACK,S-VIDEO(3P/H)
L104		9A08948600	COIL,MW ANT
L105		9A07873300	COIL,AM OSC
L403		9A08037600	COIL,10UH
L405		9A08037600	COIL,10UH
L406,L407		9A07050600	BEAD,CORE
L408		9A08037600	COIL,10UH
Q106		9A08954400	TR,KTC3194OT
Q112		9A08884100	TR,KRA107M
Q114		9A08878300	TR,KRC107M
Q401		9A07888000	TR,KSC2316YT
R102	⚠	9A08948700	R,CARBON 4.7 OHM 1/2W J
T101		9A08125500	IFT,FM
T102		9A08948900	IFT,AM

INPUT PCB ASSY

REF.NO.	PARTS NO.	DESCRIPTION
VR11	9A08040600	R,SEMI-FIXED 10K OHM
VR12	9A08040700	R,SEMI-FIXED 22K OHM
VR13	9A08040600	R,SEMI-FIXED 10K OHM
X101	9A08883700	CRYSTAL
X401	9A08949000	CRYSTAL

FRONT PCB ASSY

REF.NO.		PARTS NO.	DESCRIPTION
		9A08887000	FRONT PCB ASSY [J]
		9A08887010	FRONT PCB ASSY [US,C]
		9A08949100	PCB,FRONT
BK71,BK72		9A08888700	BRACKET,FLT
CH94,CH95		9A08889400	CONNECTOR,HOUSING
CN10		9A08889500	WAFER,CARDCABLE
CN11		9A08889600	WAFER,CARDCABLE
CN16		9A08036300	WAFER
CN17		9A07335100	WAFER,MOLEX 53015
CN71		9A07049700	WAFER
CN74		9A07049500	WAFER,MOLEX 53015-0310
CN83		9A05329100	WAFER,MOLEX 5267-03A
CN91		9A06759300	WAFER
CN92		9A05329300	WAFER,MOLEX 5267-04A
CW13,CW14		9A08036600	WAFER,MOLEX 35336-1010
D701-D703		9A08147300	LED,SLR342VCTB7(RED)
D704-D707		9A08878200	DIODE,1SS133T-77
D751		9A08878200	DIODE,1SS133T-77
D811,D812		9A08878200	DIODE,1SS133T-77
D901	⚠	9A08889700	DIODE,BRIDGE
D903-D908	⚠	9A05194700	DIODE,1N4003ST
D911		9A08905700	DIODE,ZENER MTZJ30BT
D912		9A07887100	DIODE,ZENER 6.2V
EP71		9A05961500	PLATE,EARTH
FIP1		9A08034600	FIP,SVA-10MS11
F903,F904		9A05328200	HOLDER,FUSE
IC71		9A08889800	IC,TMP87PM78F
IC73		9A08889900	IC,LA6462M
JK71-JK73		9A08890000	JACK,VCR
JK74		9A07491600	JACK
L701		9A07886600	COIL,10UH
Q701		9A08905800	TR,KRA104MT
Q702		9A08905900	TR,KRC114MT
Q703,Q704		9A08878300	TR,KRC107M
Q705		9A07887900	TR,KSB811YT
Q706-Q708		9A08878300	TR,KRC107M
Q901		9A08906000	TR,KTA1271YT
RS71		9A08563600	SENSOR,REMOCON
R901-R904	⚠	9A05897200	R,FUSE 0.47 OHM 1W
S701-S718		9A07878500	SW,TACT SKHV10910G
VE71		9A08890200	VR,ENCODER 2A004Z
VE72		9A08890300	VR,ENCODER 2A006Z
VR71		9A08890400	R,VARIABLE(BALANCE)
VR72,VR73		9A08890500	R,VARIABLE(TONE)
X701		9A08879000	CRYSTAL

MAIN PCB ASSY

REF.NO.		PARTS NO.	DESCRIPTION
		9A08887900	MAIN PCB ASSY [J]
		9A08887910	MAIN PCB ASSY [US,C]
		9A08950900	PCB,MAIN
		9A08952200	HEAT SINK
		9A08745400	BRACKET,PCB(H/T)
		9A08952300	BRACKET,PCB
CN17		9A06250600	WAFER,02GA19ZM
CN73		9A05356500	WAFER,MOLEX 53014-0710
CN91		9A06674400	WAFER
CN92		9A06785000	WAFER
CN94,CN95		9A08891200	WAFER,08GA98ZM
CN96		9A05330000	WAFER,MOLEX 5267-07A
C903	⚠	9A08032200	C,LINE ACROSS 0.1UF 250V
C904	⚠	9A08882700	C,CERAMIC DE7150-610F472M
C906	⚠	9A08944600	C,ELECT 1000UF 25V
C915,C916	⚠	9A08944700	C,ELECT 8200UF 63V
C917,C961	⚠	9A08944800	C,ELECT 3300UF 25V
C918	⚠	9A07897200	C,ELECT 2200UF 25V
D501,D502		9A08878200	DIODE,1SS133T-77
D507,D508		9A08878200	DIODE,1SS133T-77
D511-D516		9A08878200	DIODE,1SS133T-77
D581-D585		9A08878200	DIODE,1SS133T-77
D901	⚠	9A05194700	DIODE,1N4003ST
D902		9A08878200	DIODE,1SS133T-77
D903-D906	⚠	9A05194700	DIODE,1N4003ST
D911,D912		9A08878200	DIODE,1SS133T-77
D914-D917		9A08878200	DIODE,1SS133T-77
D931		9A08878200	DIODE,1SS133T-77
D951,D952		9A08951100	DIODE,ZENER MTZJ6.8BT
D953		9A08878200	DIODE,1SS133T-77
ET01,ET03		9A08945000	PLATE,EARTH
ET02		9A08945100	BRACKET,PCB
F901,F902		9A05328200	HOLDER,FUSE
IC91		9A08952900	HEAT SINK
IC91	⚠	9A07898500	IC,KA7812-ABTU
IC92		9A08952900	HEAT SINK
IC92	⚠	9A08953100	IC,KA7912-ABTU
IC93		9A08953200	HEAT SINK
IC93,IC95	⚠	9A08218600	IC,KA7805-ABTU
IC96		9A08945500	IC,NJM2296M
JK91		9A08945600	TERMINAL,SPEAKER(4P)
JK92		9A08945700	TERMINAL,SPEAKER
JK97		9A07427800	JACK,VCR
JK98		9A08945800	JACK,BOARD
L501-L505		9A08946000	COIL,SPEAKER
OL01	⚠	9A08946100	OUTLET,2P
Q511-Q520		9A08951200	TR,KTA1268GRT
Q541-Q545		9A08951200	TR,KTA1268GRT
Q556-Q565		9A08951300	TR,KTC3200GRT
Q581-Q585		9A08951200	TR,KTA1268GRT
Q611-Q615		9A08952400	TR,KTD600K
Q621-Q625		9A08946200	TR,2SA13600
Q626-Q630		9A08946300	TR,2SC34230
Q642-Q645	⚠	9A08946400	TR,KTD2061Y
Q646-Q650	⚠	9A08946500	TR,KTB1369Y

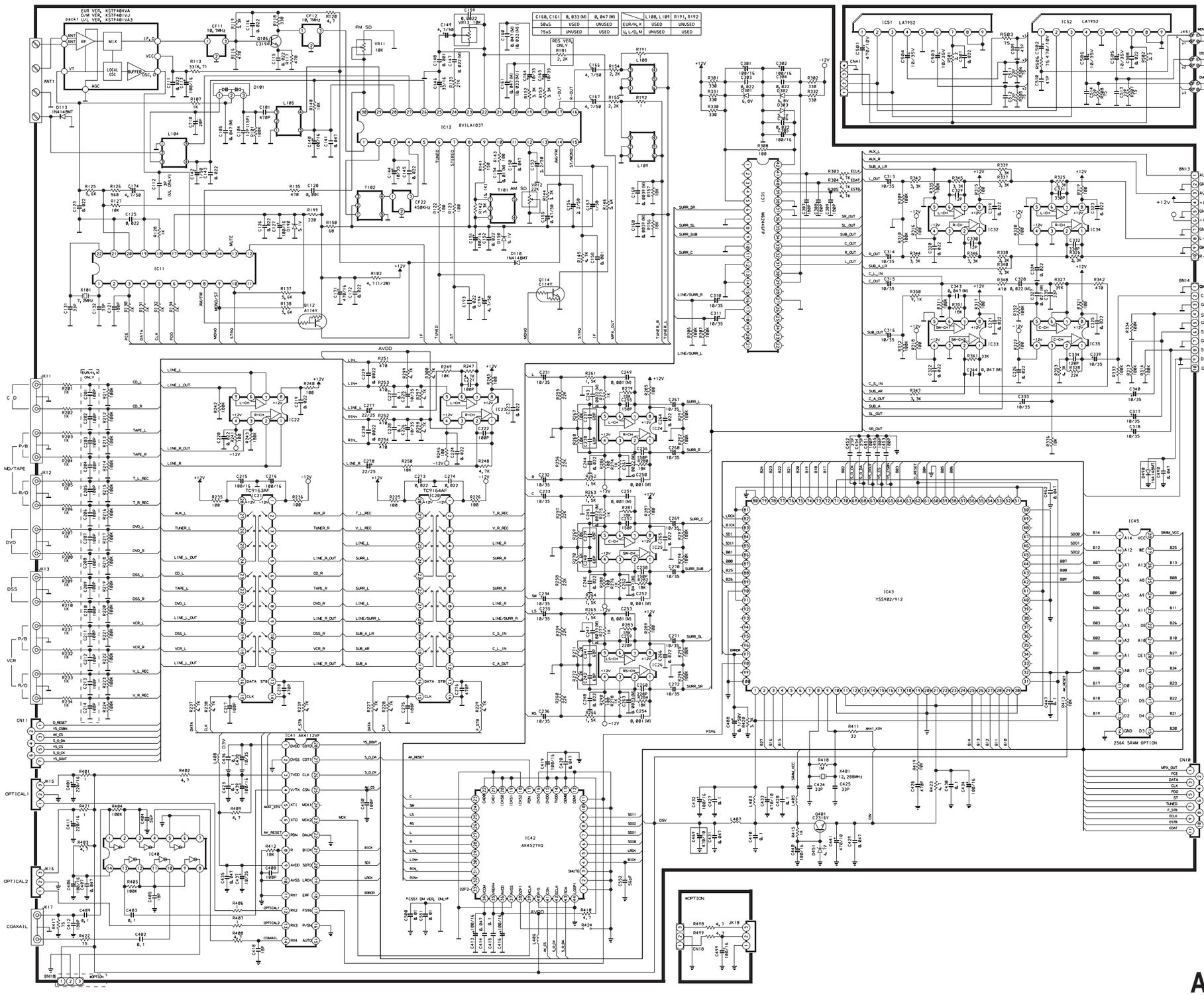
MAIN PCB ASSY

REF.NO.		PARTS NO.	DESCRIPTION
Q656	⚠	9A08946400	TR,KTD2061Y
Q657-Q660	⚠	9A08952600	TR,2SC4468
Q661-Q665	⚠	9A08952700	TR,2SA1695
Q670	⚠	9A08952600	TR,2SC4468
Q681-Q685		9A03745000	TR,KSC2785-YTA
Q901,Q935		9A08878300	TR,KRC107M
Q938-Q940		9A08884100	TR,KRA107M
Q942,Q943		9A03745000	TR,KSC2785-YTA
Q951		9A08878300	TR,KRC107M
Q952		9A08884100	TR,KRA107M
Q953-Q956		9A07888500	TR,KTD1302T
Q969-Q973		9A07888500	TR,KTD1302T
Q991		9A08878300	TR,KRC107M
Q992		9A08884100	TR,KRA107M
RY93	⚠	9A08946600	RELAY,4A004ZU
RY94	⚠	9A08946700	RELAY,1A008ZE
R656-R660	⚠	9A07331100	R,CEMENT 0.22X2 5W
R904	⚠	9A06761000	R,CARBON 3.3M K 1/2W [US,C]
R905	⚠	9A05338000	R,METAL 10 OHM 1W J
R907,R908	⚠	9A07309700	R,METAL 470 OHM 1W J
R958,R959	⚠	9A08946800	R,CARBON 120 OHM 1/2W J
R993-R997	⚠	9A05338000	R,METAL 10 OHM 1W J
TH91		9A08039800	THERMAL SENSOR,POSISTOR
T901	⚠	9A08946900	TRANSFORMER,SUB

INCLUDED ACCESSORIES

REF.NO.	PARTS NO.	DESCRIPTION	REMARKS
	9A08523201	OWNER'S MNL,E/F [US,C]	
	9A08523300	OWNER'S MNL,J [J]	
	9A08763300	REMOTE CONTROL UNIT,UR-417	
	9A08886200	BATTERY [J]	
	9A08886000	ANT,FM T	
	9A08886100	AM LOOP ANTENNA ASSY	

TEAC SCHEMATIC DIAGRAM **AG-D8900**



NOTES:
1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. ⚠Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

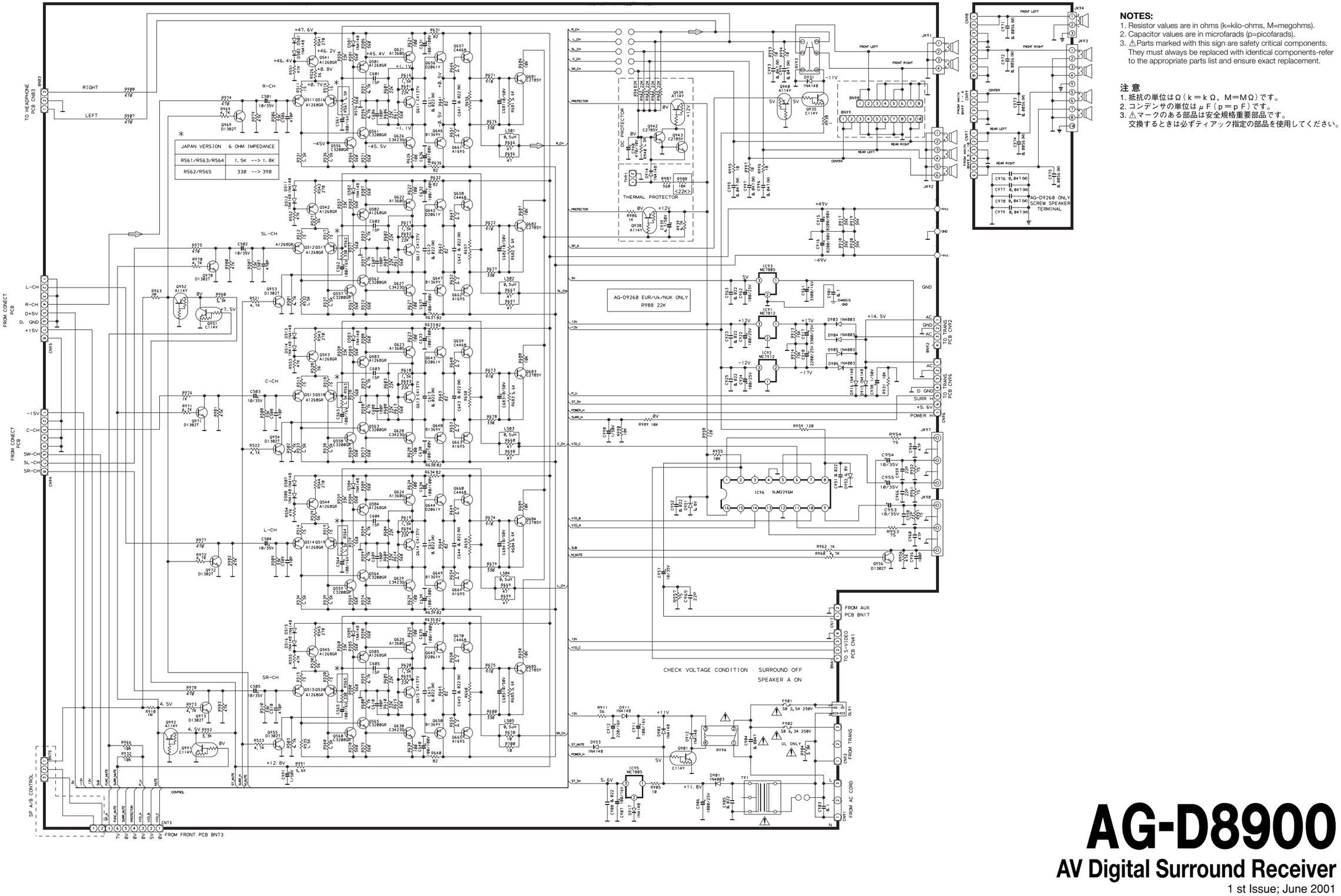
注 意
1. 抵抗の単位はΩ（k＝kΩ，M=MΩ）です。
2. コンデンサの単位はμF（p＝pF）です。
3. ⚠マークのある部品は安全規格重要部品です。
交換するときは必ずティアック指定の部品を使用してください。

AG-D8900

AV Digital Surround Receiver

1 st Issue; June 2001

TEAC SCHEMATIC DIAGRAM AG-D8900



NOTES:

1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. ⚠Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

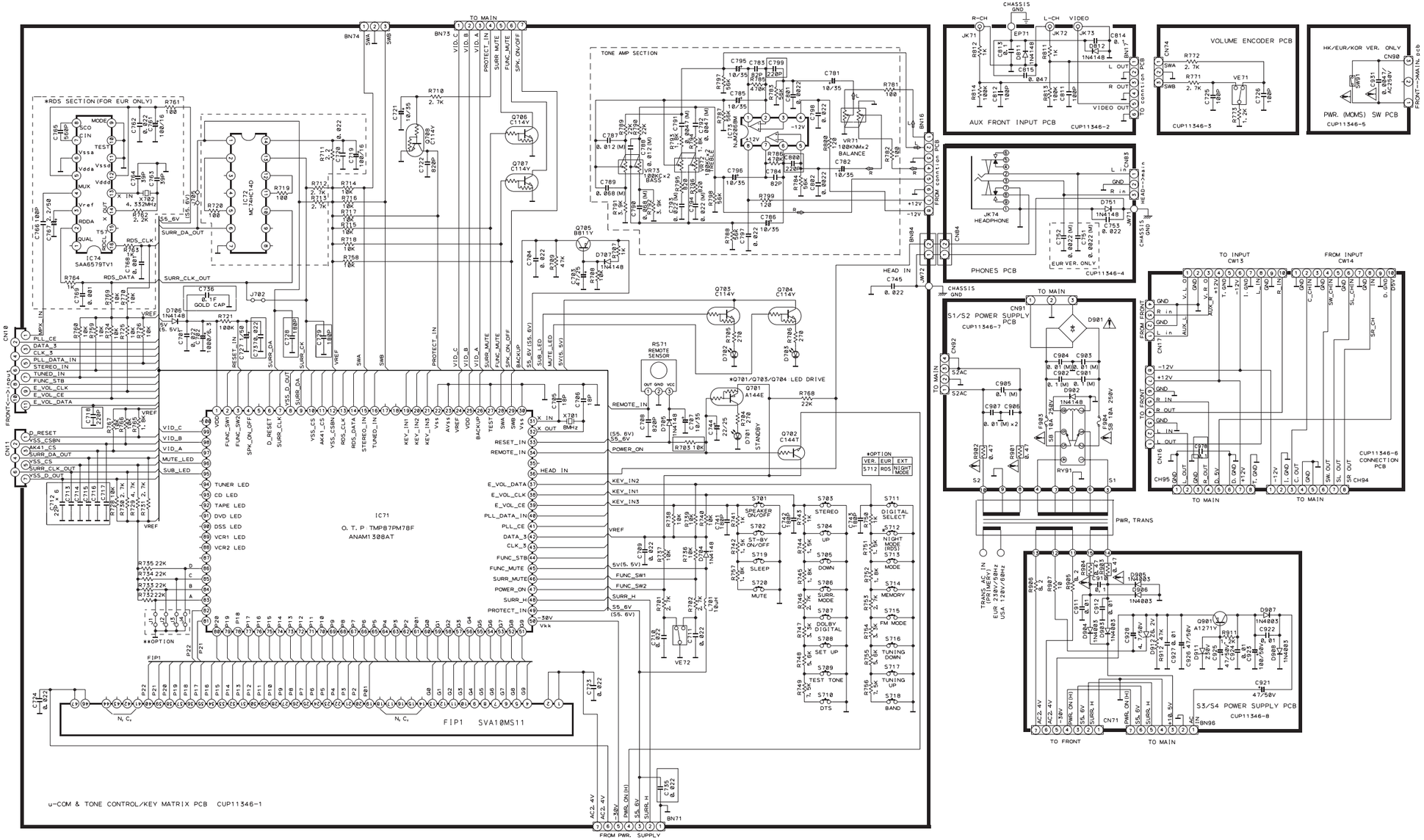
注 意

1. 抵抗の単位はΩ（k＝kΩ，M＝MΩ）です。
2. コンデンサの単位はμF（p＝pF）です。
3. ⚠マークのある部品は安全規格重要部品です。
交換するときは必ずティアック指定の部品を使用してください。

AG-D8900

AV Digital Surround Receiver

1 st Issue; June 2001



**OPTION

A (J1)	H	AM/FM 9/50kHzSTEP	EUR/UK/NUK
	L	AM/FM 10/100kHzSTEP	T/C
B (J2)	H	RDS ON(R733 USE)	EUR/UK/NUK
	L	RDS OFF(J2 USE)	T/C DM EXT
C (J3)	H	JAPAN BAND ON	DM ONLY
	L	JAPAN BAND OFF	EXCEPT DM
D (J4)	H	DTS OFF(R735 USE)	ALL
	L	DTS ON(J4 USE)	

INSTRUCTIONS FOR SERVICE PERSONNEL
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

NOTES:
1. Resistor values are in ohms (k=kilo-ohms, M=megohms).
2. Capacitor values are in microfarads (p=picofarads).
3. ⚠Parts marked with this sign are safety critical components. They must always be replaced with identical components-refer to the appropriate parts list and ensure exact replacement.

注 意
1. 抵抗の単位はΩ（k＝kΩ，M＝MΩ）です。
2. コンデンサの単位は μF（p＝pF）です。
3. ⚠マークのある部品は安全規格重要部品です。
交換するときは必ずティアック指定の部品を使用してください。

AG-D8900
AV Digital Surround Receiver
1 st Issue; June 2001