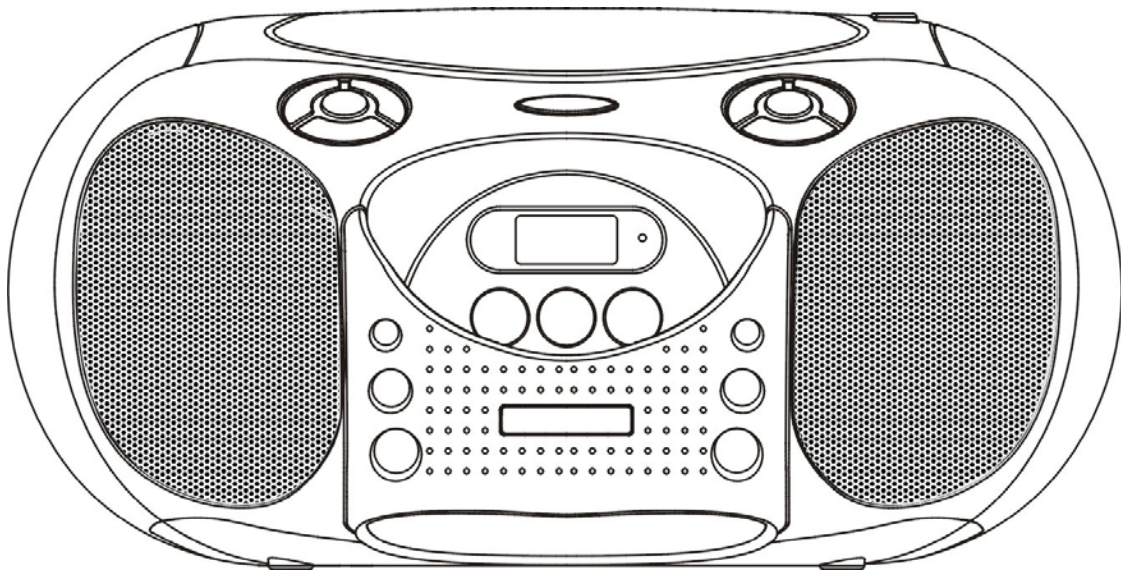


Service Manual

Model: PB120N



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SPECIFICATIONS

Model No PB120

Date:2011-04-02

Section AM

Pate: 1 of 5

Measuring Items	Condition	Unit	Normal	Limit	Test Data		
					1	2	3
Frequency Range	Low End	KHz	520	+/-10			
	High End	KHz	1640	+/-20			
Intermediate Frequency		KHz	465	+/-5			
Max. Sensitivity	600KHz	dB	80	84			
	1000KHz	dB	80	84			
	1400KHz	dB	80	84			
-20dB Quieting S/N Sensitivity	600KHz	dB	88	96			
	1000KHz	dB	88	96			
	1400KHz	dB	88	96			
Dial Calibration	600KHz	KHz		30			
	1000KHz	KHz		40			
	1400KHz	KHz		50			
IF Rejection	600KHz	dB	40	35			
Image Rejection	1400KHz	dB	30	25			
Distortion at Standard Output	1000KHz	%		3			
RF Overload Distortion at 100Db/M	Mod. 30%	%		5			
	Mod. 80%/60%	%		6			
10% THD Max. Output Power at 80% Mod	1000KH	W	1.8	1.5			
Distortion at Max Volume AII Controls Max	Mod. 30%	%					
	Mod. 80%/60%	%		25			
-6Db Audio Fidelity Frequency Response	LOW	Hz	100	150			
	High	KHz	2.5	2.2			
Bandwidth -6dB	1000KHz	KHz		4-11			
S/N Ratio at 5Mv/M Input	1000KHz	dB	35	30			
Tweet (Whistle) at 5Mv/M	2nd IF	%		7			
	3rd IF	%		7			
ACA +/-10KHz	1000KHz	dB	26	20			
Modulation Hum	1000KHz	dB	40	35			
Noise Output (Hum and Noise)	Min. Volume	mV		3			
AGC/Figure of Merit Effect 100Mv/M	1000KHz	dB	40	35			
Auto Tuning Stop(Seek)Sensitivity	600KHz	dB					
	1000KHz	dB					
	1400KHz	dB					
Fall Out Voltage (AC)	1000KHz	%		<70			
Fall Out Voltage (DC)	1000KHz	%		<70			

Test Conditions

Approved By: 冼祖国

1. Supply Voltage :AC/DC

2. Standard Output : 50Mw

3. Speaker Impedance: 8 OHM

SPECIFICATIONS

Model No PB120
Section: FM TUNER

Date:2011-04-02
Page: 2 of 5

Measuring Items	Condition	Unit	Normal	Limit	Test Data		
					1	2	3
Tuning Frequency Range	Low End	MHz	63.5	+/-0.5			
	High End	MHz	108.5	+/-0.5			
Intermediate Frequency		MHz	10.7	+/-0.1			
Max. Sensitivity	68MHz	dB		20			
	98MHz	dB		20			
	106MHz	dB		20			
-30dB Quieting S/N Sensitivity	68MHz	dB		26			
	98MHz	dB		26			
	106MHz	dB		26			
Dial Calibration	90MHz	MHz		0.5			
	98MHz	MHz		0.5			
	106MHz	MHz		0.5			
IF Rejection	90MHz	dB	40	35			
Image Rejection	106MHz	dB	26	20			
AM Rejection	98MHz	dB	40	30			
RF Overload Distortion:100dB 75KHz Dev	98MHz	%	3	4			
10%THD Output Power 75KHz Dev	98MHz	W	1.8	1.5			
AC 127V input 10%THD Output value	75KHz Dev 60dB	W	1.8	1.5			
Maximum o/p	75KHz Dev 60dB	W	2	1.8			
Distortion at Max Volume 22.5KHz Dev	98MHz	%		10			
	98MHz	%		25			
-6dBAudio Fidelity	Low Freq	Hz	100	150			
	High Freq	KHz	4.5	4			
-3dB Limiting Sensitivity	98MHz	dB	30	35			
Distortion at Ref Output,75KHz Dev	98MHz	%	1	3			
S/N Ratio with 1mV	98MHz	dB	50	40			
Modulation Hum	98MHz	dB	55	45			
Noise Output (Hum and Noise)	Max Vol	mV					
	Min Vol	mV		<3			
Auto Tuning Stop(Seek) Sensitivity	90MHz	dB					
	98MHz	dB					
	106MHz	dB					
Fall Out Voltage(AC)	98MHz	%		<70			
Fall Out Voltage(DC)	98MHz	%		<70			
Fall Out Voltage 9VDC Clock Backup		%		-30			
AFC Holding -3dB		KHz					
Stereo Separation: 1Mv75KhzDev	100HZ	dB					
	1KHZ	dB		28			
	10KHZ	dB					
Stereo indicator Sensitivity	98MHZ	dB	24	28			
Mono/Stereo Output Difference	98MHZ	dB		1			
L/R Channel Output Difference		dB		3			

Test Conditions

Approved By: 冼祖国

1. Supply Voltage :AC/DC

2. Standard Output : 50 Mw

3. Speaker impedance: 8 OHM

SPECIFICATIONS

Model NO: PB120

Date:2011-04-02

Section: CD

Page: 3 of 5

Measuring Items	Condition	Unit	Normal	Limit	Test Data		
					1	2	3
Distortion at Max Vol CD-1(0dB)	1KHz	%		25			
CD10% THD Output Power CD-1(0dB)	1KHz	W	1.8	1.5			
CD Output Level Voltage(Max)	1KHz	W	2	1.8			
Frequency Response Speaker Output CD-1, 1Khz at Reference Output 0dB	63Hz	dB					
	100Hz	dB		+/-3			
	1KHz	dB					
	10KHz	dB		+/-3			
	20KHz	dB					
THD at Standard Output(at-10dB)	1KHz	%		1			
Separation:CD-1at Speaker Output	100Hz	dB					
	1KHz	dB	45	40			
	10KHz	dB					
S/N Ratio(Input Filter)	TCD-782	dB		50			
Dynamic Range	TCD-782	Sec					
Initial Reading Time	TCD-782	Sec		<10			
Access Time: TCD—782	First Track	Sec		<5			
	Last Track	Sec		<10			
Interruption Philips#444A	Scratch	mm		0.8			
	Black Doc	mm		0.6			
	Fingerprint	mm		0.075			
Eccentricity	TCD-712R	mm					
Vertical Deviation	TCD-713R	mm		0.8			
Hum and Noise	Vol Max	mV		<10			
	Vol Min	mV		<3			
Minimum Operating Voltage(AC)		%		<80			
Minimum Operating Voltage(DC)		%		<70			
Maximum power Consumption	Full load burn-in	W		16			

Test Conditions

Approved By: 冼祖国

1. Supply Voltage : AC/DC
2. Standard Output : 50 mW
3. Speaker impedance: 8 OHM

SPECIFICATIONS

Model N0: PB120

Date:2011-04-02

Section: Audio

Page: 4 of 5

[illegible]

Test Conditions

1. Supply Voltage : AC/DC

2. Standard Output : 50 Mw

3. Speaker impedance: 8 OHM

Approved By: 冼祖国

SPECIFICATIONS

Model NO: PB126

Date:2011-04-02

Section: AUX SECTION

Page: 5 of 5

Measuring Items	Condition	Unit	Normal	Limit	Test Data		
					1	2	3
10%T.H.D Power O/P	300MV(Input)	W	1.8	1.5			
Stereo Separation	180MV(Input)	dB	38	35			
Min Hum	180MV(Input)	mV	0.7	2			
Max Hum		mV					
S/N		dB	55	50			
Total Harmonic Distortion		%	0.5	1			

Test Conditions

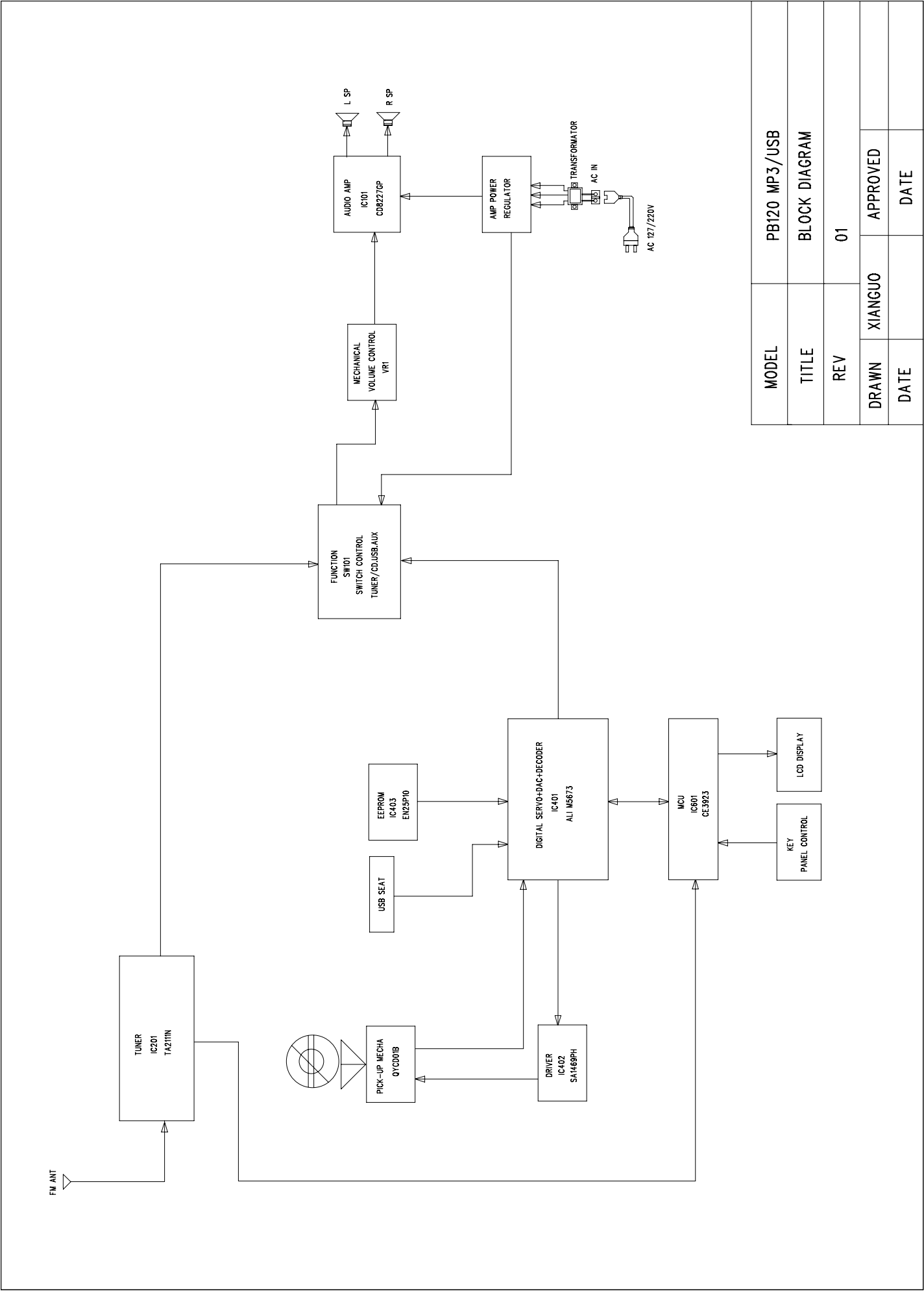
1. Supply Voltage : AC/DC

2. Standard Output : 50 Mw

3. Speaker impedance: 8 OHM

Approved By: 冼祖国

BLOCK DIAGRAM

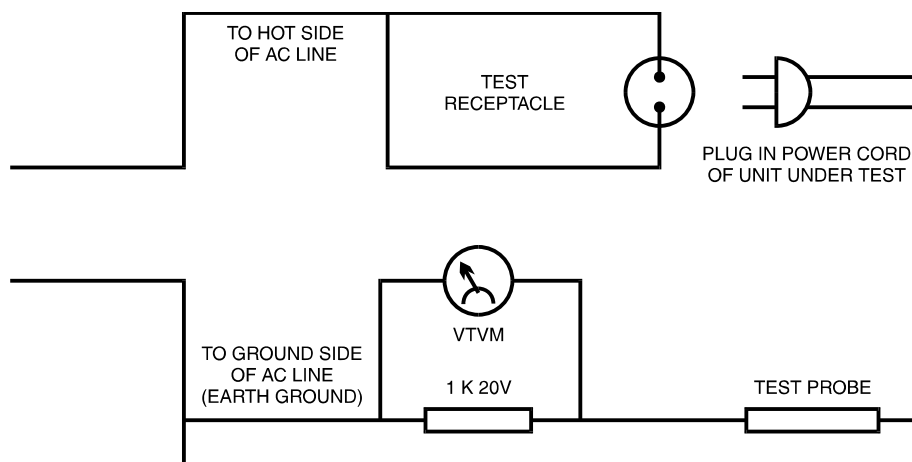


MODEL	PB120 MP3/USB		
TITLE	BLOCK DIAGRAM		
REV	01		
DRAWN	XIANGUO	APPROVED	
DATE		DATE	

SAFETY CHECKS

Important Note!!! Do the following safety checks after servicing this unit.

1. Remove all the externally connected test equipment and wires before testing the unit.
2. Use the safety test circuit as shown below.
3. Plug the power cord or unit to be tested into the test receptacle.
4. Switch the unit being tested to ON or PLAY.
5. Connect external jack/terminal contact VTVM across a 1k resistor in the test circuit. Set the meter to a high (150V AC) scale to avoid meter damage and then touch the points with the test probe. If the meter reading indicates less than 3 volts on all test points, set the meter to a low (3V AC) scale and repeat the test.
6. Any reading greater than 0.2 volt indicates a potential shock hazard. If this occurs, determine the cause of the leakage, correct the problem, and repeat the safety test.



SAFETY TEST CIRCUIT

TUNER ALIGNMENT PROCEDURE

AM Alignment - Band Switch In AM Mode

Band	Step	Signal Generator Frequency	Radio Dial Setting	Adjustment	Remarks
AM-IF	1	465 kHz	610 kHz	T202	Adjust for best IF waveform (at detector output).
AM-RF	2	530 kHz	530 kHz	T201	Adjust for 520 kHz
	3	600 kHz	600 kHz	AM ANT Coil	Adjust for maximum indication.
	4	1400 kHz	1400 kHz	PVC201-C1	Adjust for maximum indication.
	5	1600 kHz	1600 kHz	PVC201-C2	Adjust for 1640 kHz
	6	Repeat Steps 3 and 4 as required.			

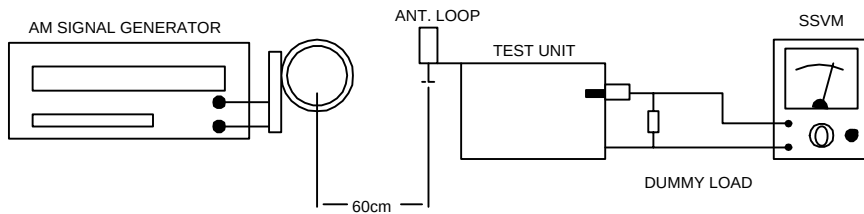


Figure1. AM IF/RF Tracking

FM Alignment- Band Switch in FM Mode

Band	Step	Signal Generator Frequency	Radio Dial Setting	Adjustment	Remarks
FM-IF	1	10.7 MHz	64 MHz	T203	Adjust for best IF waveform
FM-RF	2	64 MHz	64 MHz	L202	Adjust for 63.5MHz
	3	68 MHz	68 MHz	L203	Adjust for maximum output.
	4	106 MHz	106 MHz	PVC201-C4	Adjust for maximum output.
	5	108MHz	108MHz	PVC201-C3	Adjust for 108.5MHz
	6	Repeat Steps 3 To 4 as required.			

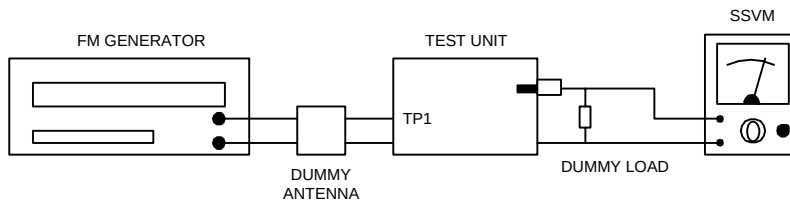
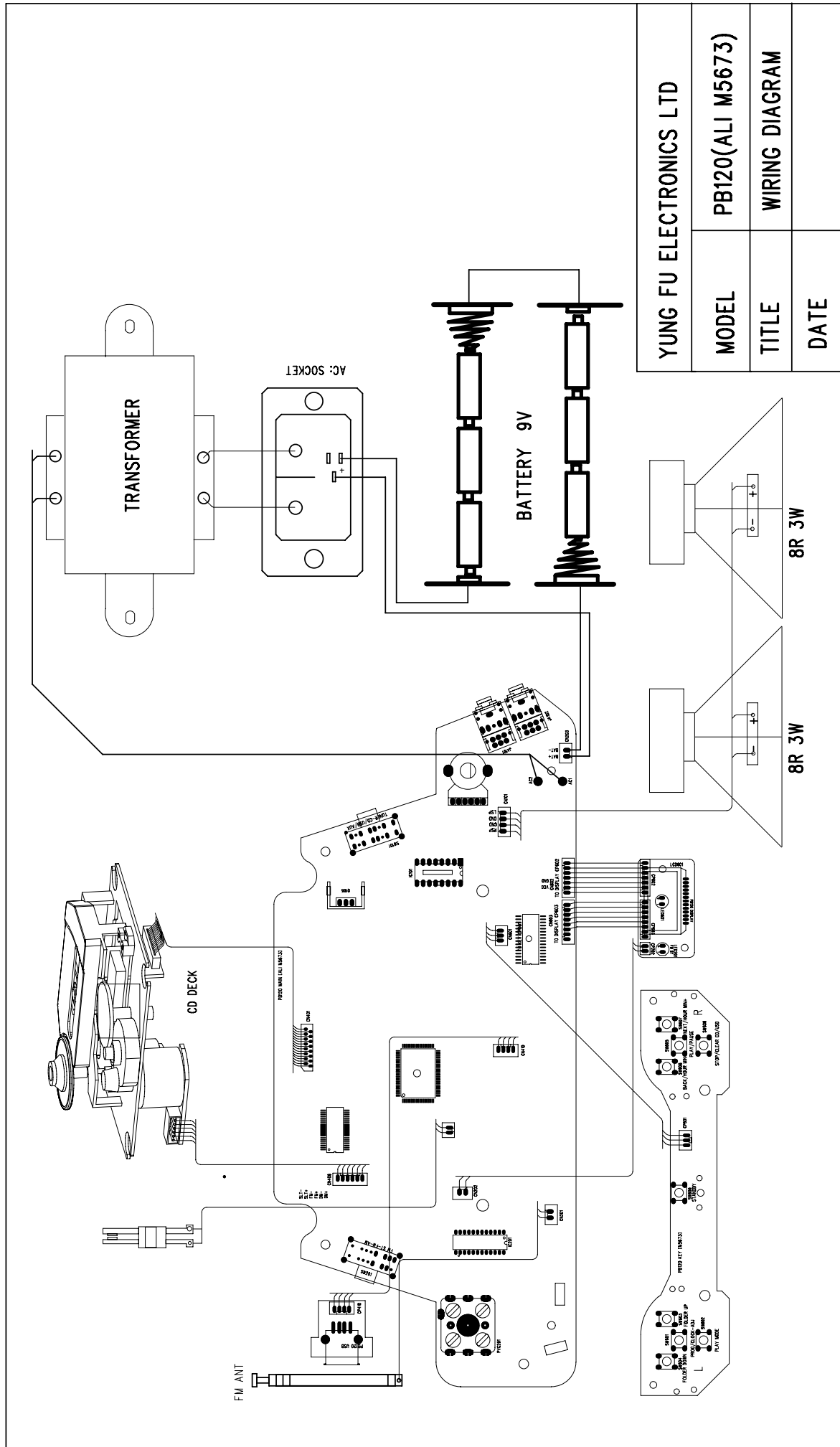


Figure 2. FM Band/Tracking

WIRING DIAGRAMS



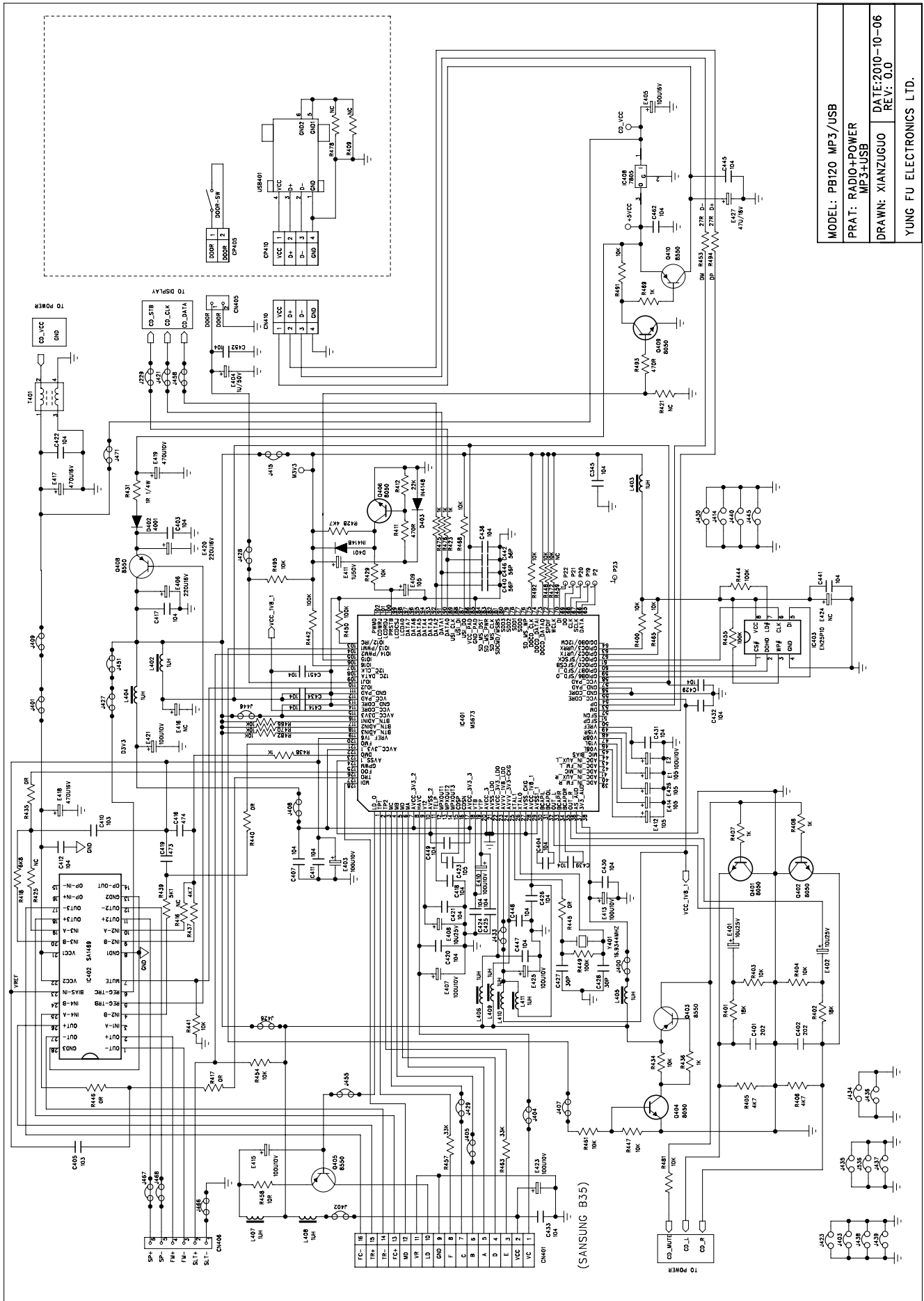
YUNG FU ELECTRONICS LTD

MODEL PB120(ALI M5673)

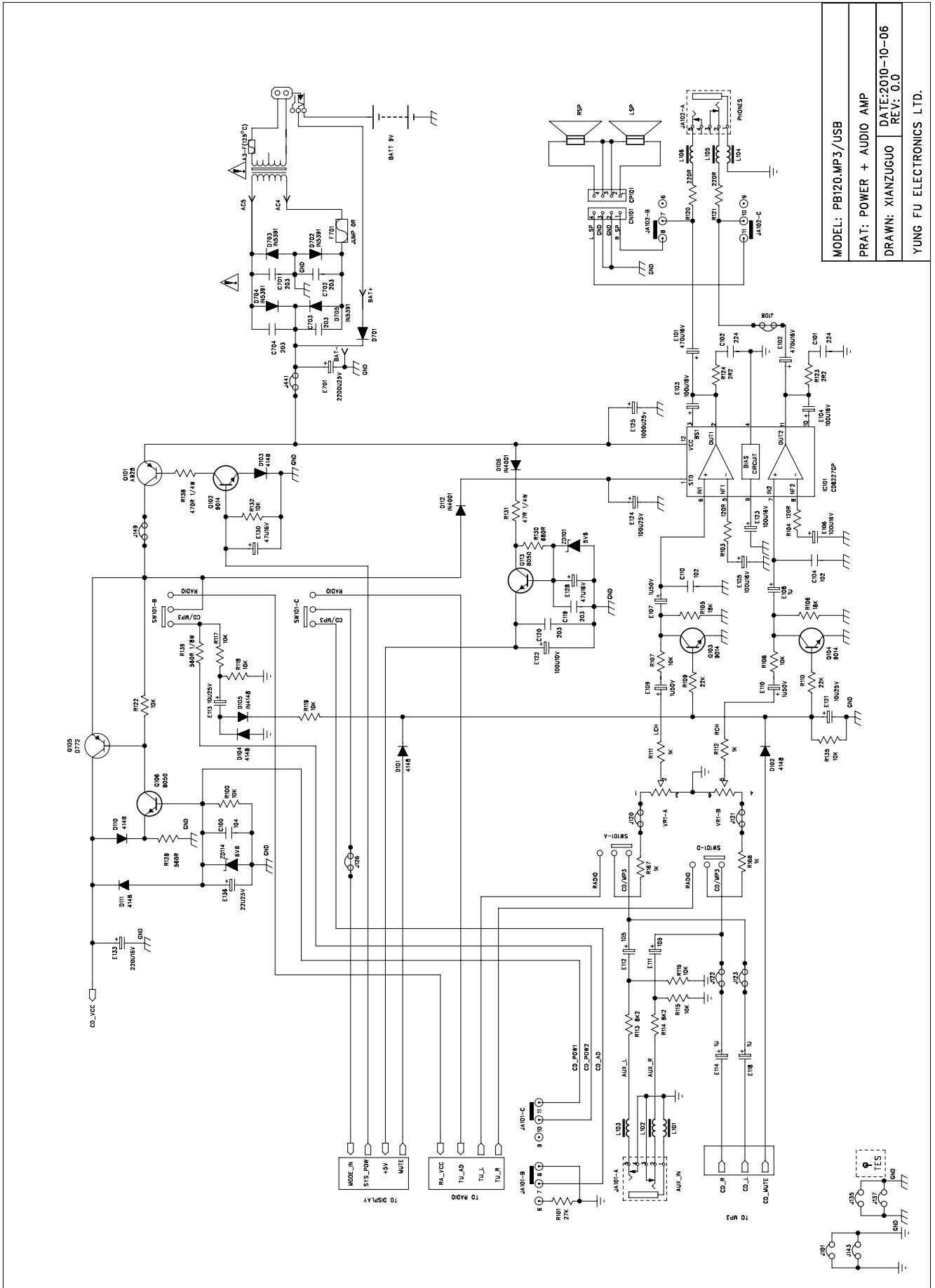
TITLE WIRING DIAGRAM

DATE

SCHEMATIC DIAGRAMS



SCHEMATIC DIAGRAMS



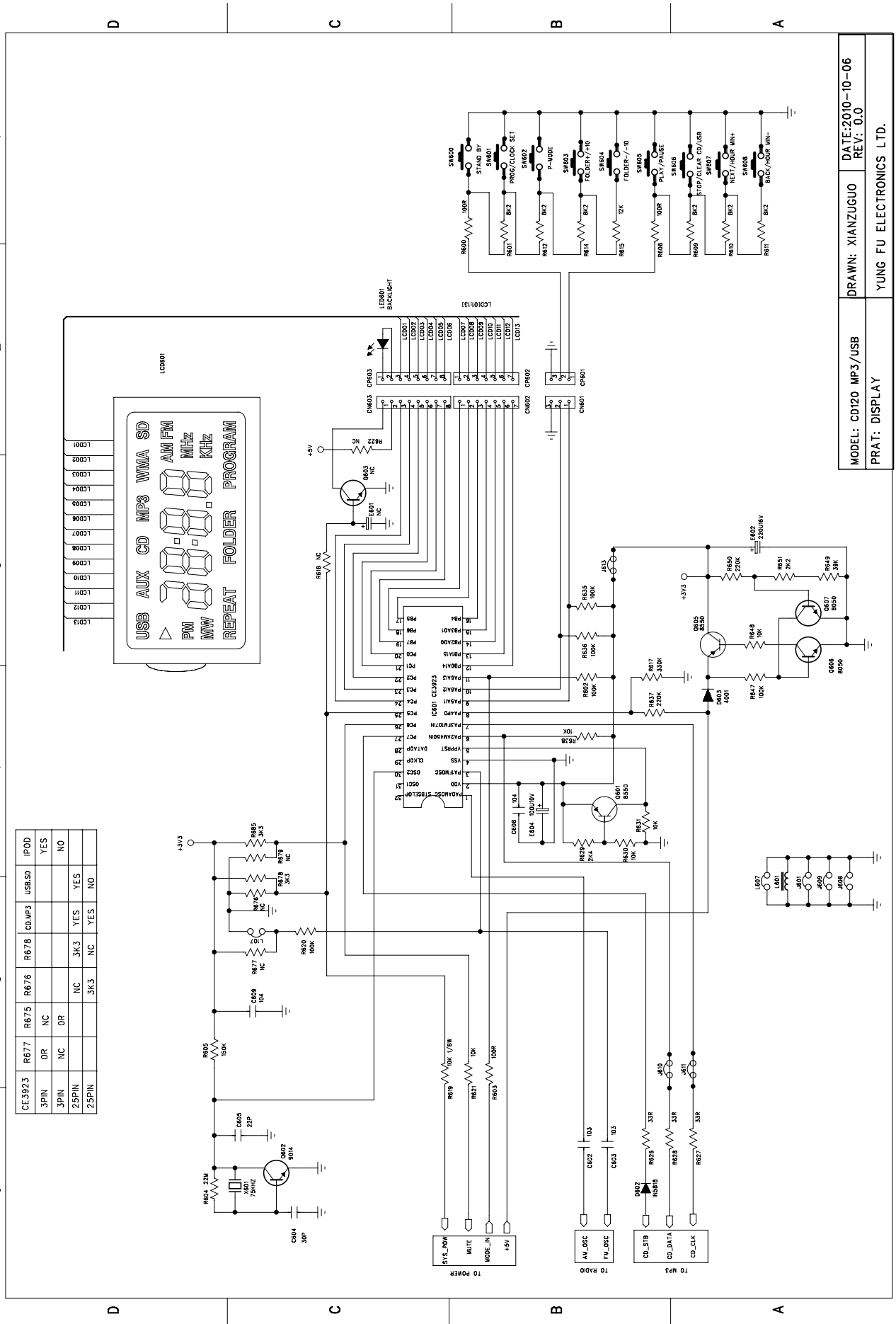
MODEL: PB120.MP3/USB

PRAT: POWER + AUDIO AMP

DRAWN: XIANZUCUO DATE:2010-10-06
REV: 0.0

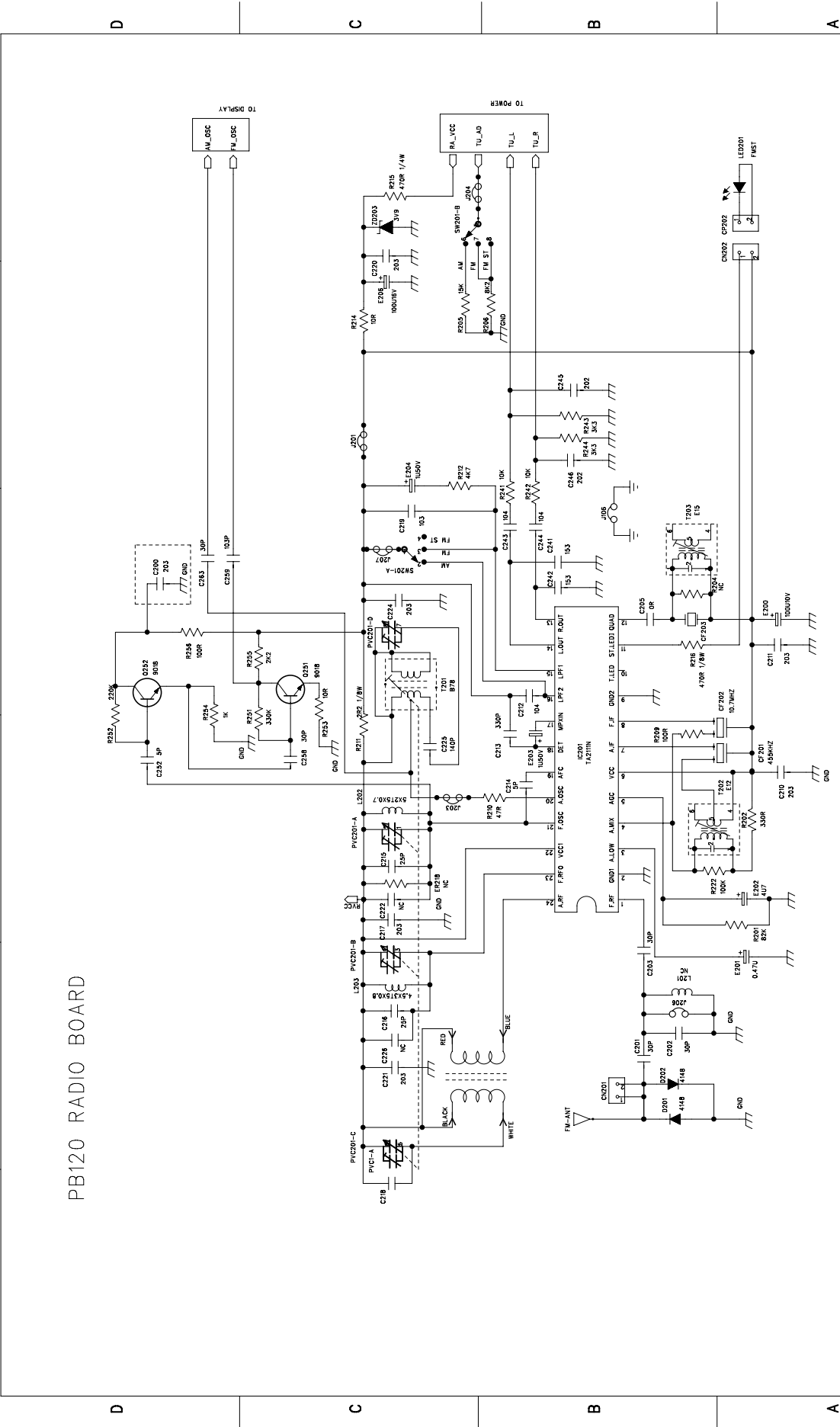
YUNG FU ELECTRONICS LTD.

SCHEMATIC DIAGRAMS



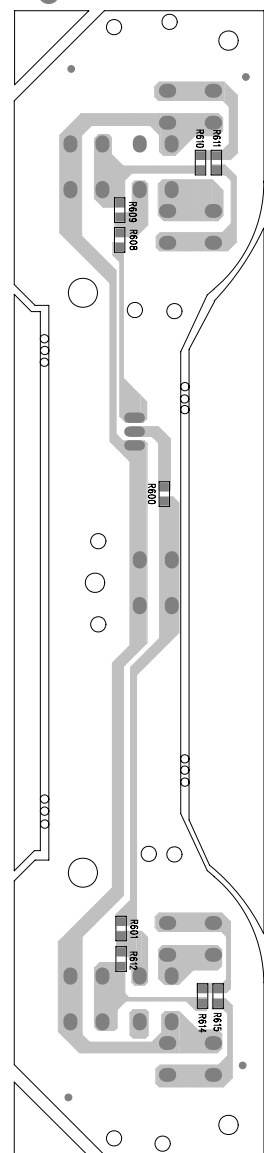
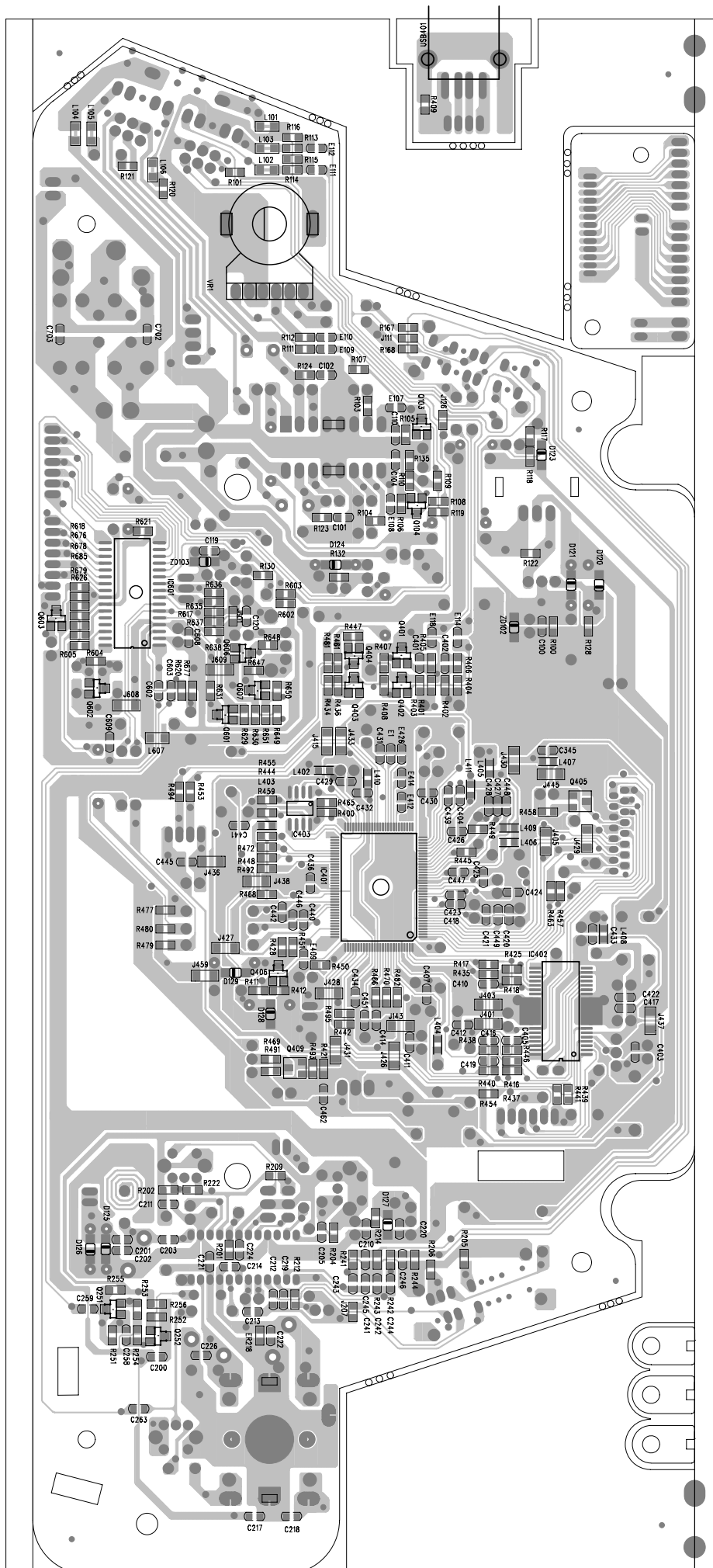
MODEL: CD120 MP3/USB	DRAWN: XIANZUGUO	DATE:2010-10-06
PRAT: DISPLAY	YUNG FU ELECTRONICS LTD.	REV: 0.0

SCHEMATIC DIAGRAMS



MODEL: PB120 MP3 / USB	DRAWN: XIANZUGUO	DATE: 2010-10-06
PRAT: RADIO	YUNG FU ELECTRONICS LTD.	REV: 0.0

PRINTED CIRCUIT BOARDS

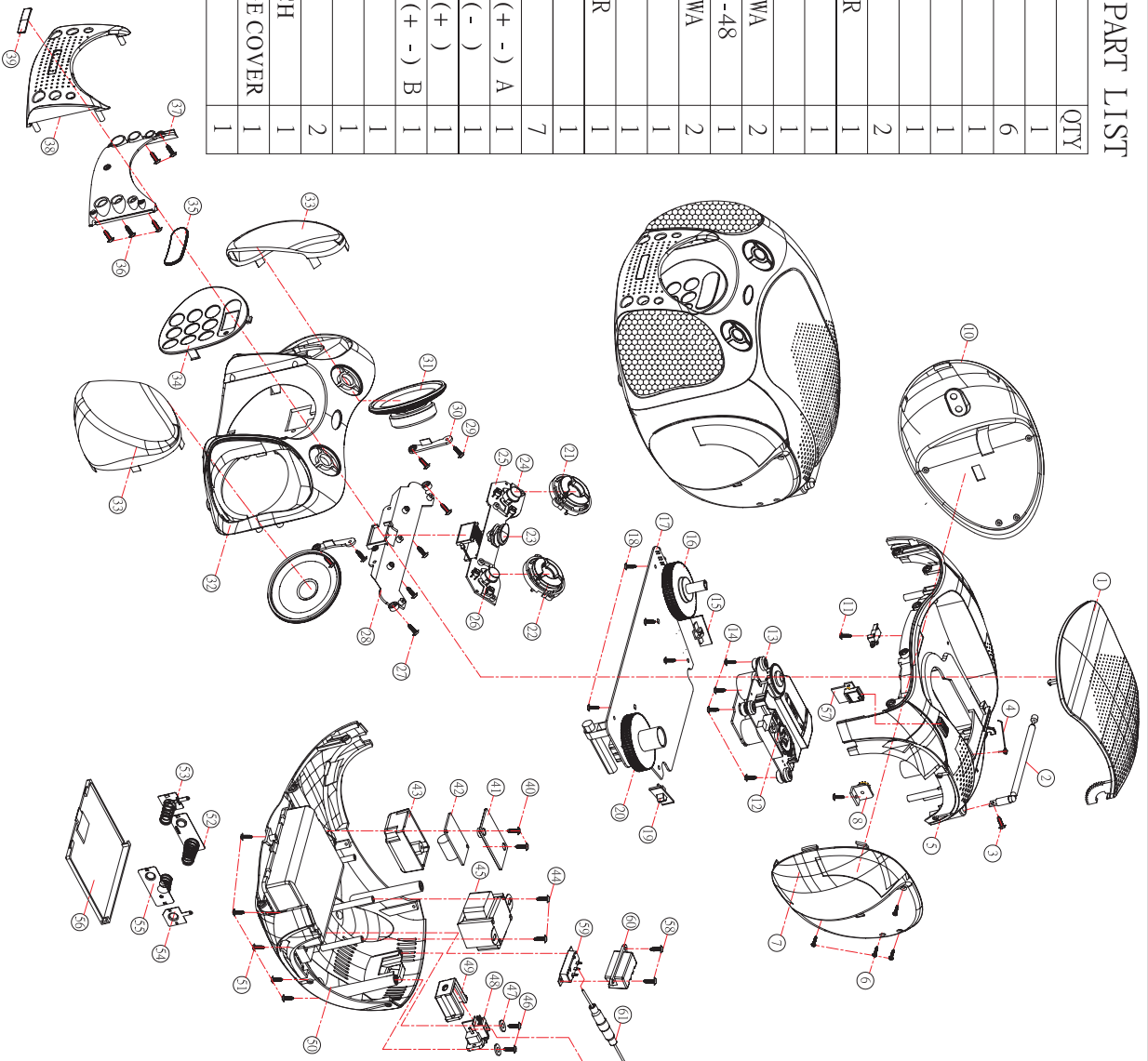


EXPLODED VIEW

MODEL : PB120+MP3+USB+AUX EXPLODED VIEW PART LIST

NO.	DESCRIPTION	QTY
1	CD DOOR	1
2	FM ANTENNA	1
3	SCREW 3.0*10PM	1
4	CD DOOR SPRING	1
5	TOP CABINET	1
6	SCREW 3.0*10PA	8
7	SIDE COVER R	1
8	TOOTH WHEEL	1
9	SCREW 3.0*12PWA	1
10	SIDE COVER L	1
11	SCREW 2.0*12PA	1
12	SANYO CD DECK	1
13	CD CUSHION	4
14	SCREW 2.6X16PWA	4
15	FUNCTION KNOB	1
16	VOLUME KNOB	1
17	MAIN PCB	1
18	SCREW 3.0*8 PA	6
19	BAND KNOB	1
20	TUNING KNOB	1
21	KEY SET L	1
22	KEY SET R	1
23	POWER BUTON	1
24	KEY L	1
25	KEY PCB	1
26	KEY R	1
27	SCREW 3.0*10PA	4
28	KEY PCB BRACKET	1
29	SCREW 3.0*10PA	4
30	SPEAKER CLIP	2
31	SPEAKER	2
32	FRONT CABINET	1
33	SPEAKER GRILL	2
34	DISPLAY INSERT	1

NO.	DESCRIPTION	QTY
35	DISPLAY LENS	1
36	SCREW 2.6*10PA	6
37	HANDLE COVER	1
38	HANDLE	1
39	NAME PLATE	1
40	SCREW 3.0*12PA	2
41	POWER BOX COVER	1
42	POWER PCB	1
43	POWER BOX	1
44	SCREW 3.0*12 PWA	2
45	TRANSFORMER EI-48	1
46	SCREW 3.0*10 PWA	2
47	FIBRE WASHER	1
48	AC SOCKET	1
49	AC SOCKET COVER	1
50	BOTTOM CABINET	1
51	SCREW 3.0*12PA	7
52	BATTERY PLATE (+ -) A	1
53	BATTERY PLATE (-)	1
54	BATTERY PLATE (+)	1
55	BATTERY PLATE (+ -) B	1
56	BATTERY DOOR	1
57	USB PCB	1
58	SCREW 3.0*6 KM	2
59	VOLTAGE SWITCH	1
60	DOUBLE VOLTAGE COVER	1
61	FUSE HOLDER	1



TROUBLESHOOTING

Circuit	Symptom	Cause and Remedy
General	No sound	• Speakers are not connected: Check the speaker connection. • Wrong function is selected: Set switch to the proper position. • Defective volume control: Set the volume control to a proper sound level. • Defective earphone jack: Replace the earphone jack. • Mute function is active: Release it by remote control.
AM	No sound, weak sound (Low sensitivity)	• Improper location of unit: Rotate or reposition the unit. • Defect AM antenna coil or oscilloscope coil: Replace if necessary. • Intermediate Frequency tuning faulty: Readjust (see "Alignment and Adjustment"). • RF tracking faulty: Readjust (see "Alignment and Adjustment"). • Defective TA2111 Check voltages. Replace if necessary. • Poor contact in antenna circuit: Check resistance and resolder.
FM	No sound, weak sound (Low sensitivity)	• FM antenna not connected: Connect the built-in or external antenna. • Defective band selector switch: Replace or repair the switch. • Defective TA2111: Check voltages. Replace if necessary. • Intermediate Frequency tuning faulty: Readjust (see "Alignment and Adjustment"). • Poor contact in FM antenna circuit: Resoled or repair as required.
CD	Cannot read the table of contents, no display, no sound.	• Disc is inserted upside down: Insert disc correctly. • Disc is dirty: Wipe clean with a soft cloth. • Disc is scratched: Use a new disc. • Disc is seriously warped: Use a new disc. • A non-standard disc has been inserted: Use only a brand name disc. • Moisture has formed inside the CD Pick-up Head: Wait about 20 to 30 minutes. • Defect in the servo control board: Replace or repair as required. • Defect in the pickup mechanism: Replace as required.