DIGITAL ADVANCED TECHNOLOGY

SN:9CD8306500

Service Manual

Model: XM-654GU
XM-654G

DAEWOO DAT CO., LTD.

Jan. 2008

Mini component sound system
with CD-R/RW/MP3
Model: XM-654GU
XM-654G

Table of Contents

Safety Precautions

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
RISK OF ELECTRIC SHOCKS
DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULTED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.

THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

CAUTION

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

LASER SAFETY

THIS UNIT EMPLOYS A LASER. ONLY QUALIFIED SERVICE PERSONNEL SHOULD REMOVE THE COVER OR ATTEMPT TO SERVICE THIS DEVICE DUE TO POSSIBLE EYE INJURY.

CAUTION : USE OF ANY CONTROLS, ADJUSTMENTS, OR PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

CAUTION : TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION : POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

Important Safety Instructions

- All the safety and operating instructions should be read before the appliance is operated.
- The safety and operating instructions should be retained for future reference.
- All warnings on the appliance and in the operating instructions should be adhered to.
- All operating and use instructions should be followed.

1. Water and Moisture - The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.

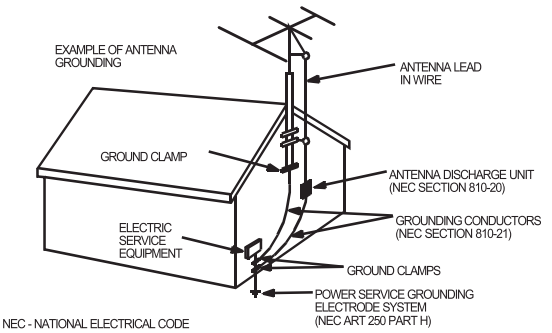
PORTABLE CART

Figure 2

2. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by th manufacturer.
3. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
4. Wall or Ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
5. Ventilation - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
6. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
7. Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
8. Grounding or Polarization - The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
9. Power - Cord Protection - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
10. Protective Attachment Plug - If the appliance is equipped with an attachment plug having overload protection. This is a safety feature. See Instruction Manual for replacement or resetting of protective device. If replacement of the plug is required, be sure the service technician has used a replacement plug specified by the manufacturer that has the same overload protection as the original plug.
11. Cleaning - The appliance should be cleaned only as recommended by the manufacturer.
12. Power Lines - An outdoor antenna should be located away from power lines.

Safety Precautions

13. Outdoor Antenna Grounding - If an outside antenna is connected to the receiver be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-dis charge unit, size of grounding conductors,location of antenna-discharge unit, connection to grounding electrodes and requirements for the grounding electrode. See Figure 1.



14. Non-use Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

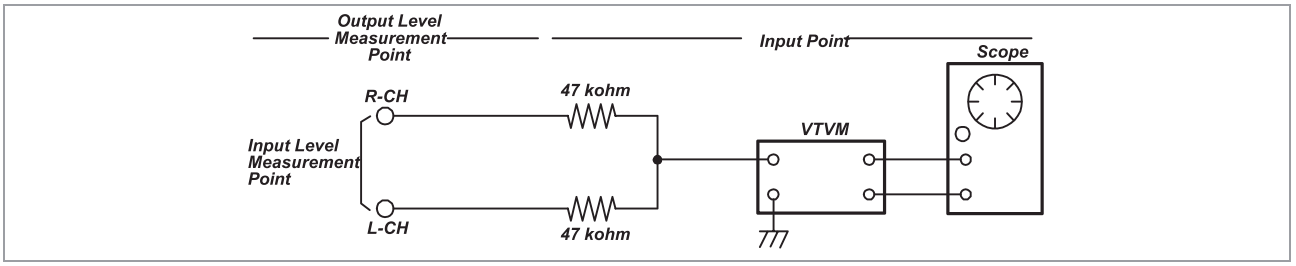
15. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

16. Damage Requiring Service - The appliance should be serviced by qualified service personnel when:
    a) The power-supply cord or the plug has been damaged; or
    b) Objects have fallen, or liquid has been spilled into the appliance; or
    c) The appliance has been exposed to rain; or
    d) The appliance does not appear to operate normally or exhibits a marked change in performance; or
    e) The appliance has been dropped, or the enclosure damaged.

17. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Adjustments

● TAPE SECTION



Test Tape be used

Tape	Contents	Use
MTT-111N	3 KHz	Tape Speed Adjustment
MTT-114N	10 KHz	Head Azimuth Adjustment
MTT-5511	Blank	Record Frequency Property

HEAD ADJUSTMENT (AZIMUTH)

1. 10KHz test tape(example: MTT-114N) must be used for this adjustment.
2. Connect to VTVM or oscilloscope to the headphone jack or speaker terminal.
3. Press the play button.
4. Adjust the azimuth by using a screw driver to maintain the max. L&R output voltage.
5. Please secure the azimuth position by using locking paint.

RECORDING BIAS OSCILLATOR FREQUENCY ADJUSTMENT

1. Connect the frequency counter to TP603, GND.
2. Press the REC button.
3. Adjust L600 to obtain 60 KHz±0.5

TAPE ALIGNMENT CHART

Step	Item		Reference Value	Test Tape	Adjust Point	Test Point	Note	FIG.
1	Tape Speed Adjustment	Normal	2,960~3,020Hz	MTT-111N	Cass Deck Motor	Line Out L/R Channel	Confirm Wow & Flutter (within 0.35%)	FIG.1
			2,960~3,020Hz	MTT-111N	Cass Deck Motor	Line Out L/R Channel	Confirm Tape Speed of end position after adjustment at tape start position	FIG.1
2	Azimuth Adjustment		Maximum Level Phase:Within90∞	MTT-114N	Head Screw	Line Out L/R Channel		FIG.2,3,4
3	Recording Bias Oscillator Frequency Adjustment		60 KHz±0.5	MTT-5511	L600	TP603,GND	Adjust with frequency counter connected.	FIG.1

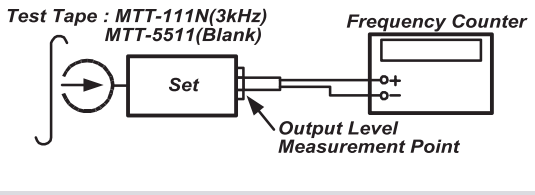


FIG. 1 : Tape Speed & Record Bias Oscillator Frequency Adjust Circuit

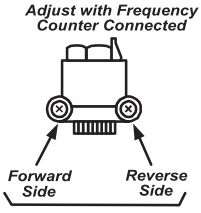


FIG. 2 : Tape Azimuth Adjust Location (Record/Playback Head)

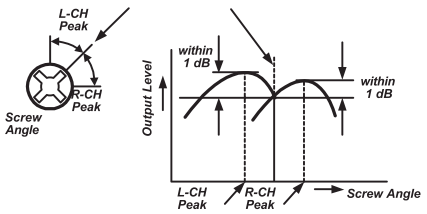


FIG. 3 : Tape Azimuth Adjust Head Screw & Waveform

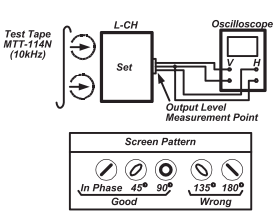
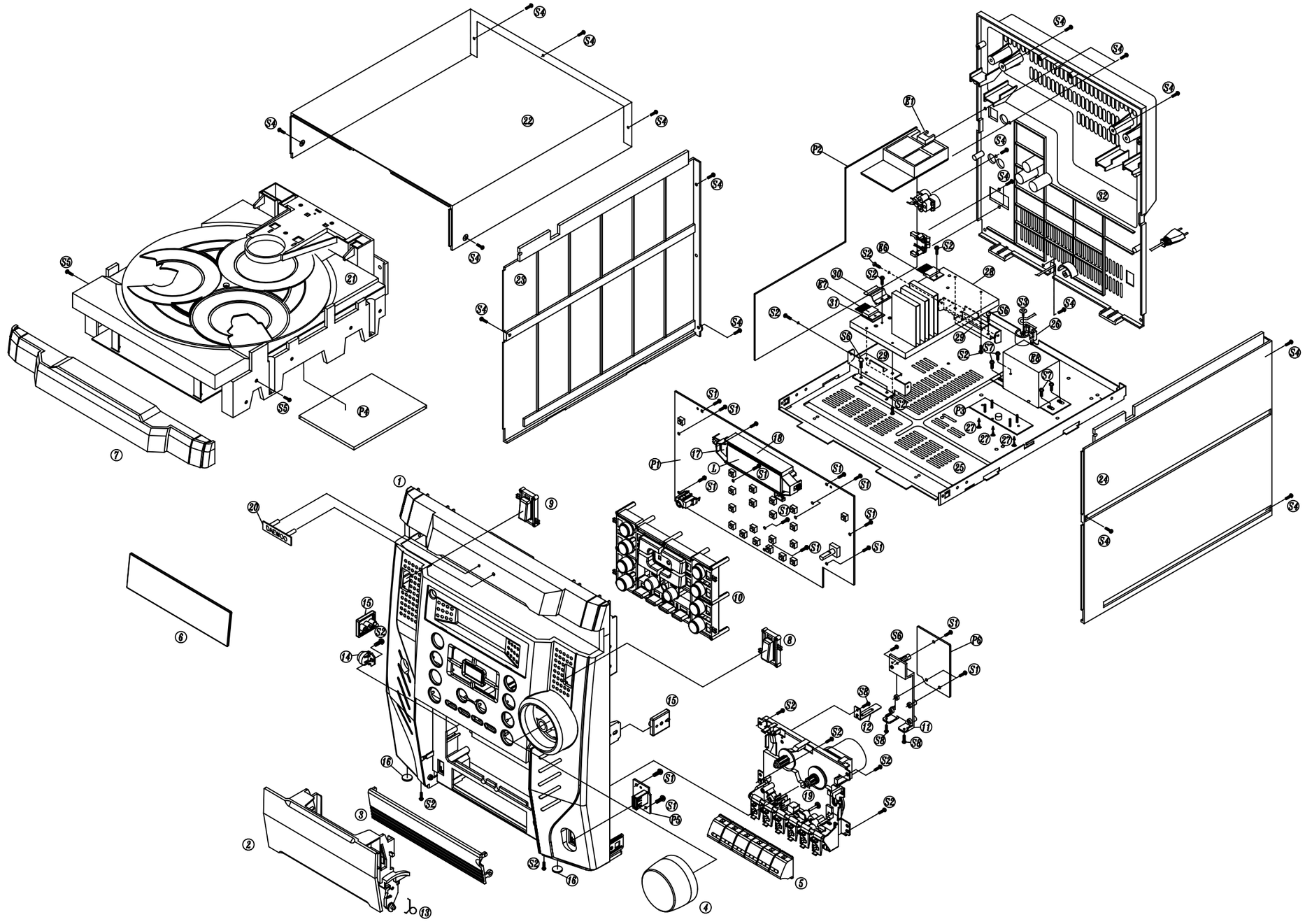


FIG. 4 : Tape Azimuth Adjust Circuit & Waveform

Exploded View and Mechanical Parts List

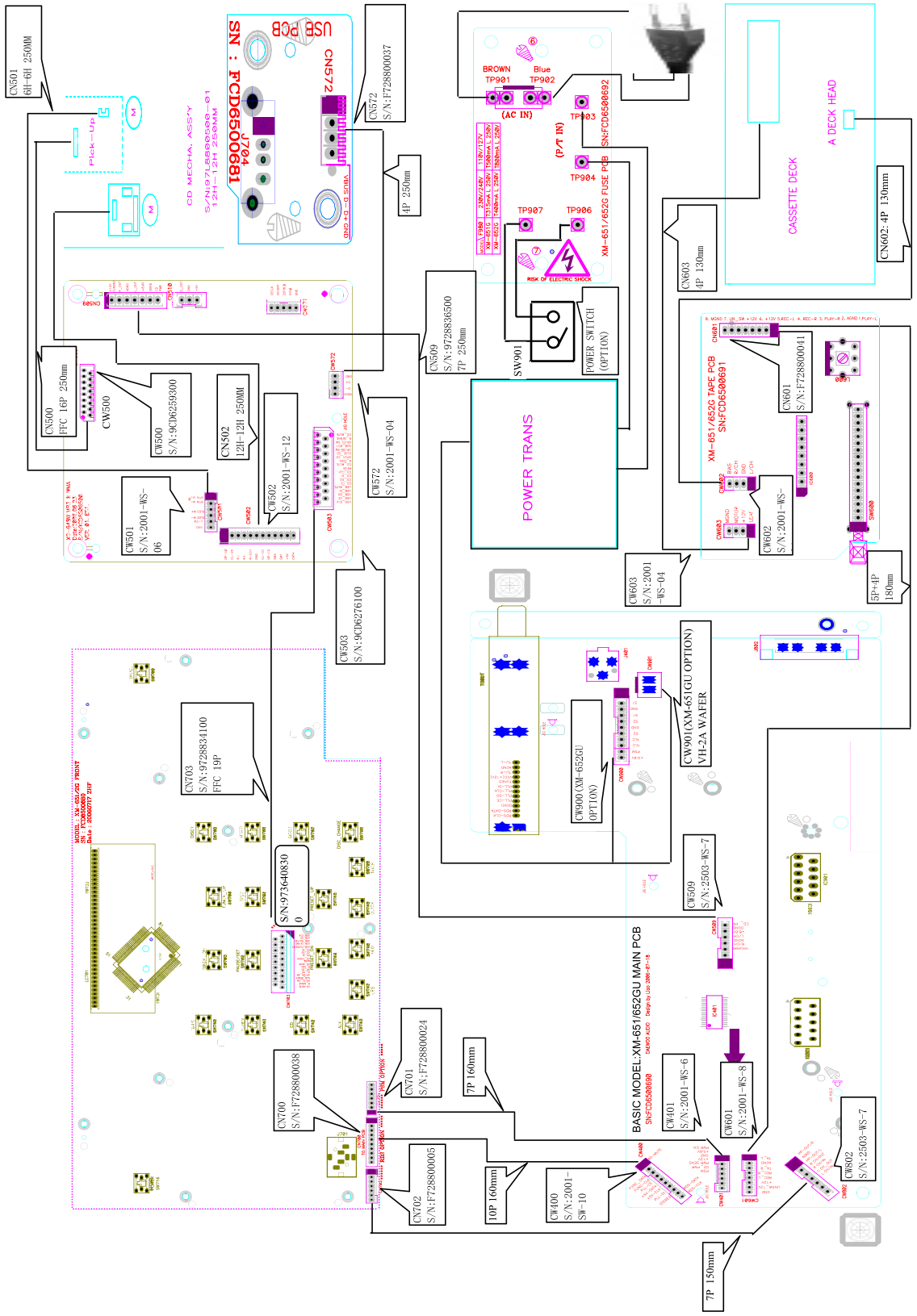


M-5. EXPLODED VIEW PARTS LIST

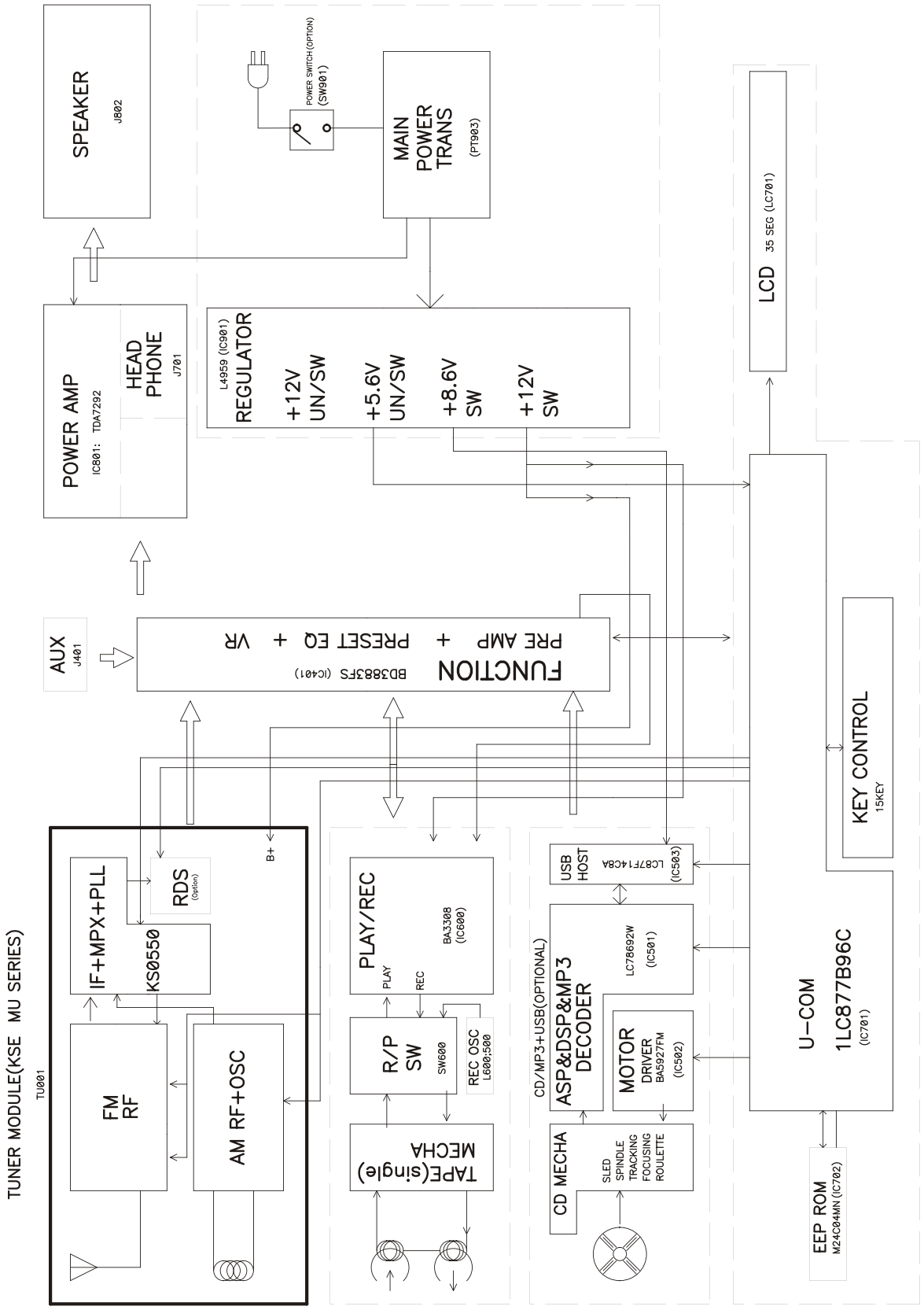
No.	PARTS NAME	CODE NO.	DESCRIPTIONS	Q'TY
1	PANEL FRONT	9CD0316701	HIPS	1
2	DOOR CASS	9CD1817000	MIPS	1
3	COVER KNOB DECK	9CD0420200	HIPS	1
4	KNOB VOLUME	9CD1359700	HIPS	1
5	KNOB DECK	9CD1359500	HIPS	1
6	WINDOW LCD	9CD1624900	ACRYL	1
7	DOOR CD	9CD1817100	HIPS	1
8	KNOB OPEN	9CD1359800	HIPS	1
9	KNOB POWER	9CD1359900	HIPS	1
10	KNOB CONTROL	9CD1359601	HIPS	1
11	BRACKET PCB TAPE	9CD2419401	HIPS	1
12	GUIDE RECORD	9CD2508300	STS T0.6	1
13	SPRING DOOR EJECT	9CD3004500	PW-1	1
14	DAMPER BASE/GEAR	9CD2603300/3200	ABS/POM	1
15	BRKT SIDE	9CD2412900	ABS	2
16	CUSHION FOOT	9CD4207700	URETHANE D10*4.0T	2
17	WINDOW REFLECTOR	9CD1621600	ACRYL	1
18	HOLDER LCD	9CD2305400	ABS	1
19	DECK CASS	9CD6013F02-1	CS-21SC-190C	1
20	BADGE DAEWOO	9CD1505300	AL BLACK	1
21	CD DECK MECHA	9CD6014300	DDC-01DA11（DA11VZ）	1
22	COVER TOP	9CD0409600	MIPS	1
23	COVER SIDE L	9CD0410500	MIPS	1
24	COVER SIDE R	9CD0410601	MIPS	1
25	CHASSIS BOTTOM	9CD0607101	SECC T1.0	1
26	HOLDER AC CORD	9CD2303300	ABS	1
27	SUPPORT PCB	9CD2507402	NYLON 66 H:12.7	3
28	HEAT SINK 30	9CD4406201	AL 8.0T+ 0.7T	1
29	BRKT HEAT SINK	9CD2414600	SECC T1.0	2
30	BRACKET HEAT TR	9CD2413901	SECC T0.5	1
31	PLATE MICA	9CD0910600	WHITE MICA 25X30MM	1
32	COVER BACK	9CD0418507	MIPS	1

S1	SCREW TAPTITE	7173261011	TT2BIN 2.6*10 MFZN	17
S2	SCREW TAPTITE	7173301011	TT2 BIN 3*10 MFZN	21
S3	SCREW TAPTITE	9CD3102400	TT2 BIN 3.0X10 + D14	1
S4	SCREW TAPTITE	7173301012	TT2 BIN 3*12 MFZN BK BK	19
S5	SCREW TAPTITE	7173301412	TT2 BIN 3X14 MFZN BK	2
S6	SCREW TAPTITE	7173300811	TT2 BIN 3X8 MFZN	4
S7	SCREW TAPTITE	7173400611	TT2 BIN 4*6 MFZN	4
S8	SCREW TAPTITE	7171203512-1	TT2 PAN 2*3.5 BK	4
P1	PCB FRONT	FCD6500680	247X139X1.6T	1
P2	PCB MAIN	FCD6500820	247X139X1.6T	1
P3	PCB FUSE	FCD6500692	80X42X1.6T	1
P4	PCB MP3	9CD6506500	96X96X1.6T	1
P5	PCB USB	FCD6500681	30X23X1.6T	1
P6	PCB TAPE	FCD6500691	71X52X1.6T	1
E1	TUNER MODULE	F737600850	KST-MU000MV0-60PT	1
E2	CORD AC	9736907220	10A 250V 2M	1
E3	IC	1L4959––	L4959	1
E4	IC	1TDA7292–	TDA7292	1
T1	TRANS POWER	5TP8066F44	EI=66X45，230V 50Hz	1
L	LCD	DFEQ06029C	FEQ06029C	1

Wiring Diagram

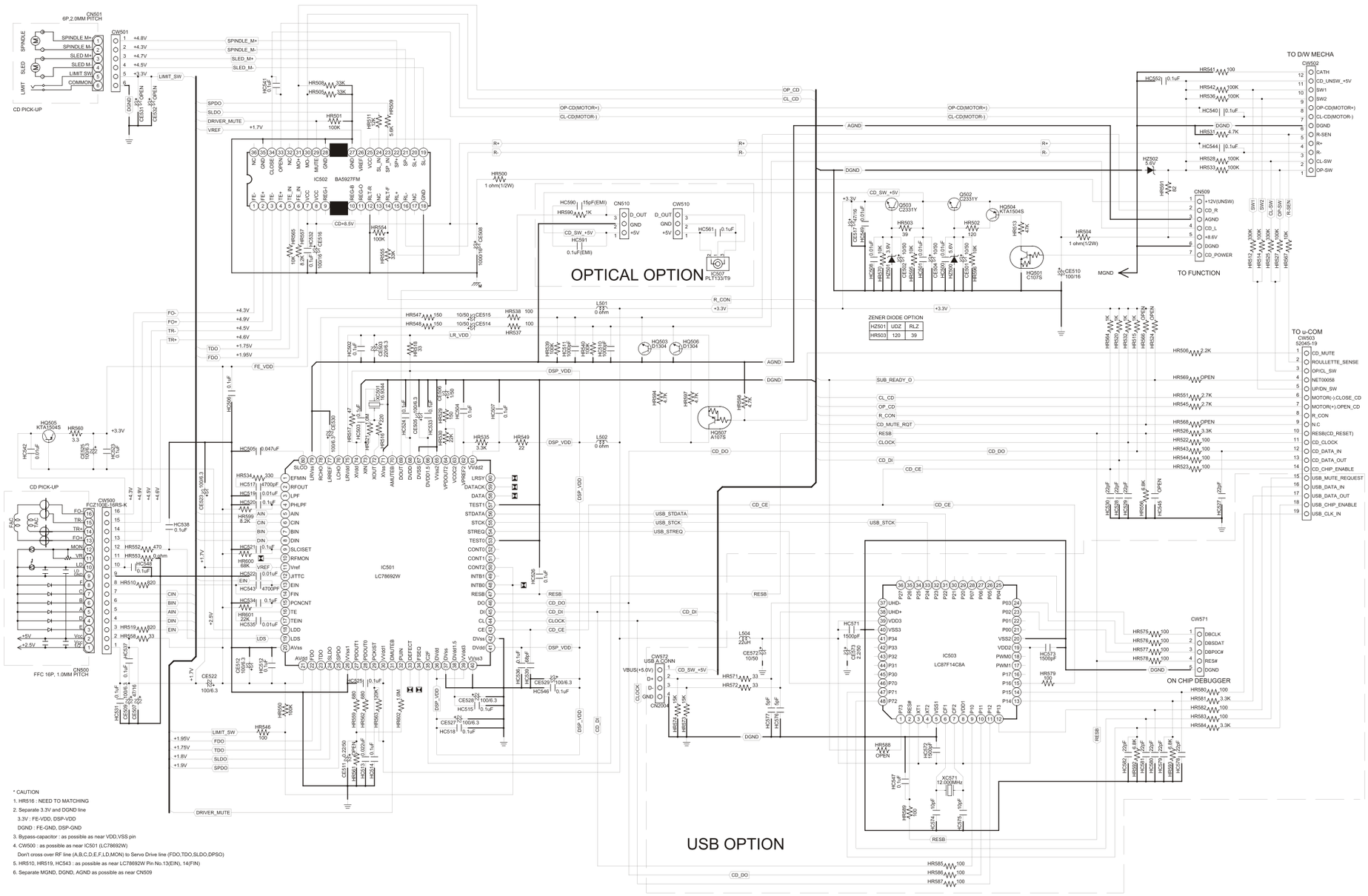


Block Diagram



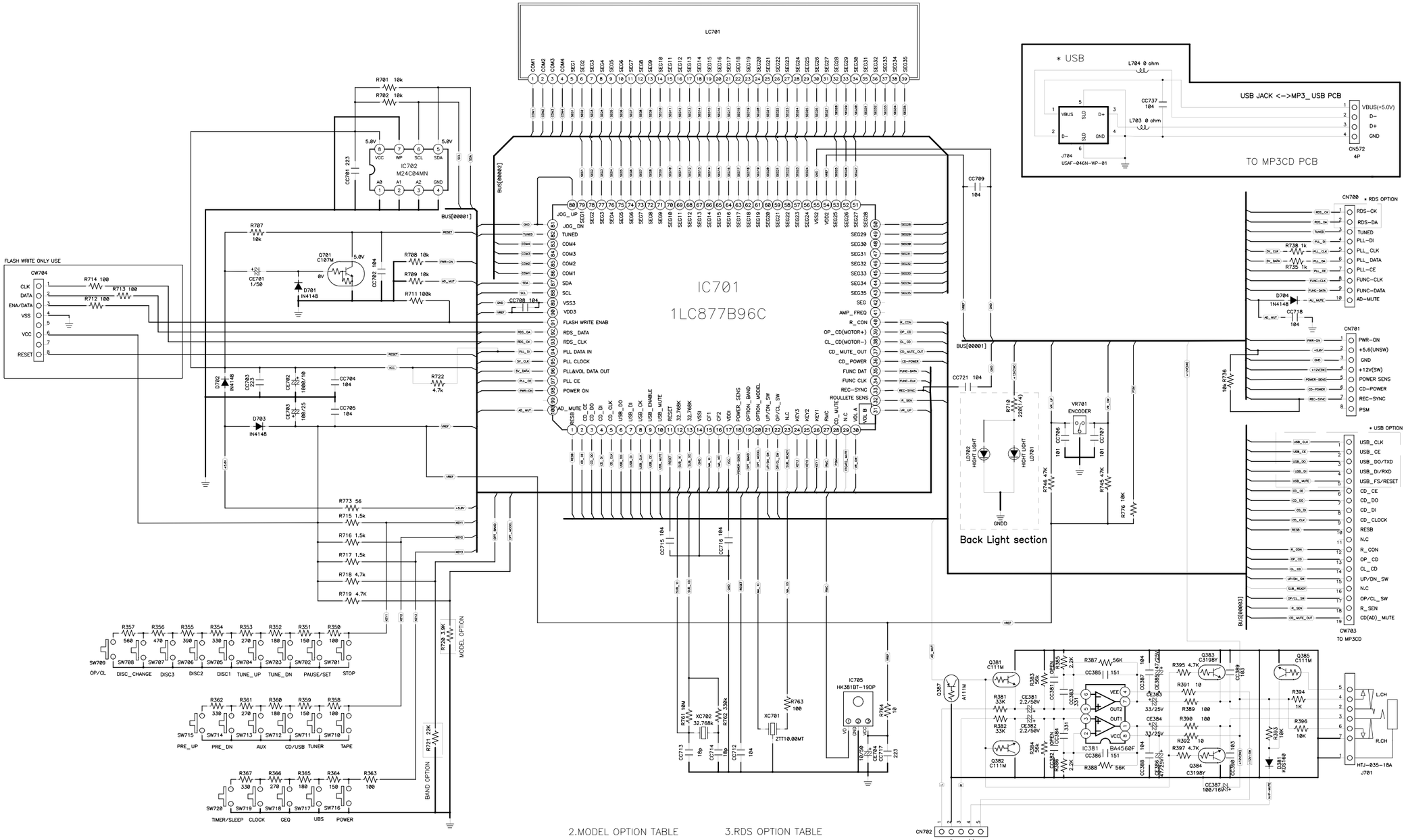
Schematic Diagram

- **CD/MP3/USB section**



Schematic Diagram

● Front Section



1.BAND OPTION

Version / BAND	America 1/12Hr	America 2/24Hr (AM input gain +0dB)	CIS /24Hr/RDS	Eur 2Band /24Hr	Japan /12Hr	Asia 1/12Hr	Asia 2/24Hr	CIS /24Hr	Latin Am /12Hr	Eur Rds 2b/24Hr	SEMP/24Hr (AM input gain +3.5dB)
FM(MHz)/Step	FM 87.5-108/100	FM 87.5-108/100	FM L:65-74/10	FM 87.5-108/50	FM 76-108/100	FM 87.5-108/100	FM 87.5-108/100	FM L:65-74/10	FM 87.5-108/100	FM 87.5-108/50	FM 87.5-108/100
FM(MHz)/Step			FM H:87.5-108/50					FM H:87.5-108/50			
MW(kHz)/Step	AM 520-1710/10	AM 520-1710/10	MW 522-1620/9	MW 522-1620/9	AM 522-1620/9	AM 522-1620/9	AM 522-1620/9	AM 522-1620/9	AM 520-1710/10	MW 522-1620/9	MW 520-1710/10
R721	Jump	330	680	1.2K	1.8K	2.7K	3.9K	6.8K	10K	22K	47K

2.MODEL OPTION TABLE

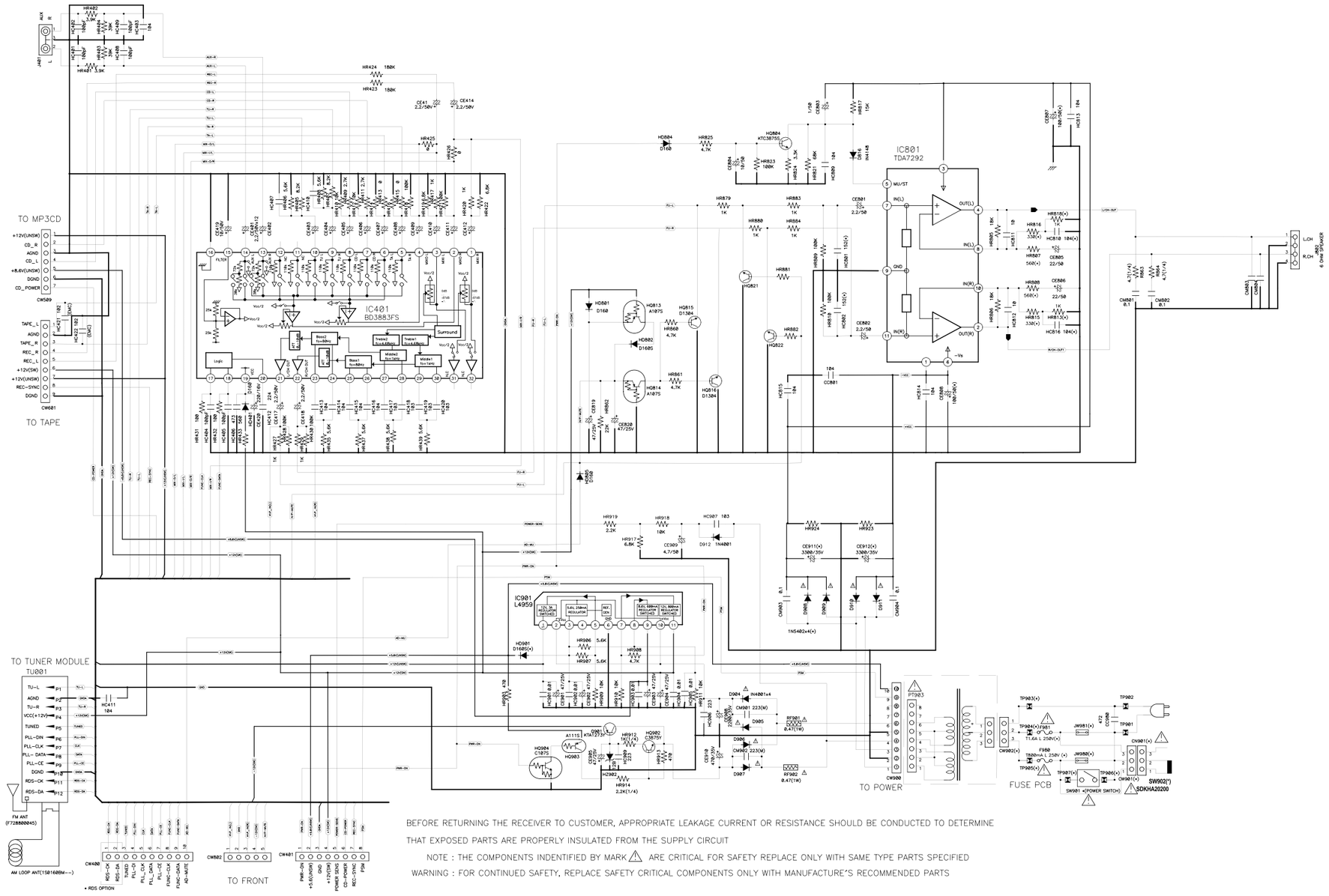
R720	3.9K	6.8K
USB	WITH	WITHOUT

3.RDS OPTION TABLE

	W/RDS	W/O RDS
CN700	10PIN	8PIN

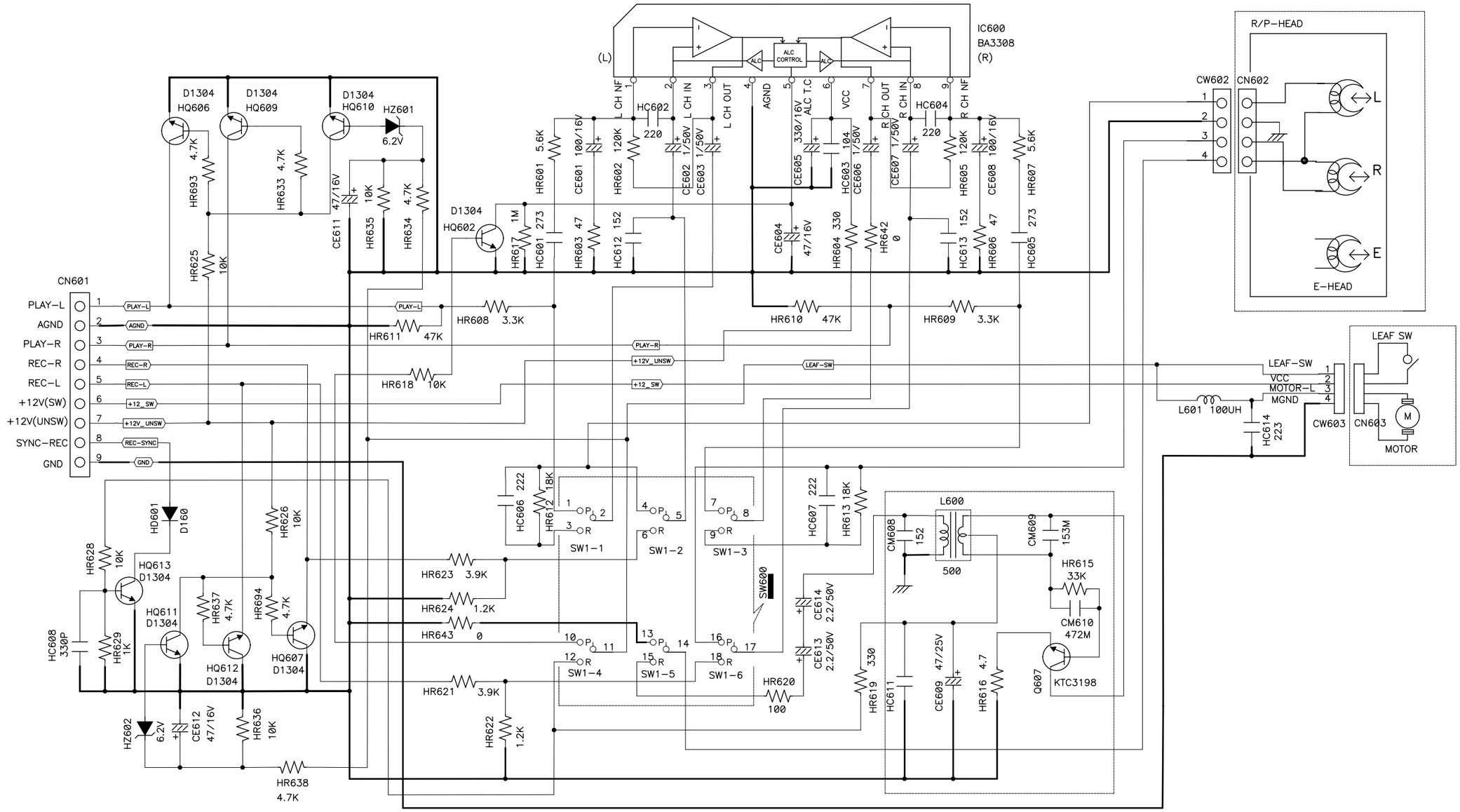
Schematic Diagram

- **MAIN Section**



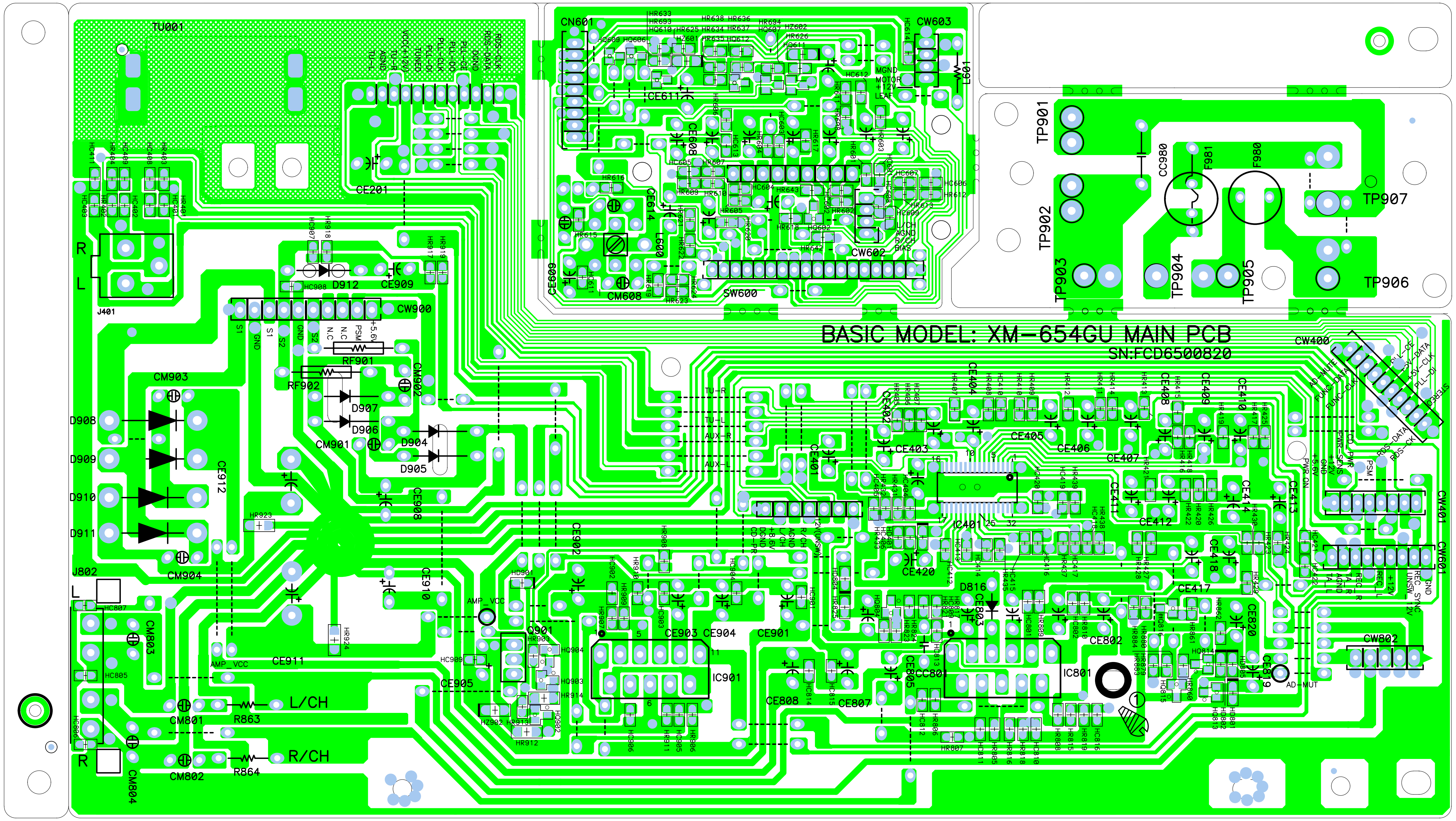
Schematic Diagram

• Tape Section



● MAIN

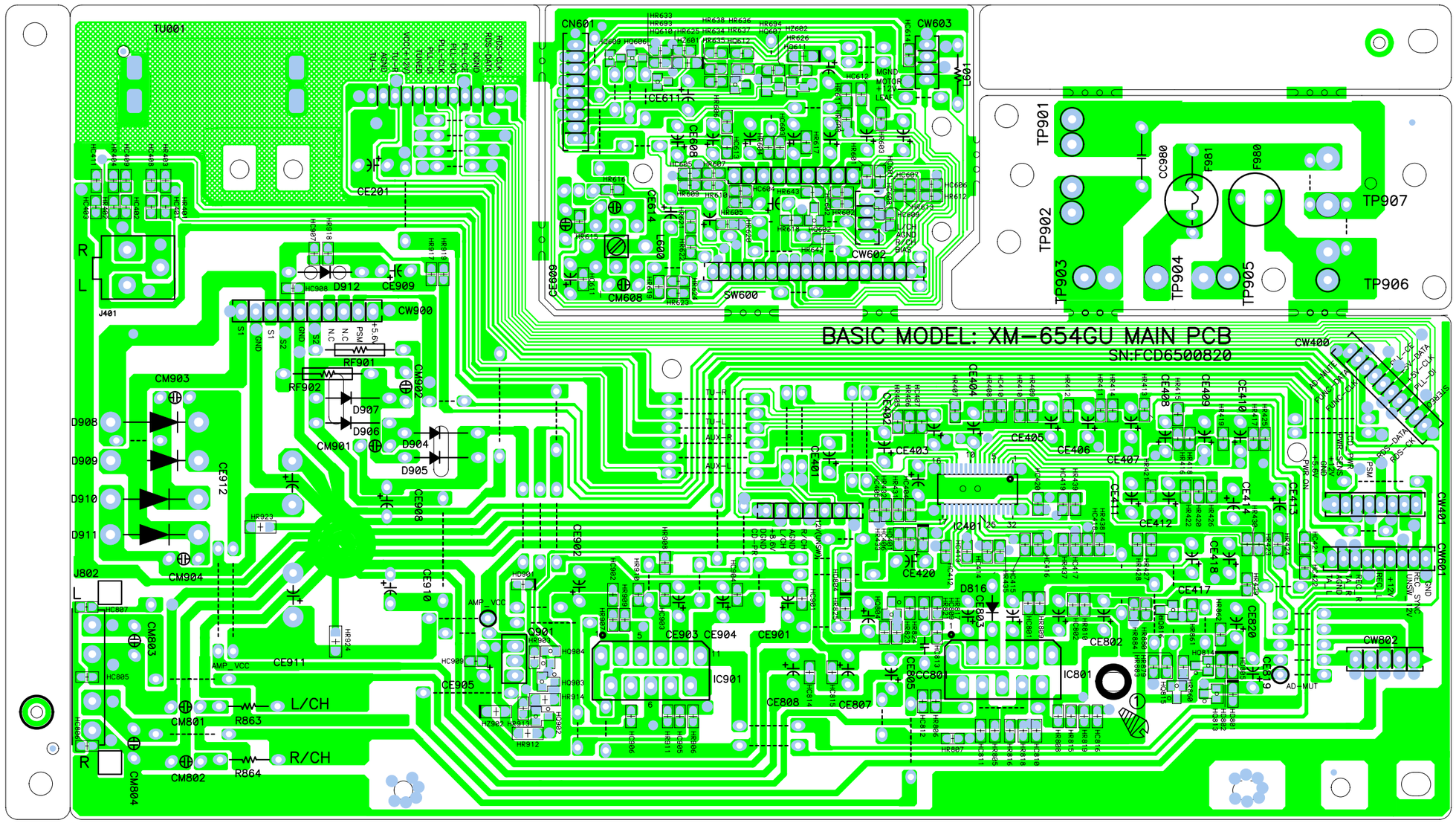
<Top View>



P.C.B Pattern Layout

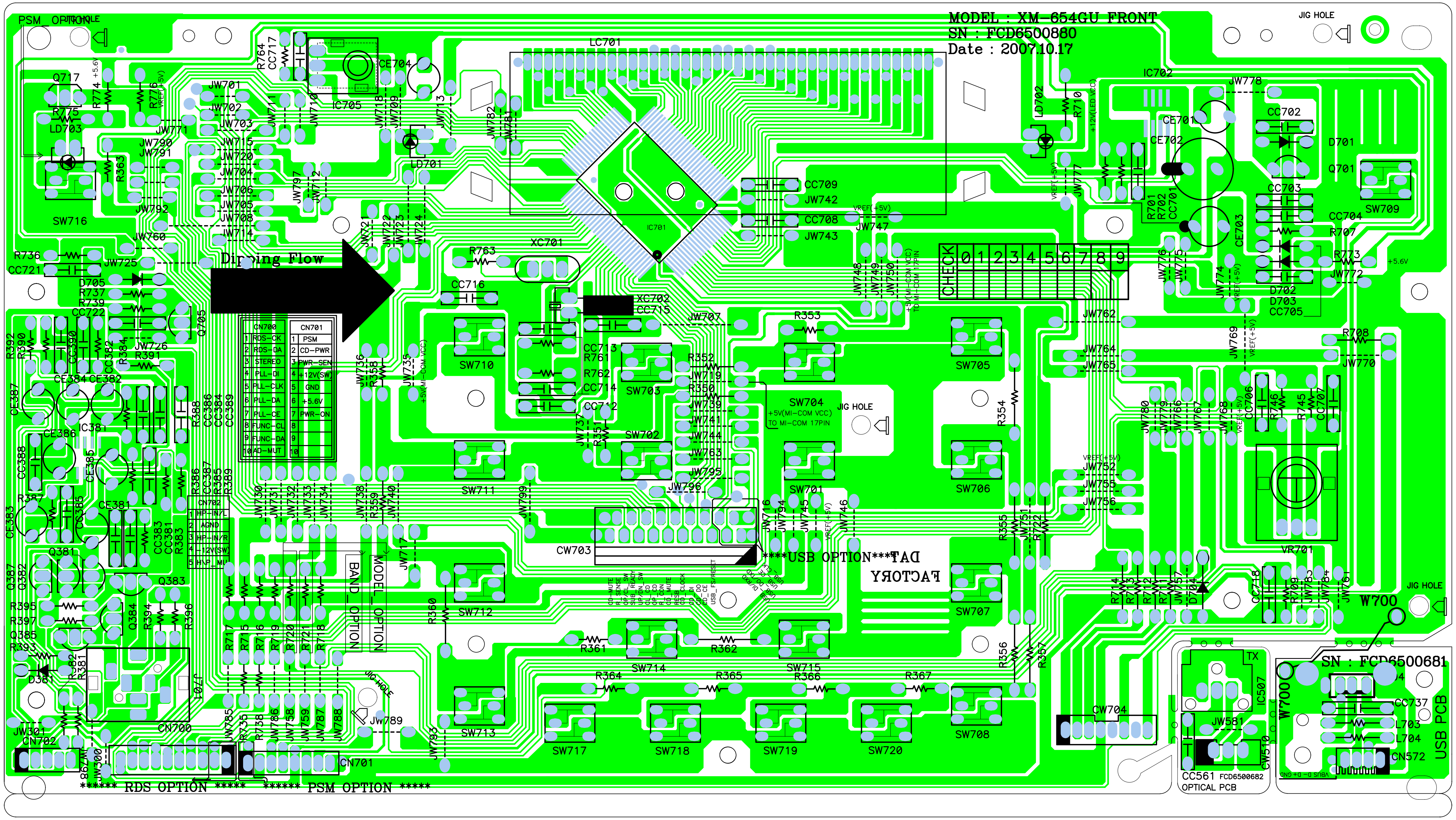
● MAIN

<Bottom View>



● FRONT

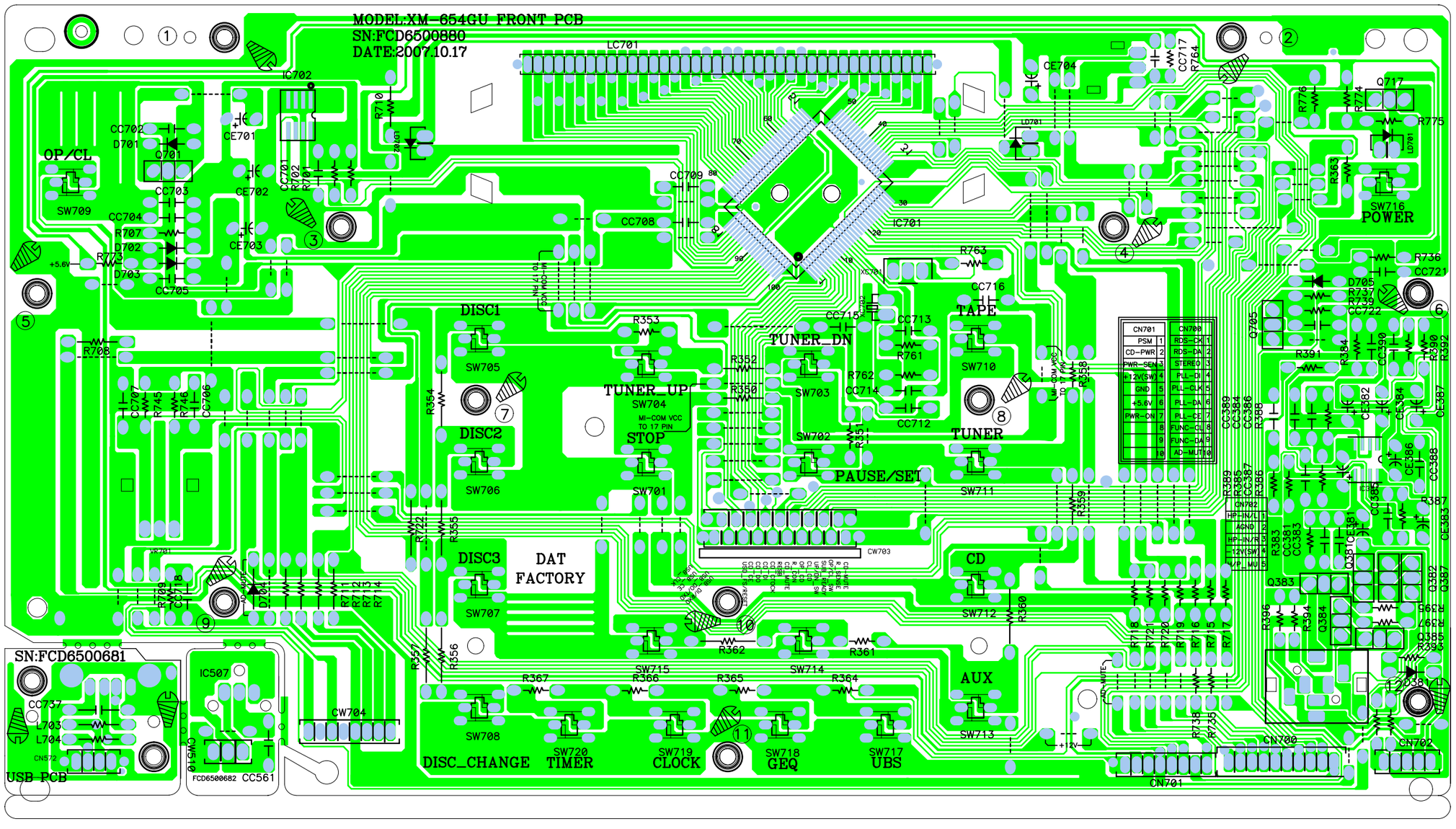
<Top View>



P.C.B Pattern Layout

- FRONT

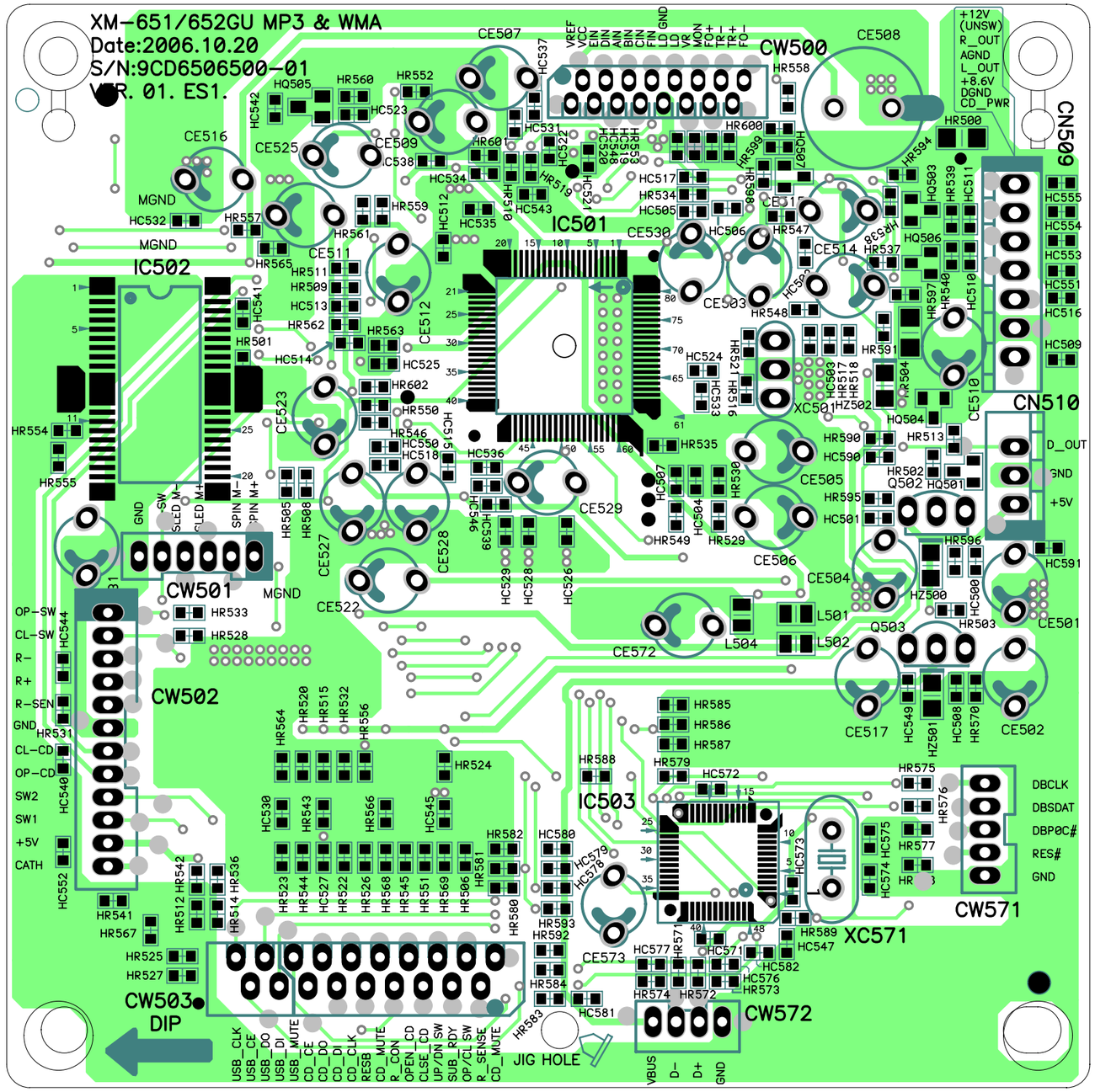
<Bottom View>



P.C.B Pattern Layout

- **CD/MP3**

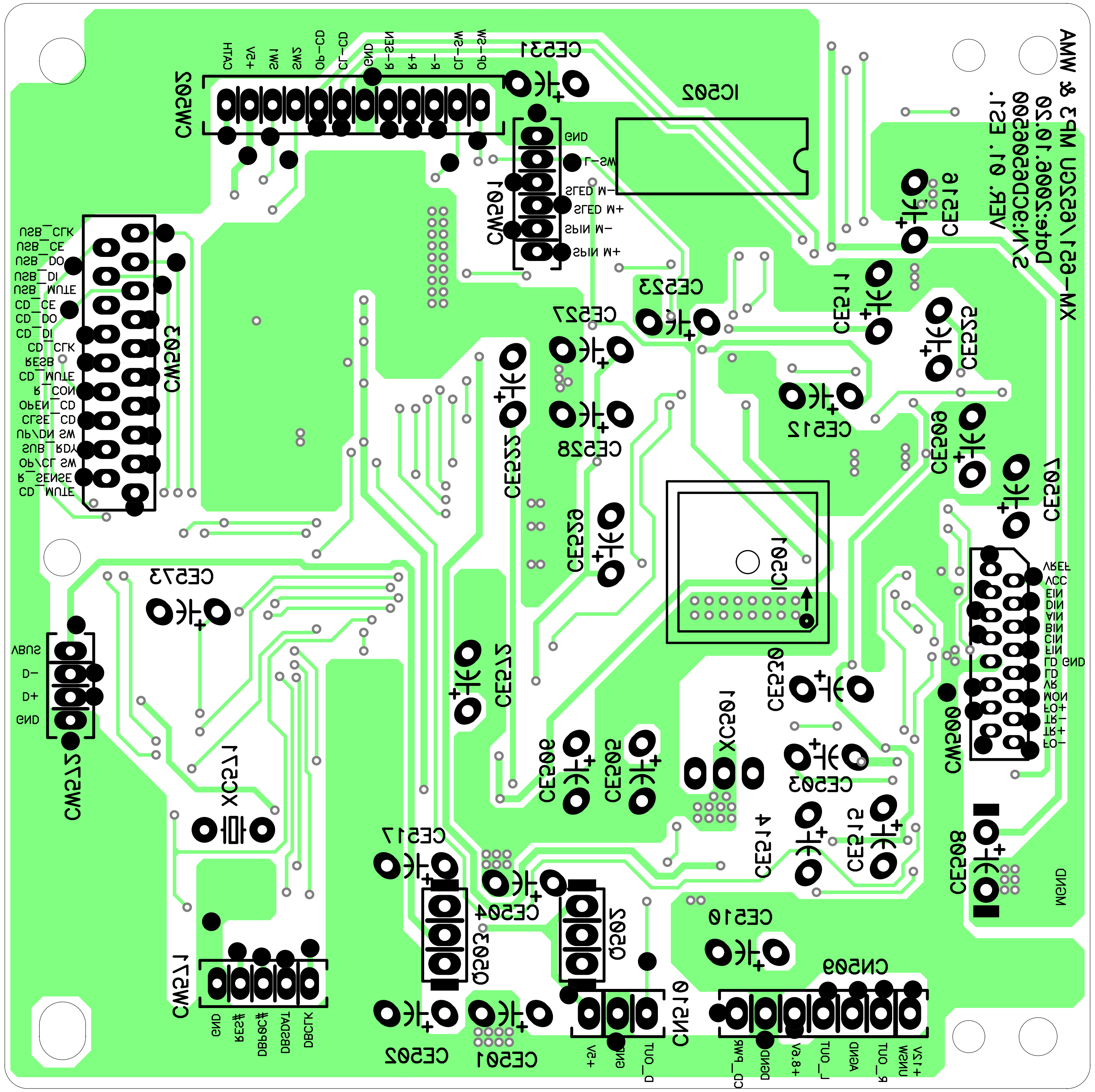
<Top View>



P.C.B Pattern Layout

- **CD/MP3**

<Bottom View>



APPENDIX ELECTRICAL PART LIST

		PCB MAIN AS		
Location	Part Code	Part Name	Description	Remark
D904、D905、D906、D907、D912	DIN4001---	DIODE	IN4001	
D908、D909、D910、D911	DIN5402---	DIODE	IN5402	
HQ904	TZRC107S--	TR CHIP	KRC107S	
HQ813、HQ814	TZRA107S--	TR CHIP	KRA107S	
HQ903	TZRA111S--	TR CHIP	KRA111S	
HQ815、HQ816	TZTD1304--	TR CHIP	KTD1304	
HQ902	TZTC3875S-	TR CHIP	KTC3875Y	
HZ902	DRLZ12B---	DIODE ZENER CHIP	RLZ12B	
IC401	1BD3883FS-	IC	BD3883FS	
IC801	1TDA7292--	IC	TDA7292	
IC901	1L4959----	IC	L4959	
J401	9CD6313700	JACK RCA	S-436P	
J802	9736320500	JACK SPEAKER	CJ-9007-040	
Q901	TZTA1273Y-	TR	KTA1273Y (A966Y) (KSA928A-Y) (STB1277Y)	
R863、R864	RD-4Z479J-	R CARBON FILM	1/4W 4.7 OHM J	
RF901、RF902	RF01F4780J-32	R FUSIBLE	1W 0.47 OHM J (32倍)	
TU001	F737600850	TUNER MODULE	KST-MU000MV0-60PT	W/O RDS 2GANG
TU001	F737600830	TUNER MODULE	KST-MU100MV1-60P	W/ RDS 4GANG
		PCB TAPE AS		
Location	Part Code	Part Name	Description	Remark
HZ601、HZ602	DRLZ6R2B--	DIODE ZENER CHIP	RLZ6.2B	
HQ602、HQ606、HQ607				
HQ609、HQ610、HQ611				
HQ612	TZTD1304--	TR CHIP	KTD1304	
Q607	TZTC3198Y-	TR	KTC3198Y (2SC5343) AUTO	
IC600	1BA3308H--	IC TAPE AMP	BA3308	
SW600	5S30602A02	SW SILDE	R-PS 6205C	
L600	5L00000500	COIL BIAS OSC	0500 10X10 BK	
L601	5CPZ101K02	COIL PEAKING	100 UH K (AXIAL 3.5 MM)	
		PCB FUSE AS		
Location	Part Code	Part Name	Description	Remark
F980	FF1PR8012L	FUSE MINIATURE	MET 800mA (UL,VDE)	230V
F980	FFVCS1622L	FUSE MINIATURE	385T1160G（UL，VDE）	127V
PT903	5TP8066F44	TRANS POWER	EI=66X45 230V/50Hz	230V
PT903	5TP1066F46	TRANS POWER	E=66×45，127V/60HZ	127V
CC980	CLYL2G472M	C LINE ACROSS	DE1307E 472M VA1-KC (FORMING)	
CD901	9736907220	CORD AC	10A 250V 2M	
		PCB MP3/CD AS		
Location	Part Code	Part Name	Description	Remark
HQ501	TZRC107S--	TR CHIP	KRC107S	
HQ503、HQ506	TZTD1304--	TR CHIP	KTD1304	
HQ504、HQ505	TZTA1504S-	TR CHIP	KTA1504S	
HQ507	TZRA107S--	TR CHIP	KRA107S	
HZ500、HZ502	DMTZ5R6B--	DIODE ZENER CHIP	UDZ5.6B 17X12	
HZ501	DMTZ3R9B--	DIODE ZENER CHIP	UDZ3.9B 17X12	
IC501	1LC78692NW	IC CD MP3	LC78692NW-LR-UDA-E	
IC502	1BA5927FM-	IC MOTOR DRIVE	BA5927FM	
IC503	1LC87F14C8	IC USB DECODER	LC87F14C8A	only XM-654GU
Q502、Q503	TZSC2331Y-	TR	KSC2331Y AUTO	
XC501	5PQZTT1693	RESONATOR CERA	QTTT16.93MMX(3PIN)	
XC571	5XE12M000J	CRYSTAL QUARTZ	12.000MHz	only XM-654GU
		PCB FRONT AS		
Location	Part Code	Part Name	Description	Remark
LC701	DFEQ06029C	LCD	FEQ06029C	
Q381、Q382、Q385	TZRC111M--	TR	KRC111M (DTC114TS) (KSR1010)	
Q383、Q384、Q705	TZTC3198Y-	TR	KTC3198Y (2SC5343) AUTO	
Q387	TZRA111M--	TR	KRA111M (KSR2010) AUTO	
Q701	TZRC107M--	TR	KRC107M (DTC114YS) (KSR1006)	
IC381	1BA4560F--	IC H/P AMP	BA4560F	
IC701	1877B651V1	IC U-COM	LC877B96A-58J9-E	
IC702	1M24C04MN-	IC EEPROM	M24C04MN SOP	
IC705	1HK381BT19	IC PRE AMP	HK381BT-19DP	
J701	9736325300	JACK H/P	HTJ-035-18A	

LD701、LD702、 SW701、SW702、SW703 SW704、SW705、SW706 SW707、SW708、SW709 SW710、SW711、SW712 SW713、SW714、SW715 SW716、SW717、SW718	D34AZC2J01	LED	LL-34AZC2J-001	
SW719、SW720、	5S50101Z67A-2	SW TACT	THVV502GAA	
VR701	5SH1224375	SW ENCODER	RE0123PVB25FINB 1-2-24 PCE	
XC701	5PZTT10MT-	RESONATOR CERA	ZTT10.00MT(10MHz, 3PIN)	
XC702	5XA32R768C	X-TAL	C38T 32.768KHz 20PPM	
		USB AS		
Location	Part Code	Part Name	Description	Remark
J704	9736329300	JACK USB	USAF-046N-WP-01	only XM-654GU
		REMOCON AS		
Location	Part Code	Part Name	Description	Remark
50	9CDM060206	REMOCON	AM-57M	

DIGITAL ADVANCED TECHNOLOGY

DAEWOO DAT CO., LTD.