

DOCUMENT PACKAGE

For FCC

MODEL :

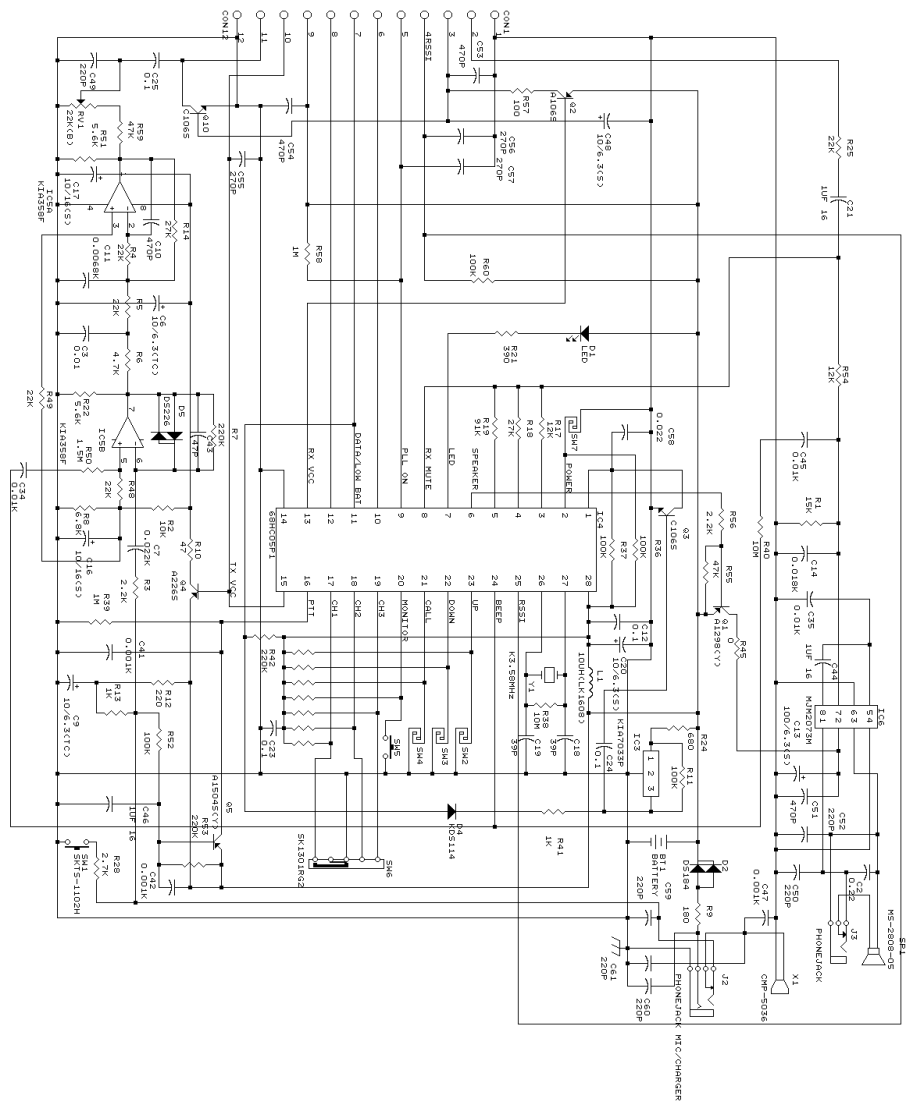
FR500-2 : 3 Channel

FR530-2 : 14 Channel

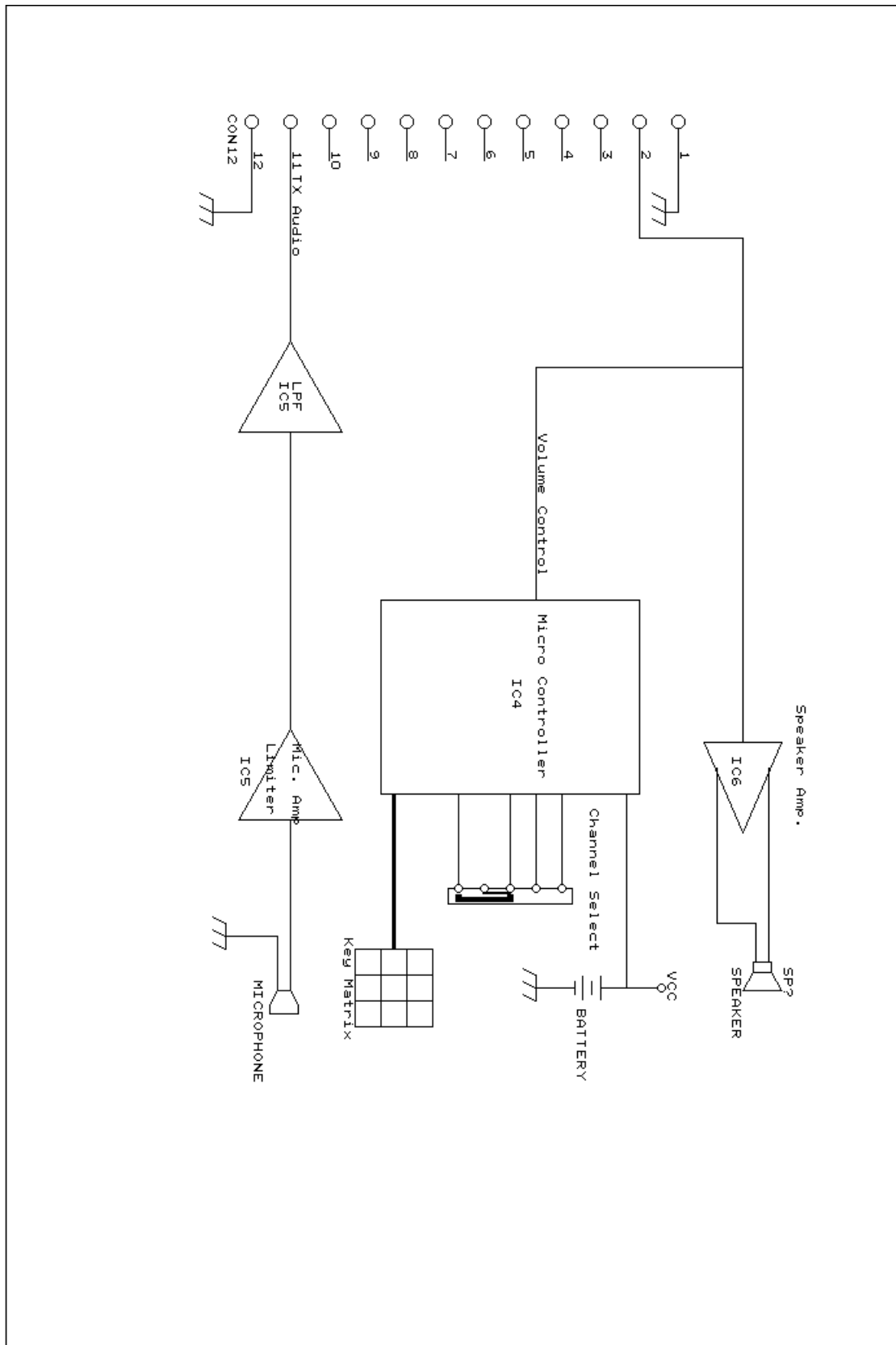
INDEX

- 1. SCHEMATIC DIAGRAMS**
- 2. BLOCK DIAGRAM**
- 3. PARTS LIST**
- 4. LIST OF CHANGES**

FR500-2 Mother Board Schematic diagram



FR500-2 Mother Board Block diagram



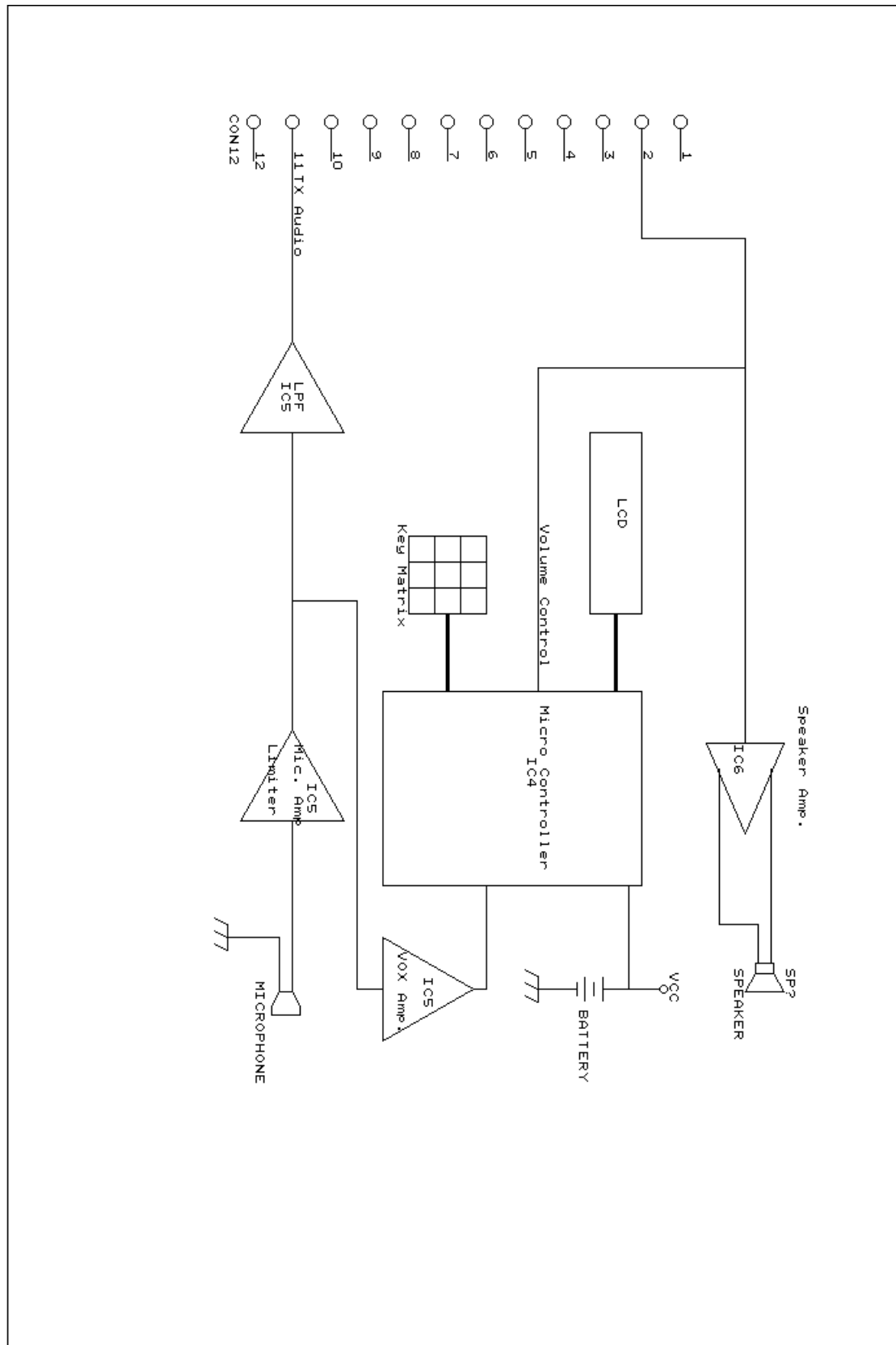
FR500-2 Mother Board Parts List

0	RESISTOR CHIP MCR10EZH0R0J	1	R45
100	RESISTOR CHIP MCR03EZH101J	1	R57
1K	RESISTOR CHIP MCR03EZH102J	2	R13,R41
10K	RESISTOR CHIP MCR03EZH103J	1	R2
100K	RESISTOR CHIP MCR03EZH104J	5	R11,R36,R37,R52,R60
1M	RESISTOR CHIP MCR03EZH105J	2	R39,R58
10M	RESISTOR CHIP MCR03EZH106J	2	R38,R40
12K	RESISTOR CHIP MCR03EZH123J	2	R17,R54
15K	RESISTOR CHIP MCR03EZH153J	1	R1
1.5M	RESISTOR CHIP MCR03EZH155J	1	R50
180	RESISTOR CHIP MCR03EZH181J	1	R9
220	RESISTOR CHIP MCR03EZH221J	1	R12
2.2K	RESISTOR CHIP MCR03EZH222J	2	R3,R56
22K	RESISTOR CHIP MCR03EZH223J	5	R4,R5,R25,R48,R49
220K	RESISTOR CHIP MCR03EZH224J	3	R7,R42,R53
2.7K	RESISTOR CHIP MCR03EZH272J	1	R28
27K	RESISTOR CHIP MCR03EZH273J	2	R14,R18
390	RESISTOR CHIP MCR03EZH391J	1	R21
47	RESISTOR CHIP MCR03EZH470J	1	R10
4.7K	RESISTOR CHIP MCR03EZH472J	1	R6
47K	RESISTOR CHIP MCR03EZH473J	9	R29,R30,R31,R32,R33,R34,R35,R55,R59
5.6K	RESISTOR CHIP MCR03EZH562J	2	R22,R51
680	RESISTOR CHIP MCR03EZH681J	1	R24
6.8K	RESISTOR CHIP MCR03EZH682J	1	R8
91K	RESISTOR CHIP MCR03EZH913J	1	R19
10/16(S)	CAPACITOR ELECT. (4 X 7)	2	C16,C17
0.022K	CERAMIC CHIP GRM39X7R223K50AT	1	C7
0.22	CERAMIC CHIP GRM39Y5V224Z	1	C2
0.0068K	CERAMIC CHIP GRM39X7R682K50AT	1	C11
1UF 16	CERAMIC CHIP GRM39Y5V105Z	3	C21,C44,C46
0.1	CERAMIC CHIP GRM39Y5V104Z25AT	4	C12,C23,C24,C25
0.001K	CERAMIC CHIP GRM39X7R102K50AT	3	C41,C42,C47
0.01K	CERAMIC CHIP GRM39X7R103K50AT	3	C34,C35,C45
0.018K	CERAMIC CHIP GRM39X7R183K50AT	1	C14
0.01	CERAMIC CHIP GRM39Y5V103Z	1	C3
220P	CERAMIC CHIP GRM39COG221J50AT	6	C49,C50,C52,C59,C60,C61
270P	CERAMIC CHIP GRM39COG271J50AT	3	C55,C56,C57
39P	CERAMIC CHIP GRM39COG390J50AT	2	C18,C19
47P	CERAMIC CHIP GRM39COG470J50AT	1	C43
470P	CERAMIC CHIP GRM39COG471J50AT	4	C10,C51,C53,C54
10/6.3(TC)	CAPACITOR TANTALUM CHIP ECST0JB10G	2	C6,C9
A226S	BRT SOT236	1	Q4
A106S	BRT SOT236	1	Q2
A1504S(Y)	TRANSISTOR SOT236	1	Q5
C106S	BRT SOT236	2	Q3,Q10
KIA7033P	LOW BATTERY DETECTOR I.C 3.3V TO92	1	IC3
KIA358F	2 OP AMP DIP8F	1	IC5

68HC05P1	CPU DIP28P	1	IC4
DS226	DIODE SILICON SWITCHING KEC SOT236	1	D5
DS184	DIODE SILICON SWITCHING KEC SOT236	1	D2
K3.58MHZ	CERAMIC RESONATOR KBR-3.58MSA6	1	Y1
CMP-5036	CONDENSER MIC BOSUNG CMP-5036	1	X1
MS-2808-05	SPEAKER MS-2808-05 GEUSAN	1	SP1
SKTS-1102H	SWITCH TACK	1	SW1
CON12	<< Part numbers are not include! >>	1	CON1
100/6.3(S)	<< Part numbers are not include! >>	1	C13
10/6.3(S)	<< Part numbers are not include! >>	2	C20,C48
0.022	<< Part numbers are not include! >>	1	C58
LED	<< Part numbers are not include! >>	1	D1
KDS114	<< Part numbers are not include! >>	1	D4
MJM2073M	<< Part numbers are not include! >>	1	IC6
PHONEJACK MIC/C	<< Part numbers are not include! >>	1	J2
PHONEJACK	<< Part numbers are not include! >>	1	J3
10UH(LK1608)	<< Part numbers are not include! >>	1	L1
A1298(Y)	<< Part numbers are not include! >>	1	Q1
22K(B)	<< Part numbers are not include! >>	1	RV1
SW	<< Part numbers are not include! >>	1	SW5
SK1301RG2	<< Part numbers are not include! >>	1	SW6

SB TECHNOLOGY CO., LTD.	
Title	FRS530-2 SCHEMATIC DIAGRAM
Size	Document Number
A2	AV201-11.SCH
Date:	March 22, 2000 Sheet 1 of 2

FR530-2 Mother Board Block diagram

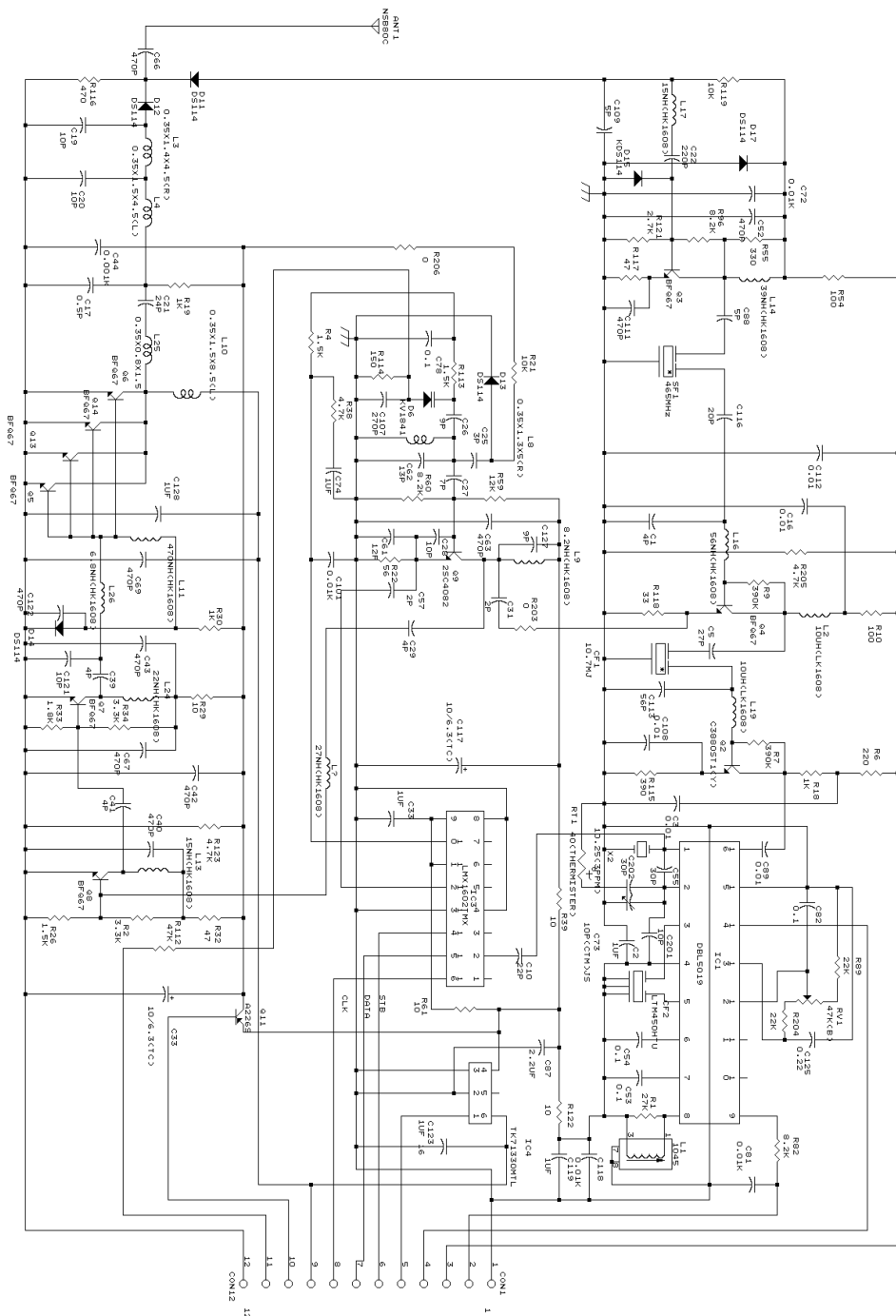


FR530-2 Mother Board Parts List

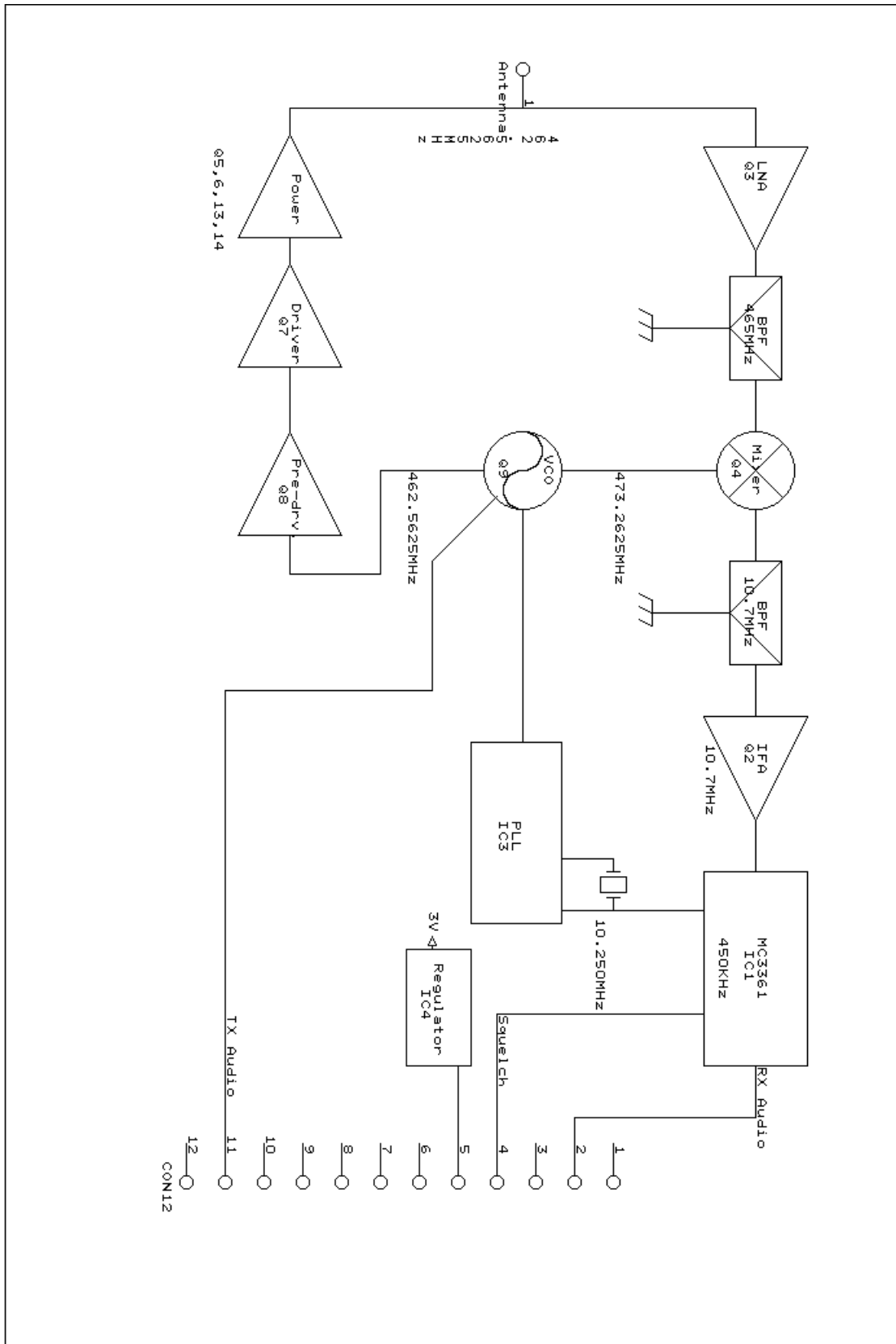
0	RESISTOR CHIP MCR10EZH0R0J	1	R27
100	RESISTOR CHIP MCR03EZH101J	2	R52,R87
1K	RESISTOR CHIP MCR03EZH102J	1	R55
10K	RESISTOR CHIP MCR03EZH103J	2	R50,R80
100K	RESISTOR CHIP MCR03EZH104J	20	R8,R9,R10,R11,R12,R13,R14,R15,R16,R17, R18,R21,R25,R31,R67,R70,R79,R81,R85,R97
1M	RESISTOR CHIP MCR03EZH105J	1	R74
10M	RESISTOR CHIP MCR03EZH106J	2	R30,R40
12K	RESISTOR CHIP MCR03EZH123J	2	R83,RV101
120K	RESISTOR CHIP MCR03EZH124J	1	R82
15K	RESISTOR CHIP MCR03EZH153J	1	R91
150K	RESISTOR CHIP MCR03EZH154J	1	R24
1.5M	RESISTOR CHIP MCR03EZH155J	2	R26,R73
220	RESISTOR CHIP MCR03EZH221J	1	R57
2.2K	RESISTOR CHIP MCR03EZH222J	2	R56,R93
22K	RESISTOR CHIP MCR03EZH223J	7	R2,R3,R62,R71,R72,R98,RV102
220K	RESISTOR CHIP MCR03EZH224J	3	R5,R64,R78
2.7K	RESISTOR CHIP MCR03EZH272J	1	R59
27K	RESISTOR CHIP MCR03EZH273J	1	R23
3.9K	RESISTOR CHIP MCR03EZH392J	1	R65
47	RESISTOR CHIP MCR03EZH470J	1	R19
4.7K	RESISTOR CHIP MCR03EZH472J	5	R4,R22,R66,R88,R89
47K	RESISTOR CHIP MCR03EZH473J	11	R7,R20,R53,R54,R63,R75,R76,R77,R90,R92, R96
470K	RESISTOR CHIP MCR03EZH474J	2	R94,R95
4.7M	RESISTOR CHIP MCR03EZH475J	1	R28
5.6K	RESISTOR CHIP MCR03EZH562J	1	R45
680	RESISTOR CHIP MCR03EZH681J	1	R32
6.8K	RESISTOR CHIP MCR03EZH682J	1	R6
91K	RESISTOR CHIP MCR03EZH913J	1	RV103
0.022K	CERAMIC CHIP GRM39X7R223K50AT	2	C7,C14
0.22	CERAMIC CHIP GRM39Y5V224Z	1	C2
0.0068K	CERAMIC CHIP GRM39X7R682K50AT	1	C10
0.047K	CERAMIC CHIP GRM39X7R473K50AT	1	C57
1UF 16	CERAMIC CHIP GRM39Y5V105Z	5	C22,C25,C33,C42,C43
0.1	CERAMIC CHIP GRM39Y5V104Z25AT	4	C16,C17,C23,C31
0.001K	CERAMIC CHIP GRM39X7R102K50AT	3	C41,C44,C45
0.01K	CERAMIC CHIP GRM39X7R103K50AT	1	C8
0.01	CERAMIC CHIP GRM39Y5V103Z	3	C3,C35,C37
10P	CERAMIC CHIP GRM39COG100D50AT	1	C4
100P	CERAMIC CHIP GRM39COGG101J50AT	1	C29
220P	CERAMIC CHIP GRM39COG221J50AT	6	C47,C49,C50,C58,C59,C60
270P	CERAMIC CHIP GRM39COG271J50AT	5	C51,C52,C53,C54,C55
39P	CERAMIC CHIP GRM39COG390J50AT	2	C15,C27
470P	CERAMIC CHIP GRM39COG471J50AT	2	C9,C48
10/16(TC)	CAPACITOR TANTALUM CHIP TCM1C100CS#R	1	C24
10/6.3(TC)	CAPACITOR TANTALUM CHIP ECST0JB10G	1	C26

A226S	BRT SOT236	2	Q3,Q4
A104S	BRT SOT236	1	Q5
C3875S(Y)	TRANSISTOR SOT236	1	Q9
A1504S(Y)	TRANSISTOR SOT236	1	Q8
C106S	BRT SOT236	2	Q7,Q10
A1298S(Y)	TRANSISTOR SOT236	1	Q2
KIA324F	4 PACK OP AMP. DIP14F	1	IC5
KIA7033P	LOW BATTERY DETECTOR I.C 3.3V TO92	1	IC3
DS226	DIODE SILICON SWITCHING KEC SOT236	3	D1,D6,D7
DS184	DIODE SILICON SWITCHING KEC SOT236	1	D4
DS181	DIODE SILICON SWITCHING KEC SOT236	1	D5
CMP-5036	CONDENSER MIC BOSUNG CMP-5036	1	X1
MS-2808-05	SPEAKER MS-2808-05 GEUSAN	1	SP1
SKTS-1102H	SWITCH TACK	2	SW7,SW8
BATTERY	<< Part numbers are not include! >>	1	BT1
CON12	<< Part numbers are not include! >>	1	CON1
1UF	<< Part numbers are not include! >>	1	C11
100/6.3(S)	<< Part numbers are not include! >>	1	C12
2.2UF	<< Part numbers are not include! >>	1	C28
10/6.3(S)	<< Part numbers are not include! >>	1	C46
0.022	<< Part numbers are not include! >>	1	C56
LED	<< Part numbers are not include! >>	2	D2,D3
TMP47C222	<< Part numbers are not include! >>	1	IC4
MJM2073M	<< Part numbers are not include! >>	1	IC6
PHONEJACK	<< Part numbers are not include! >>	1	J3
PHONEJACK MIC/C	<< Part numbers are not include! >>	1	J4
12PIN	<< Part numbers are not include! >>	1	LCD1
10UH(LK1608)	<< Part numbers are not include! >>	1	L1
180(1206)	<< Part numbers are not include! >>	1	R68
20K(B)	<< Part numbers are not include! >>	1	R84
K4.00MHZ	<< Part numbers are not include! >>	1	Y1

SB2010 RF Module Schematic diagram



SB2010 RF Module Block Diagram



SB2010 RF Module Parts List

0	RESISTOR CHIP MCR10EZH0R0J	2	R203,R206
10	RESISTOR CHIP MCR10EZH100J	4	R29,R39,R61,R122
100	RESISTOR CHIP MCR03EZH101J	2	R10,R54
1K	RESISTOR CHIP MCR03EZH102J	3	R18,R19,R30
10K	RESISTOR CHIP MCR03EZH103J	2	R21,R119
12K	RESISTOR CHIP MCR03EZH123J	1	R59
150	RESISTOR CHIP MCR03EZH151J	1	R114
1.5K	RESISTOR CHIP MCR03EZH152J	3	R4,R26,R113
1.8K	RESISTOR CHIP MCR03EZH182J	1	R33
220	RESISTOR CHIP MCR03EZH221J	1	R6
22K	RESISTOR CHIP MCR03EZH223J	2	R89,R204
2.7K	RESISTOR CHIP MCR03EZH272J	1	R121
27K	RESISTOR CHIP MCR03EZH273J	1	R1
33	RESISTOR CHIP MCR03EZH330J	1	R118
330	RESISTOR CHIP MCR03EZH331J	1	R55
3.3K	RESISTOR CHIP MCR03EZH332J	1	R2
3.3K	RESISTOR CHIP MCR03EZH332J	1	R34
390	RESISTOR CHIP MCR03EZH391J	1	R115
390K	RESISTOR CHIP MCR03EZH394J	2	R7,R9
47	RESISTOR CHIP MCR03EZH470J	2	R32,R117
470	RESISTOR CHIP MCR03EZH471J	1	R116
4.7K	RESISTOR CHIP MCR03EZH472J	3	R38,R123,R205
47K	RESISTOR CHIP MCR03EZH473J	1	R112
56	RESISTOR CHIP MCR03EZH560J	1	R22
8.2K	RESISTOR CHIP MCR03EZH822J	3	R60,R82,R96
0.22	CERAMIC CHIP GRM39Y5V224Z	1	C125
0.5P	CERAMIC CHIP GRM39COG005C50AT	1	C17
1UF 16	CERAMIC CHIP GRM39Y5V105Z	1	C123
0.1	CERAMIC CHIP GRM39Y5V104Z25AT	4	C53,C54,C78,C82
0.001K	CERAMIC CHIP GRM39X7R102K50AT	1	C44
0.01K	CERAMIC CHIP GRM39X7R103K50AT	4	C72,C81,C101,C118
0.01	CERAMIC CHIP GRM39Y5V103Z	5	C3,C16,C89,C108,C112
10P	CERAMIC CHIP GRM39COG100D50AT	5	C19,C20,C28,C121,C201
12P	CERAMIC CHIP GRM39COG120J50AT	1	C61
13P	CERAMIC CHIP GRM39COG130J50AT	1	C62
2P	CERAMIC CHIP GRM39COG020C50AT	2	C31,C57
20P	CERAMIC CHIP GRM39COG200J50AT	1	C116
22P	CERAMIC CHIP GRM39COG220J50AT	1	C10
220P	CERAMIC CHIP GRM39COG221J50AT	1	C22
24P	CERAMIC CHIP GRM39COG240J50AT	1	C21
27P	CERAMIC CHIP GRM39COG270J50AT	1	C5
270P	CERAMIC CHIP GRM39COG271J50AT	1	C107
3P	CERAMIC CHIP GRM39COG030C50AT	1	C25
30P	CERAMIC CHIP GRM39COG300J50AT	2	C55,C202
4P	CERAMIC CHIP GRM39COG040C50AT	4	C1,C29,C39,C41
470P	CERAMIC CHIP GRM39COG471J50AT	10	C40,C42,C43,C52,C63,C66,C67,C69,C111,
			C122

5P	CERAMIC CHIP GRM39COG050D50AT	2	C88,C109
56P	CERAMIC CHIP GRM39COG560J50AT	1	C113
7P	CERAMIC CHIP GRM39COG070D50AT	1	C27
9P	CERAMIC CHIP GRM39COG090J50AT	2	C26,C127
10/6.3(TC)	CAPACITOR TANTALUM CHIP ECST0JB10G	2	C33,C117
10P(CTM)JS	CERAMIC TRIMMER CHIP CAPACITOR JTC03E100	1	C73
A226S	BRT SOT236	1	Q11
C3880ST1(Y)	TRANSISTOR SOT236	1	Q2
TK71330MTL	TOKO 3V REGILATOR SOT-6	1	IC4
LMX1602TMX	NS 900MHZ PLL	1	IC3
DS114	DIODE SILICON BAND SWITCH KEC USC	5	D11,D12,D13,D14,D17
10.25(3PPM)	X-TAL OSC. 3PPM 10.250MHZ	1	X2
6.8NH(HK1608)	COIL CHIP TAYOYUDEN HK1608	1	L26
8.2NH(HK1608)	COIL CHIP TAYOYUDEN HK1608	1	L9
22NH(HK1608)	COIL CHIP TAYOYUDEN HK1608	1	L24
1045	455KHZ DET.	1	L1
NSB80C	ANTENNA RUBBER NSB80C (FRS)	1	ANT1
10.7MJ	<< Part numbers are not include! >>	1	CF1
LTM450HTU	<< Part numbers are not include! >>	1	CF2
CON12	<< Part numbers are not include! >>	1	CON1
1UF	<< Part numbers are not include! >>	5	C2,C33,C74,C119,C128
2.2UF	<< Part numbers are not include! >>	1	C87
KV1841	<< Part numbers are not include! >>	1	D6
KDS114	<< Part numbers are not include! >>	1	D15
DBL5019	<< Part numbers are not include! >>	1	IC1
27NH(HK1608)	<< Part numbers are not include! >>	1	L?
10UH(LK1608)	<< Part numbers are not include! >>	2	L2,L19
0.35X1.4X4.5(R)	<< Part numbers are not include! >>	1	L3
0.35X1.5X4.5(L)	<< Part numbers are not include! >>	1	L4
0.35X1.3X5(R)	<< Part numbers are not include! >>	1	L8
0.35X1.5X8.5(L)	<< Part numbers are not include! >>	1	L10
470NH(HK1608)	<< Part numbers are not include! >>	1	L11
15NH(HK1608)	<< Part numbers are not include! >>	2	L13,L17
39NH(HK1608)	<< Part numbers are not include! >>	1	L14
56NH(HK1608)	<< Part numbers are not include! >>	1	L16
0.35X0.8X1.5	<< Part numbers are not include! >>	1	L25
BFQ67	<< Part numbers are not include! >>	8	Q3,Q4,Q5,Q6,Q7,Q8,Q13,Q14
2SC4082	<< Part numbers are not include! >>	1	Q9
40(THERMISTER)	<< Part numbers are not include! >>	1	RT1
47K(B)	<< Part numbers are not include! >>	1	RV1
465MHZ	<< Part numbers are not include! >>	1	SF1

LIST OF CHANGES

1. In order to improve Receiver emission (with accessory)

- C49,C50,C2, C58,C59,C60 (220pF) capacitor were added to a 6 terminal of MIC/Ear speaker jack.
- Copper plate is added to battery house.
- Two shield plate are added to RX & TX circuitry of RF Module.

2. In order to improve TX harmonics (with accessory)

- C20 is replaced from 9pF to 10pF
- L4, L3 are extended. It will be aligned by producer.