

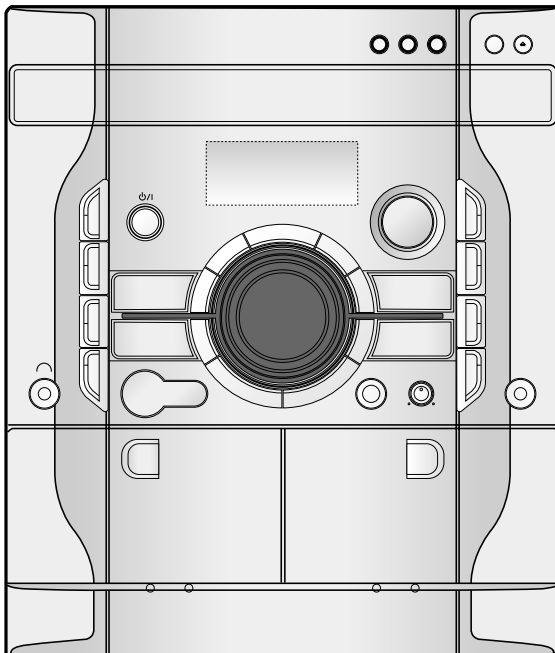


MINI COMPONENT SYSTEM

BASIC MODEL: MAX-X55/X56/X57
MAX-X65/X66

SERVICE Manual

MINI COMPONENT SYSTEM



Features

- * CD/MP3-CD/CD-R/RW Playback
- * Tuner
- * Tape Deck

- Confidential -



This Service Manual is a property of Samsung Electronics Co.,Ltd.
Any unauthorized use of Manual can be punished under applicable
international and/or domestic law.

2-1. Product Description

1. Notes on discs

Disc Recording Format

CD-R Discs

- Some CD-R discs may not be playable depending on the disc recording device (CD-Recorder or PC) and the condition of the disc.
- Use a 650MB/74 minute CD-R disc.
Do not use CD-R disk over 700MB/80 minute as much as possible since it may not be played back.
- Some CD-RW (Rewritable) media, may not be playable.
- Only CD-Rs that are properly "closed" can be fully played. If the session is closed but the disc is left open, you may not be able to fully play the disc.

CD-R MP3 Discs

- Only CD-R discs with MP3 files in ISO 9660 or Joliet format can be played.
- MP3 file names should be 8 characters or less in length and contain no blank spaces or special characters (. / = +).
- Use discs recorded with a compression/decompression data rate greater than 128Kbps.
- Only files with the ".mp3" and ".MP3" extensions can be played.
- Only a consecutively written Multisession disc can be played. If there is a blank segment in the Multisession disc, the disc can be played only up to the blank segment.
- If the disc is not closed, it will take longer to begin playback and not all of the recorded files may be played.
- For files encoded in Variable Bit Rate (VBR) format, i.e. files encoded in both low bit rate and high bit rate (e.g., 32Kbps ~ 320Kbps), the sound may skip during playback.
- A maximum of 500 tracks can be played per CD.
- A maximum of 300 folders can be played per CD.

CD-R JPEG Discs

- Only files with the ".jpeg" and ".JPEG" extensions can be played.
- If the disc is not closed, it will take longer to start playing and not all of the recorded files may be played.
- Only CD-R discs with JPEG files in ISO 9660 or Joliet format can be played.
- JPEG file names should be 8 characters or less in length and contain no blank spaces or special characters (. / = +).
- Only a consecutively written multisession disc can be played. If there is a blank segment in the multisession disc, the disc can be played only up to the blank segment.
- A maximum of 9,999 images can be stored on a single CD.
- When playing a Kodak/Fuji Picture CD, only the JPEG files in the picture folder can be played.
- Picture discs other than Kodak/Fuji Picture CDs may take longer to start playing or may not play at all.

2. Specifications

RADIO

AM (MW)

Signal/noise ratio	40 dB
Usable sensitivity	54 dB
Total harmonic distortion	2 %

FM

Signal/noise ratio	62 dB
Usable sensitivity	10 dB
Total harmonic distortion	0.3 %

COMPACT DISC PLAYER

Capacity	3 discs
Frequency range	20 Hz - 20 KHz (± 1 dB)
Signal/noise ratio	90 dB (at 1 KHz) with filter
Distortion	0.05 % (at 1 KHz)
Channel separation	74 dB
Disc sizes	Diameter: 120 or 80 mm. Thickness: 1.2 mm

TAPE DECK

Frequency range	125 Hz ~ 8 KHz
Signal/noise ratio	40 dB
Channel separation	35 dB
Erasing effect	50 dB

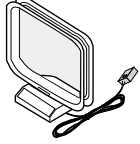

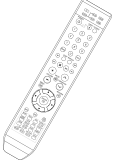
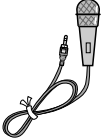
AMPLIFIER

Output power	
Front Speaker (6 Ω)(MAX-X55)	40 Watts/CH RMS,IEC (total harmonic distortion: 10 %)
Front Speaker (6 Ω)(MAX-X56)	80 Watts/CH RMS,IEC (total harmonic distortion: 10 %)
Front Speaker (6 Ω)(MAX-X57)	90 Watts/CH RMS,IEC (total harmonic distortion: 10 %)
Front Speaker (6 Ω)(MAX-X65)	150 Watts/CH RMS,IEC (total harmonic distortion: 10 %)
Front Speaker (6 Ω)(MAX-X66)	150 Watts/CH RMS,IEC (total harmonic distortion: 10 %)
Subwoofer Speaker (4 Ω)(MAX-X66)	150 Watts/CH RMS,IEC (total harmonic distortion: 10 %)
Channel separation	45 dB
Signal/noise ratio	75 dB

GENERAL

Power Consumption	85W(MAX-X55)
Power Consumption	65W(MAX-X56/X57)
Power Consumption	40W(MAX-X65/X66)
Dimensions	270 (W) x 317 (H) x 395 (D) mm

3. Accessories

Picture	Code no.	Description & Specification	Remarks
	AH42-00023A	ANT LOOP-AM;- ,MAX-DT55,-,-,1KHZ	
	AH42-00021A	ANT FM T;T18011F-1,75 ohm,1800mm	
	AH59-01696E AH59-01696F AH59-01696G AH59-01695G AH59-01695H	REMOCON;MAX-X55/X56, NON-KOR REMOCON;MAX-X65/X66, NON-KOR REMOCON;MAX-X55/X56/X65/X66, KOR REMOCON;MAX-DX55/DX56, NON-KOR REMOCON;MAX-DX55/DX56, KOR	MAX-X55,X56,X57 EXP MAX-X65,X66 EXP MAX-X55,X66,X65 KOR MAX-DX55,DX56 EXP MAX-DX55 DX56 KOR
	AH59-30001H	MICROPHONE;YMC-2511,-,-,	MAX-X65/X66T/SMT

4. Specification Comparison

Model Name	X55	T55
Year	2007	2006
OUTPUT	80W	70W
CH	2.0CH	2.1CH

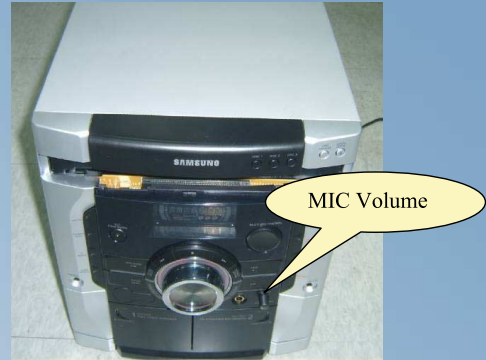
3. How to disassemble

* CAUTIONS

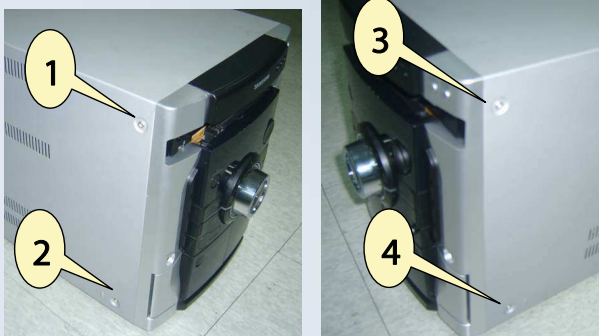
1. To avoid damage to the product, follow the disassembly method in the Service Manual.
2. As some Semiconductor devices are very sensitive to static, ensure that all procedures are adhered to when handling ESD's.



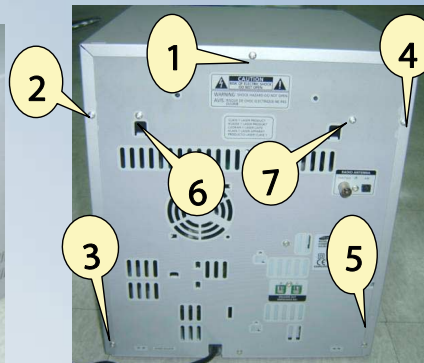
1. Power on and open the disk, Separate Door-CD



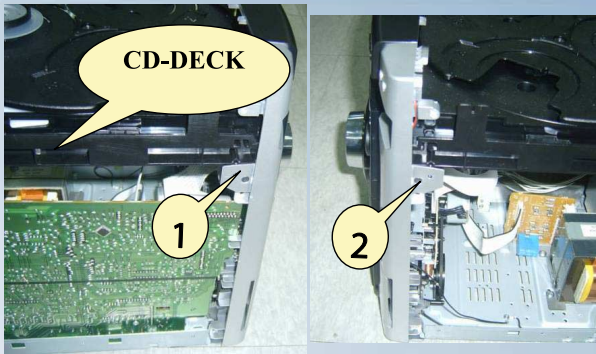
2. Close the disk and Power off, Separate Mic Volume



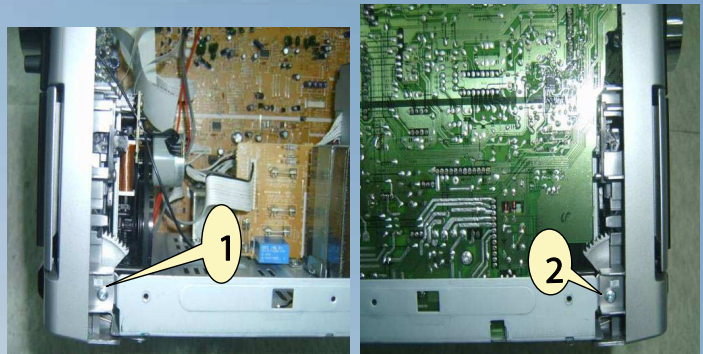
3. Unfasten 4 screw(1,2,3,4)



4. Unfasten 7 screw(1,2,3,4,5,6,7)



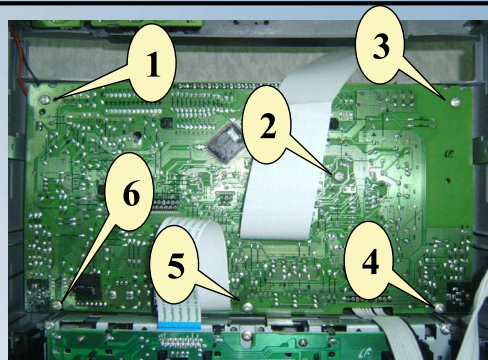
5.Unfasten 2 screw(1,2)



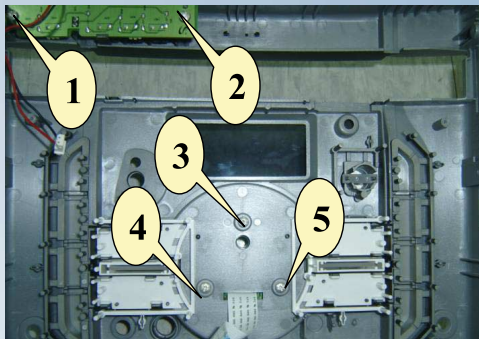
6.Unfasten 2 screw(1,2)



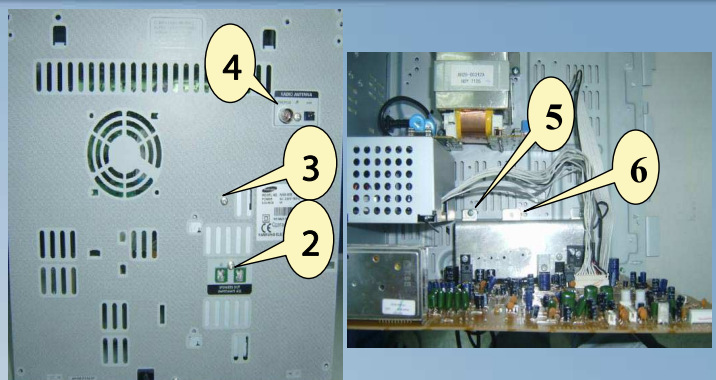
7.Pull the hook at 1 and 2 of and separate ASSY-FRONT



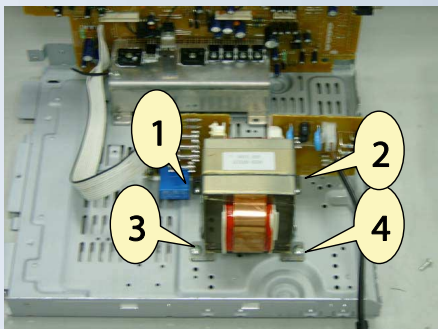
8.Unfasten 6 screws(1,2,3,4,5,6),separate FRONT-PCB



9.Unfasten 5 screw(1,2,3,4,5) and separate VOLUME-PCB and DISK-PCB



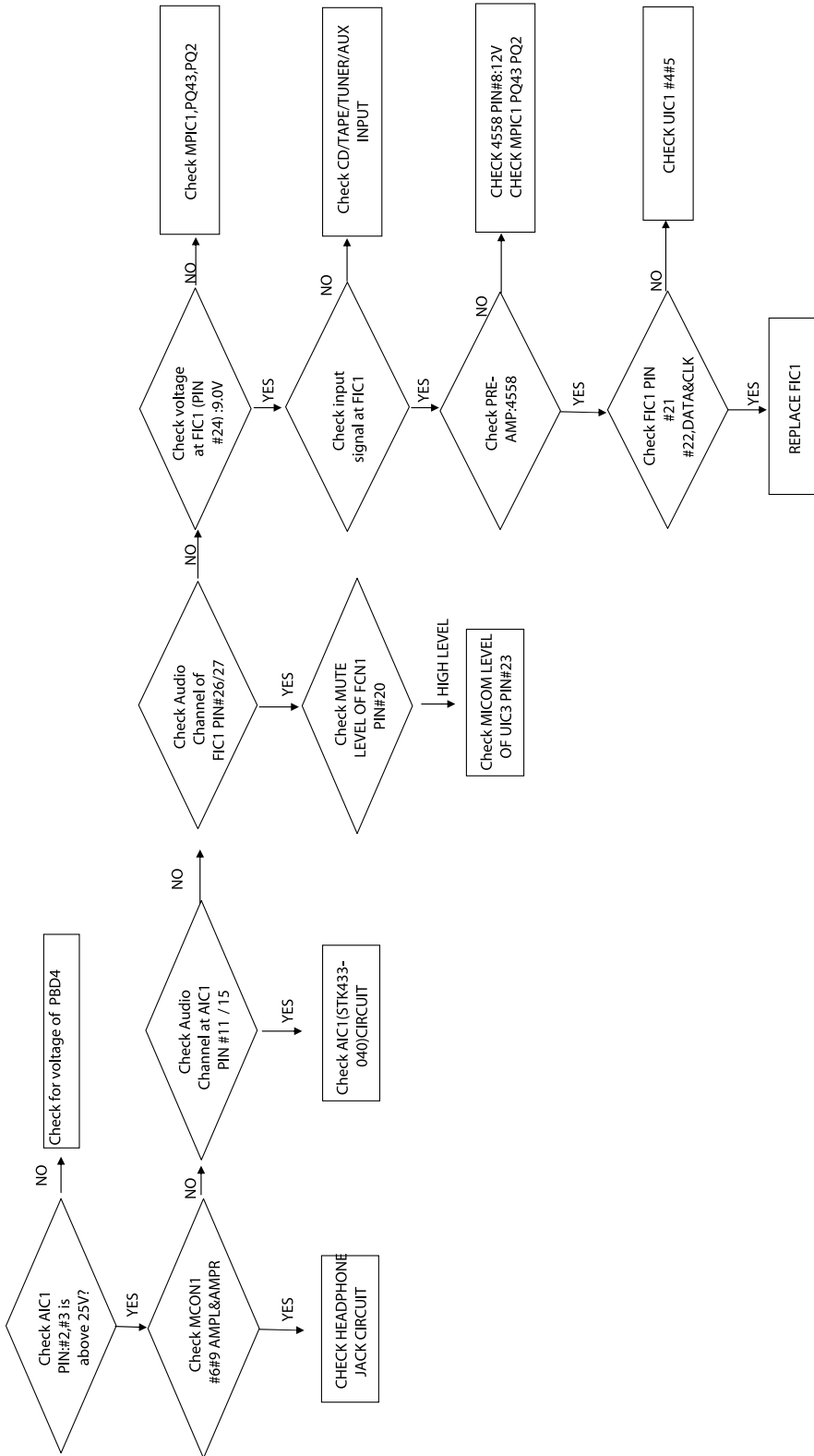
10.Unfasten 4 screw(1,2,3,4) and unfasten 2 screw(5,6), separate MAIN PCB ASSY.



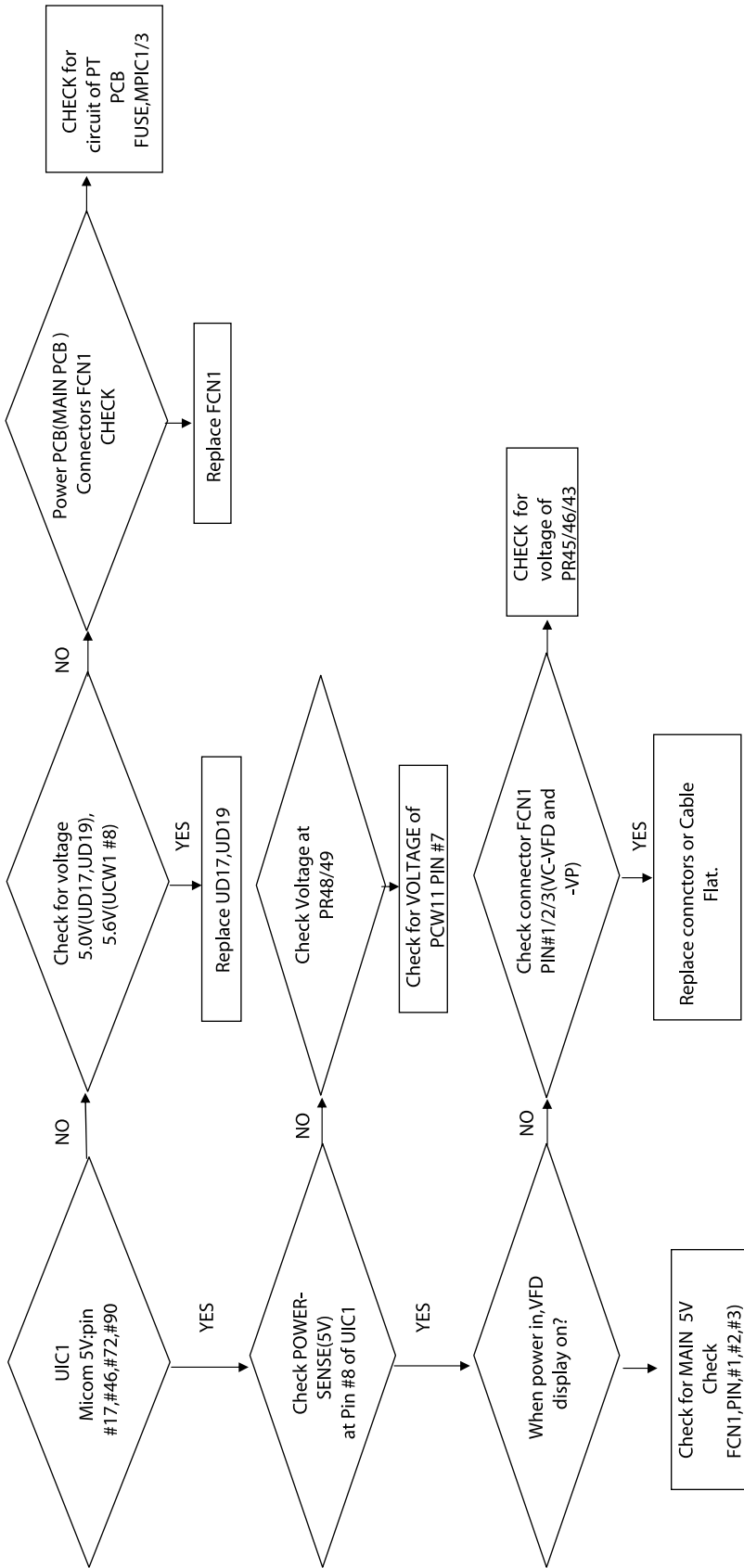
11.Unfasten 4 screw(1,2,3,4),Separte P/T

4. TroubleShooting

MAIN (MAX-X55)

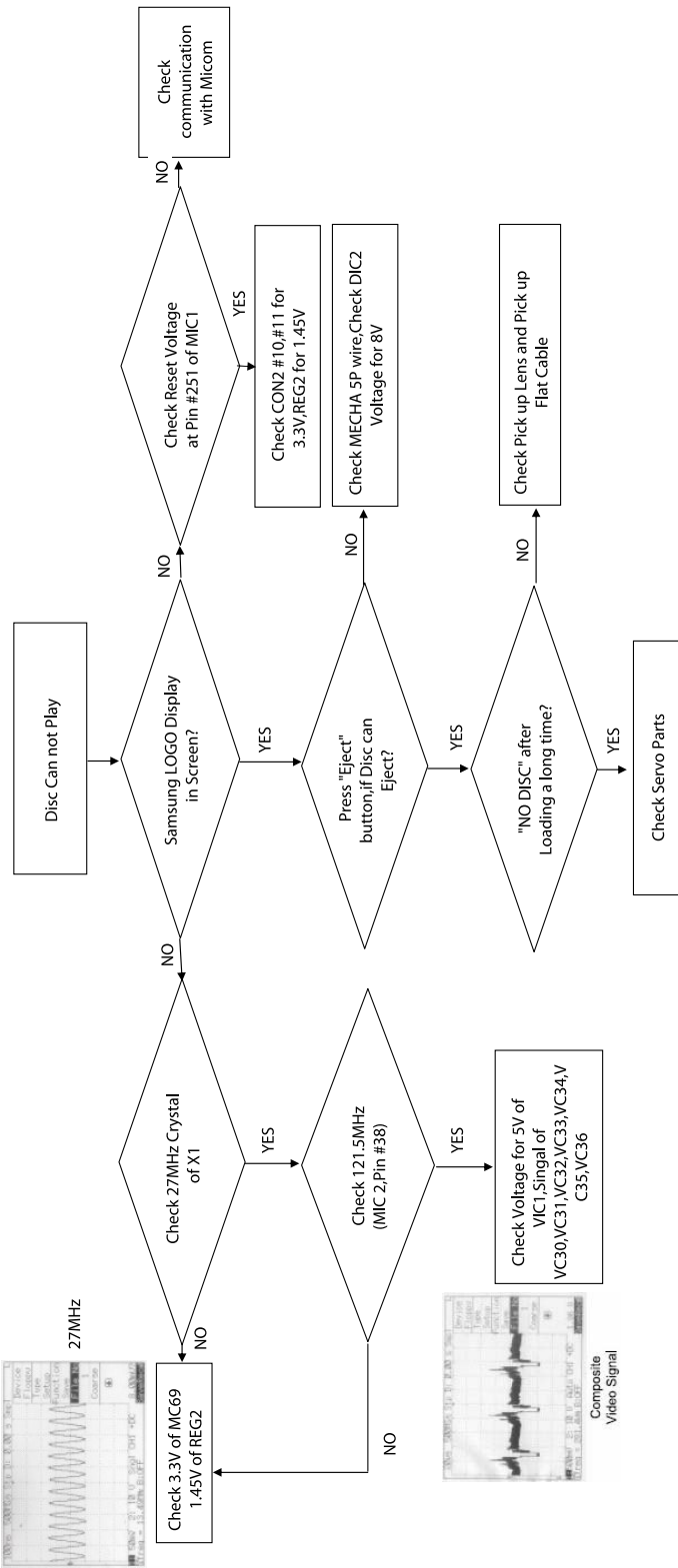


MAIN (MAX-X56)



MAIN

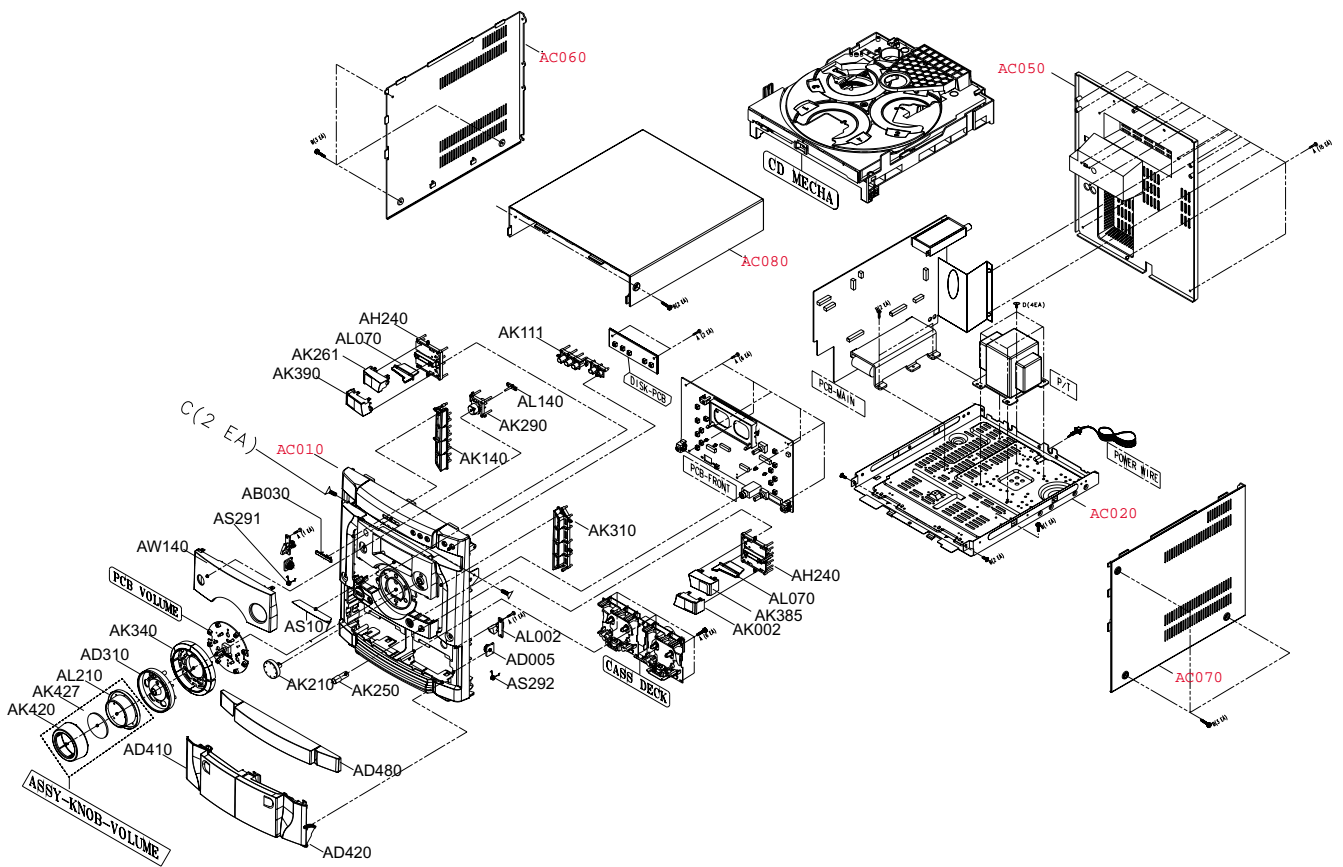
DISC PLAY



DISC PLAY

5-1.Exploded Views and Parts List

1. Total Exploded View



2. Parts List of total Exploded View

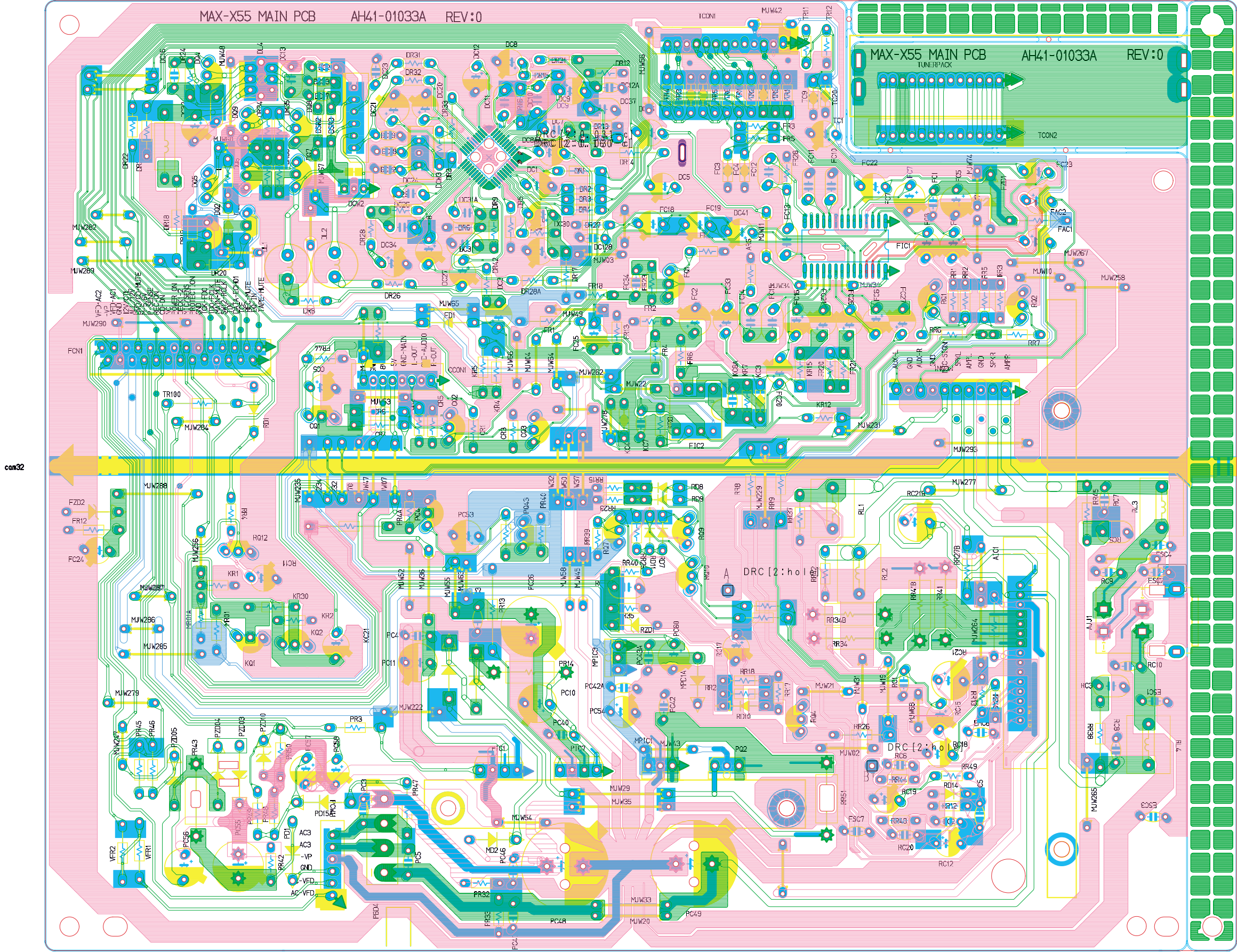
LOCATION NO	PART	CODE - NO	Q'TY	MATERIAL	X55		REMARK
					EXP	KOR	
AA161	ASSY-KNOB VOLUME	AH97-02210	A1	ASS'Y			
AK420	KNOB-VOLUME	AH64-04295	B1	ABS			PLATING(ASSY-KNOB VOLUME
AK247	KNOB-VOLUME TOP	AH64-04296	B1	ABS			PLATING(ASSY-KNOB VOLUME
AL210	LENS-VOLUME	AH67-00465	A1	ABS			(ASSY-KNOB VOLUME)
AD370	DECORATION-VOLUME	AH64-04312	B1	ABS			PLATING
AK340	KNOB-SOUND	AH64-04304	B1	ABS			
		AH64-04304	C1	ABS			
AW140	WINDOW-VFD	AH64-04310	B1	ABS			
		AH64-04310	C1	ABS			
AB030	BADGE-BRAND	AH64-03768	A1	ABS			
AC010	CABINET-FRONT	AH64-04305	C1	MIPS			
		AH64-04305	D1	MIPS			
AK390	KNOB-TUNER	AH64-04303	B1	ABS			
		AH64-04303	C1	ABS			
AK261	KNOB-MP3	AH64-04300	B1	ABS			
AL070	LENS-FUNCTION	AH67-00466	A2	PMMA			
AH240	HOLDER-FUNCTION	AH61-02378	A2	ABS			
AK111	KNOB-DISK	AH64-04292	B1	ABS			
AL140	LENS-POWER	AH67-00238	A	PMMA			
AK290	KNOB-POWER	AH64-04293	B1	ABS			
AK140	KNOB-ENTER	AH64-04298	B1	ABS			
AK310	KNOB-REPEAT	AH64-04299	B1	ABS			
AK385	KNOB-TAPE	AH64-04301	C1	ABS			KOR
		AH64-04301	D1	ABS			STOP
AK002	KNOB-AUX	AH64-04302	B1	ABS			EXP
		AH64-04302	C1	ABS			KOR
AL002	LATCH-ASS Y	AH95-50001	A2				
AD005	DAMPER-GEAR	AH66-00270	A2				
AS292	SPRING-EJECTR	AH61-00553	A1				
AS291	SPRING-EJECTL	AH61-00552	A1				
AS107	SHEET-MIRROR	AH63-01366	A1	PC			
AK210	KNOB-JOG	AH64-04297	B1	ABS			SPRAY
AK250	KNOB-MIC, VOL	AH64-02289	C1	ABS			
AD480	DOOR-CD	AH64-04311	H1				
		AH64-04311	J1				
AD410	DOOR-CASS, A	AH64-04307	B1				EXP
		AH64-04307	C1				KOR
AD420	DOOR-CASS, B	AH64-04308	C1				KOR
		AH64-04308	D1				EXP/STOP
AC060	CABINET-SIDE L	AH64-00431	B1				
AC080	CABINET-TOP (M)	AH64-30443	F1				
AC020	CABINET-BOTTOM (P)	AH64-02840	A1				
AC070	CABINET-SIDE R	AH64-00432	B1				
AC050	CABINET-REAR (M)	AH64-04329	A1	MIPS			
A	SCREW-TAPTITE	6003-00146	42				BH, 2S, 3*10, YEL
B	SCREW-TAPTITE	6003-00137	55				BH, 2S, 3*8, YEL
C	SCREW-TAPTITE	6002-00012	62				FH 3 * 10 BLK
D	SCREW-TAPTITE	6003-00146	34				BH, 4*10, YEL

Location no.	Code no.	Description & Specification	Remarks
AR44	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR48	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR67	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR69	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR71	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR43	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR15	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR17	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR21	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR22	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR39	2007-000078	R-CHIP:1Kohm,5%,1/10W,TP,1608	
AR74	2007-000084	R-CHIP:4.7Kohm,5%,1/10W,TP,1608	
AR66	2007-000084	R-CHIP:4.7Kohm,5%,1/10W,TP,1608	
AR3	2007-000090	R-CHIP:10Kohm,5%,1/10W,TP,1608	
AR19	2007-000090	R-CHIP:10Kohm,5%,1/10W,TP,1608	
AR13	2007-000090	R-CHIP:10Kohm,5%,1/10W,TP,1608	
AR75	2007-000092	R-CHIP:15Kohm,5%,1/10W,TP,1608	
AR38	2007-000092	R-CHIP:15Kohm,5%,1/10W,TP,1608	
AR32	2007-000092	R-CHIP:15Kohm,5%,1/10W,TP,1608	
AR30	2007-000092	R-CHIP:15Kohm,5%,1/10W,TP,1608	
AR24	2007-000092	R-CHIP:15Kohm,5%,1/10W,TP,1608	
AR2	2007-000094	R-CHIP:22Kohm,5%,1/10W,TP,1608	
AR20	2007-000094	R-CHIP:22Kohm,5%,1/10W,TP,1608	
AR42	2007-000094	R-CHIP:22Kohm,5%,1/10W,TP,1608	
AR47	2007-000094	R-CHIP:22Kohm,5%,1/10W,TP,1608	
AR1	2007-000094	R-CHIP:22Kohm,5%,1/10W,TP,1608	
AR12	2007-000094	R-CHIP:22Kohm,5%,1/10W,TP,1608	
AR14	2007-000094	R-CHIP:22Kohm,5%,1/10W,TP,1608	
AR16	2007-000094	R-CHIP:22Kohm,5%,1/10W,TP,1608	
AR73	2007-000097	R-CHIP:47Kohm,5%,1/10W,TP,1608	
AR72	2007-000097	R-CHIP:47Kohm,5%,1/10W,TP,1608	
APRR1	2007-000097	R-CHIP:47Kohm,5%,1/10W,TP,1608	
AR10	2007-000100	R-CHIP:68Kohm,5%,1/10W,TP,1608	
AR7	2007-000102	R-CHIP:100Kohm,5%,1/10W,TP,1608	
AR6	2007-000102	R-CHIP:100Kohm,5%,1/10W,TP,1608	
AD6	2007-000102	R-CHIP:100Kohm,5%,1/10W,TP,1608	
AR37	2007-000104	R-CHIP:150Kohm,5%,1/10W,TP,1608	
AR31	2007-000104	R-CHIP:150Kohm,5%,1/10W,TP,1608	
AR29	2007-000104	R-CHIP:150Kohm,5%,1/10W,TP,1608	
AR23	2007-000104	R-CHIP:150Kohm,5%,1/10W,TP,1608	
AR35	2007-000107	R-CHIP:470Kohm,5%,1/10W,TP,1608	
AR33	2007-000107	R-CHIP:470Kohm,5%,1/10W,TP,1608	
AR28	2007-000107	R-CHIP:470Kohm,5%,1/10W,TP,1608	
AR25	2007-000107	R-CHIP:470Kohm,5%,1/10W,TP,1608	
AR18	2007-000124	R-CHIP:2.2Kohm,5%,1/10W,TP,1608	
AR4	2007-000124	R-CHIP:2.2Kohm,5%,1/10W,TP,1608	
AR8	2007-000124	R-CHIP:2.2Kohm,5%,1/10W,TP,1608	
AR5	2007-000125	R-CHIP:3.9Kohm,5%,1/10W,TP,1608	
AR9	2007-000125	R-CHIP:3.9Kohm,5%,1/10W,TP,1608	
AR36	2007-000309	R-CHIP:10ohm,5%,1/10W,TP,1608	
AR76	2007-000309	R-CHIP:10ohm,5%,1/10W,TP,1608	
AR77	2007-000309	R-CHIP:10ohm,5%,1/10W,TP,1608	
AR34	2007-000309	R-CHIP:10ohm,5%,1/10W,TP,1608	
AR27	2007-000309	R-CHIP:10ohm,5%,1/10W,TP,1608	
AR26	2007-000309	R-CHIP:10ohm,5%,1/10W,TP,1608	
AR80	2007-000947	R-CHIP:47ohm,5%,1/8W,TP,2012	
AR78	2007-000947	R-CHIP:47ohm,5%,1/8W,TP,2012	
AR70	2007-000947	R-CHIP:47ohm,5%,1/8W,TP,2012	
AR68	2007-000947	R-CHIP:47ohm,5%,1/8W,TP,2012	
AR40	2007-007069	R-CHIP:0.05OHM,1%,1W,TP,6432	
AR45	2007-007069	R-CHIP:0.05OHM,1%,1W,TP,6432	
ADC1	2203-000206	C-CER,CHIP:100nF,10%,50V,X7R,2012	
ADC2	2203-000206	C-CER,CHIP:100nF,10%,50V,X7R,2012	
AC67	2203-000257	C-CER,CHIP:10nF,10%,50V,X7R,1608	
AC42	2203-000257	C-CER,CHIP:10nF,10%,50V,X7R,1608	
AC80	2203-000357	C-CER,CHIP:0.15nF,5%,50V,C0G,1608	
AC78	2203-000357	C-CER,CHIP:0.15nF,5%,50V,C0G,1608	
AC70	2203-000357	C-CER,CHIP:0.15nF,5%,50V,C0G,1608	
AC68	2203-000357	C-CER,CHIP:0.15nF,5%,50V,C0G,1608	
AC71	2203-000405	C-CER,CHIP:0.18nF,5%,50V,C0G,1608	
AC69	2203-000405	C-CER,CHIP:0.18nF,5%,50V,C0G,1608	
AC8	2203-000491	C-CER,CHIP:2.2nF,10%,50V,X7R,1608	
AC5	2203-000491	C-CER,CHIP:2.2nF,10%,50V,X7R,1608	
AC48	2203-000491	C-CER,CHIP:2.2nF,10%,50V,X7R,1608	
AC4	2203-000491	C-CER,CHIP:2.2nF,10%,50V,X7R,1608	
EMC8	2203-000595	C-CER,CHIP:0.22nF,5%,50V,C0G,2012	
EMC6	2203-000595	C-CER,CHIP:0.22nF,5%,50V,C0G,2012	
EMC4	2203-000595	C-CER,CHIP:0.22nF,5%,50V,C0G,2012	
EMC2	2203-000595	C-CER,CHIP:0.22nF,5%,50V,C0G,2012	
AC58	2203-001034	C-CER,CHIP:5.6nF,10%,50V,X7R,1608	
AC6	2203-001052	C-CER,CHIP:0.56nF,10%,50V,X7R,TP,1608	
AC7	2203-001052	C-CER,CHIP:0.56nF,10%,50V,X7R,TP,1608	
AC45	2203-001137	C-CER,CHIP:68nF,+80-20%,50V,Y5V,TP,2012,	
AC44	2203-001137	C-CER,CHIP:68nF,+80-20%,50V,Y5V,TP,2012,	
AC43	2203-001137	C-CER,CHIP:68nF,+80-20%,50V,Y5V,TP,2012,	
AC38	2203-001137	C-CER,CHIP:68nF,+80-20%,50V,Y5V,TP,2012,	
AC40	2203-001137	C-CER,CHIP:68nF,+80-20%,50V,Y5V,TP,2012,	
AC41	2203-001137	C-CER,CHIP:68nF,+80-20%,50V,Y5V,TP,2012,	
AC33	2203-001408	C-CER,CHIP:0.27nF,5%,50V,NP0,1608	
AC27	2203-001408	C-CER,CHIP:0.27nF,5%,50V,NP0,1608	
AC11	2203-002398	C-CER,CHIP:22nF,10%,50V,X7R,1608	
AC19	2203-005065	C-CER,CHIP:1000nF,+80-20%,10V,Y5V,1608	
AC20	2203-005065	C-CER,CHIP:1000nF,+80-20%,10V,Y5V,1608	

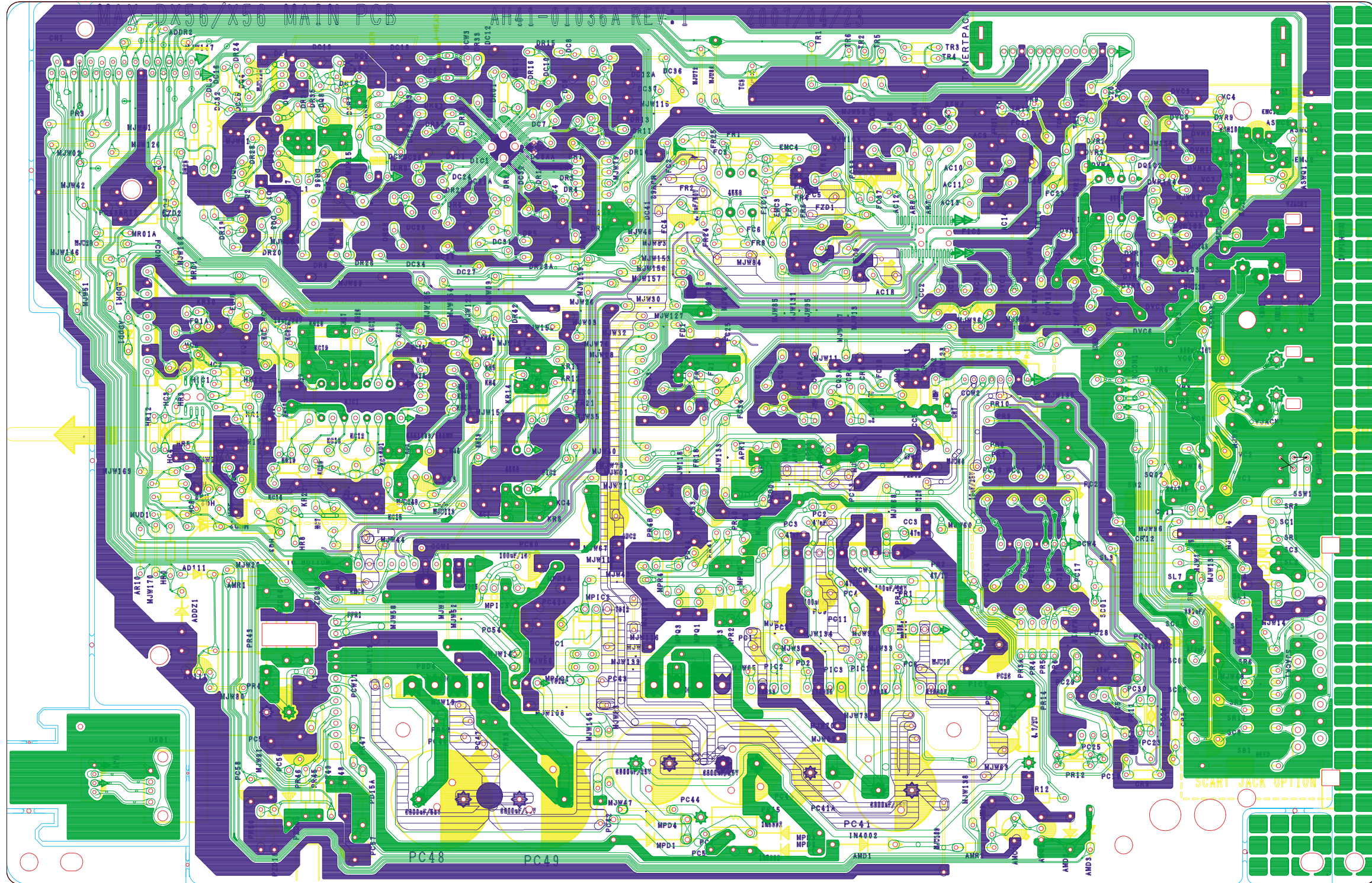
Location no.	Code no.	Description & Specification	Remarks
AC76	2203-005065	C-CER,CHIP:1000nF,+80-20%,10V,Y5V,1608	
AC17	2203-005065	C-CER,CHIP:1000nF,+80-20%,10V,Y5V,1608	
AC13	2203-005065	C-CER,CHIP:1000nF,+80-20%,10V,Y5V,1608	
AC12	2203-005065	C-CER,CHIP:1000nF,+80-20%,10V,Y5V,1608	
AC3	2203-005148	C-CER,CHIP:100nF,10%,16V,X7R,1608	
AC66	2203-005148	C-CER,CHIP:100nF,10%,16V,X7R,1608	
AC9	2203-005148	C-CER,CHIP:100nF,10%,16V,X7R,1608	
AC15	2203-005148	C-CER,CHIP:100nF,10%,16V,X7R,1608	
AC10	2203-005148	C-CER,CHIP:100nF,10%,16V,X7R,1608	
AC50	2203-005218	C-CER,CHIP:470nF,10%,50V,X7R,3216	
AC35	2203-005218	C-CER,CHIP:470nF,10%,50V,X7R,3216	
AC30	2203-005218	C-CER,CHIP:470nF,10%,50V,X7R,3216	
AC28	2203-005218	C-CER,CHIP:470nF,10%,50V,X7R,3216	
AC18	2203-005819	C-CER,CHIP:1000nF,+80-20%,16V,Y5V,-,1608	
AC46	2301-000375	C-FILM,LEAD-PEF;100nF,5%,50V,TP,11x12.5x	
AC39	2301-000375	C-FILM,LEAD-PEF;100nF,5%,50V,TP,11x12.5x	
AC36	2301-000375	C-FILM,LEAD-PEF;100nF,5%,50V,TP,11x12.5x	
AC29	2301-000375	C-FILM,LEAD-PEF;100nF,5%,50V,TP,11x12.5x	
AC56	2305-000407	C-FILM,LEAD-PEF;470nF,5%,100V,TP,-,5mm	
AC55	2305-000407	C-FILM,LEAD-PEF;470nF,5%,100V,TP,-,5mm	
AC47	2305-000407	C-FILM,LEAD-PEF;470nF,5%,100V,TP,-,5mm	
AC37	2305-000407	C-FILM,LEAD-PEF;470nF,5%,100V,TP,-,5mm	
AC34	2401-000213	C-AL;100nF,20%,50V,GP,TP,3x5,2.5	
AC26	2401-000213	C-AL;100nF,20%,50V,GP,TP,3x5,2.5	
AC25	2401-000213	C-AL;100nF,20%,50V,GP,TP,3x5,2.5	
AC22	2401-000213	C-AL;100nF,20%,50V,GP,TP,3x5,2.5	
AC62	2401-000385	C-AL;10uF,20%,100V,GP,TP,6.3x11,5	
AC16	2401-000407	C-AL;10UF,20%,16V,GP,TP,3.5X5,2.5	
AC64	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
AC63	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
AC61	2401-000480	C-AL;10uF,20%,50V,GP,TP,5x11,5	
AC32	2401-001324	C-AL;0.47UF,20%,50V,GP,BK,3X5,2.5	
AC31	2401-001324	C-AL;0.47UF,20%,50V,GP,BK,3X5,2.5	
AC24	2401-001324	C-AL;0.47UF,20%,50V,GP,BK,3X5,2.5	
AC23	2401-001324	C-AL;0.47UF,20%,50V,GP,BK,3X5,2.5	
AC52	2401-001975	C-AL;47uF,20%,16V,GP,TP,5x11mm,5mm	
AC51	2401-001975	C-AL;47uF,20%,16V,GP,TP,5x11mm,5mm	
AC2	2401-003336	C-AL;4.7UF,20%,50V,GP,TP,5X5,2	
AC1	2401-003336	C-AL;4.7UF,20%,50V,GP,TP,5X5,2	
PCB-AMP	AH41-00824A	PCB-2-CH DIGITAL AMP:DC650,-,2,DV,-,-,-,	

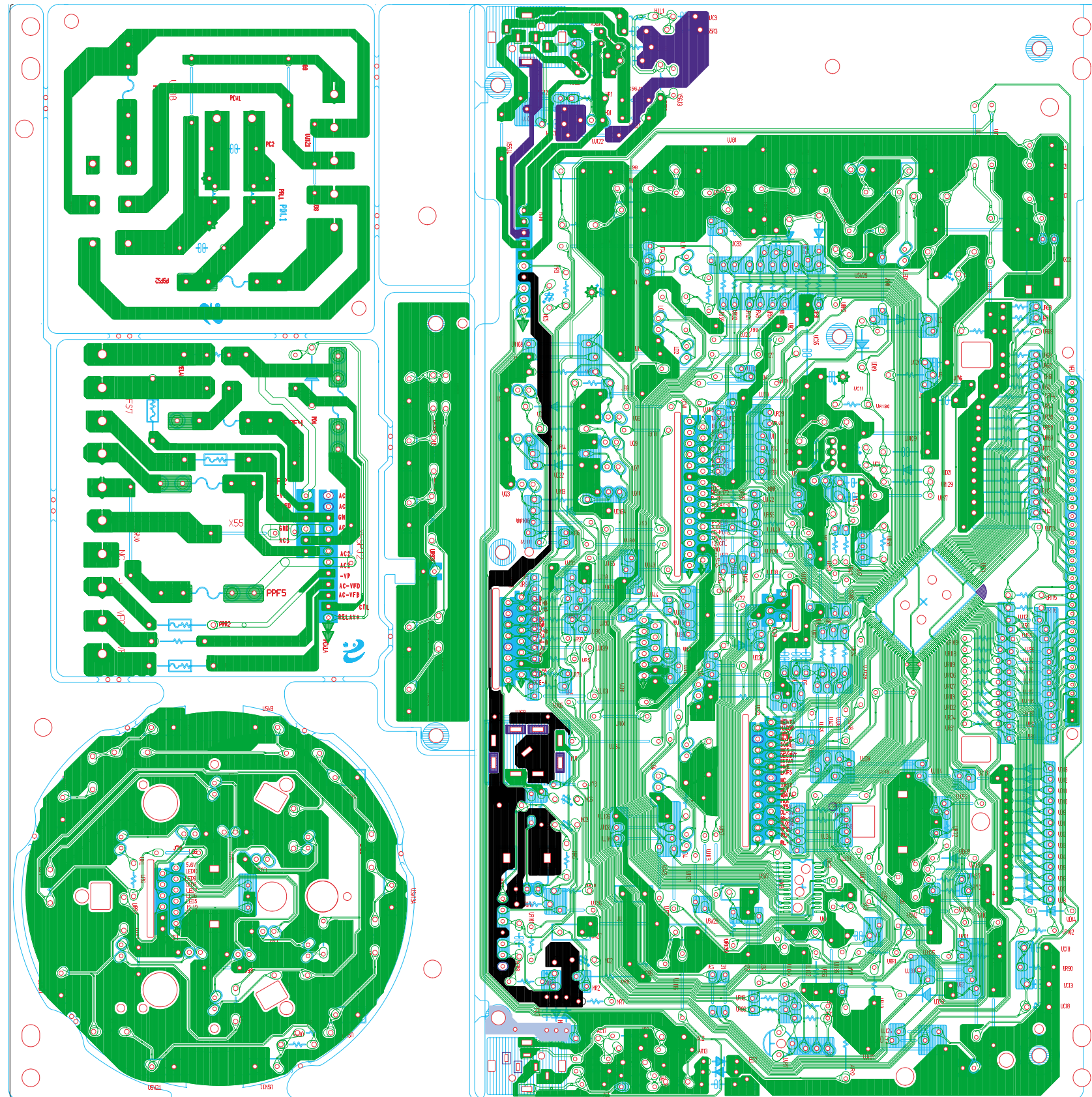
6-2. PCB Diagram

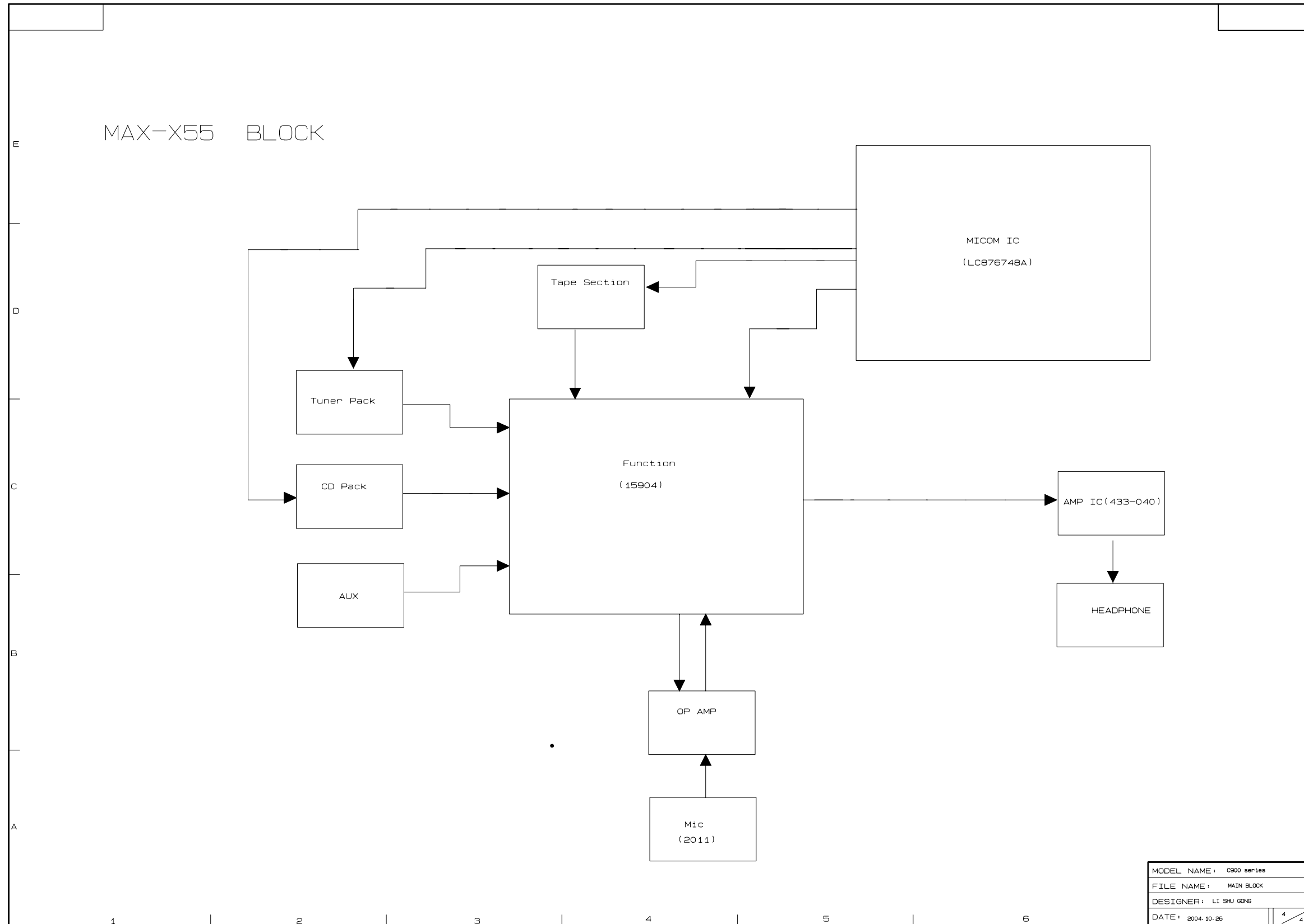
2-1. MAIN PCB (MAX-X55)



2- 2. MAIN PCB (MAX-X56)



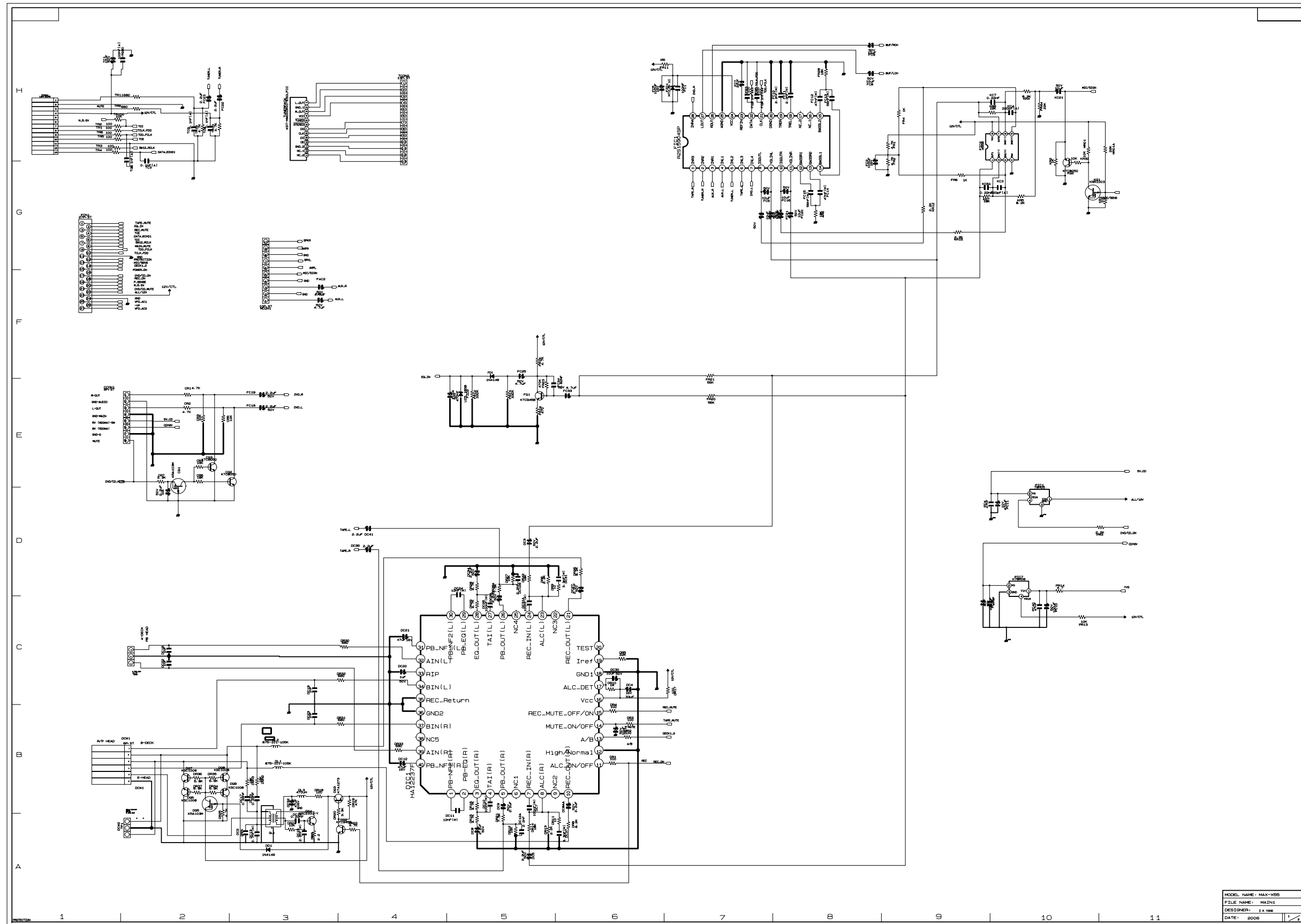




7-2. Schematic Diagram

- This Document can not be used without Samsung's authorization -

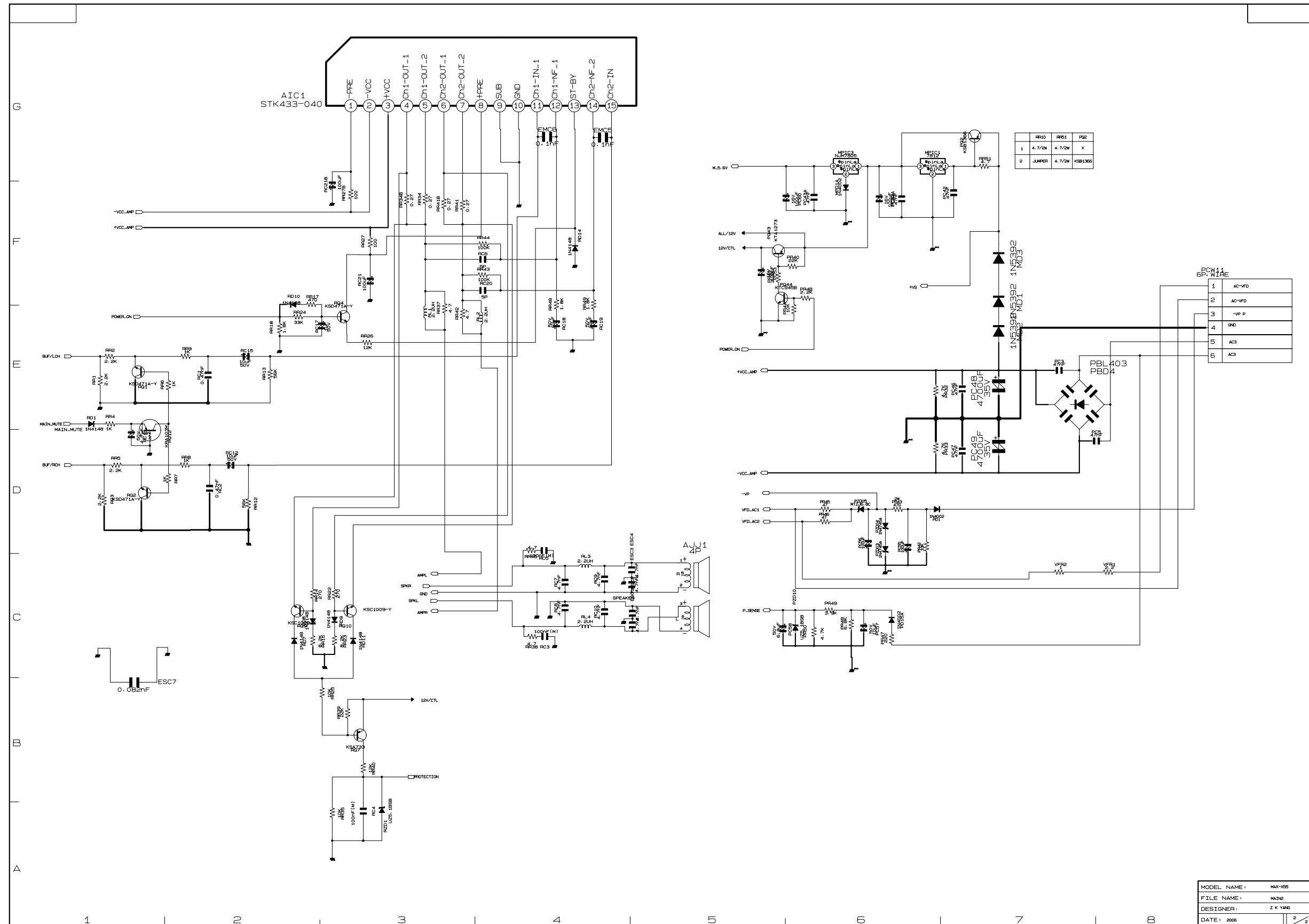
2-1. MAIN(MAX-X55-1)

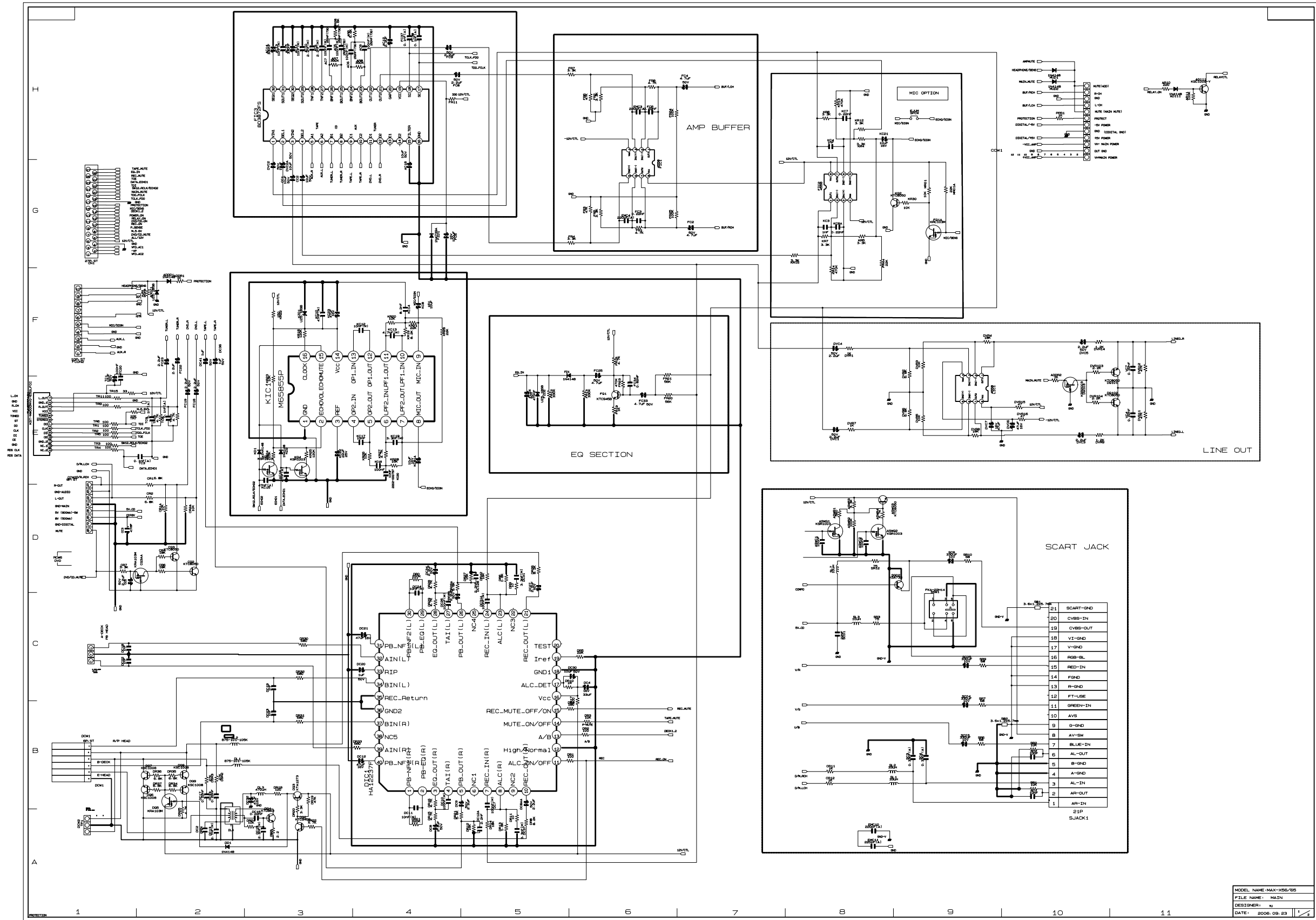


MODEL NAME: MAX-X55
 FILE NAME: MAIN1
 DESIGNER: Z. Y. WANG
 DATE: 2006

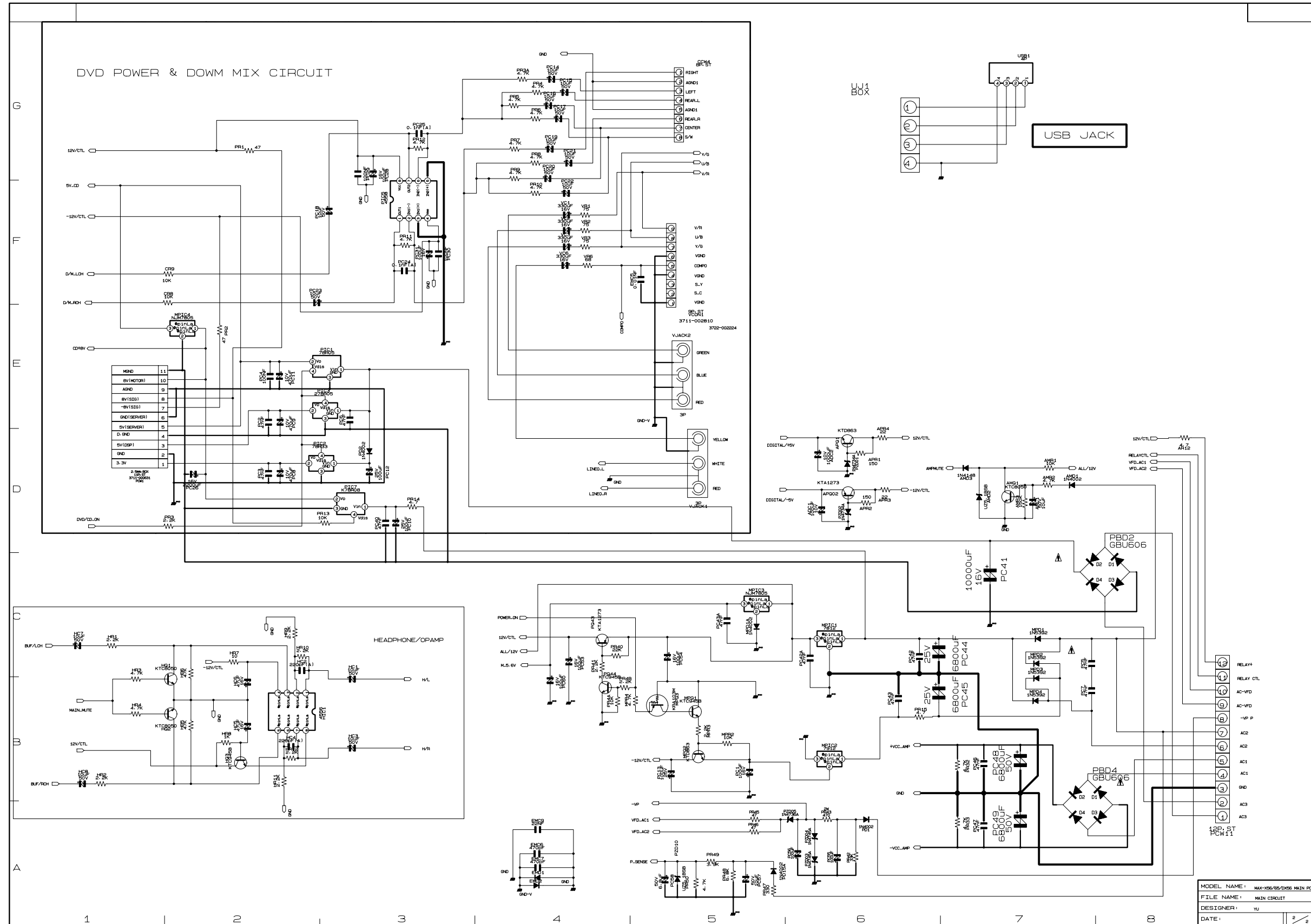
2-2. MAIN (MAX-X55-2)

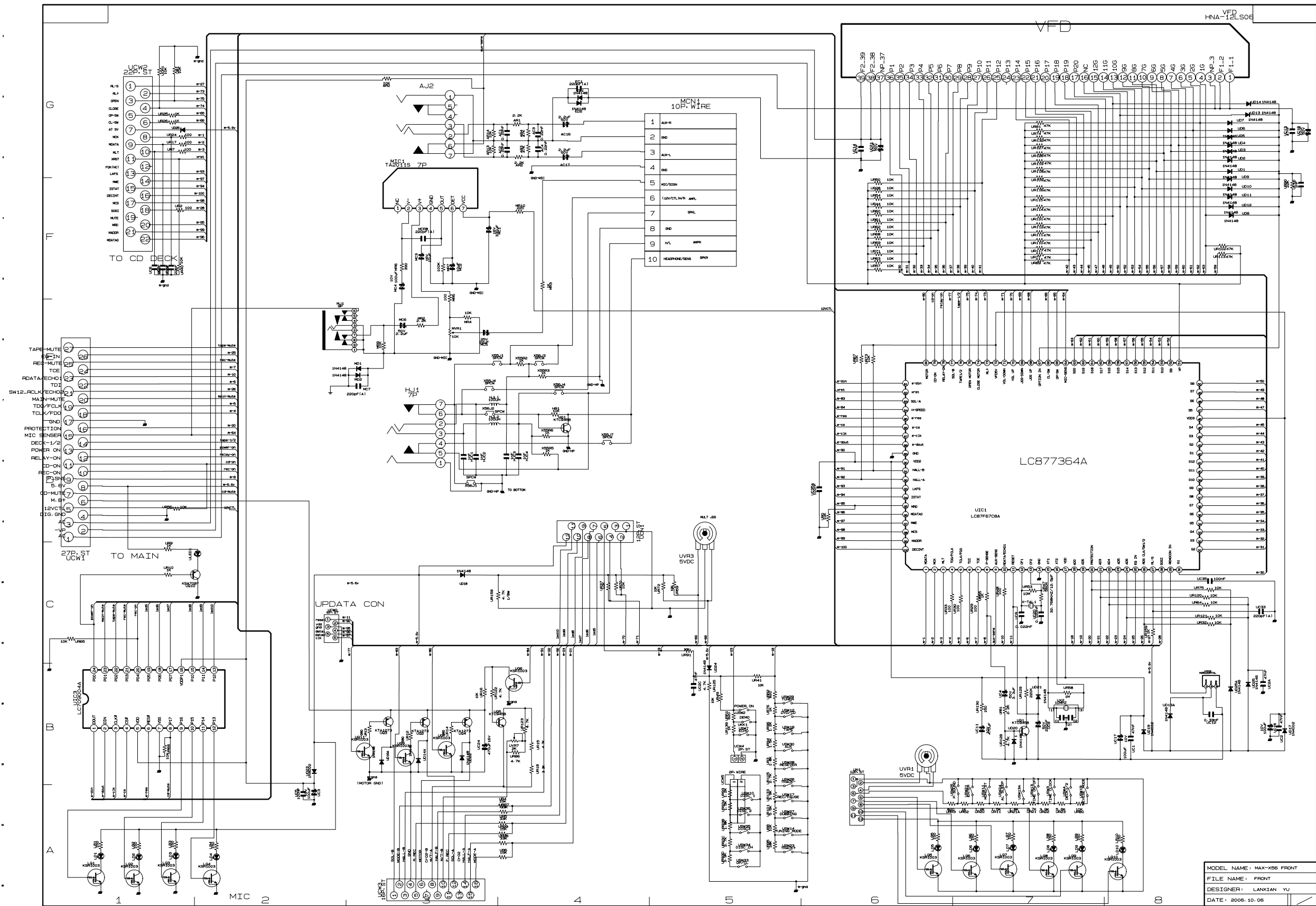
- This Document can not be used without Samsung's authorization -

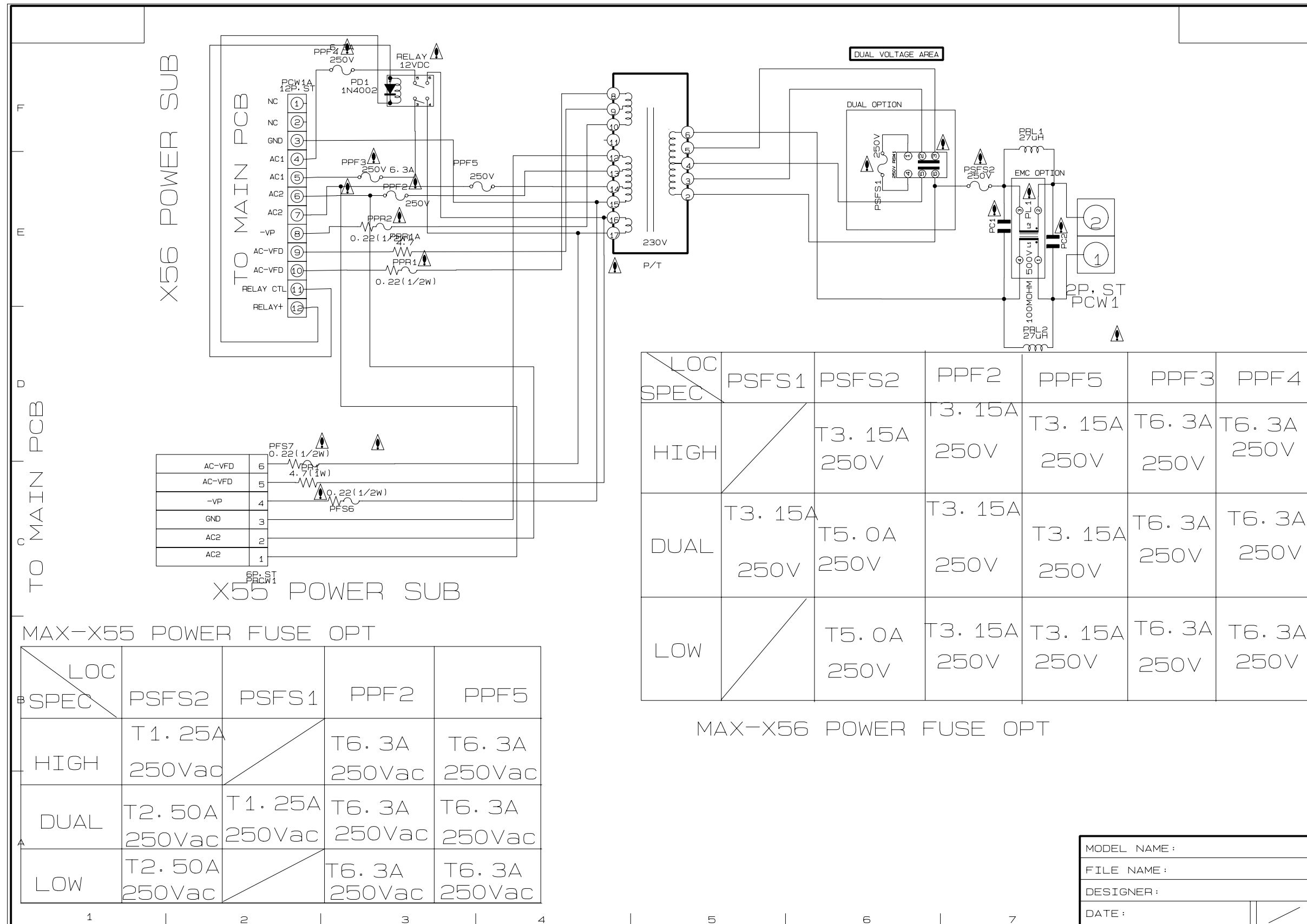




MODEL NAME	MAX-X56-05
FILE NAME	MAIN
DESIGNER	...
DATE	2006.09.23







AC-VFD	6	VVP1	0.22 (1/2W)
AC-VFD	5	VVP2	4.7 (1W)
-VP	4	VVP3	0.22 (1/2W)
GND	3		
AC2	2		
AC2	1		

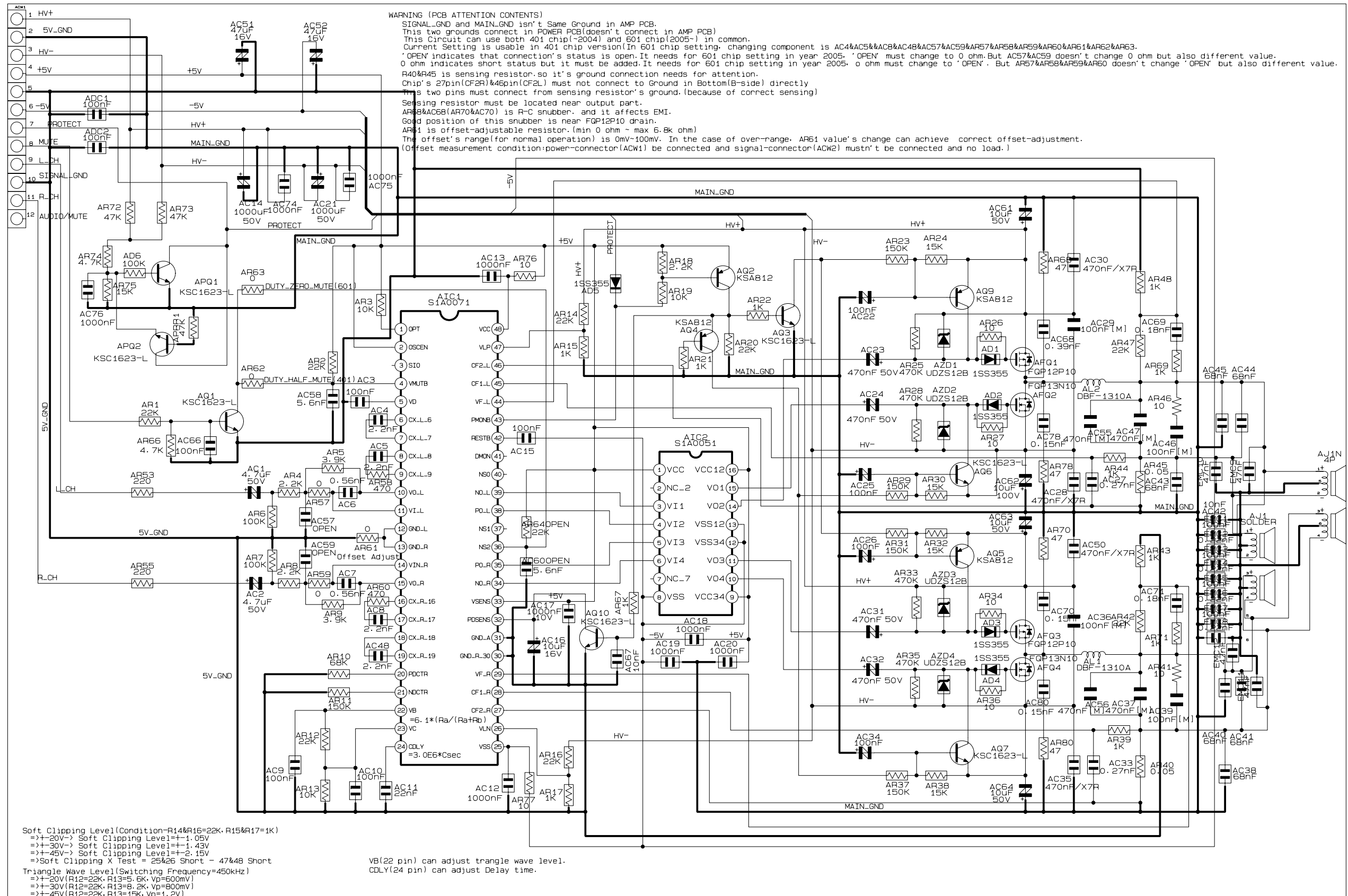
LOC SPEC	PSFS1	PSFS2	PPF2	PPF5	PPF3	PPF4
HIGH		T3. 15A 250V	T3. 15A 250V	T3. 15A 250V	T6. 3A 250V	T6. 3A 250V
DUAL	T3. 15A 250V	T5. 0A 250V	T3. 15A 250V	T3. 15A 250V	T6. 3A 250V	T6. 3A 250V
LOW		T5. 0A 250V	T3. 15A 250V	T3. 15A 250V	T6. 3A 250V	T6. 3A 250V

MAX-X55 POWER FUSE OPT

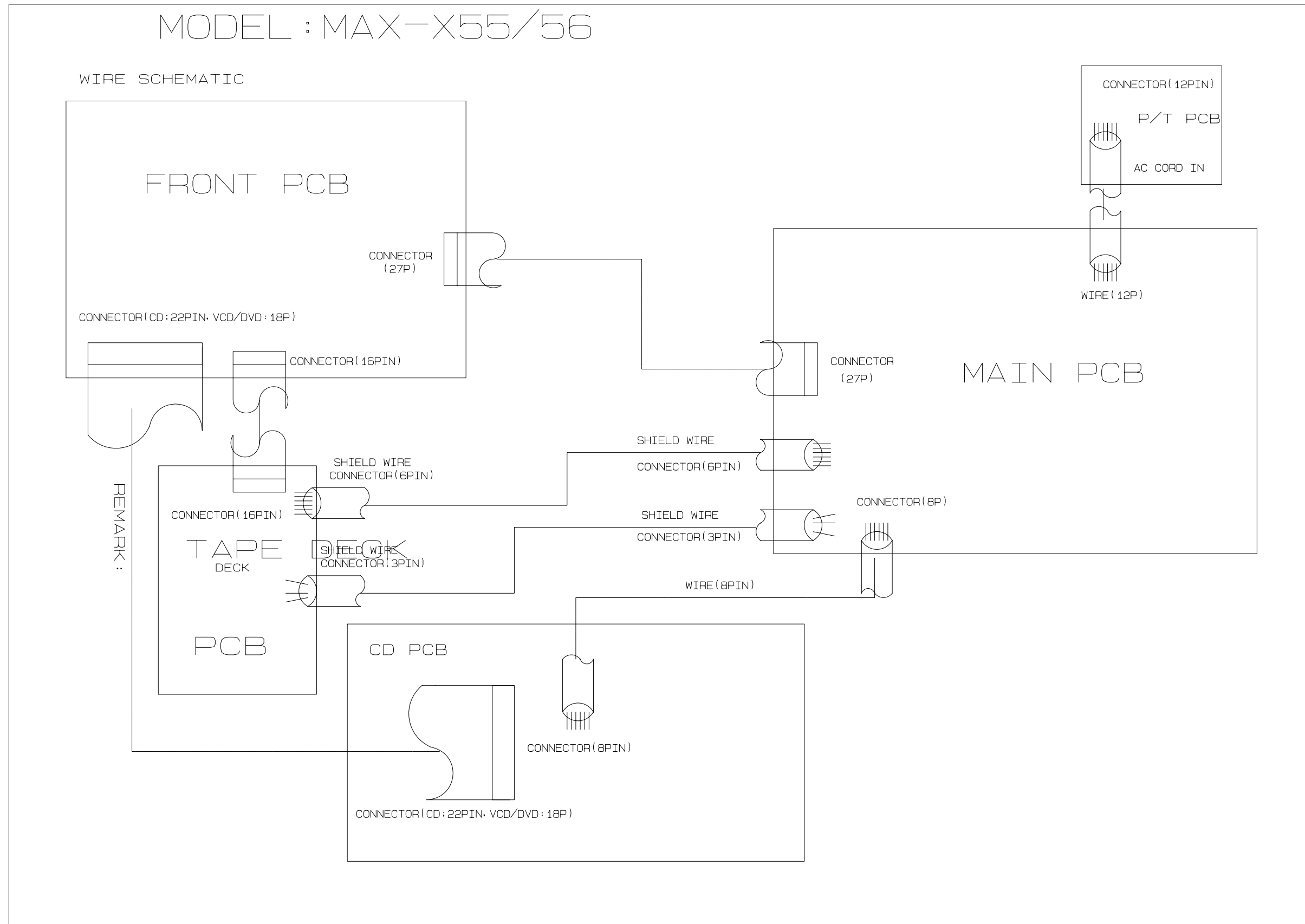
LOC SPEC	PSFS2	PSFS1	PPF2	PPF5
HIGH	T1. 25A 250Vac		T6. 3A 250Vac	T6. 3A 250Vac
DUAL	T2. 50A 250Vac	T1. 25A 250Vac	T6. 3A 250Vac	T6. 3A 250Vac
LOW	T2. 50A 250Vac		T6. 3A 250Vac	T6. 3A 250Vac

MAX-X56 POWER FUSE OPT

MODEL NAME :	
FILE NAME :	
DESIGNER :	
DATE :	



6-1. Wiring Diagram



1. Precautions

Follow these safety, servicing and ESD precautions to prevent damage and protect against potential hazards such as electrical shock and X-rays.

1-1 Safety Precautions

1. Be sure that all of the built-in protective devices are replaced.
2. When reinstalling the chassis and its assemblies, be sure to restore all protective devices, including control knobs and compartment covers.
3. Make sure that there are no cabinet openings through which people--particularly children--might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.
4. Design Alteration Warning:
Never alter or add to the mechanical or electrical design of the unit. Example: Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.
5. Leakage Current Hot Check (Figure 1-1):
Warning: Do not use an isolation transformer during this test. Use a leakage-current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, *Leakage Current for Appliances*), and Underwriters Laboratories (*UL Publication UL1410, 59.7*).

With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, etc.) and all exposed metal parts. Examples: Handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat.

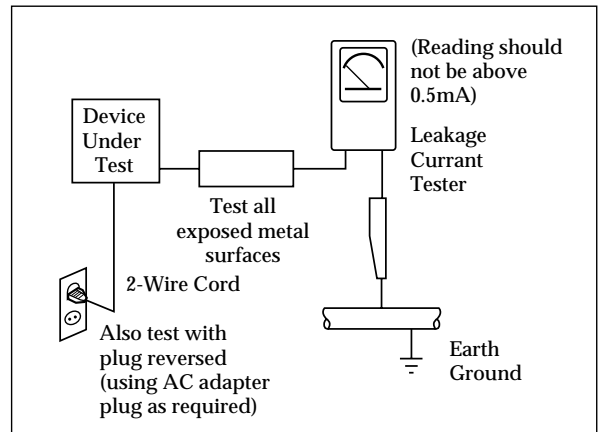


Fig. 1-1 AC Leakage Test

6. Insulation Resistance Cold Check:
(1) With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. (2) Set the power switch to ON. (3) Measure the resistance between the shorted AC plug and any exposed metallic parts. Example: Screwheads, antenna, control shafts or handle brackets.

If any of the exposed metallic parts has a return path to the chassis, the measured resistance should be between 1 and 5.2 megohms. If there is no return path, the measured resistance should be "infinite." If the resistance is outside these limits, a shock hazard might exist. See Figure 1-2

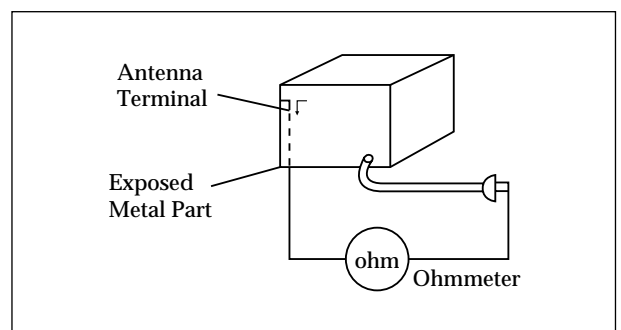




Fig. 1-2 Insulation Resistance Test

1-1 Safety Precautions (Continued)

7. Components, parts and wiring that appear to have overheated or that are otherwise damaged should be replaced with parts that meet the original specifications. Always determine the cause of damage or overheating, and correct any potential hazards
8. Observe the original lead dress, especially near the following areas: Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that no wires or components touch thermally hot parts.
9. **Product Safety Notice:**
Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original--even if the replacement is rated for higher voltage, wattage, etc.
10. Components that are critical for safety are indicated in the circuit diagram by shading,  or . Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

1-2 Servicing Precautions

Warning1: First read the "Safety Precautions" section of this manual. If some unforeseen circumstance creates a conflict between the servicing and safety precautions, always follow the safety precautions.

1. Servicing precautions are printed on the cabinet. Follow them.
2. Always unplug the unit's AC power cord from the AC power source before attempting to: (a) Remove or reinstall any component or assembly, (b) Disconnect an electrical plug or connector, (c) Connect a test component in parallel with an electrolytic capacitor.
3. Some components are raised above the printed circuit board for safety. An insulation tube or tape is sometimes used. The internal wiring may be clamped to prevent contact with thermally hot components. Reinstall all such elements to their original position.
4. After servicing, always check that the screws, components and wiring have been correctly reinstalled. Make sure that the portion around the serviced part has not been damaged.
5. Check the insulation between the blades of the AC plug and accessible conductive parts (examples: metal panels, input terminals and earphone jacks).
6. **Insulation Checking Procedure:** Disconnect the power cord from the AC source and turn the power switch ON. Connect an insulation resistance meter (500V) to the blades of the AC plug.

The insulation resistance between each blade of the AC plug and accessible conductive parts (see above) should be greater than 1 megohm.
7. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.
8. Always connect a test instrument's ground lead to the instrument chassis ground *before* connecting the positive lead; always remove the instrument's ground lead last.

1-3 Precautions for Electrostatically Sensitive Devices (ESDs)

1. Some semiconductor ("solid state") devices are easily damaged by static electricity. Such components are called Electrostatically Sensitive Devices (ESDs). Examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.
2. Immediately before handling any semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging wrist-strap device. (Be sure to remove it prior to applying power--this is an electric shock precaution.)
3. After removing an ESD-equipped assembly, place it on a conductive surface such as aluminum foil to prevent accumulation of electrostatic charge.
4. Do not use freon-propelled chemicals. These can generate electrical charges that damage ESDs.
5. Use only a grounded-tip soldering iron when soldering or unsoldering ESDs.
6. Use only an anti-static solder removal device. Many solder removal devices are not rated as "anti-static" (these can accumulate sufficient electrical charge to damage ESDs).
7. Do not remove a replacement ESD from its protective package until you are ready to install it. Most replacement ESDs are packaged with leads that are electrically shorted together by conductive foam, aluminum foil or other conductive materials.
8. Immediately before removing the protective material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
9. Minimize body motions when handing unpackaged replacement ESDs. Motions such as brushing clothes together, or lifting a foot from a carpeted floor can generate enough static electricity to damage an ESD.

1-4 Special Precautions and Warning Labels for Laser Products

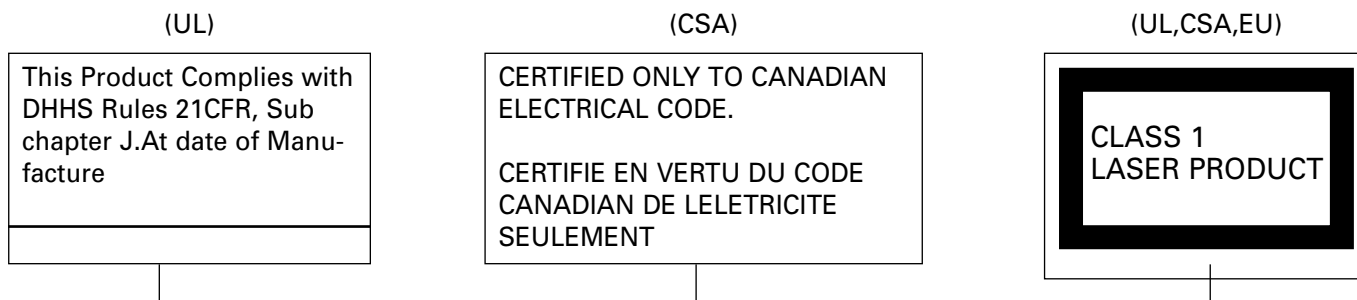


Fig. 1-3 Warning Labels (Location: Enclosure Block)

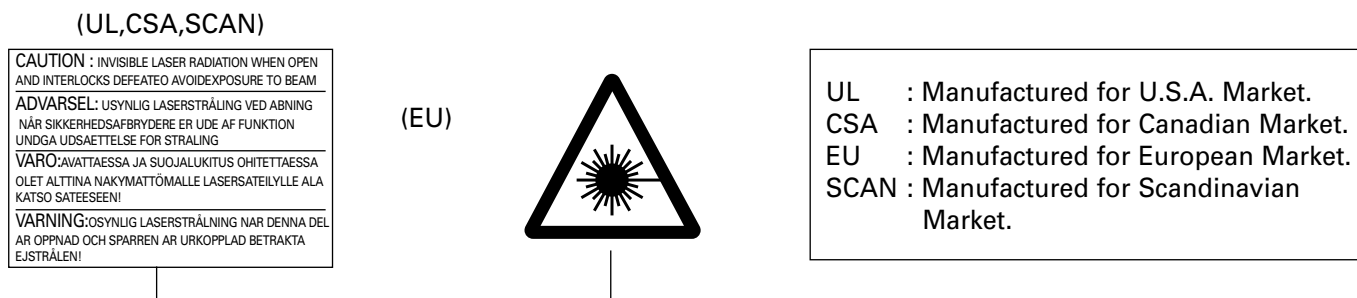


Fig. 1-4 Warning Labels (Location: Disc Clamper, Inner Side of Unit Door or Nearby Unit Chassis)

1-4 Special Precautions and Warning Labels for Laser Products (Continued)

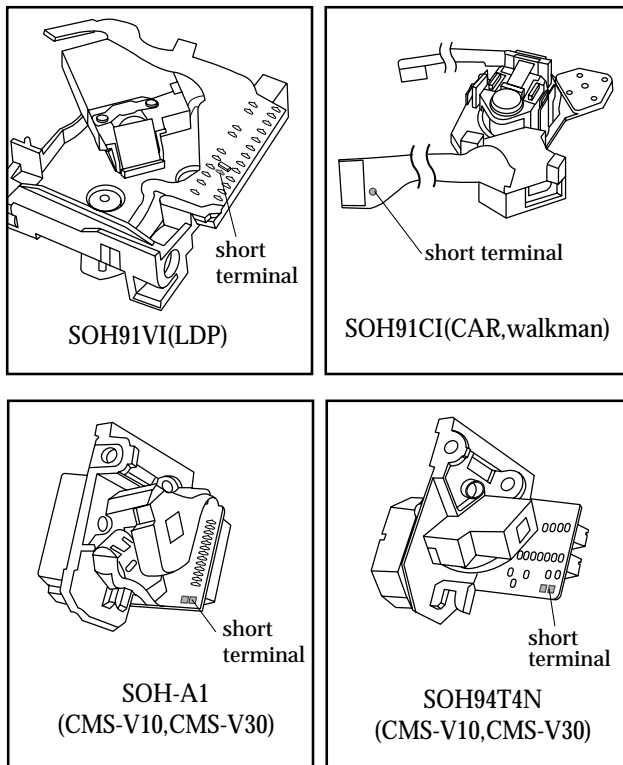
1-4-1 Warnings

1. When servicing, do not approach the LASER exit with the eye too closely. In case it is necessary to confirm LASER beam emission, be sure to observe from a distance of more than 30 cm from the surface of the objective lens on the optical pick-up block.
2. Do not attempt to handle the objective lens when the DISC is not on the tray.

1-4-2 Laser Diode Specifications

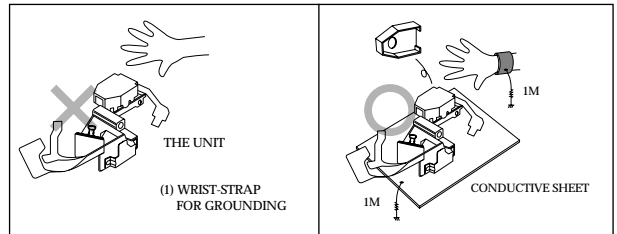
Material: GaAs+ GaAlAs
 Wavelength: 760-800 nm
 Emission Duration: Continuous

Laser Output: 0.2 mw (measured at a 1.6 mm distance from the objective lens surface on the optical pick-up block.)



1-4-3 Handling the Optical Pick-up

1. Static electricity from clothing or the body may cause electrostatic breakdown of the laser diode in the Optical Pickup. Follow this procedure:
2. Place a conductive sheet on the work bench (i.e., the black sheet used for wrapping repair parts.) Note: The surface of the work bench should be covered by a copper ground plane, which is grounded.
3. The repair technician must wear a wrist strap which is grounded to the copper sheet.
4. To remove the Optical Pickup block: Place the set on the conductive sheet, and momentarily touch the conductive sheet with both hands. (While working, do not allow any electrostatic sources--such as clothes--to touch the unit.)
5. Ground the "Short Terminal" (located on the PCB, inside the Pickup Assembly) before replacing the Pickup. This terminal should be shorted whenever the Pickup Assembly is lifted or moved.
6. After replacing the Pickup, reopen the Short Terminal. See diagrams below:



1-5 Special Precautions for HDD

* HDD Data Maintenance Step

1. Since the data on the HDD is weak to mechanical shock, place the HDD in a safe location that is free from mechanical shock once it is removed from the main unit.
2. In order to safe keep the data on the HDD, back up the data before the repair or make sure not to place the HDD near any electrical appliance that generates a strong magnetic field.

