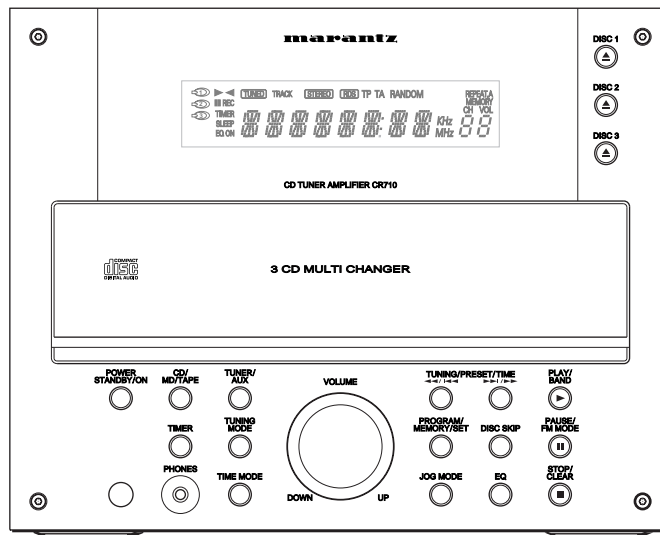


Service Manual

CR710/F1W, /C1W

CD Tuner Amplifier



COMPACT
disc
DIGITAL AUDIO

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Please use this service manual with referring to the user guide (D.F.U) without fail.
修理の際は、必ず取扱説明書を準備し操作方法を確認の上作業を行って下さい。

marantz®

CR710

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.

Parts for your **MARANTZ** equipment are generally available to our National Marantz Subsidiary or Agent.

ORDERING PARTS :

Parts can be ordered either by mail or by Fax.. In both cases, the correct part number has to be specified.

The following information must be supplied to eliminate delays in processing your order :

1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
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USA

MARANTZ AMERICA, INC.
1100 MAPLEWOOD DRIVE
ITASCA, IL. 60143
USA
PHONE : 630 - 741 - 0300
FAX : 630 - 741 - 0301

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FAX : +31 - 40 - 2735578

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PHILIPS DA AMAZONIA IND. ELET. ITDA
CENTRO DE INFORMACOES AO
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SAO PAULO, SP, BRAZIL
PHONE : 0800 - 123123(Discagem Direta Gratuita)
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MARANTZ PROFESSIONAL PRODUCTS
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AURORA, ILLINOIS 60504 USA
PHONE : 630 - 820 - 4800
FAX : 630 - 820 - 8103

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TECHNICAL AUDIO GROUP PTY, LTD
558 DARLING STREET,
BALMAIN, NSW 2041,
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PHONE : 61 - 2 - 9810 - 5300
FAX : 61 - 2 - 9810 - 5355

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LENBROOK INDUSTRIES LIMITED
633 GRANITE COURT,
PICKERING, ONTARIO L1W 3K1
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PHONE : 905 - 831 - 6333
FAX : 905 - 831 - 6936

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24 LIONEL ROAD,
MT. WAVERLEY VIC 3149
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THAILAND

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746 - 754 MAHACHAI ROAD.,
WANGBURAPAPIROM, PHRANAKORN,
BANGKOK, 10200 THAILAND
PHONE : +66 - 2 - 222 9181
FAX : +66 - 2 - 224 6795

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#03-02 OLIVINE BUILDING
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FAX : +65 858 6078

NEW ZEALAND

WILDASH AUDIO SYSTEMS NZ
14 MALVERN ROAD MT ALBERT
AUCKLAND NEW ZEALAND
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PAI- YUING CO., LTD.
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TAIPEI, 10429, TAIWAN R.O.C.
PHONE : +886 - 2 - 25221304
FAX : +886 - 2 - 25630415

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WO KEE HONG ELECTRONICS SDN. BHD.
SUITE 8.1, LEVEL 8, MENARA GENESIS,
NO. 33, JALAN SULTAN ISMAIL,
50250 KUALA LUMPUR, MALAYSIA
PHONE : +60 3 - 2457677
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35- 1, 7- CHOME, SAGAMIONO
SAGAMIHARA - SHI, KANAGAWA
JAPAN 228-8505
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本社 〒228-8505
神奈川県相模原市相模大野7-35-1
営業本部 〒150-0022
東京都渋谷区恵比寿南1-11-9

KOREA

MK ENTERPRISES LTD.
ROOM 604/605, ELECTRO-OFFICETEL, 16-58,
3GA, HANGANG-RO, YONGSAN-KU, SEOUL
KOREA
PHONE : +822 - 3232 - 155
FAX : +822 - 3232 - 154

SHOCK, FIRE HAZARD SERVICE TEST :

CAUTION : After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.

Ref. UL Standard No. 1492.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

1. TECHNICAL SPECIFICATIONS

Amplifier section

1 kHz continuous output	stereo channel drive, 2ch x 20W, 0.5%
S/N	Aux, Tape, MD (IHF-A) 90dB
Input sensitivity & Impedance... Aux, Tape, MD(IHF-A)	200mV
Frequency character Aux, Tape, MD	10Hz~60kHz(-3dB)
Tone control: Treble	±9dB
Bass	±9dB

Tuner section

<FM>

Frequency range...	87.5~108.00 MHz (100kHz interval)
Input Sensitivity.....	15dB (S/N 30dB)
Total Harmonic Distortion	0.2%
S/N ratio: Mono	65dB
Stereo	60dB
Stereo separation 1kHz	35dB

<AM>

Frequency range	522~1620 kHz (9kHz interval)
Input sensitivity	50dB (S/N 20dB)
Total Harmonic Distortion	1.5%
S/N ratio	40dB

CD section

Channels	2 Channels
Frequency response	20Hz~ 20,000Hz ±1.5dB
S/N ratio	≥87dB (IHF 'A' Filter)
Distortion	≤0.1%
Channel separation	≥65dB (1kHz)
Sampling rate	44.1kHz
Error correction	CIRC
D/A conversion..	CMOS delta-Sigma D/A converter(1Bit)
Optical readout	
Laser	Semiconductor laser
Wavelength	780nm

General

Power supply	220V, 60Hz
Power consumption	105W
Dimension (W x H x D)	175 x 140 x 360 mm
Weight	4.0kg

アンプ部

定格出力	20W + 20W (0.5%, 1kHz, 6Ω)
入力感度	200mV
周波数特性	20Hz ~ 40kHz

FM チューナー部

受信周波数	76.0MHz ~ 90.0MHz (100 kHz ステップ)
-------------	-------------------------------------

AM チューナー部

受信周波数	522kHz ~ 1620kHz (9kHz ステップ)
-------------	---------------------------------

CD プレイヤー部

周波数特性	20Hz ~ 20kHz (± 1.5dB)
S/N 比	85dB 以上
ワウフラッター	測定限界以下

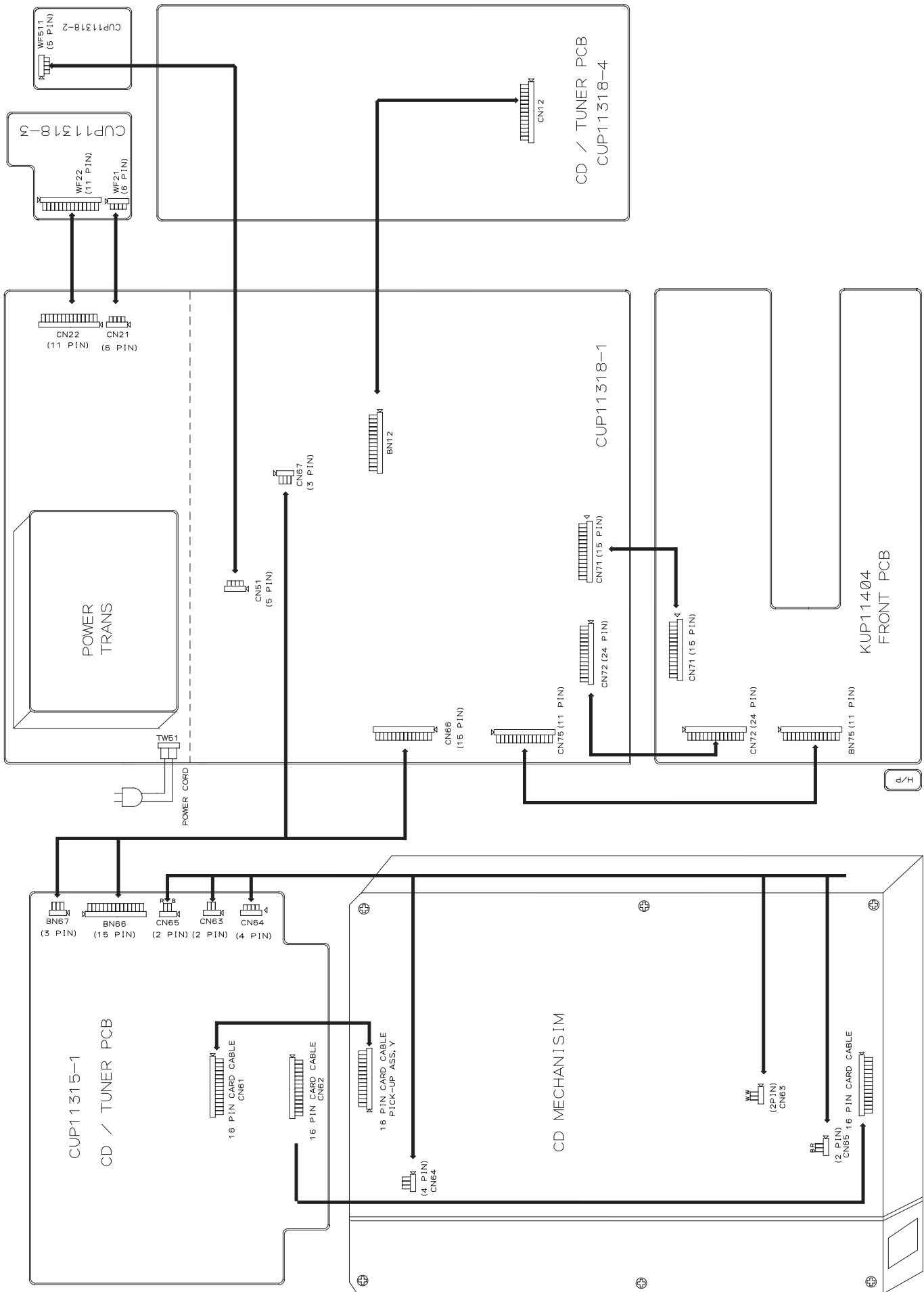
一般事項

電源	AC 100V, 50/60Hz
消費電力 <電気用品取締法>	60W
最大外形寸法 (幅×高さ×奥行)	175 × 140 × 361mm
質量	4.0kg

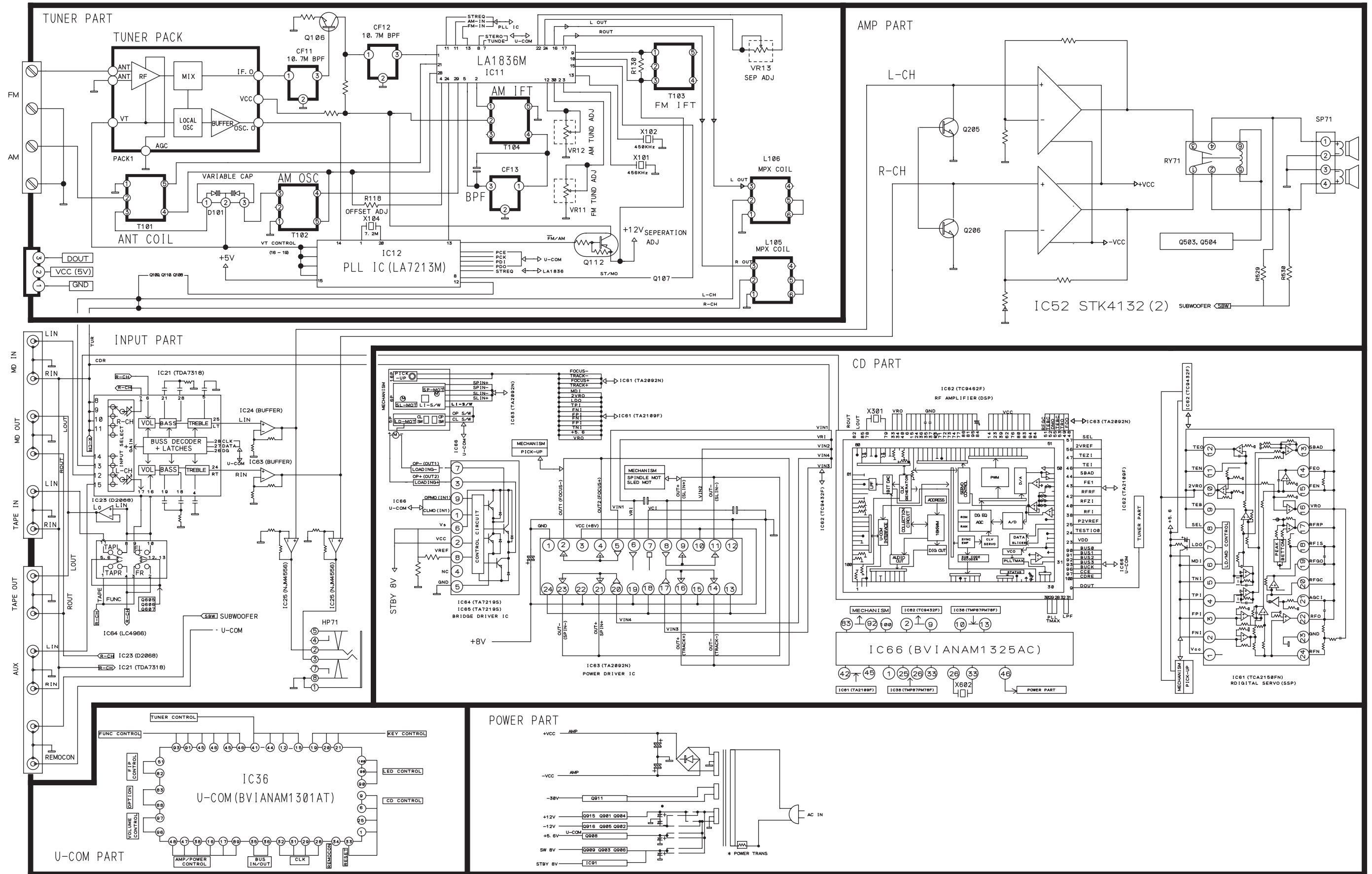
付属品

リモコン送信機 (RC710CR)	1 個
外形寸法 (幅×高さ×奥行)	50 × 179 × 20.5mm
質量	80g
単 3 形乾電池 (SUM3)	2 本
FM 室内アンテナ (簡易型)	1 個
FM アンテナアダプター	1 個
AM ループアンテナ	1 個
取扱説明書	1 冊
保証書	1 部

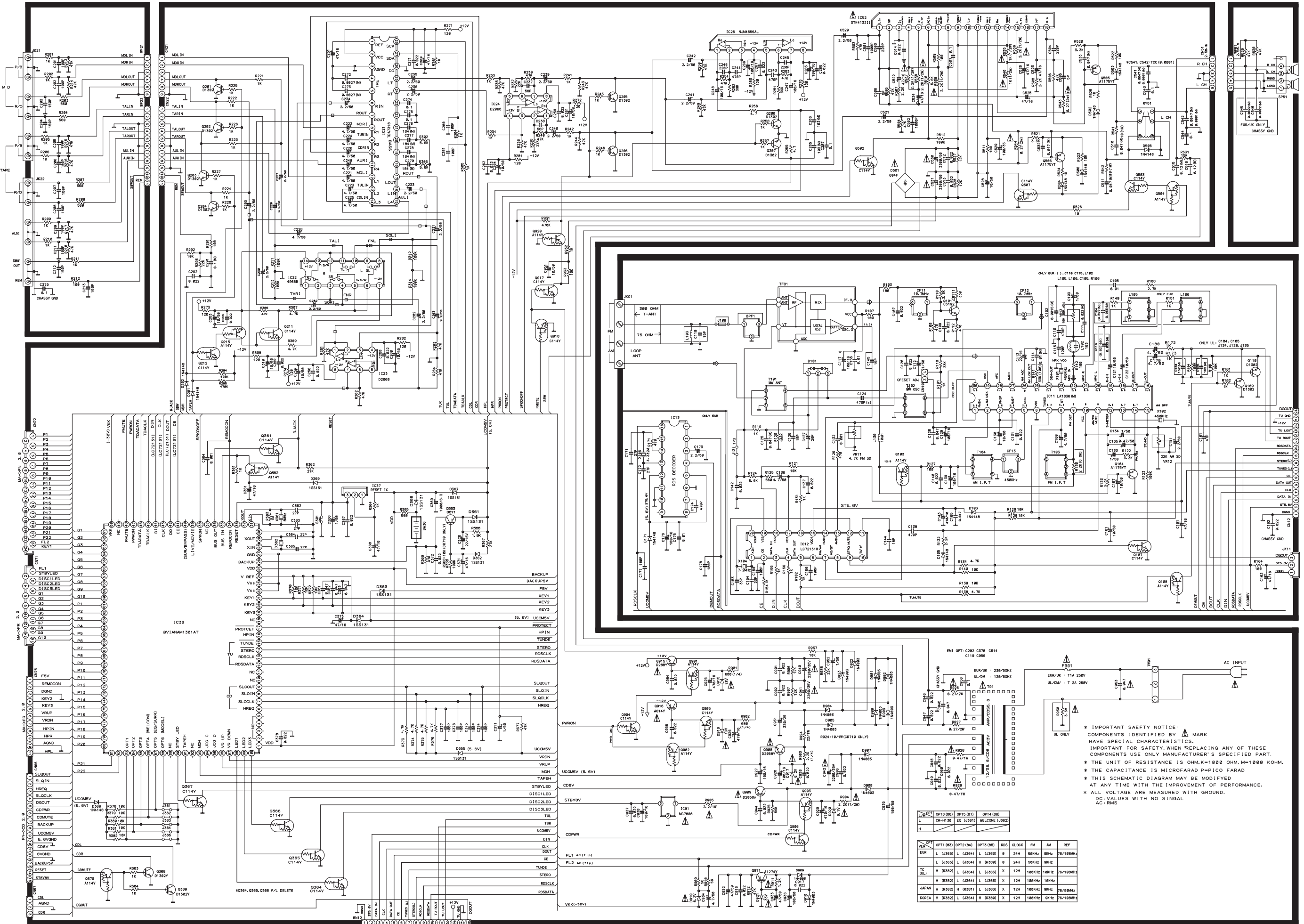
2. WIRING DIAGRAM



3. BLOCK DIAGRAM

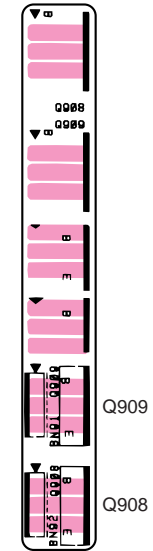
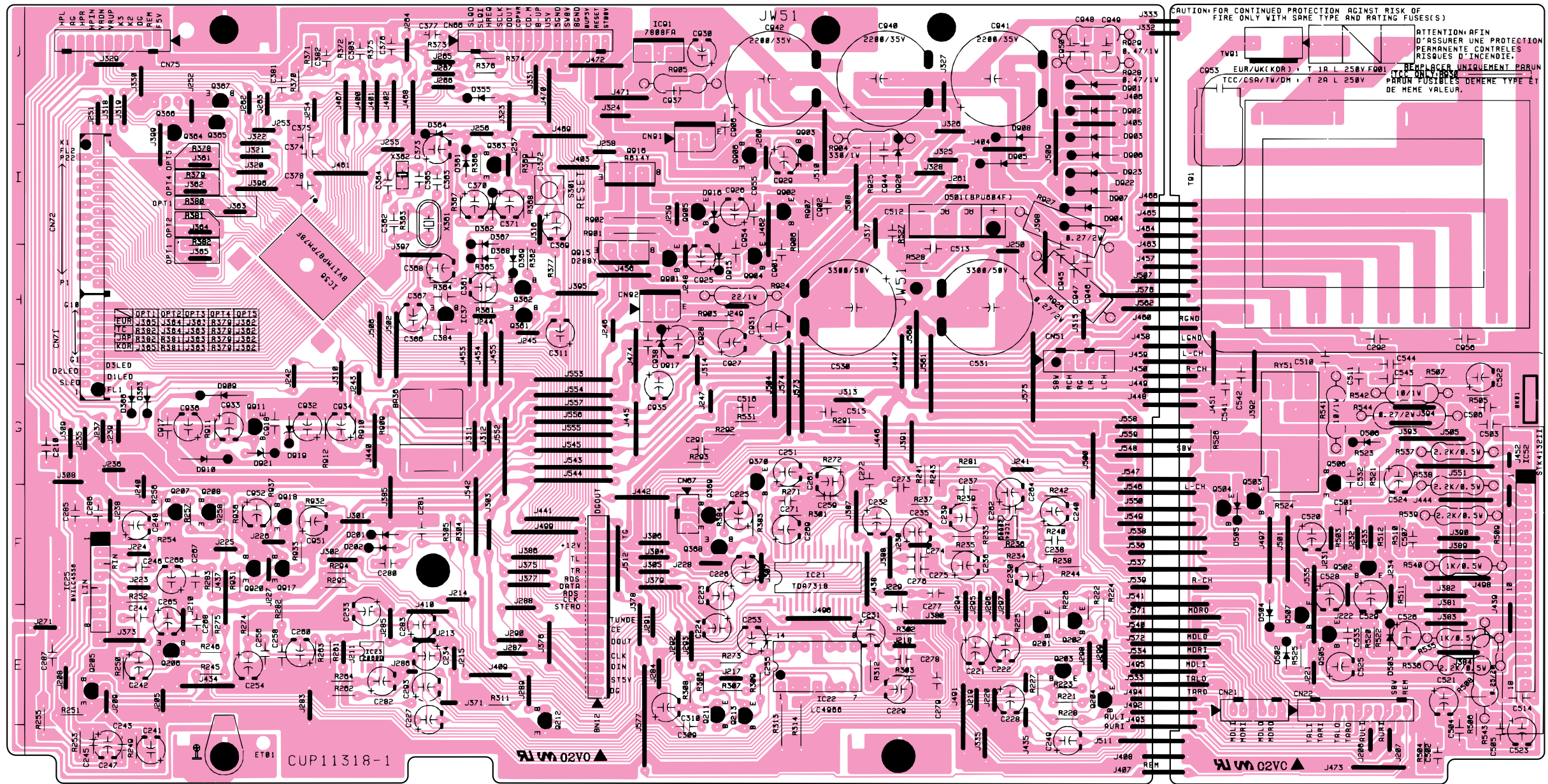


4. SCHEMATIC DIAGRAM AND PARTS LOCATION (Parts side)

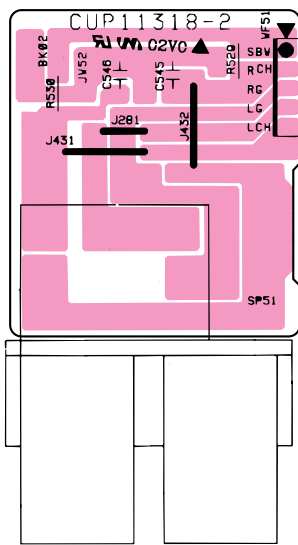


MAIN PCB

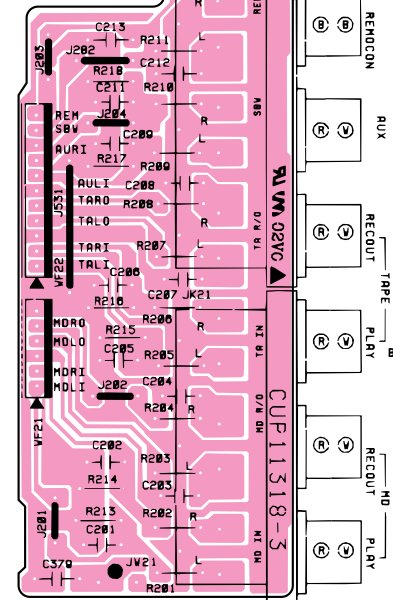
Q701 IC25 Q205 Q306 Q207 Q206 Q307 Q305 Q208 Q911 Q912 Q913 Q914 Q915 Q916 Q917 IC36 IC37 IC38 IC39 Q362 Q363 Q361 Q212 Q211 Q915 Q916 Q901 IC91 IC92 Q905 Q369 Q368 Q211 Q906 Q904 Q370 Q213 Q902 IC22 Q202 Q201 Q203 Q204 Q504 Q503 Q507 Q505 Q502 Q506 IC52



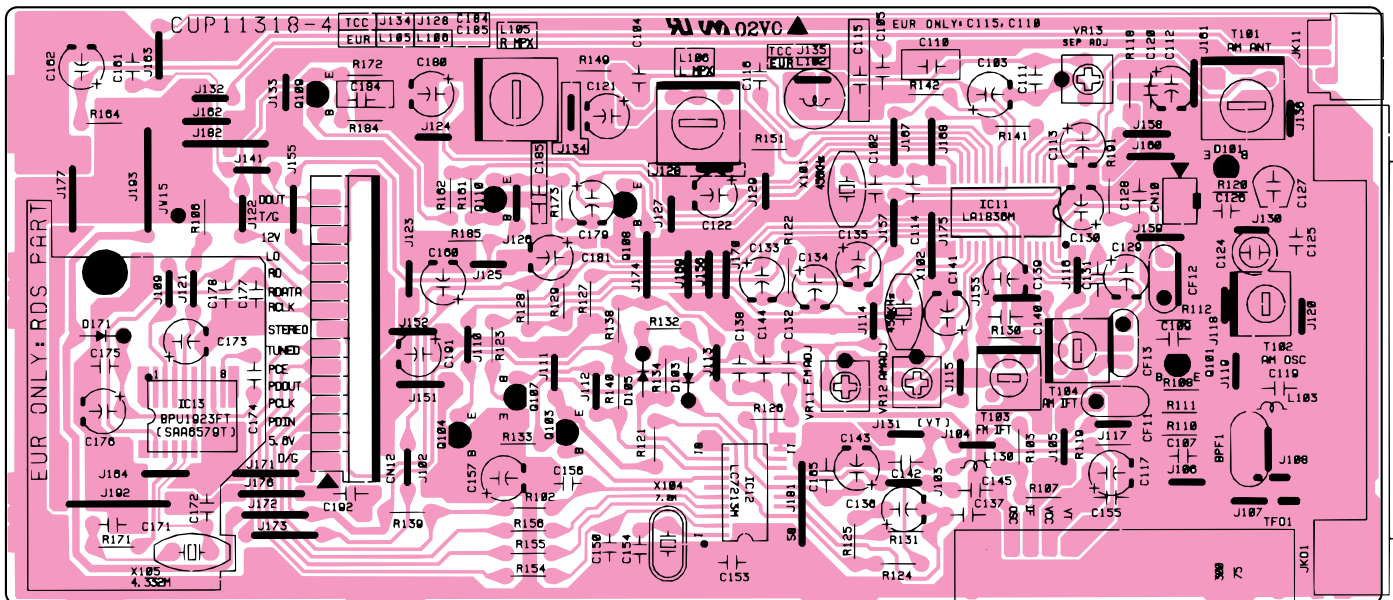
SPK TERMINAL PCB

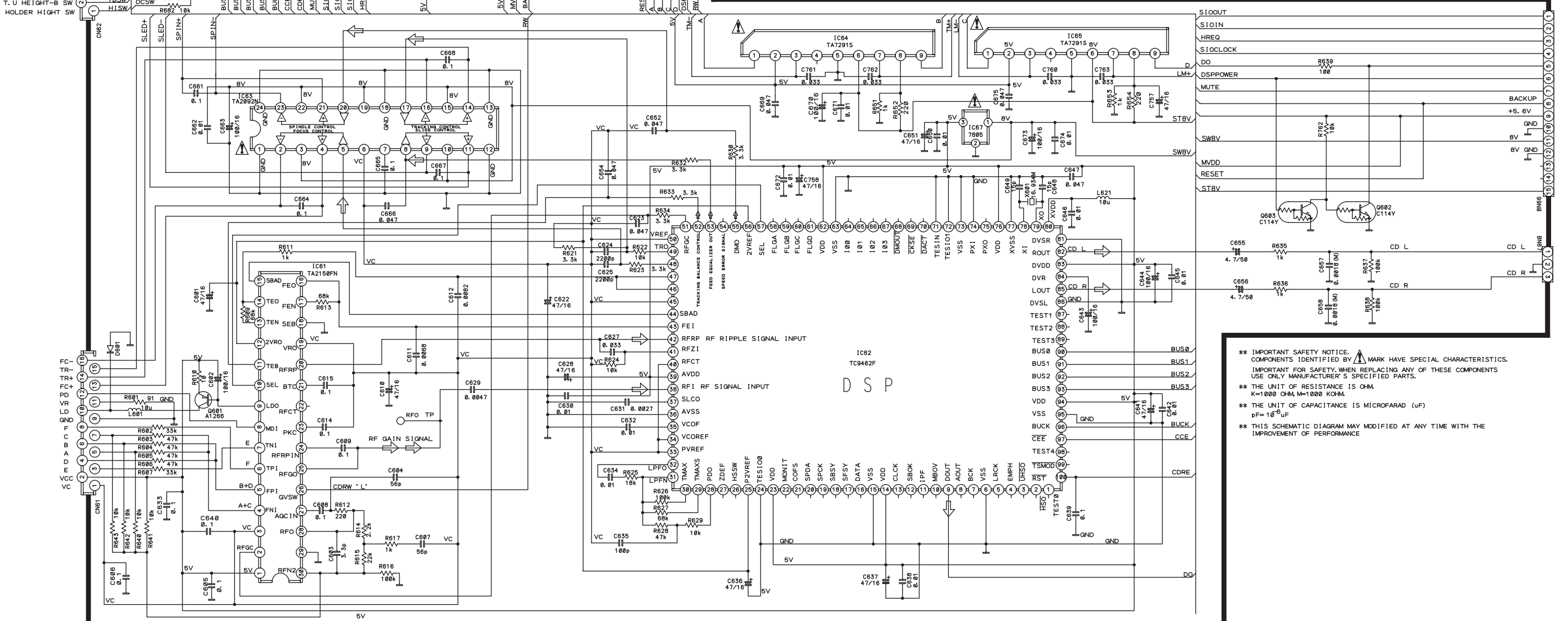
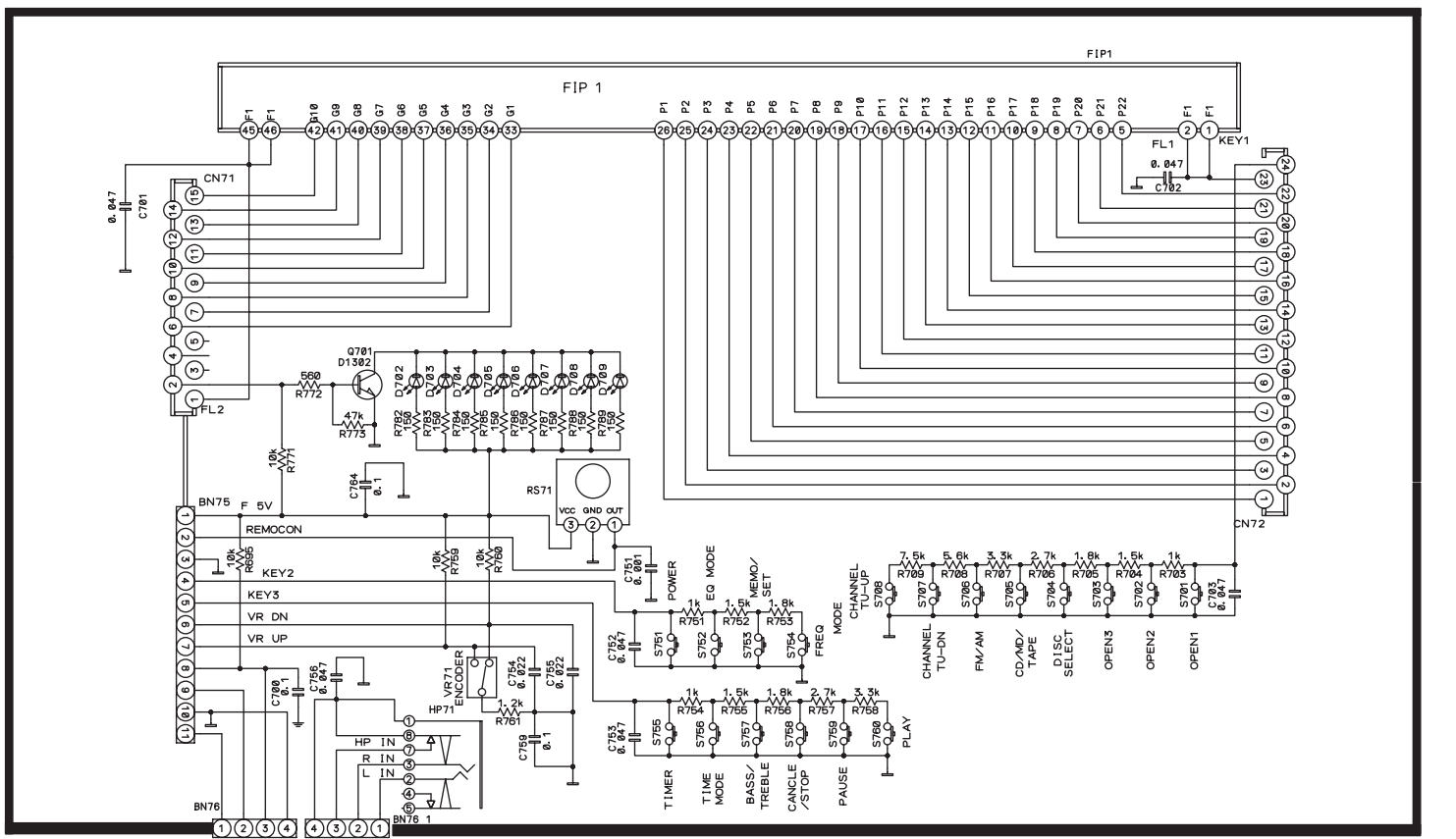
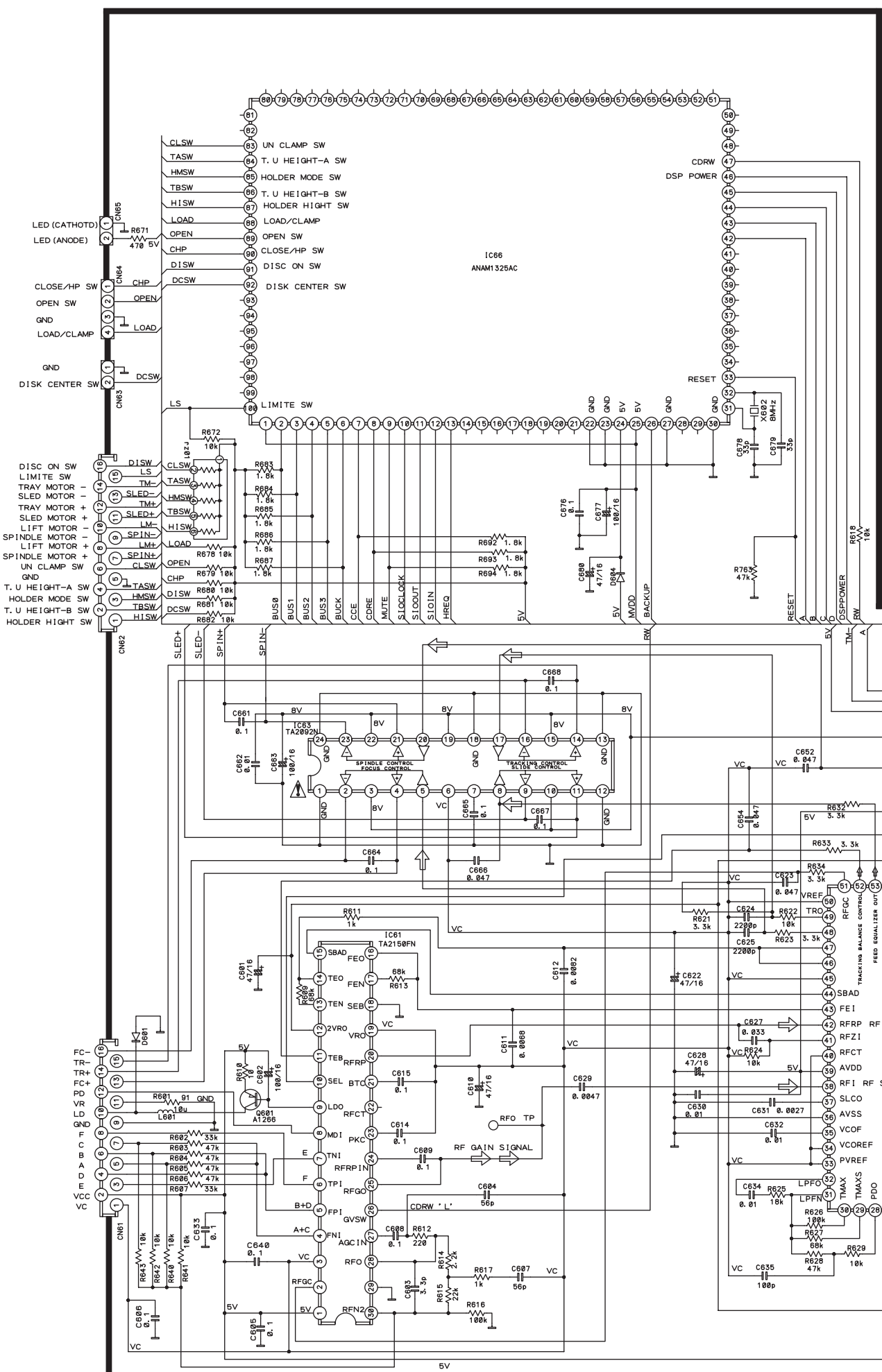


INPUT PCB



TUNER PCB





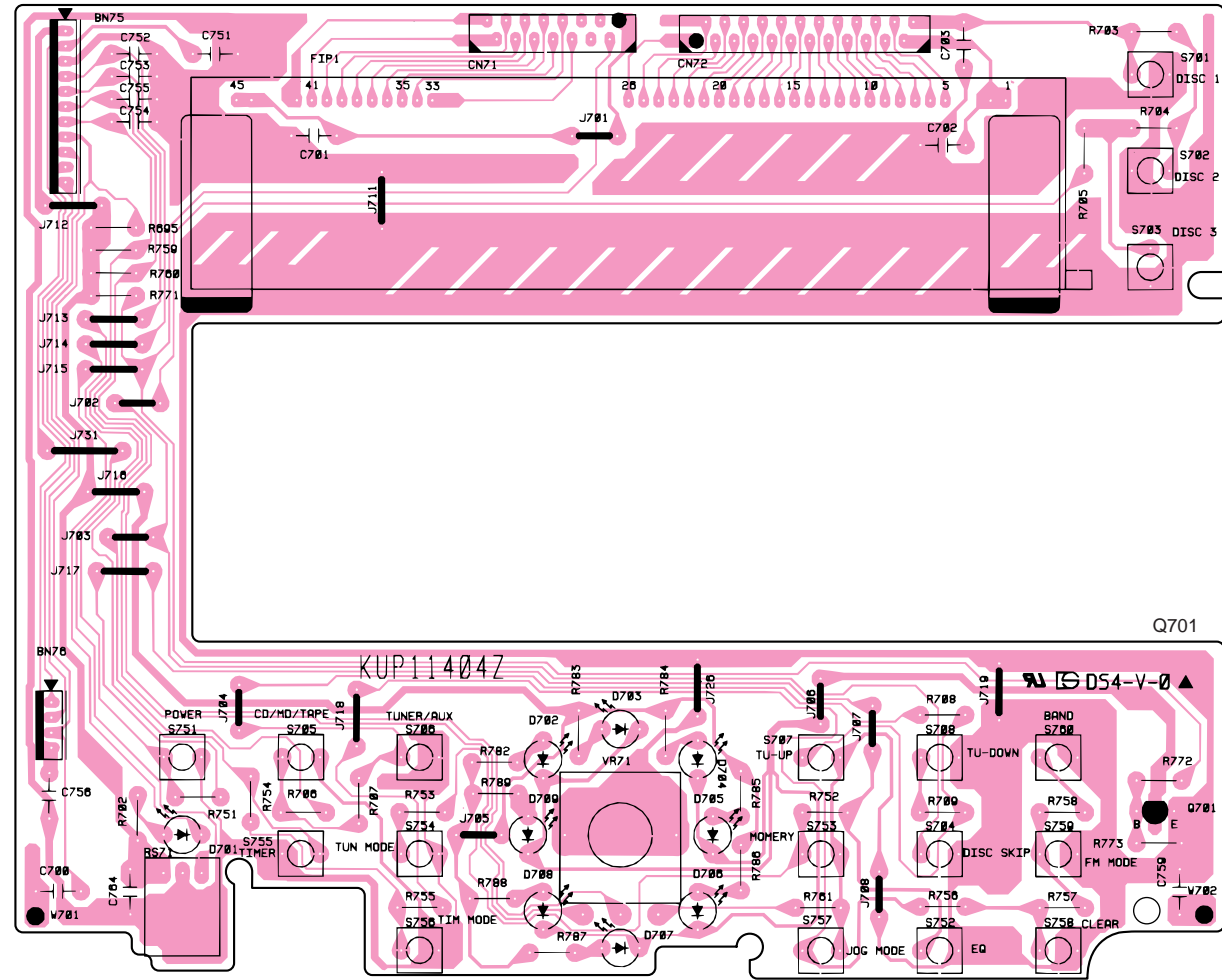
**** IMPORTANT SAFETY NOTICE** MARK HAVE SPECIAL CHARACTERISTICS. COMPONENTS IDENTIFIED BY MARK HAVE SPECIAL CHARACTERISTICS. IMPORTANT FOR SAFETY, WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY MANUFACTURER'S SPECIFIED PARTS.

**** THE UNIT OF RESISTANCE IS OHM**
K=1000 OHM M=1000 KOHM

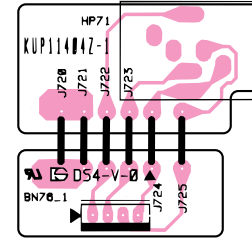
**** THE UNIT OF CAPACITANCE IS MICROFARAD (uF)**
pF=10⁻⁶ uF

**** THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE**

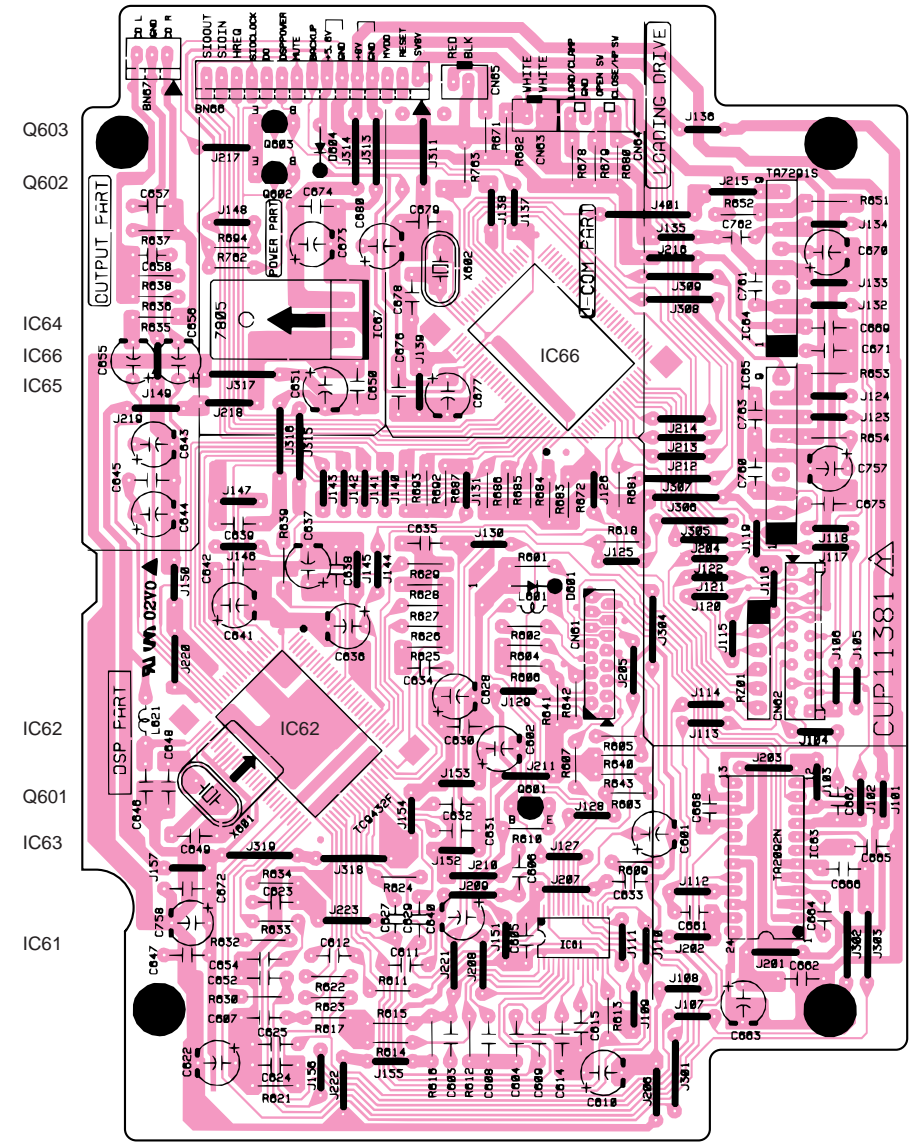
FRONT PCB



HEADPHONE PCB



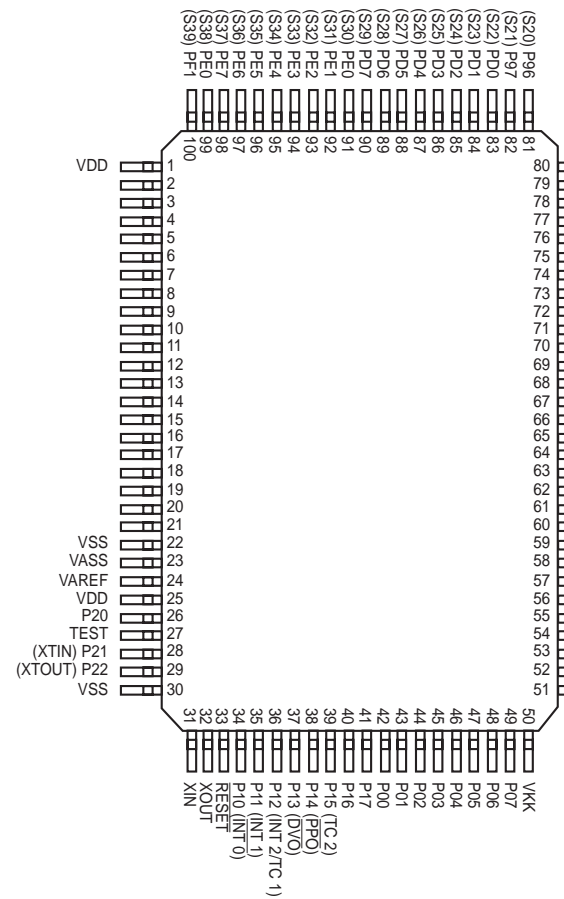
CD MECHANISM PCB



5. MICROPROCESSOR AND IC DATA

IC36 : BVIANAM1301T

PIN CONFIGURATION

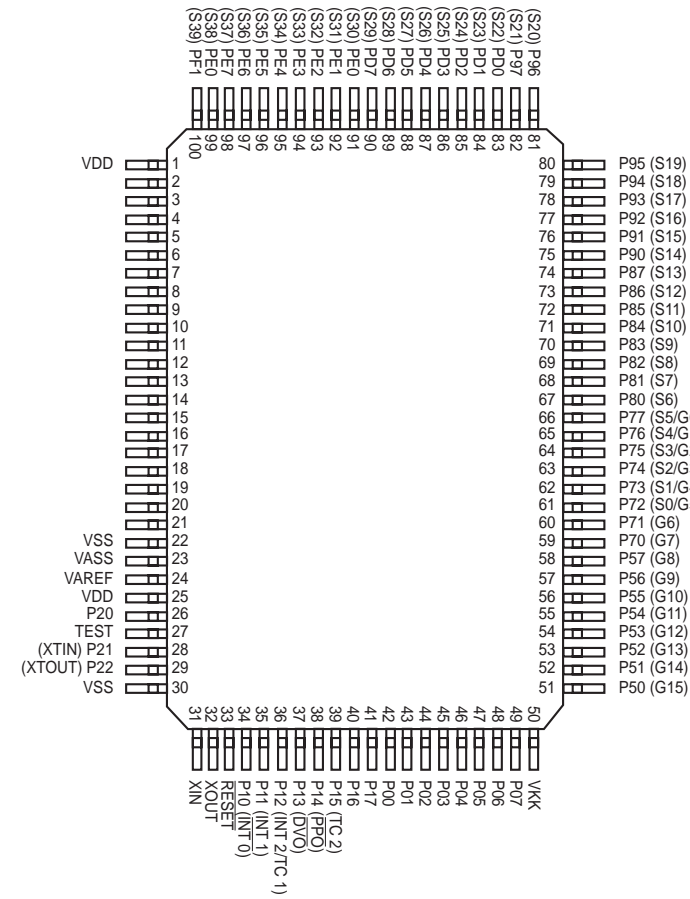


PIN FUNCTION

PIN No.	NAME	I/O	DESCRIPTION
1, 25	VDD	-	POWER SUPPLY (+5V)
6	HREQ	I/O	BUS for CD CLOCK
7	SLQCLK	I/O	BUS for CD CHIP ENABLE
8	SLQIN	I	RESET for CD
9	SLQOUT	O	MUTE for CD SINGLE
12	DATA	O	EUROPE VERSION RDS DATA CONTROL PORT
13	CLOCK	O	
14	STEREO IN	I	STEREO IN CONTROL INPUT
15	TUNED	I	TUNED CONTROL INPUT
16	HPIN	I	
17	PROTECTOR	I	PROTECTOR IN PORT
19, 20, 21	KEY MATRIX	I	KEY MATRIX PORTS
22, 23, 27, 30	VSS	-	GND
24	VAREF	-	A/D CONVERTOR REFERENCE VOLTAGE
26	BACK UP	I	BACK-UP MODE CONTROL INPUT
28, 29	X-TAL	I	32.768kHz SUB CLOCK CONNECTING PORT
31	X IN	I	8MHz CRYSTAL CONNECTING TERMINAL
32	X OUT	O	
33	RESET	I	SYSTEM RESET PULSE INPUT
34	REMOTE IN	I	REMOTE CONTROL SIGNAL INPUT
35	BUS IN	I	REMOTE CONTROL SIGNAL INPUT
36	BUS OUT	O	REMOTE CONTROL SIGNAL INPUT
38	SPEAKER	O	SPEAKER ON/OFFPORT
41	CE	O	
42	DATA OUT	O	PLL DATA CONTROL PORT
43	CLOCK	O	
44	DATA IN	I	
45	CLOCK	O	
46	DATA	O	TDA7318D DATA CONTROL PORT
47	POWER	O	POWER ON/OFF
48	MUTE	O	SIGNAL MUTE
50	VFL	O	(-33V) NEGATIVE POWER SUPPLY FOR FIP BLINKING
52 - 60	GRID	O	FIP GRID CONTROL OUTPUTS
61 - 82	SEGMENT	O	FIP SEGMENT CONTROL OUTPUTS
83 - 87		I	AREA OPTION
89	CD POWER	O	CD POWER ON/OFF PORT
90	ON/SBY LED	O	ON/STANDBY LED CONTROL PORT
91	TAPE 'H'	O	ON TAPE FUNCTION 'H' OUTPUT PORT
93	MD 'H'	O	ON MD FUNCTION 'H' OUTPUT PORT
96, 97	JOG CONTROL	I	VOL/BAL/BASS/TRE CONTROL JOG INPUT PORT

IC66 : BVIANAM1325AC

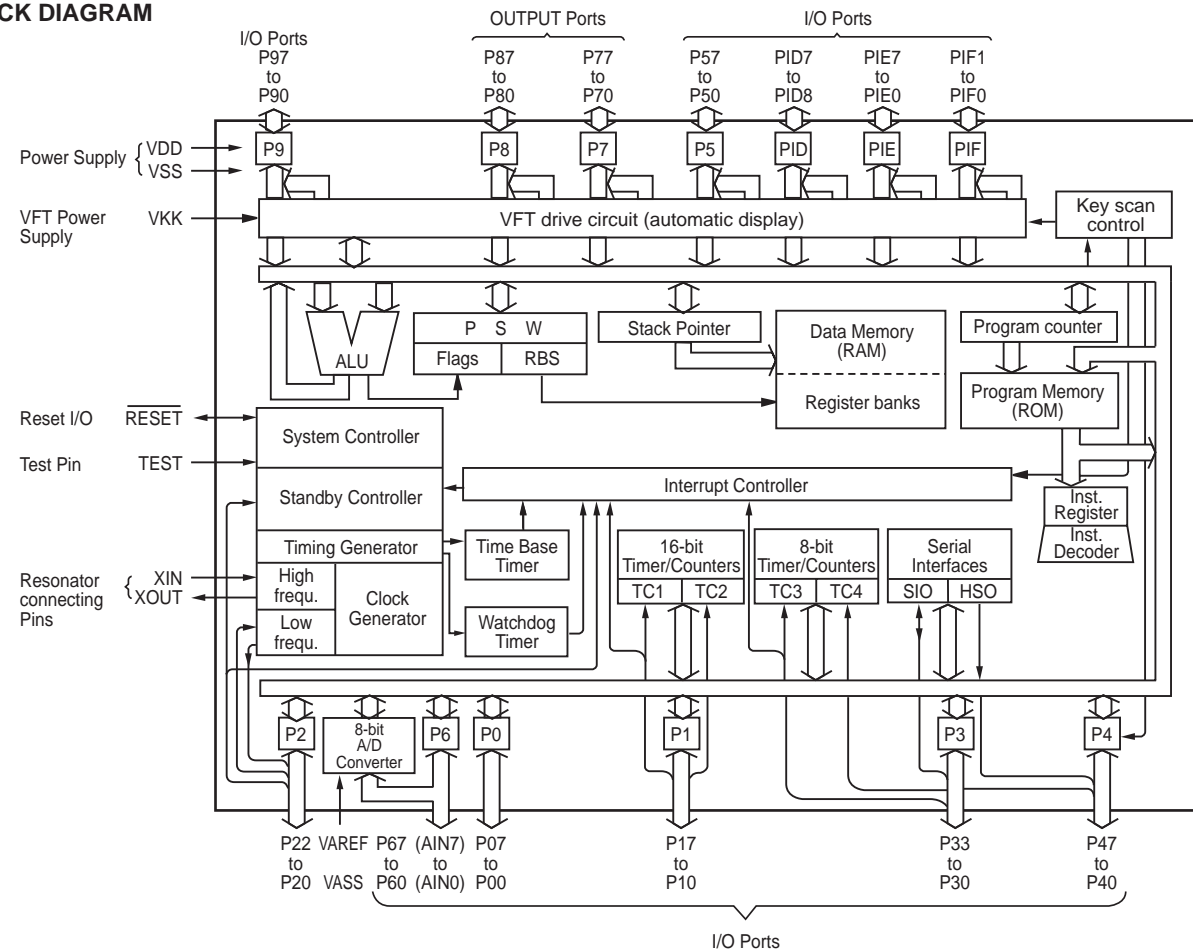
PIN CONFIGURATION



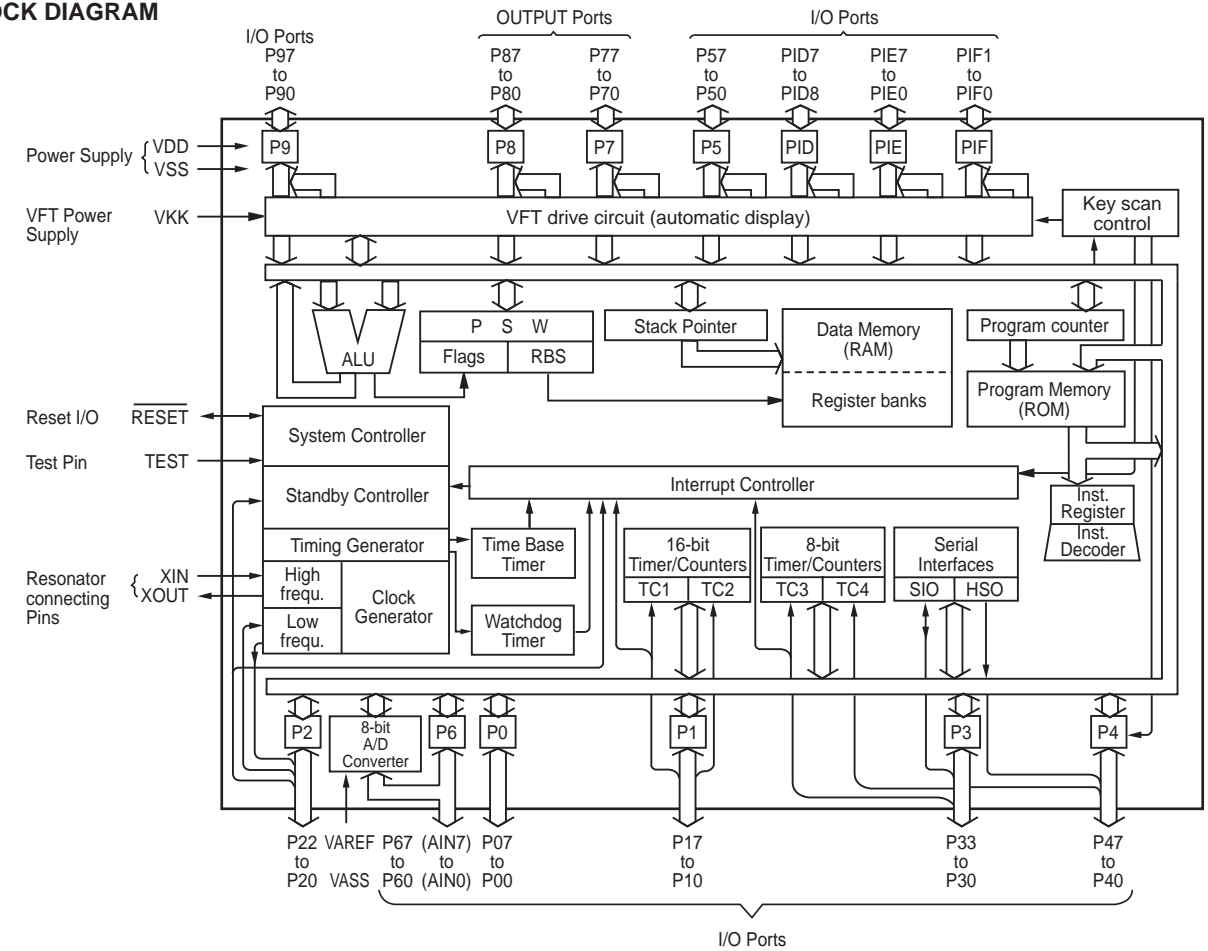
PIN FUNCTION

PIN No.	NAME	I/O	DESCRIPTION
1, 25	VDD	-	POWER SUPPLY (+5V)
2	BUS 0	I/O	BUS for CD DATA
3	BUS 1	I/O	BUS for CD DATA
4	BUS 2	I/O	BUS for CD DATA
5	BUS 3	I/O	BUS for CD DATA
6	BUCK	I/O	BUS for CD CLOCK
7	CCE	I/O	BUS for CD CHIP ENABLE
8	CDRE	O	RESET for CD
9	MUTE	O	MUTE for CD SINGLE
10	SIO CLOCK	I/O	
11	SIO OUT	I/O	BUS for CD DATA
12	SIO IN	I/O	
13	HREQ	I/O	
22, 23, 27, 30	VSS	-	GND
31	X IN	I	8MHz CRYSTAL CONNECTING TERMINAL
32	X OUT	O	
33	RESET	I	SYSTEM RESET
42	A	O	
43	B	O	
44	C	O	PLL DATA CONTROL PORT
45	D	O	
46	DSP POWER	O	CD POWER ON/OFF
47	CD-RW	O	LOW: CD-RW, HIGH: CD
83	UN CLAMP SW	I	MECHANISM SW CONDITION
84	T.U HEIGHT SW	I	
85	HOLDER MODE SW	I	
86	T.U HEIGHT SW	I	
87	HOLDER HEIGHT SW	I	
88	LOAD/CLAMP	I	
89	OPEN SW	I	
90	CLOSE/HP SW	I	
91	DISCON SW	I	
92	DISC CENTERSW	I	
100	LIMIT SW	I	

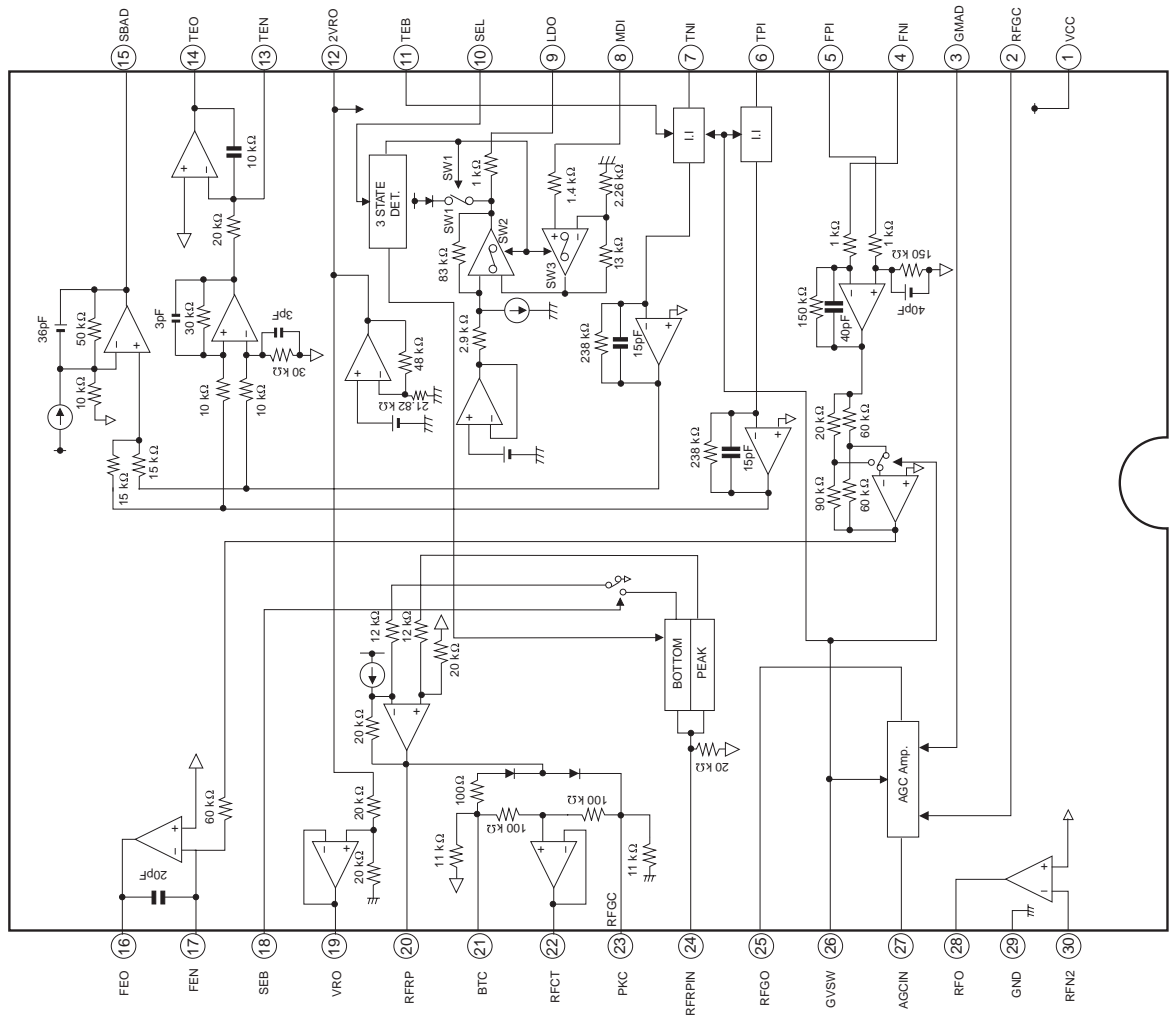
BLOCK DIAGRAM



BLOCK DIAGRAM



IC61 : TA2150FN (RF/DIGITAL SERVO) BLOCK DIAGRAM



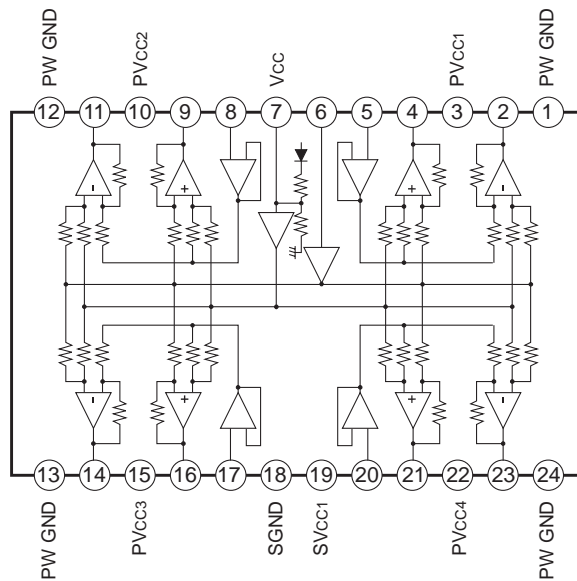
PIN FUNCTION

PIN No.	NAME	I/O	DESCRIPTION	REMARK																									
1	VCC	-	Power supply input terminal	-																									
2	RFGC	I	RF amplitude adjustment control signal input terminal. Controlled by 3 PWM signal (PWM carrier = 88.2 kHz)	3 signal input (2 VRO, VRO, GND)																									
3	GMAD	I	Open loop gain adjustment terminal for AGC amp.	(Note1)																									
4	FNI	I	Main beam I-V amp input terminal.	Connected to pin diode output B+D (through resistor).																									
5	FPI	I	Main beam I-V amp input terminal.	Connected to pin diode output A+C (through resistor).																									
6	TPI	I	Sub beam I-V amp input terminal.	Connected to pin diode output F.																									
7	TNI	I	Sub beam I-V amp input terminal.	Connected to pin diode output E.																									
8	MDI	I	Monitor photo diode amp input terminal.	Connected to monitor photo diode.																									
9	LDO	O	Laser diode amp input terminal.	Connected to laser diode control circuit.																									
10	SEL	I	Laser diode control signal input terminal and APC circuit ON/OFF control signal terminal. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>SEL</th> <th colspan="3">LDC</th> <th>RFRP Detct Frequency</th> </tr> <tr> <th></th> <th>SW1</th> <th>SW2</th> <th>SW3</th> <th></th> </tr> </thead> <tbody> <tr> <td>GND</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>LOW</td> </tr> <tr> <td>HIZ</td> <td>OFF</td> <td>ON</td> <td>ON</td> <td>LOW</td> </tr> <tr> <td>Vcc</td> <td>OFF</td> <td>ON</td> <td>ON</td> <td>High</td> </tr> </tbody> </table>	SEL	LDC			RFRP Detct Frequency		SW1	SW2	SW3		GND	ON	OFF	OFF	LOW	HIZ	OFF	ON	ON	LOW	Vcc	OFF	ON	ON	High	3 signals input. (Vcc, HIZ, GND)
SEL	LDC			RFRP Detct Frequency																									
	SW1	SW2	SW3																										
GND	ON	OFF	OFF	LOW																									
HIZ	OFF	ON	ON	LOW																									
Vcc	OFF	ON	ON	High																									
11	TEN	I	Tracking error balance adjustment signal input terminal. Controlled by 3-PWM signal. (PWM carrier = 88.2 kHz)	3 signals input. (2VRO, VRO, GND)																									
12	2VRO	O	Reference voltage (2vro) output terminal. 2VRO=4.2V when Vcc=5V	-																									
13	TEN	I	TE amp negative input terminal.	Connected to TEO through feedback resistor.																									
14	TEO	O	TE error signal output terminal.	-																									
15	SBAD	O	Sub beam adder signal output terminal.	-																									
16	FEO	O	Focus error signal output terminal.	-																									
17	FEN	I	FE amp negative input terminal.	Connected to FEO through feedback resistor.																									
18	SEB	I	RFRP output circuit switching terminal. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>SEB</th> <th>Bottom Detect</th> <th>Peak Detect</th> </tr> </thead> <tbody> <tr> <td>GND</td> <td>ON</td> <td>ON</td> </tr> <tr> <td>HIZ</td> <td>ON</td> <td>ON</td> </tr> <tr> <td>Vcc</td> <td>OFF</td> <td>ON</td> </tr> </tbody> </table>	SEB	Bottom Detect	Peak Detect	GND	ON	ON	HIZ	ON	ON	Vcc	OFF	ON	Low(GND) is for normal use.													
SEB	Bottom Detect	Peak Detect																											
GND	ON	ON																											
HIZ	ON	ON																											
Vcc	OFF	ON																											
19	VRO	O	Reference signal(VRO) output terminal. VRO = 2.1V when Vcc=5V	-																									
20	RFRP	O	Track count signal output terminal.	-																									
21	BTC	I	Time constant adjustment terminal for bottom detection.	Adjusted by capacitance.																									

PIN No.	NAME	I/O	DESCRIPTION	REMARK								
22	RFRP	O	RFRP signal center level output terminal.	-								
23	PKC	I	Time constant adjustment terminal for peak detection.	Adjusted by capacitance.								
24	RFRPIN	I	Input terminal for track count signal adjustment amp.	-								
25	RFGO	O	Output terminal for RF signal amplitude adjustment amp.	-								
26	GVSU	I	Amp(AGC, FE, TE) gain switching terminal. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>GVSU</th> <th>Mode</th> </tr> </thead> <tbody> <tr> <td>GND</td> <td>CD-RW</td> </tr> <tr> <td>HIZ</td> <td>Normal</td> </tr> <tr> <td>Vcc</td> <td>Normal</td> </tr> </tbody> </table>	GVSU	Mode	GND	CD-RW	HIZ	Normal	Vcc	Normal	Low(GND) is for 5 times gain.
GVSU	Mode											
GND	CD-RW											
HIZ	Normal											
Vcc	Normal											
27	AGCIN	I	Input terminal for RF signal amplitude adjustment amp.	Connected to RFO through capacitance.								
28	RFO	O	Output terminal RF signal amp.	-								
29	GND	-	Ground terminal.	-								
30	RFN2	I	Input terminal for RF signal amp.	Connected to pin-diode output A+B+C+D (through resistor).								

IC63 : TA2092N (POWER DRIVER)

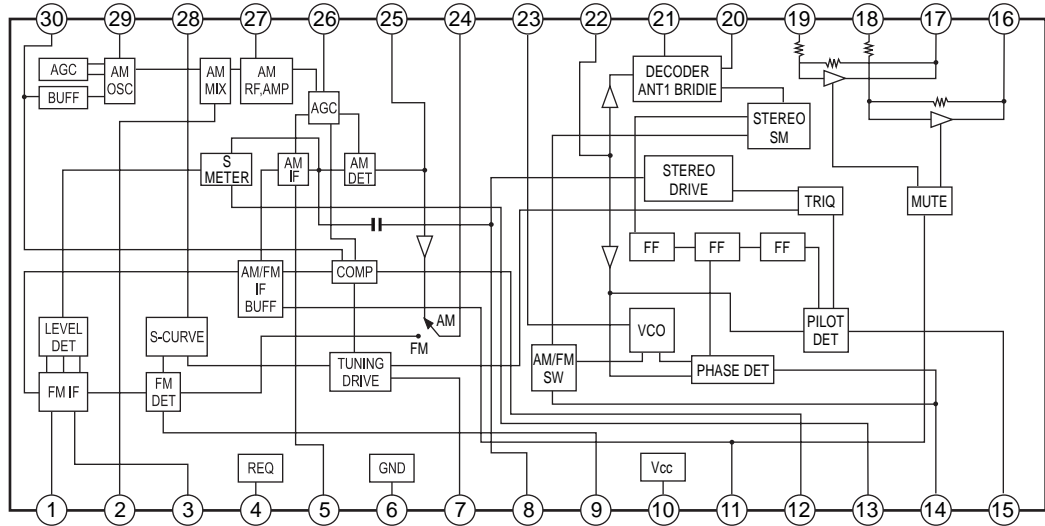
BLOCK DIAGRAM



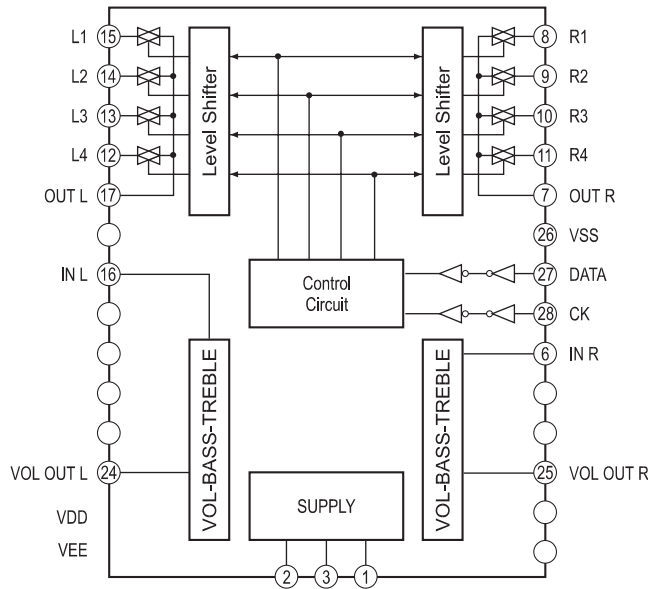
PIN FUNCTION

PIN No.	NAME	DESCRIPTION
1	PW GND	Power GND Connected to substrate. ①, ②, ⑬, ⑭ pin are connected inside.
2	OUT (-) 1	Inverted output for CH1
3	PVCC1	Supply terminal of output stage for CH1 Supply terminal of output stage are not connected to other channel terminal.
4	OUT (+) 1	Non-inverted output for CH1
5	V _{IN1}	Input for CH1. Not biased inside
6	V _{RI}	Input reference voltage Under condition of V _{RI} ≤ 1.8V, internal bias circuit is shut off. No signal input condition : V _{RI} = V _{IN}
7	V _{CI}	Output reference voltage. V _{OUT} = V _{CI} = (V _{CC} - V _F)/2
8	V _{IN2}	Input for CH2
9	OUT (+) 2	Non-inverted output for CH2
10	PVCC2	Supply terminal of output stage for CH2
11	OUT (-) 2	Inverted output for CH2
12	PW GND	Power GND
13	PW GND	Power GND
14	OUT (-) 3	Inverted output for CH3
15	PVCC3	Supply terminal of output stage for CH3
16	OUT (+) 3	Non-inverted output for CH3
17	V _{IN3}	Input for CH3
18	S GND	Supply terminal of small signal GND
19	S Vcc	Small signal GND
20	V _{IN4}	Input for CH4
21	OUT (+) 4	Non-inverted output for CH4
22	PVCC4	Supply terminal of output stage for CH4
23	OUT (-) 4	Inverted output for CH4
24	PW GND	Power GND

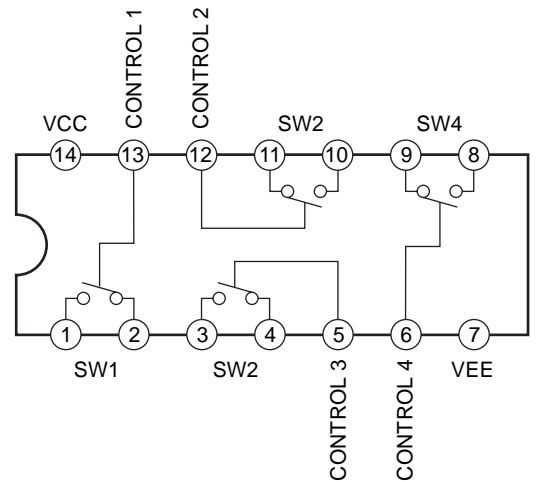
IC11 : LA1836M (TUNER)



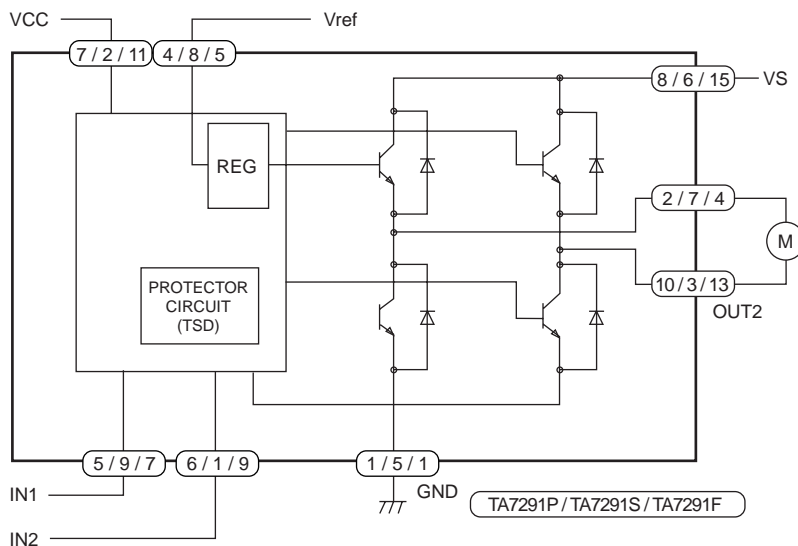
IC21 : TDA7318D



IC23 : LC4966 (INPUT)



**IC64/IC65 : TA7291S (BRIDGE DRIVER)
BLOCK DIAGRAM**



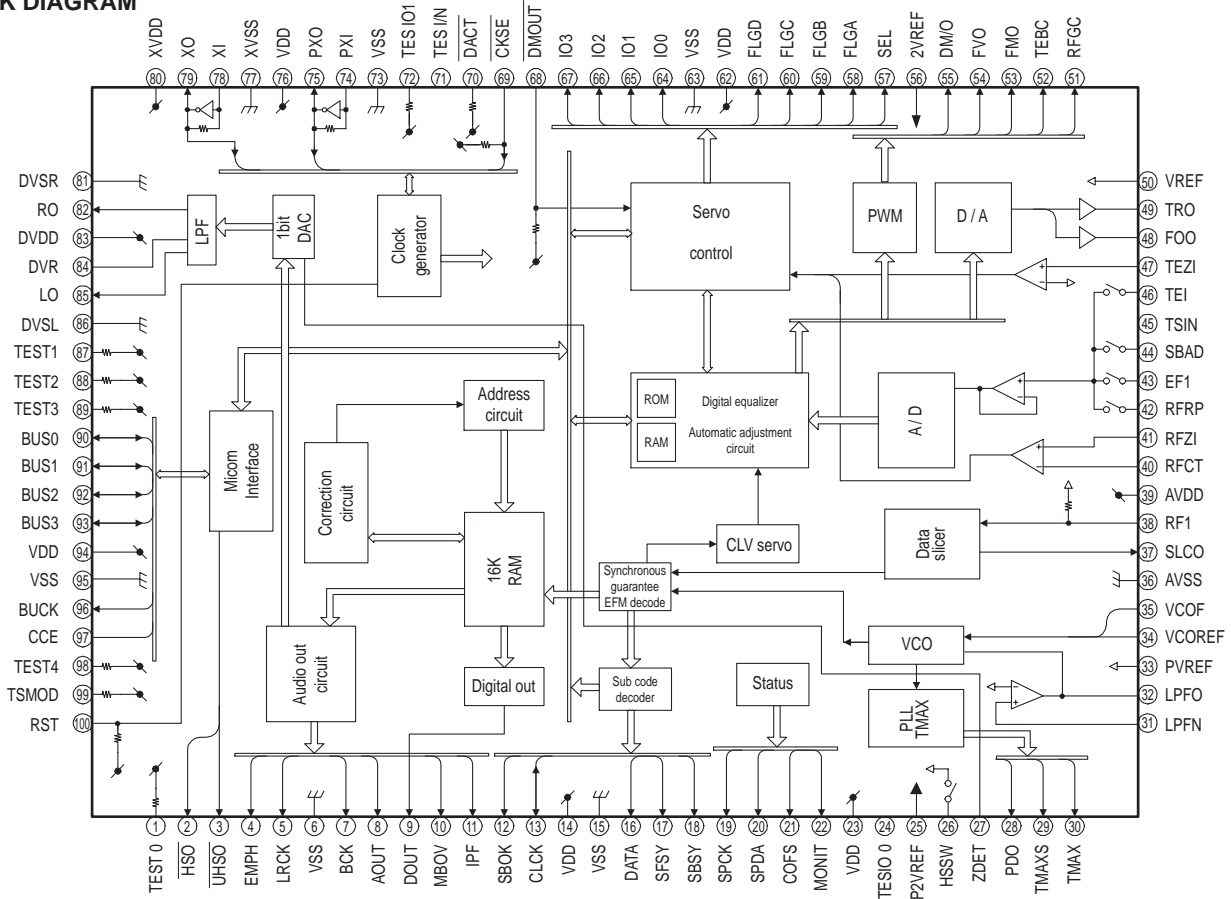
PIN FUNCTION

PIN No.			SYMBOL	FUNCTIONAL DESCRIPTION
P	S	F		
7	2	11	Vcc	Supply voltage terminal for Logic
8	6	15	Vs	Supply voltage terminal for motor drive
4	8	5	Vref	Supply voltage terminal for control
1	5	1	GND	GND terminal
5	9	7	IN1	Input terminal
6	1	9	IN2	Input terminal
2	7	4	OUT1	Output terminal
10	3	13	OUT2	Output terminal

- P Type: PIN ① ② ③ : NC
- S Type: PIN 4: NC
- F Type: PIN ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ : NC
- For F Type, We recommend FIN to be connected to the GND.

IC62 : TC9462F (DIGITAL SIGNAL PROCESSOR)

BLOCK DIAGRAM



PIN FUNCTION

PIN No.	NAME	I/O	FUNCTIONAL DESCRIPTION	REMARKS															
1	TEST0	-	Test mode terminal. Normally, keep at open.	With pull-up resistor.															
2	HSO	O	Playback speed mode flag output terminal.																
3	UHSO	O	<table border="1"> <thead> <tr> <th>UHSO</th> <th>HSO</th> <th>PLAYBACK SPEED</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>H</td> <td>Normal</td> </tr> <tr> <td>H</td> <td>L</td> <td>2 times</td> </tr> <tr> <td>L</td> <td>H</td> <td>4 times</td> </tr> <tr> <td>L</td> <td>L</td> <td>-</td> </tr> </tbody> </table>	UHSO	HSO	PLAYBACK SPEED	H	H	Normal	H	L	2 times	L	H	4 times	L	L	-	
UHSO	HSO	PLAYBACK SPEED																	
H	H	Normal																	
H	L	2 times																	
L	H	4 times																	
L	L	-																	
4	EMPH	O	Subcode Q data emphasis flag output terminal. Emphasis ON at "H" level and OFF at "L" level. The output polarity can invert by command.																
5	LRCK	O	Channel clock output terminal. (44.1 kHz) L-ch at "L" level and R-ch at "H" level. The output polarity can invert by command.																
6	VSS	-	Digital GND terminal.																
7	BCK	O	Bit clock output terminal. (1.4112 MHz)																
8	AOUT	O	Audio data output terminal.																
9	DOUT	O	Digital data output terminal.																
10	MBOV	O	Buffer memory over signal output terminal. Over at "H" level.																
11	IPF	O	Correction flag output terminal. At "H" level, AOUT output is made to correction impossibility by C2 correction processing.																
12	SBOK	O	Subcode Q data CRCC check adjusting result output terminal. The adjusting result is OK at "H" level.																
13	CLCK	I/O	Subcode P-W data readout clock input/output terminal. This terminal can select by command bit.																
14	VDD	-	Digital power supply voltage terminal.																
15	VSS	-	Digital GND terminal.																
16	DATA	O	Subcode P-W data output terminal.																
17	SFSY	O	Playback frame sync signal output terminal.																
18	SBSY	O	Subcode block sync signal output terminal.																
19	SPCK	O	Processor status signal readout clock output terminal.																
20	SPDA	O	Processor status signal output terminal.																
21	COFS	O	Correction frame clock output terminal. (7.35 kHz)																
22	MONIT	O	Internal signal (DSP internal flag and PLL clock) output terminal. Selected by command.																
23	VDD	-	Digital power supply voltage terminal.																
24	TESIO0	I	Test input/output terminal. Normally, keep at "L" level.																
25	P2VREF	-	PLL double reference voltage supply terminal.																
26	HSSW	O	2/4 times speed at "VREF" voltage.	2-state output (PV REF, HIZ)															
27	ZDET	O	1 bit DA converter zero detect flag output terminal.																
28	PDO	O	Phase difference signal output terminal of EFM signal and PLCK signal.	3-state output (P2VREF, PVREF, VSS)															
29	TMAXS	O	TMAX detection result output terminal. Selected by command bit (TMPS).																
30	TMAX	O	TMAX detection result output terminal. Selected by command bit (TMPS).	3-state output (P2VREF, HIZ, VSS)															
			<table border="1"> <thead> <tr> <th>DIFFERENCE RESULT</th> <th>TMAX OUTPUT</th> </tr> </thead> <tbody> <tr> <td>Longer than fixed freq.</td> <td>"P2V REF"</td> </tr> <tr> <td>Shorter than fixed freq.</td> <td>"V SS"</td> </tr> <tr> <td>Within the fixed freq.</td> <td>"HIZ"</td> </tr> </tbody> </table>	DIFFERENCE RESULT	TMAX OUTPUT	Longer than fixed freq.	"P2V REF"	Shorter than fixed freq.	"V SS"	Within the fixed freq.	"HIZ"								
DIFFERENCE RESULT	TMAX OUTPUT																		
Longer than fixed freq.	"P2V REF"																		
Shorter than fixed freq.	"V SS"																		
Within the fixed freq.	"HIZ"																		

PIN No.	NAME	I/O	FUNCTIONAL DESCRIPTION	REMARKS
31	LPFN	I	LPF amplifier inverting input terminal for PLL.	Analog input.
32	LPFO	O	LPF amplifier output terminal for PLL.	Analog output.
33	PVREF	-	PLL reference voltage supply terminal.	
34	VCOREF	I	VCO center frequency reference level terminal. Normally, keep at "PV REF" level.	
35	VCOF	O	VCO filter terminal.	Analog output.
36	AVSS	-	Analog GND terminal.	
37	SLCO	O	Data slice level output terminal.	Analog output.
38	RFI	I	RF signal input terminal.	Analog input (Zin : selected by command)
39	AVDD	-	Analog power supply voltage terminal.	
40	RFCT	I	RFRP signal center level input terminal.	Analog input (Zin : 50kΩ)
41	RFZI	I	RFRP zero cross input terminal.	Analog input.
42	RFRP	I	RF ripple signal input terminal.	Analog input.
43	FEI	I	Focus error signal input terminal.	Analog input.
44	SBAD	I	Sub-beam adder signal input terminal.	Analog input.
45	TSIN	I	Test input terminal. Normally, keep at "VREF" level.	Analog input.
46	TEI	I	Tracking error signal input terminal. Track in at tracking servo on.	Analog input.
47	TEZI	I	Tracking error zero cross input terminal.	Analog input (Zin : 10kΩ)
48	FOO	O	Focus servo equalizer output terminal.	Analog output (2V REF ~AVSS)
49	TRO	O	Tracking servo equalizer output terminal.	
50	VREF	-	Analog reference voltage supply terminal.	
51	RFGC	O	RF amplitude adjustment control signal output terminal.	
52	TEBC	O	Tracking balance control signal output terminal.	3-state PWM signal output. (2VREF, VREF, VSS)
53	TEBC	O	Feed equalizer output terminal.	(PWM carrier = 88.2 kHz)
54	TEBC	O	Speed error signal or feed search equalizer output terminal.	
55	DMO	O	Disk equalizer output terminal. (PWM carrier = 88.2 kHz for DSP. Synchronize to PXO).	3-state PWM signal output. (2VREF, VREF, VSS)
56	2VREF	-	Analog double reference voltage supply terminal.	
57	SEL	O	APC circuit ON/OFF indication signal output terminal. At the laser on time, UHF = L at "HIZ" level and UHF = H at "H" level.	
58	FLGA	O	External flag output terminal for internal signal. Can select signal from TEZC, F00N, F0K and RFZC by command.	
59	FLGB	O	External flag output terminal for internal signal. Can select signal from DECT, F00N, FMON and RFZC by command.	
60	FLGC	O	External flag output terminal for internal signal. Can select signal from TRON, TRSR, FOK and SRCH by command.	
61	FLGD	O	External flag output terminal for internal signal. Can select signal from TRON, DMON, HYS and SHC by command.	
62	VDD	-	Digital power supply voltage terminal.	
63	VSS	-	Digital GND terminal.	
64	IO0	I/O	General I/O terminal. Can change over input port or output port by command. At the input mode command, can read a state of terminal (HL) by read command. At the output mode time can control a state of terminal (HL/HIZ) by command.	
65	IO1	I/O		
66	IO2	I/O		
67	IO3	I/O		

PIN No.	NAME	I/O	FUNCTIONAL DESCRIPTION	REMARKS
68	$\overline{\text{DMOUT}}$	I	This terminal controls IO0-IO3 terminal. At "L" level time, IO0, 1 out feed equalizer signal of 2-state PWM. IO2, 3 out disk equalizer signal of 2-state PWM.	With pull-up resistor.
69	$\overline{\text{CKSE}}$	I	Normally, keep at open.	With pull-up resistor.
70	$\overline{\text{DACT}}$	I	DAC test mode terminal. Normally, keep at open.	With pull-up resistor.
71	$\overline{\text{TESIN}}$	I	Test input terminal. Normally, keep at "L" level.	Analog input.
72	$\overline{\text{TESIO1}}$	I	Test input/output terminal. Normally, keep at "L" level.	Analog input.
73	Vss	-	Digital GND terminal.	-
74	PXI	I	Crystal oscillator connecting input terminal for DSP. Normally, keep at "L" level.	-
75	PXO	O	Crystal oscillator connecting output terminal for DSP.	-
76	Vbd	-	Digital power supply voltage terminal.	-
77	XVss	-	Oscillator GND terminal for system clock.	-
78	XI	I	Crystal oscillator connecting input terminal for system clock.	-
79	XO	O	Crystal oscillator connecting output terminal for system clock.	-
80	XVdd	-	Oscillator power supply voltage terminal for system clock.	-
81	DVsr	-	Analog GND terminal for DA converter. (R-ch)	-
82	RO	O	R channel data forward output terminal.	-
83	DVdd	-	Analog supply voltage terminal for DA converter.	-
84	DVR	-	Reference voltage terminal for DA converter.	-
85	LO	O	L channel data forward output terminal.	-
86	DVsl	-	Analog GND terminal for DA converter. (L-ch)	-
87	TEST1	I	Test mode terminal. Normal, keep at open.	With pull-up resistor.
88	TEST2	I	Test mode terminal. Normal, keep at open.	With pull-up resistor.
89	TEST3	I	Test mode terminal. Normal, keep at open.	With pull-up resistor.
90	BUS0	I/O	Microm interface data input/output terminal.	Schmit input.
91	BUS1	I/O		With pull-up resistor.
92	BUS2	I/O		
93	BUS3	I/O		
94	Vbd	-	Digital Ppower supply voltage terminal.	-
95	Vss	-	Digital GND terminal.	-
96	BUCK	I	Micom interface clock input terminal.	Schmit input.
97	$\overline{\text{CCE}}$	I	Command and data sending/receiving chip enable signal input terminal. The bus line becomes active at "L" level.	Schmit input.
98	TEST4	I	Test mode terminal. Normal, keep at open.	With pull-up resistor.
99	TSMOD	I	Local test mode selection terminal.	With pull-up resistor.
100	RST	I	Reset signal input terminal. Reset at "L" level.	With pull-up resistor.

6. ADJUSTMENT PROCEDURE

ALIGNMENT INSTRUCTIONS

EQUIPMENT NEEDED:

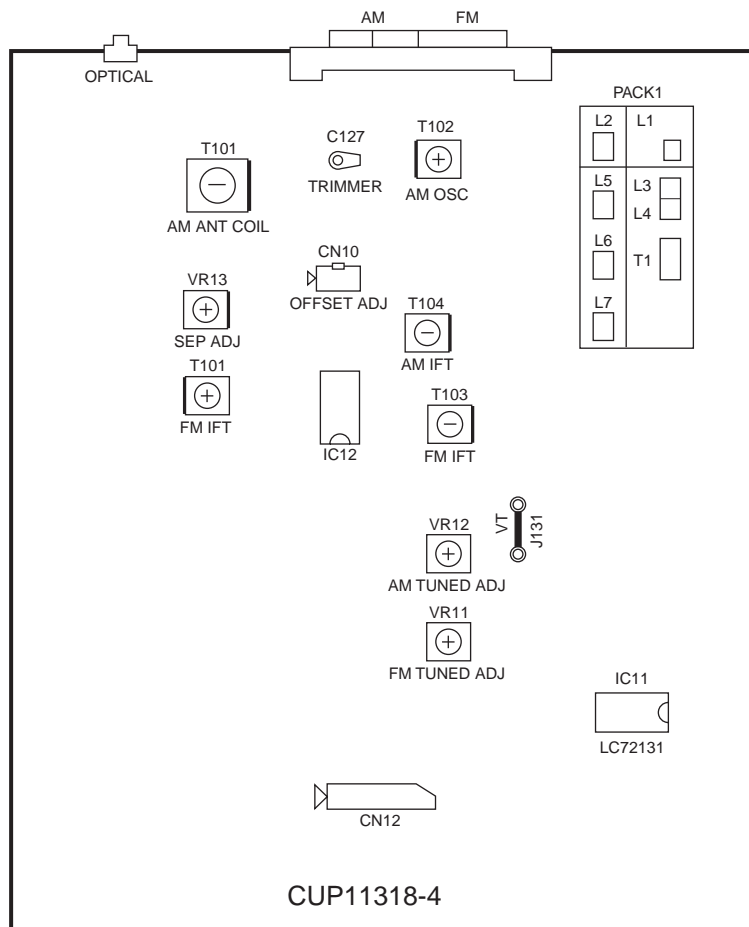
AM Signal Generator
 FM Signal Generator
 Oscilloscope
 VTVM(AC, DC)
 Test loop antenna (AW Adjustment)
 Dummy antenna (FM Adjustment)
 Stereo signal modulator
 Frequency counter
 Distortion analyser

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.

Band \ Item	Modulation	Modulation frequency
AM	30%	400Hz
FM	100%(75KHz Dev.)	400Hz

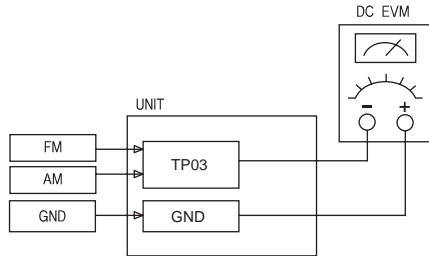
ADJUSTMENT POINT



MEASUREMENTS AND ADJUSTMENTS

1. FM, AM TRACKING VOLTAGE ADJUSTMENTS

(FM, AM) DC VOLTMETER..... CONNECT TO TEST POINT TP1 and GND

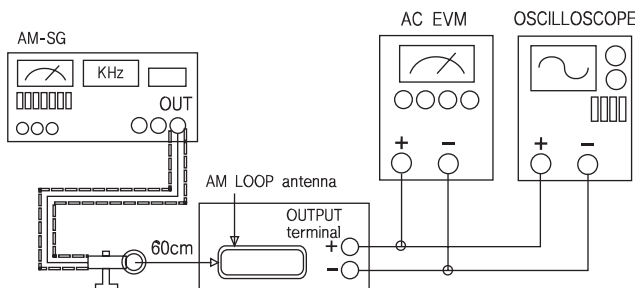


NO.	Band	Frequency	Adjust for	Adjustment
1	FM	87.50MHz	1.5V	L7
2	AM	530KHz	1V	T102

2. AM RF ADJUSTMENT

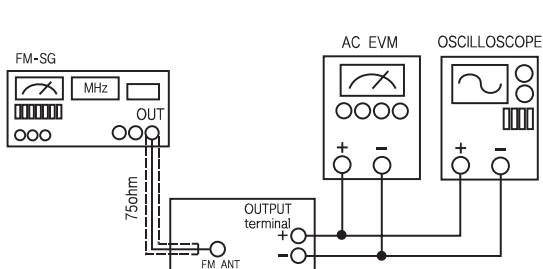
Signal Generator Connects to the AM ANT. Coil through the loop antenna.
Adjust for the indication of VTVM of the wave form of scope to be maximum.

BAND	Step	Frequency	Adjust for	Adjustment
AM	1	610KHz	Maximum sensitivity	T101, L104
	2	1510KHz	Maximum sensitivity	C127
	3	Repeat steps 1 and 2 several times.		



3. FM-RF ADJUSTMENT

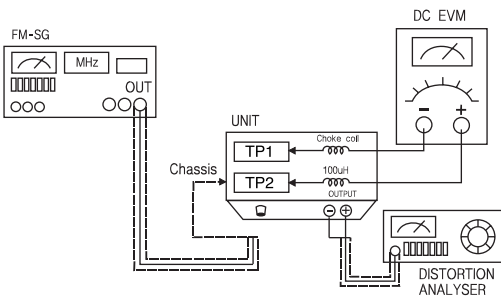
Signal Generator Connect to FM ANT JACK (FM IN) through the dummy.



NO.	Frequency	Adjust for	Adjustment
1	90.10MHz	Maximum Sensitivity	L2, L5, L6
2	Repeat step 1 several times.		

4. FM MONO DISTORTION ADJUSTMENT

DC VOLT METER.....Connect to TP1(-), TP2(+) Through the choke coll (100 μH)
 Signal GeneratorConnect to FM ANT Jack (FM IN) through the dummy.
 Distortion MeterConnect to the output.



NO.	Frequency	Adjust for	Adjustment
1	100.10MHz	DC Voltmeter 0V	T103
2	100.10MHz	Minimum T.H.D	T103
3	Repeat steps 1 and 2 Several times.		

5. FM/AM AUTO STOP LEVEL ADJUSTMENT

FM SIGNAL GENERATORConnect to FM ANT Jack (FM IN) through the dummy
 AM SIGNAL GENERATORConnect to AM ANT, Coil through the Loop antenna

BAND	STEP	SIGNAL GENERATOR	Adjust for	Adjustment
FM	1	100.1MHz 30dB	<input type="checkbox"/> TUNED Display OFF	VR12
	2	100.1MHz 30dB	<input type="checkbox"/> TUNED Display ON	VR12
AM	1	1000KHz 80dB	<input type="checkbox"/> TUNED Display OFF	VR11
	2	1000KHz 80dB	<input type="checkbox"/> TUNED Display ON	VR11

6. THE WAY TO RETURN TO THE INITIAL SETTING

Push the key of DISC SKIP on front panel around 5 sec, and then return to the initial.

7. REMOVE DISC HOW-TO

To remove disc, follow the steps below to remove top cover of MECHANISM ASS'Y

(refer to EXPLODED VIEW AND PART LIST FOR MECHANISM ASS'Y. page 26).

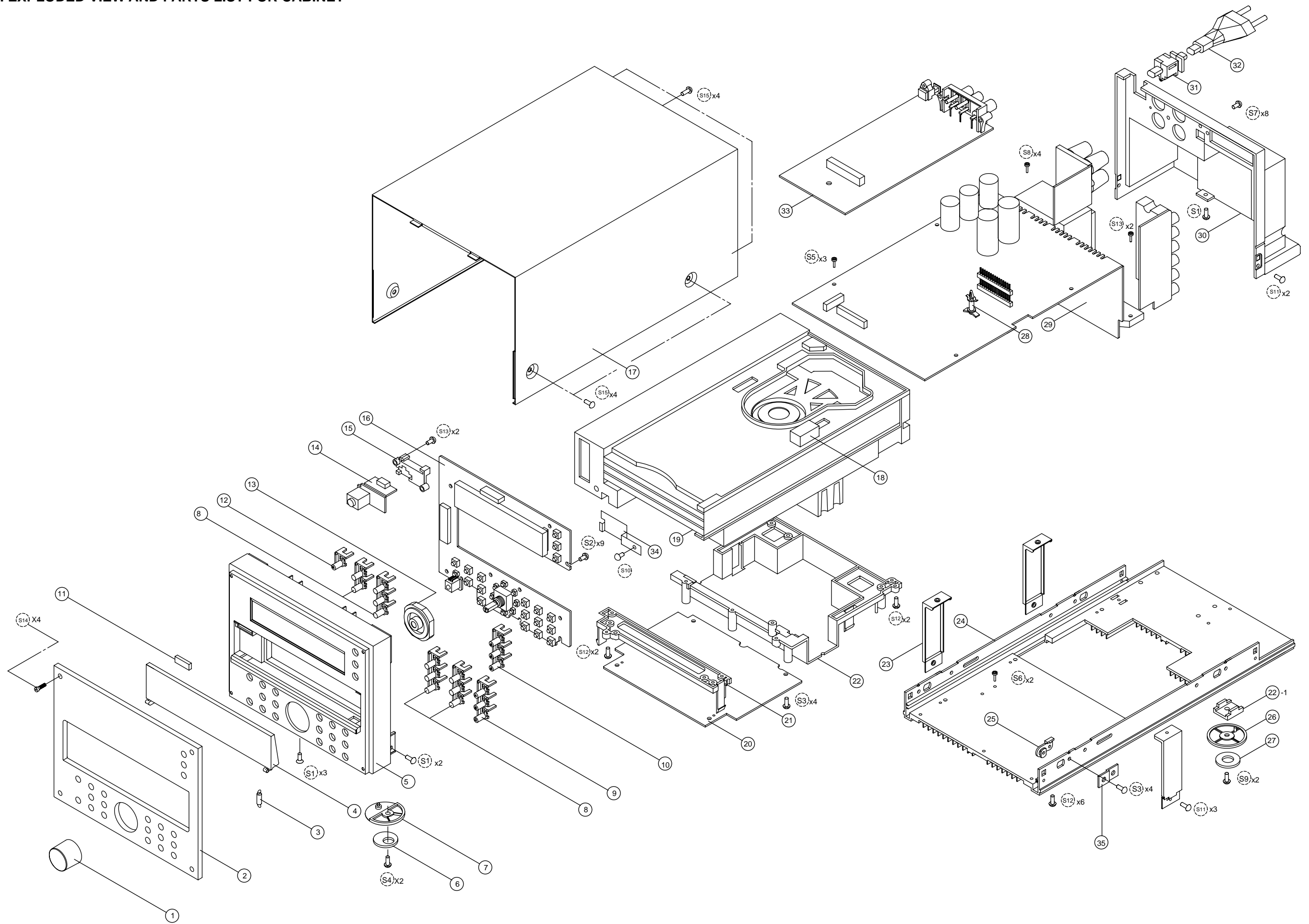
- 1) Remove top cover. Then, remove Main PCB and Power PCB from MECHANISM ASS'Y.
- 2) Remove 6pcs screws (76) from Holder(Top) (7).
- 3) Pull-up Holder (Top) (7).
- 4) Remove FFC (84) from Holder (Load) Assy (120).
- 5) Remove Holder (Top) (7).
- 6) Remove BIND TAPPING SC 2.6 x 8(BL) (77) from HOLDER (SHAFT) ASSY (116).
- 7) Pull-up TRAY (6), and remove HOLDER (SHAFT) ASSY (116).
- 8) Pull SHAFT(TRAY) (71) about 1cm, and remove TRAY (6) with lifting.
- 9) Remove the Disc.

緊急時のDISCの取り出し方

DISCが取り出せなくなった場合、次の手順でメカニズム・アッシー上部のカバーを外して取り出して下さい(メカニズム・アッシー分解図：26 ページ参照)。

- 1) トップ・カバーを外し、メカニズム・アッシーを囲っているメイン基板+電源基板を取り外す。
- 2) HOLDER(TOP) (7)を固定している6本のビス(76)を外す。
- 3) HOLDER(TOP) (7)を少し持ち上げる。
- 4) HOLDER (LOAD) ASSY (120) に差し込まれているFFC (84)を外す。
- 5) HOLDER (TOP) (7)を取り外す。
- 6) HOLDER (SHAFT) ASSY (116) を固定しているBINDTAPPING SC2.6 x 8(BL) (77)を外す。
- 7) TRAY (6)を持ち上げながら、HOLDER (SHAFT) ASSY (116)を手前に引き、外す。
- 8) SHAFT(TRAY) (71)を手前に1cm程引き抜き、TRAY (6)を持ち上げながらメカから取り出す。
- 9) DISCを取り出す。

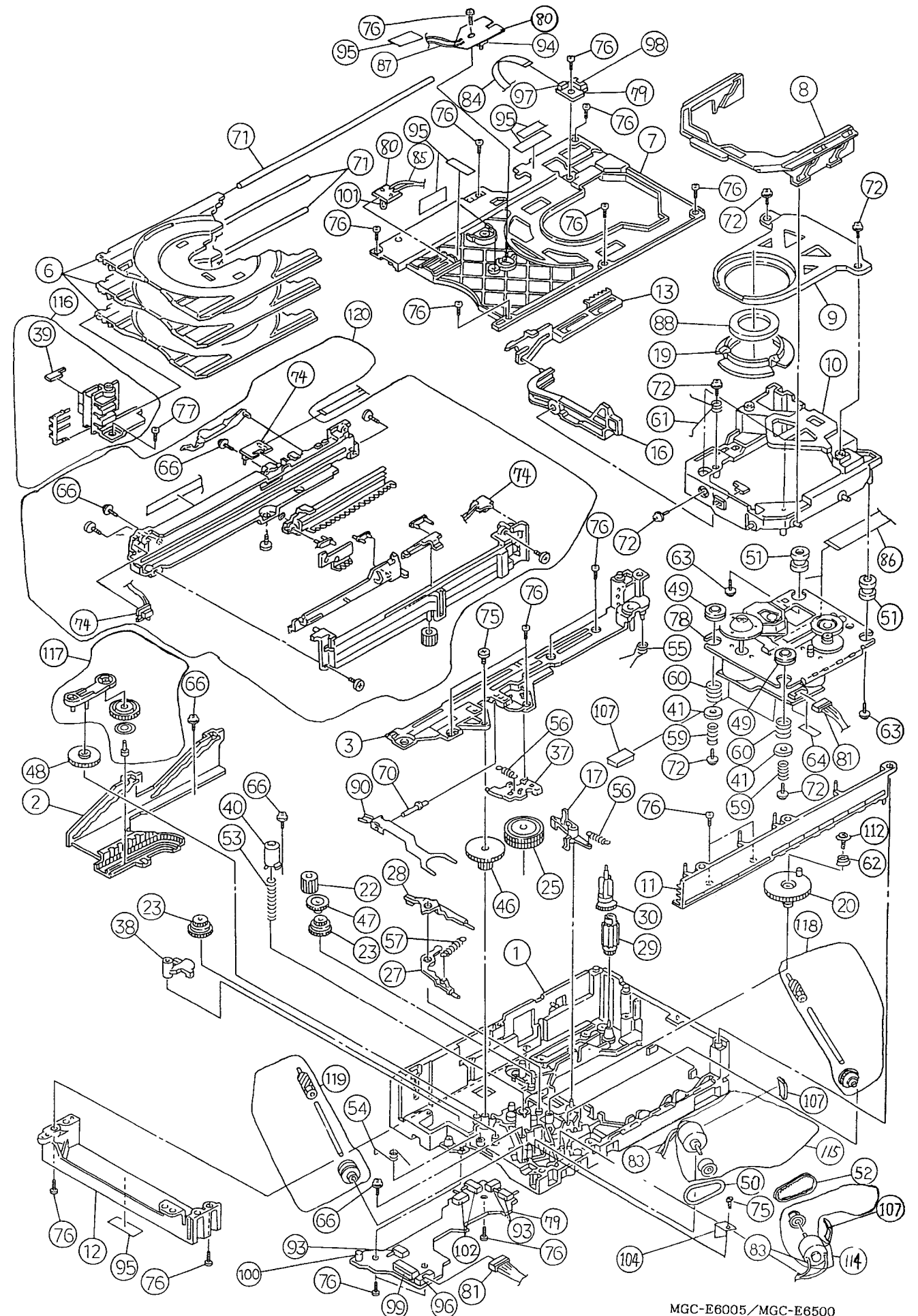
8. EXPLODED VIEW AND PARTS LIST FOR CABINET



PARTS LIST FOR CABINET

POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)
1		KBN1A138M7K102 KNOB, TRACK	307W154010			PACKING	
2		KGU1A247Z WINDOW, FRONT	307W063010			BARTCR-710 REMOTE CONTROLLER (RC710CR)	ZK307W0010
3		KUS1A122 SPRING, DOOR	307W115010				
4		KGR1A216M7ZK102 ORNAMENT, DOOR	307W162010	F		KQX1A651Z USER GUIDE (F) CR-710 JAPAN	307W851110
5		KGW1A301MLK102 PANEL, SUB	nsp				
6		KHG1A179 CUSHION, FOOT	nsp	C		KQF1A436Z USER GUIDE (C) CR-710 KOREA	nsp
7		KKL1A062M7 FOOT (A)	307W057010				
8		KBT1A747M7K102 KNOB, FUNCTION	308W270010				
9		KBT1A748M7K102 KNOB, PLAY	308W270020				
10		KBT2A748M7K102 KNOB, OPEN	308W270030				
11		KHG1A178 CUSHION, RUBBER	nsp			NOT STANDARD SPARE PARTS	
12		CR710/F1WSET KNOB, POWER	308W270050			KPG1A623Z BOX, OUT CARTON CR-710	nsp
13		KGL2A189 INDICATOR, DISPLAY	nsp			KPP1A087Z BAG, POLY (SET)	nsp
15		KMH1A121 HOLDER, PCB	nsp			KPS1A506 PAD, SNOW (L) CR-710	nsp
16		KOP11404B FRONT PCB ASS'Y CR-710	nsp			KPS1A507 PAD, SNOW (R) CR-710	nsp
17		KKC1B107S35 CABINET, TOP	nsp			KABAAM1.5V BATTERY	nsp
18		KHG1A104 SUPPORT, CUSHION A4-94-2139	nsp			KLR1T201 ANT ADAPTOR, 75-300 (NTSC) UMT-CO-007	nsp
19		KJDCR710 MECHANISM ASS'Y	307W304500			KSA267 ANT, FM T 2.2M	nsp
20		KOP11381B CD PCB ASS'Y	nsp			KSA3A012Z AM LOOP ANTENNA ASS'Y LUG WIRE	nsp
21		BMH1A104 SUPPORT, MECHA (A)	nsp				
22		BMH1A105 SUPPORT, MECHA (B)	nsp				
23		KMD1A405 BRACKET, PCB	nsp				
24		BUA1A180 CHASSIS, BOTTOM	nsp				
25		BMH1A088 LOCKER, TOP	nsp				
26		KKL2A062M7 FOOT (B)	307W057020				
27		KHG1A165 CUSHION, FOOT	nsp				
28		KRE1A018 SUPPORT, PCB	nsp				
29		KOP11318B MAIN PCB ASS'Y MC-D90TCCC	nsp				
30		KKD1A033ML CABINET, REAR	nsp				
31		KHR1A028 BUSHING, AC CORD	nsp				
▲ 32	F	BJA2J049Z CORD, POWER (F) JAPAN (100V 7A)	*YC000520R				
▲ 32	C	KJA2D046Z CORD, POWER (C) KOREA	nsp				
34		KGX1A285 COVER, MECHA	nsp				
35		BMC1A166 PLATE, SHIELD	nsp				
S1		KTS3+8J SCREW	nsp				
S2		KTB3+10G SCREW	nsp				
S3		KTB3+8G SCREW	nsp				
S5		KTW3+6J SCREW	nsp				
S6		KTB3+8J SCREW	nsp				
S7		KTB3+10GFZ SCREW	nsp				
S8		KTB4+8F SCREW	nsp				
S9		KHD2A032 SCREW 3X10	nsp				
S10		KTB3+8GFZ SCREW	nsp				
S11		KTB3+6J SCREW	nsp				
S12		KTB3+12G SCREW	nsp				
S13		KTB3+14J SCREW	nsp				
S14		KHD1A028FC SCREW, SPECIAL	308W010010				
S15		KTB3+10GFC SCREW	nsp				

9. EXPLODED VIEW AND PARTS LIST FOR MECHANISM ASS'Y



MGC-E6005/MGC-E6500

NOTE : "nsp" PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

PARTS LIST FOR MECHANISM ASS'Y

POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)
1		E6A 3011 CHASSIS (MAIN)	nsp	96		99054172 CONNECTOR S6B-PH	nsp
2		E6B 3032 SLIDER (LIFT-L)	nsp	97		99054177 CONNECTOR 04FM-1.0ST	nsp
3		E6B 3038 SUB CHASSIS (L)	nsp	98		99054179 CONNECTOR S4B-PH-K-S	nsp
6		E6B 3043 TRAY	307W163010	99		99054180 CONNECTOR 16FE-ST	nsp
7		E6A 3033 HOLDER (TOP)	nsp	100		99518074 PHOTO TRANSISTOR RPT-38PT3F	nsp
8		E6B 3031 SLIDER (TU)	nsp				
9		E6C 3022 HOLDER (CLAMP)	nsp				
10		E6B 3021 FRAME (TU-A)	nsp	101		99518207 LED SIR-33ST3	nsp
11		E6B 3020 SUB CHASSIS (R)	nsp	102		S40-1139 SWITCH SPPB62	*SM000370R
12		E6B 3044 BRACKET (M)	nsp	104		E6D 1006 FLAT SPRING (WORM)	nsp
13		E6C 3017 SLIDER (CLAMP)	nsp	107		E1D 8007 CUSHION	nsp
16		E6C 3034 LEVER (CLAMP)	nsp	112		E6D 8014 SCREW (A3)	nsp
17		E6C 3036 LEVER (SW4)	nsp	114		E6D 9028 MOTOR ASSY	*MM001140R
19		E6C 3041 CLAMPER	307W005010	115		E6D 9027 MOTOR ASSY	*MM001150R
20		E6C 3014 CAM (TU)	nsp	116		E6D 3061 HOLDER (SHAFT) ASSY	nsp
22		E6D 3002 GEAR (LOAD-B)	nsp	117		E6D 3050 GEAR (FRICTION) ASSY	nsp
23		E6D 3004 GEAR (HELICAL)	nsp	118		E6D 3048 WORM (A) ASSY	nsp
25		E6D 3007 GEAR (IDLER-B)	nsp	119		E6D 3049 WORM (B) ASSY	nsp
27		E6D 3012 LEVER (SW5)	nsp	120		E6A 3060 HOLDER (LOAD) ASSY	nsp
28		E6D 3013 LEVER (SW6)	nsp				
29		E6D 3015 GEAR (TU)	nsp				
30		E6D 3016 GEAR (ZENEBA)	nsp				
37		E6D 3035 SLIDER (SW-8)	nsp				
38		E6D 3037 LEVER (SW-7)	nsp				
39		E6D 3040 ARM (TRAY LOCK)	nsp				
40		E6D 3042 GUIDE (DISC)	nsp				
41		E6D 3045 COLLAR (SPRING)	nsp				
46		E6D 3010 GEAR (CENTER-B)	nsp				
47		E6D 3003 GEAR (IDLER)	nsp				
48		E6D 3009 GEAR (CENTER-A)	nsp				
49		C3D 4003 INSULATOR	307W056010				
50		E6D 4003 BELT (LIFT)	307W264010				
51		E6D 4004 INSULATOR	307W056020				
52		E6D 4005 BELT (TIMING)	307W264020				
53		E6D 6001 COMPRESSION SP (GUIDE)	nsp				
54		E6D 6002 TORSION SPRING (LOCK)	nsp				
55		E6D 6003 TORSION SPRING (ZENEBA)	nsp				
56		E6D 6004 EXTENSION SP (SWITCH)	nsp				
57		E6D 6005 EXTENSION SPRING (CAM)	nsp				
59		E6D 6007 COMPRESSION SP (TU-A)	nsp				
60		E6D 6008 COMPRESSION SP (TU-B)	nsp				
61		E6D 6009 TORSION SP (ASSIST-A)	nsp				
62		E6D 6012 COMPRESSION SP (CAM)	nsp				
63		E1D 8002 SCREW (B)	nsp				
64		E1D 8003 SOFT TAPE	nsp				
66		E1D 8012 SCREW (A2)	nsp				
70		E6D 8004 SHAFT (LEVER)	nsp				
71		E6D 8005 SHAFT (TRAY)	nsp				
72		E6D 8006 SCREW (FRAME)	nsp				
74		E6B 9031 PCB (SUB-C)	*ZZ001820R				
75		E6D 8011 SCREW (SUB-L)	nsp				
76		8114512608 BIND TAPPING SCREW 2.6*8	nsp				
77		8114522608 BIND TAPPING SC 2.6*8(BL)	nsp				
78		D40-1500 KCTB1H	307W304010				
79		E6B 9021 PCB (MAIN-B)	nsp				
80		E6B 9022 PCB (SUB-B)	nsp				
81		E6D 9003 WIRING HARNESS (TU)	nsp				
83		E6D 9005 WIRING HARNESS (SW2)	nsp				
84		E6D 9006 4P FFC	*YU000940R				
85		E6D 9032 WIRING HARNESS (LED-C)	nsp				
86		E6D 9002 16P FFC	*YU000950R				
87		E6D 9018 WIRING HARNESS (JAM)	nsp				
88		T99-0544 MAGNET	nsp				
90		E6C 1001 LEVER (GUIDE)	nsp				
93		94081103 SWITCH MPU10252MLB1	*SM000350R				
94		94081104 SWITCH MPU10184MLB1	*SM000360R				
95		96901036 FILAMENT TAPE 15MM*45MM	nsp				

NOTE : "nsp" PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

10. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTORS

R***: 1) GD05xxx140, Carbon film fixed resistor, ±5% 1/4W
 R***: 2) GD05xxx160, Carbon film fixed resistor, ±5% 1/6W

① — Resistance value

Examples ;

① Resistance value
 0.1 Ω 001 10 Ω 100 1 kΩ 102 100 kΩ 104
 0.5 Ω 005 18 Ω 180 2.7 kΩ 272 680 kΩ 684
 1 Ω 010 100 Ω 101 10 kΩ 103 1 MΩ 105
 6.8 Ω 068 390 Ω 391 22 kΩ 223 4.7 MΩ 475

Note : Please distinguish 1/4W from 1/6W by the shape of parts used actually.

CAPACITORS

C***: CERAMIC CAP.

3) DD1xxx370, Ceramic capacitor
 Disc type
 Temp.coeff.P350 ~ N1000, 50V
 ② — Capacity value
 ③ — Tolerance

Examples ;

② Tolerance (Capacity deviation)
 ±0.25 pF 0
 ±0.5 pF 1
 ±5% 5

* Tolerance of COMMON PARTS handled here are as follows :

0.5 pF ~ 5 pF ±0.25 pF
 6 pF ~ 10 pF ±0.5 pF
 12 pF ~ 560 pF ±5%

③ Capacity value



0.5 pF 005 3 pF 030 100 pF 101
 1 pF 010 10 pF 100 220 pF 221
 1.5 pF 015 47 pF 470 560 pF 561

C*** : CERAMIC CAP.

4) DK16xxx300, High dielectric constant ceramic capacitor
 Disc type
 Temp.chara. 2B4, 50V
 ④ — Capacity value

Examples ;

④ Capacity value
 100 pF 101 1000 pF 102 10000 pF 103
 470 pF 471 2200 pF 222

C*** : 5) ELECTROLY CAP. (), 6) FILM CAP. ()

5) EAxxx10, Electrolytic capacitor
 One-way lead type, Tolerance ±20%
 ⑤ — Capacity value
 ⑥ — Working voltage

Examples ;

⑤ Capacity value
 0.1 μF 104 4.7 μF 475 100 μF 107
 0.33 μF 334 10 μF 106 330 μF 337
 1 μF 105 22 μF 226 1100 μF 118
 2200 μF 228

⑥ Working voltage

6.3V 006 25V 025
 10V 010 35V 035
 16V 016 50V 050

6) DF15xxx350 — Plastic film capacitor
 DF15xxx310 — One-way type, Mylar ±5% 50V
 DF16xxx310 — Plastic film capacitor
 One-way type, Mylar ±10% 50V
 ⑦ — Capacity value

Examples ;

⑦ Capacity value
 0.001 μF (1000 pF) 102 0.1 μF 104
 0.0018 μF 182 0.56 μF 564
 0.01 μF 103 1 μF 105
 0.015 μF 153

NOTE : 1) The above CODES (R***, R***, C***, C*** and C***) are omitted on the schematic diagram in some case.
 2) On the occasion, be confirmed the common parts on the parts list.
 3) Refer to "Common Parts List" for the other common parts (RI05, DD4, DK4).

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors are as follows;

1. KOA Corporation

Part No. (MJI)	→	Type No. (KOA)	Description
NH05xxx140	→	RF25SxxxΩJ	(±5% 1/4W)
NH05xxx120	→	RF50SxxxΩJ	(±5% 1/2W)
NH85xxx110	→	RF73B2AxxxΩJ	(±5% 1/10W)
NH95xxx140	→	RF73B2ExxxΩJ	(±5% 1/4W)

* Resistance value Resistance value (0.1 Ω – 10 kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No. (MJI)	→	Type No. (MEC)	Description
NF05xxx140	→	ERD-2FCJxxx	(±5% 1/4W)
RF05xxx140	→		
NF02xxx140	→	ERD-2FCGxxx	(±2% 1/4W)
RF02xxx140	→		

* Resistance value * Resistance value

Examples ;

* Resistance value
 0.1 Ω 001 10 Ω 100 1 kΩ 102 100 kΩ 104
 0.5 Ω 005 18 Ω 180 2.7 kΩ 272 680 kΩ 684
 1 Ω 010 100 Ω 101 10 kΩ 103 1 MΩ 105
 6.8 Ω 068 390 Ω 391 22 kΩ 223 4.7 MΩ 475



ABBREVIATION AND MARKS

ANT. : ANTENNA	BATT. : BATTERY
CAP. : CAPACITOR	CER. : CERAMIC
CONN. : CONNECTING	DIG. : DIGITAL
HP : HEADPHONE	MIC. : MICROPHONE
μ-PRO : MICROPROCESSOR	REC. : RECORDING
RES. : RESISTOR	SPK : SPEAKER
SW : SWITCH	TRANSF. : TRANSFORMER
TRIM. : TRIMMING	TRS. : TRANSISTOR
VAR. : VARIABLE	X'TAL : CRYSTAL


NOTE ON FUSE :

Regarding to all parts of parts code **FS20xxx2xx**, replace only with Wickmann-Werke GmbH, Type 372 non glass type fuse.

NOTE ON SAFETY :

Symbol  Fire or electrical shock hazard. Only original parts should be used to replaced any part marked with symbol . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意 :

 がついている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。

POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJ)	POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJ)
FRONT CIRCUIT BOARD CAPACITORS							
C700		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp	C608		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
∫				C609		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
C703		KCBS1H102KBT CER. 1000pF 50V K	nsp	C610		KCEA1CKS470T ELECT 47µF 16V	nsp
C751		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp	C612		KCBS1C682MXT CER. 6800pF 16V M	nsp
C752		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp	C614		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
C753		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp	C615		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
C754		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp	C622		KCEA1CKS470T ELECT 47µF 16V	nsp
C755		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp	C623		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp
C756		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp	C624		KCBS1C222MXT CER. 2200pF 16V M	nsp
C759		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp	C625		KCBS1C222MXT CER. 2200pF 16V M	nsp
RESISTORS							
R695		KRD20TJ103T 10k Ω 1/5W J	nsp	C627		KCFE1J333JBT FILM 0.033µF 63V J	nsp
R703		KRD20TJ102T 1k Ω 1/5W J	nsp	C628		KCEA1CKS470T ELECT 47µF 16V	nsp
R704		KRD20TJ152T 1.5k Ω 1/5W J	nsp	C629		KCBS1C472MXT CER. 4700pF 16V M	nsp
R705		KRD20TJ182T 1.8k Ω 1/5W J	nsp	C630		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
R706		KRD20TJ272T 2.7k Ω 1/5W J	nsp	C631		KCBS1C272MXT CER. 2700pF 16V M	nsp
R707		KRD20TJ332T 3.3k Ω 1/5W J	nsp	C632		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
R708		KRD20TJ562T 5.6k Ω 1/5W J	nsp	C633		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
R709		KRD20TJ752T 7.5k Ω 1/5W J	nsp	C634		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
R751		KRD20TJ102T 1k Ω 1/5W J	nsp	C635		KCBS1H101KBT CER. 100pF 50V K	nsp
R752		KRD20TJ152T 1.5k Ω 1/5W J	nsp	C636		KCEA1CKS470T ELECT 47µF 16V	nsp
R753		KRD20TJ182T 1.8k Ω 1/5W J	nsp	C637		KCEA1CKS470T ELECT 47µF 16V	nsp
R754		KRD20TJ102T 1k Ω 1/5W J	nsp	C638		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
R755		KRD20TJ152T 1.5k Ω 1/5W J	nsp	C639		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
R756		KRD20TJ182T 1.8k Ω 1/5W J	nsp	C640		KCEA1CKS470T ELECT 47µF 16V	nsp
R757		KRD20TJ272T 2.7k Ω 1/5W J	nsp	C641		KCEA1CKS470T ELECT 47µF 16V	nsp
R758		KRD20TJ332T 3.3k Ω 1/5W J	nsp	C642		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
R759		KRD20TJ103T 10k Ω 1/5W J	nsp	C643		KCEA1CKS101T ELECT 100µF 16V	nsp
R760		KRD20TJ103T 10k Ω 1/5W J	nsp	C644		KCEA1CKS101T ELECT 100µF 16V	nsp
R761		KRD20TJ122T 1.2k Ω 1/5W J	nsp	C645		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
R771		KRD20TJ103T 10k Ω 1/5W J	nsp	C646		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
R772		KRD20TJ561T 560 Ω 1/5W J	nsp	C647		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp
R773		KRD20TJ473T 47k Ω 1/5W J	nsp	C648		KCBS1H150JCT CER. 15pF 50V J	nsp
R782				C649		KCBS1H150JCT CER. 15pF 50V J	nsp
∫				C650		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
R789		KRD20TJ151T 150 Ω 1/5W J	nsp	C651		KCEA1CKS470T ELECT 47µF 16V	nsp
SEMICONDUCTORS							
D702		BVDLNJ401NT L.E.D LMJ401NPYJA	*HI100960R	C652		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp
∫				C654		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp
D709				C655		KCEA1HKS4R7T ELECT 4.7µF 50V	nsp
Q701		KVTKTD1302T TRS. KTD1302T	*HT400400R	C656		KCEA1HKS4R7T ELECT 4.7µF 50V	nsp
MISCELLANEOUS							
HP71		BJJ2D006Z JACK MINI PHONE TC38-103-11	*YJ002430R	C657		KCFE1J182JBT FILM 1800pF	nsp
RS71		KRVHIM602H32 SENSOR REMOCON	*HW100510R	C658		KCFE1J182JBT FILM 1800pF	nsp
S701		KST1A012ZT SW TACT SKHV10910G	*SP000890R	C661		KCFE1J104JBT FILM 0.1µF 63V J	nsp
∫				C662		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
S708				C663		KCEA1CKS101T ELECT 100µF 16V	nsp
S751		KST1A012ZT SW TACT SKHV10910G	*SP000890R	C664		KCFE1J104JBT FILM 0.1µF 63V J	nsp
∫				C665		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
S760		BSR2A011Z VR ENCODER EC16B243040F	*SR000150R	C666		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp
VR71				C667		KCFE1J104JBT FILM 0.1µF 63V J	nsp
CD MAIN CIRCUIT BOARD CAPACITORS							
C601		KCEA1CKS470T ELECT 47µF 16V	nsp	C668		KCFE1J104JBT FILM 0.1µF 63V J	nsp
C602		KCEA1CKS101T ELECT 100µF 16V	nsp	C669		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp
C603		KCBS1H3R3KCT CER. 3.3pF 50V K	nsp	C670		KCEA1CKS101T ELECT 100µF 16V	nsp
C604		KCBS1H560JT CER. 56pF 50V J	nsp	C671		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
C605		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp	C672		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
C606		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp	C673		KCEA1CKS101T ELECT 100µF 16V	nsp
C607		KCBS1H560JT CER. 56pF 50V J	nsp	C674		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp
				C675		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp
				C676		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
				C677		KCEA1CKS101T ELECT 100µF 16V	nsp
				C678		KCBS1H330JT CER. 33pF 50V J	nsp
				C679		KCBS1H330JT CER. 33pF 50V J	nsp
				C680		KCEA1CKS470T ELECT 47µF 16V	nsp
				C757		KCEA1CKS470T ELECT 47µF 16V	nsp
				C758		KCEA1CKS470T ELECT 47µF 16V	nsp
				C760			
				∫		KCFE1J333JBT FILM 0.033µF 63V J	nsp
				C763			

NOTE : *nsp* PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)
RESISTORS							
R601		KRD20TJ910T 91 Ω 1/5W J	nsp	Q601		KVTKTA1266YT TRS. KTA1266Y	*HT100580R
R602		KRD20TJ333T 33k Ω 1/5W J	nsp	Q602		KVTKTD1302T TRS. KTD1302T	*HT400400R
R603				Q603		KVTKRC107MT TRS. KRC107M	*BA001070R
∫		KRD20TJ473T 47k Ω 1/5W J	nsp	MISCELLANEOUS			
R606				BN66		KWDB015150EW WIRE ASS'Y	nsp
R607		KRD20TJ333T 33k Ω 1/5W J	nsp	BN67		KWZCR130BN67 WIRE ASS'Y	nsp
R609		KRD20TJ683T 68k Ω 1/5W J	nsp	CN61		KJP16GA117ZG WAFER CARD CABLE (STRAIGHT) GF102-16S-TS	nsp
R610		KRD20TJ100T 10 Ω 1/5W J	nsp	CN62		KJP16GB116ZG WAFERCARD CABLE (ANGLE) GF120-16S-LS	nsp
R611		KRD20TJ102T 1k Ω 1/5W J	nsp	CN63		KJP02GA68ZG WAFER	nsp
R612		KRD20TJ221T 220 Ω 1/5W J	nsp	CN64		KJP04GB46ZM WAFER MOLEX 53015	nsp
R613		KRD20TJ683T 68k Ω 1/5W J	nsp	CN65		KJP02GA68ZG WAFER	nsp
R614		KRD20TJ222T 2.2k Ω 1/5W J	nsp	L601		KLQ02C100KT COIL AXAIL 10μH K	nsp
R615		KRD20TJ183T 18k Ω 1/5W J	nsp	L621		KLQ02C100KT COIL AXAIL 10μH K	nsp
R616		KRD20TJ104T 100k Ω 1/5W J	nsp	RZ01		KRGSN5X103J RES NETWORK	nsp
R617		KRD20TJ102T 1k Ω 1/5W J	nsp	X601		KOX16934A120F CRYSTAL 16.934MHz	*JX000740R
R618		KRD20TJ103T 10k Ω 1/5W J	nsp	X602		KOX08000E160C CRYSTAL 8MHz	*JX000410R
R621		KRD20TJ332T 3.3k Ω 1/5W J	nsp	MAIN CIRCUIT BOARD CAPACITORS			
R622		KRD20TJ103T 10k Ω 1/5W J	nsp	CF11		BVFE107MSHAT FILTER CER. JP SFE10.7MS8H-A-T	nsp
R623		KRD20TJ332T 3.3k Ω 1/5W J	nsp	CF12		BVFE107MSHAT FILTER CER. JP SFE10.7MS8H-A-T	nsp
R624		KRD20TJ103T 10k Ω 1/5W J	nsp	CF13		BVFPFB450JR3 FILTER CER. JP pFB450JR3	nsp
R625		KRD20TJ183T 18k Ω 1/5W J	nsp	C102		KCQI1H152JZT MYLAR 1500pF 50V J	nsp
R626		KRD20TJ104T 100k Ω 1/5W J	nsp	C103		KCEA1HH1R0T ELECT 1.0μF 50V	nsp
R627		KRD20TJ683T 68k Ω 1/5W J	nsp	C104		KCQI1H273JZT MYLAR 0.027μF 50V J	nsp
R628		KRD20TJ473T 47k Ω 1/5W J	nsp	C107		KCKT1H223ZF CER. 0.022μF 50V Z	nsp
R629		KRD20TJ103T 10k Ω 1/5W J	nsp	C109		KCBS1H223ZFT CER. 0.022μF 50V Z	nsp
R630		KRD20TJ332T 3.3k Ω 1/5W J	nsp	C111		KCQI1H223JZT MYLAR 0.022μF 50V J	nsp
R632		KRD20TJ332T 3.3k Ω 1/5W J	nsp	C112		KCEA1HH1R0T ELECT 1.0μF 50V	nsp
R633		KRD20TJ332T 3.3k Ω 1/5W J	nsp	C113		KCEA1CH220T ELECT 22μF 16V	nsp
R634		KRD20TJ332T 3.3k Ω 1/5W J	nsp	C114		KCQI1H103JZT MYLAR 0.01μF 50V J	nsp
R635		KRD20TJ102T 1k Ω 1/5W J	nsp	C116		KCQI1H273JZT MYLAR 0.027μF 50V J	nsp
R636		KRD20TJ102T 1k Ω 1/5W J	nsp	C117		KCEA1CH101T ELECT 100μF 16V	nsp
R637		KRD20TJ104T 100k Ω 1/5W J	nsp	C120		KCBS1H223ZFT CER. 0.022μF 50V Z	nsp
R638		KRD20TJ104T 100k Ω 1/5W J	nsp	C121		KCEA1HH100T ELECT 10μF 50V	nsp
R639		KRD20TJ101T 100 Ω 1/5W J	nsp	C122		KCEA1HH100T ELECT 10μF 50V	nsp
R640				C124		KCOS1H471JZ STYROLE 470pF	*OF100210R
∫		KRD20TJ103T 10k Ω 1/5W J	nsp	C125		KCQI1H473JZT MYLAR 0.047μF 50V J	nsp
R643				C126		KCCT1H150JC CER. 15pF 50V J	nsp
R651		KRD20TJ471T 470 Ω 1/5W J	nsp	C127		KCRA020S12 VARIABLE 20pF	*CT000110R
R652		KRD20TJ221T 220 Ω 1/5W J	nsp	C128		KCBS1H473ZFT CER. 0.047μF 50V Z	nsp
R653		KRD20TJ102T 1k Ω 1/5W J	nsp	C129		KCEA1CH101T ELECT 100μF 16V	nsp
R654		KRD20TJ221T 220 Ω 1/5W J	nsp	C130		KCEA1HH100T ELECT 10μF 50V	nsp
R671		KRD20TJ271T 270 Ω 1/5W J	nsp	C131		KCBS1H223ZFT CER. 0.022μF 50V Z	nsp
R672		KRD20TJ103T 10k Ω 1/5W J	nsp	C132		KCBS1H102KBT CER. 1000pF 50V K	nsp
R678				C133		KCEA1HH1R0T ELECT 1.0μF 50V	nsp
∫		KRD20TJ103T 10k Ω 1/5W J	nsp	C134		KCEA1HH1R0T ELECT 1.0μF 50V	nsp
R682				C135		KCEA1HHR47T ELECT 0.47μF 50V	nsp
R683				C136		KCEA1HH4R7T ELECT 4.7μF 50V	nsp
∫		KRD20TJ182T 1.8k Ω 1/5W J	nsp	C137		KCBS1H223ZFT CER. 0.022μF 50V Z	nsp
R687				C138		KCKT1H471KB CER. 470pF 50V K	nsp
R692		KRD20TJ182T 1.8k Ω 1/5W J	nsp	C139		KCEA1CH101T ELECT 100μF 16V	nsp
R693		KRD20TJ182T 1.8k Ω 1/5W J	nsp	C140		KCBS1H223ZFT CER. 0.022μF 50V Z	nsp
R694		KRD20TJ182T 1.8k Ω 1/5W J	nsp	C141		KCEA1HH2R2T ELECT 2.2μF 50V	nsp
R762		KRD20TJ103T 10k Ω 1/5W J	nsp	C142		KCBS1H223ZFT CER. 0.022μF 50V Z	nsp
R763		KRD20TJ473T 47k Ω 1/5W J	nsp	C143		KCEA1AH471T ELECT 470μF 10V	nsp
SEMICONDUCTORS				C144		KCCT1H180JC CER. 18pF 50V J	nsp
D601		KVD1N4148MT DIODE 1N4148	*HD201550R	C145		KCBS1H150JCT CER. 15pF 50V J	nsp
D604		KVD1N4148MT DIODE 1N4148	*HD201550R	C150		KCKT1H101KB CER. 100pF 50V K	nsp
IC61		BVITA2150FN IC RF AMP DIGITAL SERVO TA2150FN	*HC107120R				
IC62		BVITC9462F IC DIGITAL SERVO TC9462F	*HC107140R				
▲ IC63		BVITA2092N IC POWER DRIVER TA2092N	*HC107110R				
▲ IC64		BVITA7291S IC TA7291S	*HC107130R				
▲ IC65		BVITA7291S IC TA7291S	*HC107130R				
IC66		BVIANAM1325AC IC CD MICOM TMP87CM78F	*HC107070R				
▲ IC67		KVIMC7805C IC KA7805-ABTU	*HC300210R				

NOTE : "nsp" PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)
C153		KCCT1H330JC CER. 33pF 50V J	nsp	C277		KCFE1J184JBT FILM 0.18µF	nsp
C154		KCCT1H330JC CER. 33pF 50V J	nsp	C278		KCFE1J184JBT FILM 0.18µF	nsp
C155		KCBS1H103ZFT CER. 0.01µF 50V Z	nsp	C279		KCFE1J184JBT FILM 0.18µF	nsp
C156		KCKT1H101KB CER. 100pF 50V K	nsp	C280		KCKT1H101KB CER. 100pF 50V K	nsp
C157		KCEA1HH100T ELECT 10µF 50V	nsp	C281		KCKT1H101KB CER. 100pF 50V K	nsp
C160		KCEA1HH4R7T ELECT 4.7µF 50V	nsp	C282		KCEA1HH2R2T ELECT 2.2µF 50V	nsp
C161		KCCT1H470JC CER. 47pF 50V J	nsp	C283		KCEA1HH2R2T ELECT 2.2µF 50V	nsp
C162		KCEA1CH470T ELECT 47µF 16V	nsp	C287		K3A206 WIRE COPPER	nsp
C165		KCBS1H473ZFT CER. 0.047µF 50V Z	nsp	C291		KCQI1H104JZT MYLAR 0.1µF 50V J	nsp
C179		KCEA1HH4R7T ELECT 4.7µF 50V	nsp	C292		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
C180		KCEA1HH4R7T ELECT 4.7µF 50V	nsp	C293		KCEA1HH2R2T ELECT 2.2µF 50V	nsp
C181		KCEA1HH100T ELECT 10µF 50V	nsp	C309		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp
C184		KCQI1H152JZT MYLAR 1500pF 50V J	nsp	C310		KCEA1HH100T ELECT 10µF 50V	nsp
C185		KCQI1H152JZT MYLAR 1500pF 50V J	nsp	C311		KCEA1HH1R0T ELECT 1.0µF 50V	nsp
C191		KCEA1CH470T ELECT 47µF 16V	nsp				
C192		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp				
C201				C361		KCEA1CH470T ELECT 47µF 16V	nsp
}		KCKT1H101KB CER. 100pF 50V K	nsp	C362		KCBS1H270JT CER. 27pF 50V J	nsp
C206				C363		KCCT1H270JC CER. 27pF 50V J	nsp
C207		KCKT1H151KB CER. 150pF 50V K	nsp	C364		KCBS1H270JT CER. 27pF 50V J	nsp
C208		KCKT1H151KB CER. 150pF 50V K	nsp	C365		KCCT1H270JC CER. 27pF 50V J	nsp
C209		KCKT1H101KB CER. 100pF 50V K	nsp	C366		KCEA1HH1R0T ELECT 1.0µF 50V	nsp
C210		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp	C367		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp
C211		KCKT1H101KB CER. 100pF 50V K	nsp	C368		KCEA1CH470T ELECT 47µF 16V	nsp
C212		KCBS1H151KBT CER. 150pF 50V K	nsp	C369		KCEA0JH102T ELECT 1000µF 6.3V	nsp
C213		KCBS1H151KBT CER. 150pF 50V K	nsp	C370		KCEA1CH220T ELECT 22µF 16V	nsp
C221				C371		KCEA1CH470T ELECT 47µF 16V	nsp
}		KCEA1HH4R7T ELECT 4.7µF 50V	nsp	C372		KCKT1H223ZF CER. 0.022µF 50V Z	nsp
C226				C373		KCEA1CH470T ELECT 47µF 16V	nsp
C227				C374			
}		KCEA1HH2R2T ELECT 2.2µF 50V	nsp	}		KCKT1H101KB CER. 100pF 50V K	nsp
C235				C377			
C236		KCEA1HKS2R2T ELECT 2.2µF 50V	nsp	C378		KCKT1H223ZF CER. 0.022µF 50V Z	nsp
C237		KCBS1H560JT CER. 56pF 50V J	nsp	C379		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
C238		KCBS1H560JT CER. 56pF 50V J	nsp	C381		KCKT1H473ZF CER. 0.047µF 50V Z	nsp
C239		KCEA1HKS2R2T ELECT 2.2µF 50V	nsp	C382		KCKT1H473ZF CER. 0.047µF 50V Z	nsp
C240		KCEA1HKS2R2T ELECT 2.2µF 50V	nsp	C383		KCKT1H473ZF CER. 0.047µF 50V Z	nsp
C241		KCEA1HH2R2T ELECT 2.2µF 50V	nsp	C384		KCBS1H102KBT CER. 1000pF 50V K	nsp
C242		KCEA1HH2R2T ELECT 2.2µF 50V	nsp				
C243		KCBS1H471KBT CER. 470pF 50V K	nsp	C501		KCKT1H102KB CER. 1000pF 50V K	nsp
C244		KCBS1H471KBT CER. 470pF 50V K	nsp	C502		KCKT1H102KB CER. 1000pF 50V K	nsp
C245		KCBS1H221KBT CER. 220pF 50V K	nsp	C503		KCBS1H221KBT CER. 220pF 50V K	nsp
C246		KCBS1H221KBT CER. 220pF 50V K	nsp	C504		KCBS1H221KBT CER. 220pF 50V K	nsp
C247		KCEA1CH101T ELECT 100µF 16V	nsp	C505		KCCT1H050CC CER. 5pF 50V C	nsp
C248		KCEA1CH101T ELECT 100µF 16V	nsp	C506		KCCT1H050CC CER. 5pF 50V C	nsp
C249		KCEA1HH4R7T ELECT 4.7µF 50V	nsp	C507		KCFT1H104ZF CER. 0.1µF 50V Z	nsp
				C510		KCQI1H473JZT MYLAR 0.047µF 50V J	nsp
C251		KCEA1CH470T ELECT 47µF 16V	nsp	C511		KCQI1H473JZT MYLAR 0.047µF 50V J	nsp
C253		KCEA1HH100T ELECT 10µF 50V	nsp	C512		KCKT1H223ZF CER. 0.022µF 50V Z	nsp
C254		KCEA1HH100T ELECT 10µF 50V	nsp	C513		KCKT1H223ZF CER. 0.022µF 50V Z	nsp
C255		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp	C515		KCQE1J124KXT METAL 0.12µF 63V K	*OF100180R
C256		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp	C516		KCQE1J124KXT METAL 0.12µF 63V K	*OF100180R
C258		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp	C520		KCEA1HH2R2T ELECT 2.2µF 50V	nsp
C259		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp	C521		KCEA1HH2R2T ELECT 2.2µF 50V	nsp
C260		KCEA1HH100T ELECT 10µF 50V	nsp	C522			
C261		KCEA1HH100T ELECT 10µF 50V	nsp	}		KCEA1CH470T ELECT 47µF 16V	nsp
C262		KCBS1H223ZFT CER. 0.022µF 50V Z	nsp	C525			
C264		KCEA1HH100T ELECT 10µF 50V	nsp	C526		KCEA1HH470T ELECT 47µF 50V	nsp
C265		KCEA1CH101T ELECT 100µF 16V	nsp	C528		KCEA1HH100T ELECT 10µF 50V	nsp
C266		KCEA1CH101T ELECT 100µF 16V	nsp	C529		KCEA1VH101T ELECT 100µF 35V	nsp
C267		KCKT1H223ZF CER. 0.022µF 50V Z	nsp	▲ C530		KCEA1HH332E ELECT 3300µF 50V	*EA001070R
C268		KCKT1H223ZF CER. 0.022µF 50V Z	nsp	▲ C531		KCEA1HH332E ELECT 3300µF 50V	*EA001070R
C269		KCEA1CH470T ELECT 47µF 16V	nsp	C532		KCQI1H473JZT MYLAR 0.047µF 50V J	nsp
C271		KCKT1H223ZF CER. 0.022µF 50V Z	nsp	C533		KCQI1H473JZT MYLAR 0.047µF 50V J	nsp
C272		KCQI1H272JZT MYLAR 2700pF 50V J	nsp	C541		KCQI1H102JZT MYLAR 1000pF 50V J	nsp
C273		KCQI1H272JZT MYLAR 2700pF 50V J	nsp	C542		KCQI1H102JZT MYLAR 1000pF 50V J	nsp
C274		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp	C543		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
C275		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp	C544		KCBS1H104ZFT CER. 0.1µF 50V Z	nsp
C276		KCFE1J184JBT FILM 0.18µF	nsp	C545		KCQI1H222JZT MYLAR 2200pF 50V J	nsp
				C546		KCQI1H222JZT MYLAR 2200pF 50V J	nsp

NOTE : "nsp" PART IS LISTED FOR REFERENCE ONLY, MARANTZ WILL NOT SUPPLY THESE PARTS.

POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)	POS. NO	VERS. COLOR	DESCRIPTION	PART NO. (MJI)
R303		KRD20TJ562T	5.6k Ω 1/5W J	▲ R905		KRG1ANJ2R2H METAL OXIDE FILM	GA05022010
R304		KRD20TJ100T	10 Ω 1/5W J			2.2 Ω 1W J	
R305		KRD20TJ100T	10 Ω 1/5W J	R906		KRD20TJ123T	12k Ω 1/5W J
R306		KRD20TJ473T	47k Ω 1/5W J	R907		KRD20TJ123T	12k Ω 1/5W J
R307		KRD20TJ472T	4.7k Ω 1/5W J	R909		KRD20TJ560T	56 Ω 1/5W J
R308		KRD20TJ121T	120 Ω 1/5W J	R910		KRD20TJ560T	56 Ω 1/5W J
R309		KRD20TJ472T	4.7k Ω 1/5W J	R911		KRD20TJ122T	1.2k Ω 1/5W J
R311		KRD20TJ104T	100k Ω 1/5W J	R912		KRD20TJ473T	47k Ω 1/5W J
R312		KRD20TJ104T	100k Ω 1/5W J	R924		KRG1ANJ100H METAL OXIDE FILM	GA05100010
R313		KRD25TJ104T	100k Ω 1/4W J			10 Ω 1W J	
R314		KRD25TJ104T	100k Ω 1/4W J	R925		KRD20TJ563T	56k Ω 1/5W J
R361		KRD20TJ102T	1k Ω 1/5W J	▲ R926		KRF2CJR27H CEMENT 0.27 Ω 2W	*GO000010R
R362		KRD20TJ273T	27k Ω 1/5W J	▲ R927		KRF2CJR27H CEMENT 0.27 Ω 2W	*GO000010R
R363		KRD20TJ105T	1M Ω 1/5W J	▲ R928		KRQ1AJR47H FUSE 0.47 Ω 1W J	*NH000080R
R364		KRD20TJ102T	1k Ω 1/5W J	▲ R929		KRQ1AJR47H FUSE 0.47 Ω 1W J	*NH000080R
R365		KRD20TJ561T	560 Ω 1/5W J	R931		KRD20TJ474T	470k Ω 1/5W J
R366		KRD20TJ182T	1.8k Ω 1/5W J	R932		KRD20TJ102T	1k Ω 1/5W J
R367		KRD20TJ273T	27k Ω 1/5W J	R933		KRD20TJ103T	10k Ω 1/5W J
R368		KRD20TJ103T	10k Ω 1/5W J	R936		KRD20TJ223T	22k Ω 1/5W J
R369		KRD20TJ473T	47k Ω 1/5W J	R937		KRD20TJ103T	10k Ω 1/5W J
R370		KRD20TJ103T	10k Ω 1/5W J				
R371		KRD20TJ103T	10k Ω 1/5W J	VR11		BVN1PA502B01T SEMI FIXED (5k Ω) MY	*RA001010R
R372		KRD20TJ103T	10k Ω 1/5W J			EVNDJAA03B53	
R373				VR12		KVN1RA223B01T SEMI FIXED (22k Ω)	*RA000950R
R376		KRD20TJ472T	4.7k Ω 1/5W J			RH0638C-223	
R377		KRD20TJ473T	47k Ω 1/5W J	VR13		KVN1RA103B01T SEMI FIXED (10k Ω)	*RA001020R
R379		KRD20TJ103T	10k Ω 1/5W J			RH0638C-103	
R381		KRD20TJ103T	10k Ω 1/5W J				
R382		KRD20TJ103T	10k Ω 1/5W J			SEMICONDUCTORS	
R383		KRD20TJ102T	1k Ω 1/5W J	D101		BVDSVC342LT DIODE VARICAP SVC342-L-AA	*HD400160R
R384		KRD20TJ102T	1k Ω 1/5W J	D103		KVD1N4148MT DIODE 1N4148	*HD201550R
R503				D105		KVD1N4148MT DIODE 1N4148	*HD201550R
R506		KRD20TJ473T	47k Ω 1/5W J	D201		KVD1N4148MT DIODE 1N4148	*HD201550R
R507		KRD20TJ222T	2.2k Ω 1/5W J	D202		KVD1N4148MT DIODE 1N4148	*HD201550R
R508		KRD20TJ222T	2.2k Ω 1/5W J	D355		KVD1N4148MT DIODE 1N4148	*HD201550R
R509		KRD20TJ101T	100 Ω 1/5W J	D361			
R510		KRD20TJ562T	5.6k Ω 1/5W J			KVD1N4148MT DIODE 1N4148	*HD201550R
R511		KRD20TJ101T	100 Ω 1/5W J	D364		KVD1N4148MT DIODE 1N4148	*HD201550R
R512		KRD20TJ104T	100k Ω 1/5W J	D366		KVD1N4148MT DIODE 1N4148	*HD201550R
R520		KRD20TJ332T	3.3k Ω 1/5W J	D367		KVD1N4148MT DIODE 1N4148	*HD201550R
				D368		KVD1N4148MT DIODE 1N4148	*HD201550R
R521		KRD20TJ332T	3.3k Ω 1/5W J	D369		KVD1N4148MT DIODE 1N4148	*HD201550R
R522		KRD20TJ103T	10k Ω 1/5W J	▲ D501		BVDPBU604F DIODE BRIDGE PBU604F	*HE200290R
R523		KRD20TJ103T	10k Ω 1/5W J	D502			
R524		KRD20TJ102T	1k Ω 1/5W J			KVD1N4148MT DIODE 1N4148	*HD201550R
R525		KRD20TJ102T	1k Ω 1/5W J	D506			
R526		KRD20TJ100T	10 Ω 1/5W J	D901			
R527		KRD20TJ123T	12k Ω 1/5W J			KVD1N4003ST DIODE 1N4003	HD200010AR
R528		KRD20TJ123T	12k Ω 1/5W J	D910			
R529		KRD20TJ473T	47k Ω 1/5W J	▲ D915		KVDMTZJ13BT DIODE ZENER 13V 1/2W	HD31301000
R530		KRD20TJ473T	47k Ω 1/5W J	▲ D916		KVDMTZJ13BT DIODE ZENER 13V 1/2W	HD31301000
R531		KRD20TJ153T	15k Ω 1/5W J	▲ D917		KVDMTZJ6.2BT DIODE ZENER 6.2V 1/2W	*HD301710R
▲ R535		KRD50FJ102T	1k Ω 1/2W J	▲ D919		KVDMTZJ6.2BT DIODE ZENER 6.2V 1/2W	*HD301710R
▲ R536				D920		KVDMTZJ9.1BT DIODE ZENER 9.1V 1/2W	*HD301970R
				▲ D921		KVDMTZJ33BT DIODE ZENER 33V 1/2W	*HD301740R
▲ R539		KRD50FJ222T	2.2k Ω 1/2W J	D922		KVD1N4003ST DIODE 1N4003	HD200010AR
▲ R540		KRD50FJ102T	1k Ω 1/2W J	D923		KVD1N4003ST DIODE 1N4003	HD200010AR
R541		KRG1ANJ100H METAL OXIDE FILM	10 Ω 1W J	IC11		BVILA1836M IC IF+MPX LA1836M	*HC107080R
R542		KRG1ANJ100H METAL OXIDE FILM	10 Ω 1W J	IC12		BVILC72131M IC PLL LC72131M	*HC104820R
▲ R543		KRF2CJR27H CEMENT 0.27 Ω 2W	*GO000010R	IC21		BVITDA7318D IC VOLUME+FUNCTION	*HC107150R
▲ R544		KRF2CJR27H CEMENT 0.27 Ω 2W	*GO000010R	IC22		BVILC4966 IC LC4966	HC10150030
R901		KRD25TJ681T	680 Ω 1/4W J	IC23		BVINJM2068MDTE1 IC OP AMP NJM2068MD-TE1	*HC107090R
R902		KRD25TJ681T	680 Ω 1/4W J	IC24		BVINJM2068MDTE1 IC OP AMP NJM2068MD-TE1	*HC107090R
R903		KRD25TJ222T	2.2k Ω 1/4W J	IC25		BVINJM4556AL IC NJM4556AL	HC10200090
▲ R904		KRD50FJ222T	2.2k Ω 1/2W J	IC36		BVIANAM1301AT IC MAIN MICOM	*HC107060R
						TMP87CM78F-1G69	

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