DJ-V446
Service Manual

CONTENTS

ALINCO, INC.

SPECIFICATIONS

General

Frequency range:	TX/RX 446.00625~446.09375MHz (12.5kHz step, 1~8ch)
Modulation:	8K50F3E (FM)
Memory channel:	200 channels
Ant. impedance:	50 Ω unbalanced
Frequency stability:	±2.5ppm
Mic impedance:	2k Ω
Supply voltage:	DC 7.0~16.0V (EXT DC-IN)
Current consumption:	600mA (typical) Transmit 250mA (typical) Receive at 500mW 70mA (typical) Standby 26mA (typical) Battery save on
Temperature range:	External DC: -10ºC~+60ºC (+14ºF~+140ºF) Battery packs: -10ºC~+45ºC (+14ºF~+113ºF)
Ground:	Negative ground
Dimension (projections excluded):	58(W) x 110(H) x 36.4(D)mm (2.28"(W) x 4.33"(H) x 1.43"(D)) (with EBP-65)
Weight:	Approx. 280g (9.9oz) (with EBP-65 and antenna)
Sub audible Tone (CTCSS):	encoder/decoder installed (39 tones)

Transmitter

Power output:	Max. 500mW
Modulation:	Variable reactance
Spurious emission:	-60dB or less
Max deviation:	±2.5kHz
Mic. impedance:	2k Ω

Receiver

System:	Double-conversion super heterodyne
Sensitivity:	-11.0dB μ(0.28 μV)or less
Intermediate frequency:	1st IF 38.85MHz 2nd IF 450kHz
Selectivity:	-6dB: 6kHz or more -60dB: 13kHz or less
AF output:	500mW (MAX) 400mW (8 Ω, 10% distortion)

CIRCUIT DESCRIPTION

1) Receiver System

The receiver system is a double superheterodyne system with a 38.85 MHz first IF and a 450 kHz second IF.

1. Front End

The received signal at any frequency in the 446.00625- to 446.09375-MHz (E version : 144.000- to 145.995-MHz) range is passed through the low-pass filter (L101, L102, L103, L113, C108, C120, C121, C124, C125, C126, C127 and C176) and ATT (Attenuator) circuit (Q120, R161, R187 and D112), and tuning circuit (C192, C193, C215, C216, D115, D116, L125 and L126), then amplified by the RF amplifier (Q114). The signal from Q114 is then passed through the tuning circuit (C200, C201, C219, C220, D117, D118, L128 and L129) and converted into 21.7 MHz by the mixer (Q116). The tuning circuit, which consists of C192, C193, C215, C216, L125, L126, variable capacitance diodes D115 and D116 and C200, C201, C219, C220, L128, L129, variable capacitance diodes D117 and D118, is controlled by the tracking voltage from the CPU so that it is optimized for the reception frequency. The local signal from the VCO is passed through the buffer (Q113), and supplied to the source of the mixer (Q116). The radio swithes the lower and upper system at 420.000MHz : the lower side for the frequency up to 419.995 MHz and upper side for 420.000MHz and up.

2. ATT (Attenuator) Circuit

This circuit is used in case the receiving signal is disturbed by interfering signal(s), attenuating the receiving signal(s) to reduce the interference. CPU (IC109)'s pin 10 outputs a DC current to drive Q120, controlling D112's resistance to adjust the attenuation value.

3. IF Circuit

The mixer(Q116) mixes the received signal with the local signal to obtain the sum of and difference between them. The crystal filter (FL101) selects 38.85 MHz frequency from the results and eliminates the signals of the unwanted frequencies. The first IF amplifier (Q119) then amplifies the signal of the selected frequency. After the signal is amplified by the first IF amplifier (Q119), it is input to pin 16 of the demodulator IC (IC103). The second local signal of 38.85 MHz, which is oscillated by the internal oscillation circuit in IC103 and output of tripler circuit (L123, C202, C191, L122, Q115), is input through pin 1 of IC103. Then these two signals are mixed by the internal mixer in IC103 and the result is converted into the second IF signal with a frequency of 450kHz. The second IF signal is output from pin 3 of IC103 tothe ceramic filter (FL103), where the unwanted frequency band of that signal is eliminated, and the resulting signal is sent back to the IC103 through 5 pins.

4. Demodulator Circuit

The second IF signal input via pin 5 is demodulated by the internal limiter amplifier and Quadrature detection circuit in IC103, and output as an audio signal through pin 9.

5. Audio Circuit

The audio signal from pin 9 of IC103 is compensated to the audio frequency characteristics in the de-emphasis circuit (R223, R224, C241, C242) and amplified by the AF amplifier (Q196). The signal is then input to pin 1 of the electronic volume (IC107) for volume adjustment, and output from pin 2. The adjusted signal is sent to the audio power amplifier (IC106) through pin 2 to drive the speaker.

6. Squelch Circuit

Part of the audio signal from pin 9 of IC103 is amplified by the noise filter amplifier and the internal noise amplifier in IC103. The desired noise of the signal is output through pin 14 of IC103 and input to pin 2 of CPU (IC109).

2) Transmitter System

1. Modulator Circuit

The audio signal is converted to an electric signal in either the internal or external microphone, and input to the microphone amplifier (IC102).
IC102 consists of four operational amplifiers; 1st amplifier (pins 1, 2, and 3) is composed of high-pass filter, 2nd amplifier (pins 12, 13, and 14) is composed of pre-emphasis and IDC circuits, 3rd amplifier (pins 8, 9, and 10) is composed of a splatter filter and 4th amplifier (pins 7, 6, and 5) is composed of a splatter filter. The maximum frequency deviation is determined to its optimal value by VR104 and input to the cathode of the variable capacitance diode of the VCO, to change the electric capacity in the oscillation circuit.

2. Power Amplifier Circuit

The transmitted signal is oscillated by the VCO, amplified by the pre-drive amplifier (Q104) and drive amplifier (Q103), and input to the power amplifier (Q102). The signal is then amplified by the power amplifier (Q102) and led to the antenna switch (D101 and D103) and low-pass filter (L104, L103, L102, L101, C107, C108, C109, C110, C111, C120, C121, C124, C125, C126, and C127), where unwanted high harmonic signals are reduced as needed, and the resulting signal is supplied to the antenna.

3. APC Circuit

Part of the transmission power from the low-pass filter is detected by D105, converted to DC, and then amplified by a differential amplifier (Q111). The output voltage controls the bias voltage from the gate of Q102 and Q103 to maintain the transmission power constant.

3) PLL Synthesizer Circuit

1.CPU control

The dividing ratio is obtained by sending data from the CPU (IC109) to pin 10, and sending clock pulses to pin 9 of the PLL IC (IC101). The oscillated signal from the VCO is amplified by the buffer (Q118), then input to pin 8 of IC101. Each programmable divider in IC101 divides the frequency of the input signal by N-value according to the frequency data, to generate a comparison frequency of 5 or 6.25 kHz.

2. Reference Frequency Circuit

The reference frequency appropriate for the channel steps is obtained by dividing the 12.8MHz reference oscillation (X102) by 2048 or 2560, according to the data from the CPU (IC109). When the resulting frequency is 5 kHz, channel steps of 5, 10, 15, 20, and 30 kHz are used. When it is 6.25 kHz, steps of 12.5, 25, and 50 kHz are used.

3. Phase Comparator Circuit

The PLL (IC101) uses the reference frequency, 5 or 6.25 kHz. The phase comparator in the IC101 compares the phase of the frequency from the VCO with that of the comparison frequency, 5 or 6.25 kHz, which is obtained by the internal divider in IC101.

4. PLL Loop Fitter Circuit

If a phase difference is found in the phase comparison between the reference frequency and VCO output frequency, the charge pump output (pin 5) of IC101 generates a pulse signal, which is converted to DC voltage by the PLL loop filter and input to the variable capacitance diode of the VCO unit for oscillation frequency control.

5. VCO Circuit

A Colpitts oscillation circuit driven by Q108 directly oscillates the desired frequency. The frequency control voltage determined in the CPU (IC109) and PLL circuit is input to the variable capacitance diodes (D109 and D110). This changes the oscillation frequency, which is amplified by the VCO buffer (Q110) and output from the VCO unit.

4) CPU and Peripheral Circuits

1. LCD Display Circuit

The CPU turns ON the LCD via segment and common terminals with 1/3 the duty and 1/3 the bias, at the frame frequency of 112.5Hz.

2. Display Lamp Circuit

When the LAMP key is pressed, "L" is output from pin 42 of CPU (IC109) to the bases of Q152 then turns to ON and "H" is output from emitter of Q152 to the bases of Q146 to light LEDs (D131, D132).

3. Reset and Backup Circuits

When the Output Voltage from pin 3 of IC110 drops to 4.5 V or below, the output signal from the reset IC (IC104), which has been input to pin 33 of the CPU (IC109), changes from "H" to "L" level. The CPU will then be in the backup state.

4. S(Signal)Meter Circuit

The DC potential of pin 12 of IC103 is input to pin 1 of the CPU (IC109), converted from an analog to a digital signal, and displayed as the S-meter signal on the LCD.

5. Tone Encoder

The CPU (IC109) is equipped with an internal tone encoder. The tone signal (67.0 to 250.3Hz) is output from pin 9 of the CPU to the variable capacitance diode of the VCO and 21.25MHz reference oscillation (X101) of the PLL IC (IC101) for modulation.

6. CTCSS Decoder

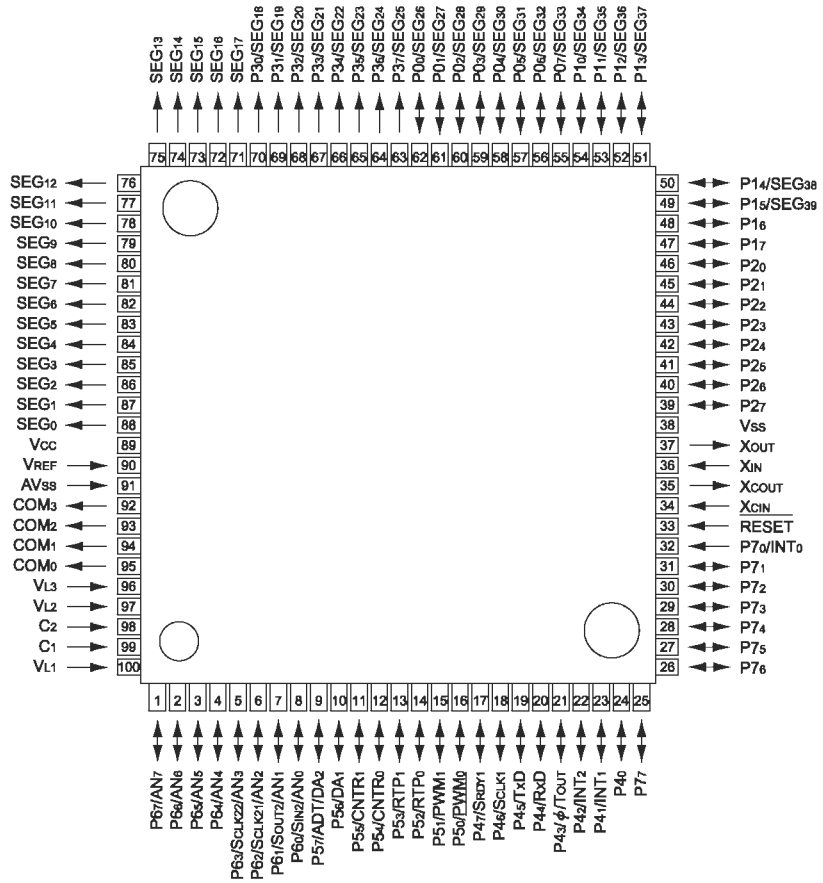
The AF signal from the pin 9 of IC103 is filtered by an active filter (IC108) to eliminate the voice range of the signal then amplified and input to the pin 4 of the CPU (IC109). The signal is compared in the CPU with the pre-selected CTCSS values and the squelch opens in case the value matches.

7.Clock Shift

In case the selected frequency is disturbed by a CPU clock-noise, it may be eliminated by changing the CPU clock frequency. When the clock-shift is set, the pin 31 of the CPU (IC109) becomes Low turning ON the Q124. When Q124 becomes ON, X104's oscillation frequency shifts approximately by 200ppm.

5) M38268MCA-077GP (XA1169)

CPU
Terminal Connection
(TOP VIEW)



No.	Terminal	Signal	I/O	Description
1	P67/AN7	SMT	I	S-meter input
2	P66/AN6	SQL	I	Noise level input for squelch
3	P65/AN5	BAT	I	Low battery detection input
4	P64/AN4	TIN	I	CTCSS tone input
5	P63/SCLK22/AN3	BP1	I	Band plan 1
6	P62/SCLK21/AN2	BP2	I	Band plan 2
7	P61/SOUT2/AN1		-	-
8	P60/SIN2/AN0	FKEY	I	Function / Monitor Key input
9	P57/ADT/DA2	CTOUT	O	CTCSS tone output
10	P56/DA1	DTOUT	O	ATT output
11	P55/CNTR1	SCL	O	Serial clock for EEPROM
12	P54/CNTR0	TBST	I/ O	Tone burst output
13	P53/RTP1	BP4	I	Band plan 4
14	P52/RTP0	MUTE	I/ O	Microphone mute
15	P51/PWM3	CLK	O	Serial clock output for PLL
16	P50/PWM0	DATA	I/O	Serial data output for PLL, CTCSS / PLL unlock signal input / EVR control output
17	P47/SROY1		-	-
18	P46/SCLK1	STBP	O	Strobe for PLL IC
19	P45/TXD	UTX	O	UART data transmission output
20	P44/RXD	URX	I	UART data reception input
21	P43/ΦTOUT	BEEP	I/ O	Beep tone/Band plan 3 (when the unit is turned on)
22	P42/INT2	RE2	I	Rotary encoder input
23	P41/INT1	RE1	I	
24	P40	CLO	O	CLONE ON/OFF output
25	P77	PTTK	I	PTT input
26	P76	CHG	I	Battery charge ON/OFF output
27	P75	P5C	O	PLL power ON/OFF output
28	P74	T5C	O	TX power ON/OFF output
29	P73	R5C	O	RX power ON/OFF output
30	P72	AFP	O	AF AMP power ON/OFF output
31	P71	CLSFT	O	CLOCK frequency shift
32	P70/INTO	BU	I	Backup signal detection input
33	RESET	RESET	I	Reset input
34	Xcin		-	-
35	Xcout		-	-
36	Xin	XIN	-	Main clock input
37	Xout	XOUT	-	Main clock output
38	Vss	GND	-	CPU GND
39	P27	PSW	I	Power switch input
40	P26	SDA	O	Serial data for EEPROM
41	P25	C5C	O	C5V power ON/OFF output
42	P24	LAMP	O	Lamp ON/OFF
43	P23	KI0	I	Key matrix input
44	P22	KI1	I	
45	P21	KI2	I	
46	P20	KI3	I	
47	P17	KO3	O	Key matrix output
48	P16	KO2	O	
49	P15/SEG39	KO1	O	
50	P14/SEG38	KO0	O	
51	P13/SEG37	DA3	O	DA converter for Tx output power
52	P12/SEG36	DA2	O	DA converter for Tx output power
53	P11/SEG35	DA1	O	DA converter for Tx output power
54	P10/SEG34	AFC/DA0	O	DA converter for Tx output power
55	P07/SEG33	EXP	I/O	Voice Scrambler Board detection (when the unit is turned on)
56	P06/SEG32	SD/PO	O	Signal detection output

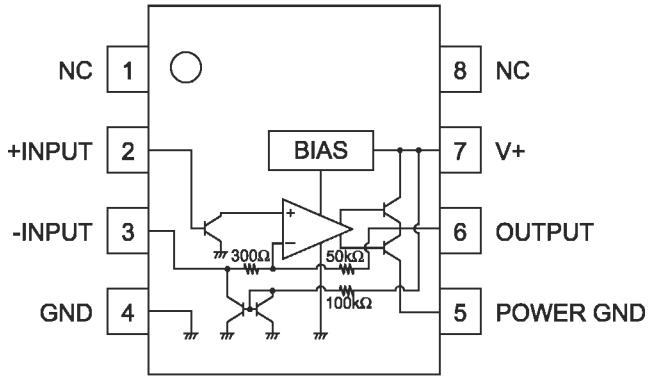
No.	Terminal	Signal	I/O	Description
57	P05/SEG31	SEG31	O	LCD segment signal
58	P04/SEG30	SEG30	O	
59	P03/SEG29	SEG29	O	
60	P02/SEG28	SEG28	O	
61	P01/SEG27	SEG27	O	
62	P00/SEG26	SEG26	O	
63	P37/SEG25	SEG25	O	
64	P36/SEG24	SEG24	O	
65	P35/SEG23	SEG23	O	
66	P34/SEG22	SEG22	O	
67	P33/SEG21	SEG21	O	
68	P32/SEG20	SEG20	O	
69	P31/SEG19	SEG19	O	
70	P30/SEG18	SEG18	O	
71	SEG17	SEG17	O	
72	SEG16	SEG16	O	
73	SEG15	SEG15	O	
74	SEG14	SEG14	O	
75	SEG13	SEG13	O	
76	SEG12	SEG12	O	
77	SEG11	SEG11	O	
78	SEG10	SEG10	O	
79	SEG9	SEG9	O	
80	SEG8	SEG8	O	
81	SEG7	SEG7	O	
82	SEG6	SEG6	O	
83	SEG5	SEG5	O	
84	SEG4	SEG4	O	
85	SEG3	SEG3	O	
86	SEG2	SEG2	O	
87	SEG1	SEG1	O	
88	SEG0	SEG0	O	
89	Vcc	VDD	-	CPU power terminal
90	Vref	Vref	-	AD converter power supply
91	Avss	Avss	-	AD converter GND
92	COM3	COM3	O	LCD COM3 output
93	COM2	COM2	O	LCD COM2 output
94	COM1	COM1	O	LCD COM1 output
95	COM0	COM0	O	LCD COM0 output
96	VL3	VL3	-	LCD power supply
97	VL2	VL2	-	
98	C2	C2	-	-
99	C1	C1	-	-
100	VL1	VL1	I	LCD power supply

SEMICONDUCTOR DATA

1) NMJ2070MT1 (XA0210)

Low Voltage Power Amplifier

Equivalent Circuit

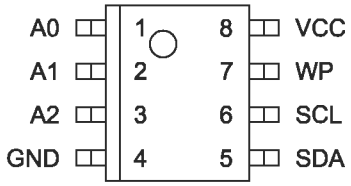


V+=6V, Ta=25±2°C

Parameter	Condition		Symbol	Min.	Typ.	Max.	Unit
Supply voltage			V+	1.8	-	15	V
Idle current	RL=		IQ	-	4	7	mA
Output voltage			Vo	-	2.7	-	V
Input bias current			IB	-	200	-	nA
Output power	THD=10%, f=1kHz	V+=6V, RL=4	Po	0.5	0.6	-	W
		V+=4.5V, RL=4		-	0.32	-	W
		V+=3V, RL=4		-	120	-	mW
		V+=2V, RL=4		-	30	-	mW
	THD=10%, f=1kHz	V+=6V, RL=4		-	500	-	mW
		V+=4.5V, RL=4		-	250	-	mW
Distortion	Po=0.4W, RL=4 ,	f=1kHz	THD	-	0.25	-	%
Voltage gain	f=1kHz		Av	41	44	47	dB
Input impedance	f=1kHz		ZIN	100	-	-	k
Equivalent input noise voltage	Rs=10k	A curve	Vn1	-	2.5	-	μV
		B=22Hz to 22kHz	Vn2	-	3	-	μV
Power supply voltage rejection ratio	f=100Hz, Cx=100 μF		SVR	24	30	-	dB
Power gain band width (–3dB)	RL=8 , Po=250mW		P.B	-	200	-	kHz

2) S24CS64A01-J8T1G (XA1117)

16K bits CMOS Serial EEPROM

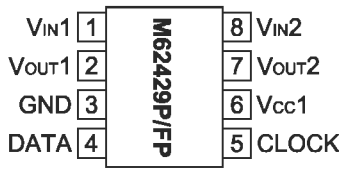


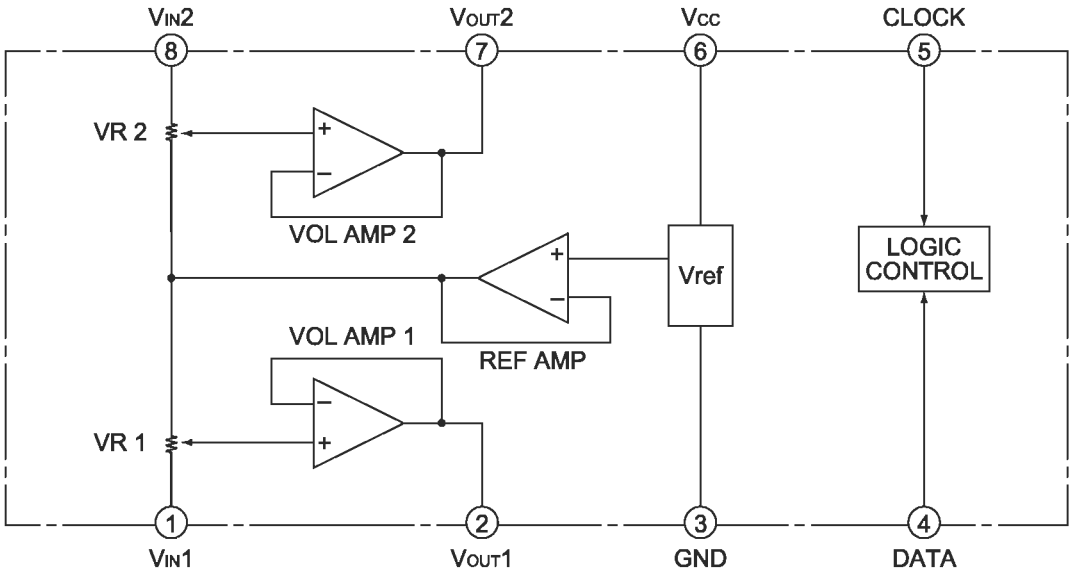
Pin Number	Pin Name	Function
1	A0	Slave address input
2	A1	Slave address input
3	A2	Slave address input
4	GND	Groudd
5	SDA	Serial data input / output
6	SCL	Serial clock input
7	WP	Write protection input Connected to Vcc: Protection valid Connected to GND: Protection invalid
8	VCC	Power supply

Remark See Dimensions for details of the package drawings.

3) M62429FP/CF0J (XA1118)

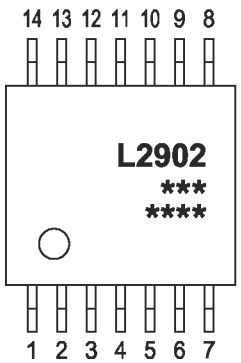
Electronic Volume





4) LM2902PWR (XA1106)

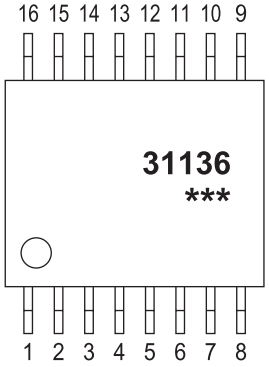
Quad Operational Amplifiers



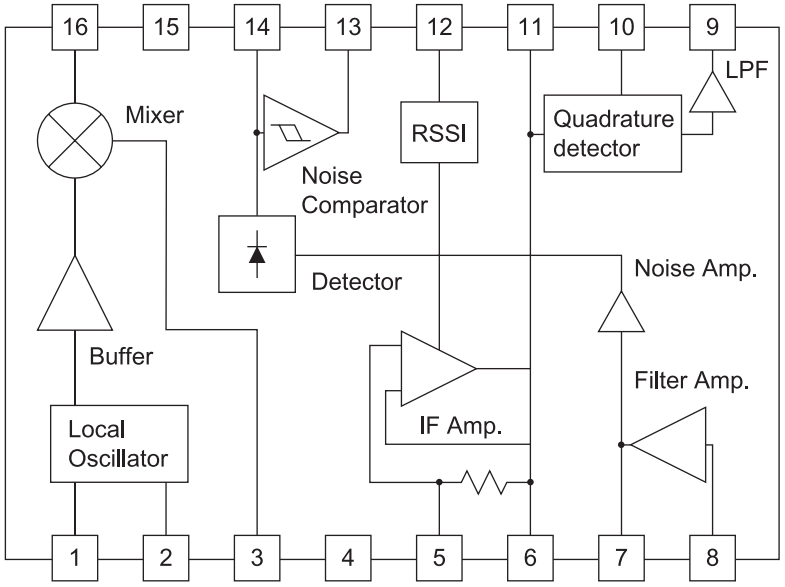
1. Output A
2. Inverting Input A
3. Non-inverting Input A
4. Vcc
5. Non-inverting Input B
5. Inverting Input B
7. Output B
8. Output C
9. Inverting Input C
10. Non-inverting Input C
11. GND
12. Non-inverting Input D
13. Inverting Input D
14. Output D

5) TA31136FN(EL) (XA0404)

Low Power FM IC

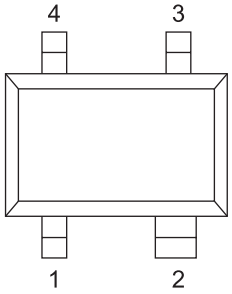


1. OSC IN	9. AF OUT
2. OSC OUT	10. QUAD
3. MIX OUT	11. IF OUT
4. Vcc	12. RSSI
5. IF IN	13. N-DET
6. DEC	14. N-REC
7. FIL OUT	15. GND
8. FIL IN	16. MIC IN



6) S80845CLNB-B66-T2G (XA1120)

C-MOS Voltage Detector

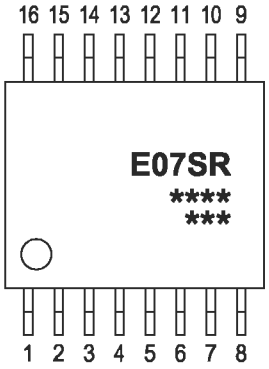


Pin No.	Pin name	Pin description
1	OUT	Voltage detection output pin
2	VDD	Voltage input pin
3	NC*1	No connection
4	VSS	GND pin

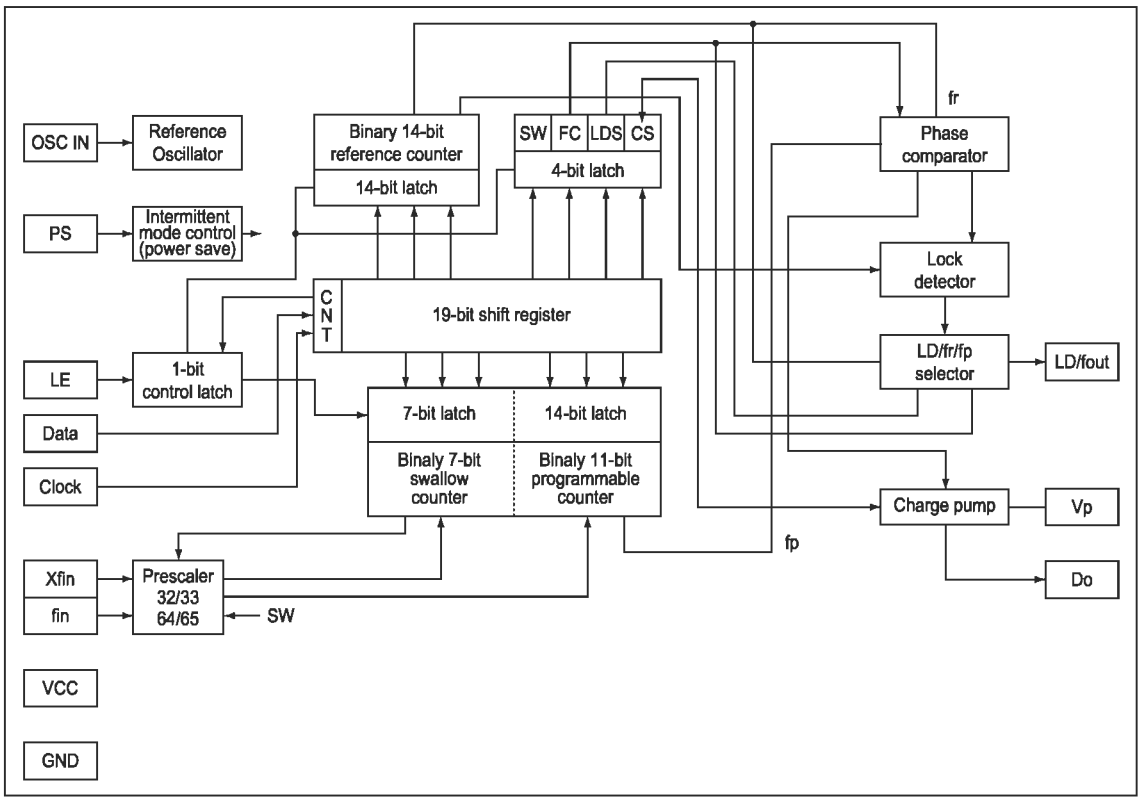
***1.** The NC pin is electrically open.
The NC pin can be connected to VDD or VSS.

7) MB15E07SR (XA1107)

PLL Synthesizer



1. OSC IN
2. N. C.
3. Vp
4. Vcc
5. Do
6. GND
7. Xfin
8. fin
9. CLOCK
10. Data
11. LE
12. PS
13. N. C.
14. LD / fout
15. N. C.
16. N. C.

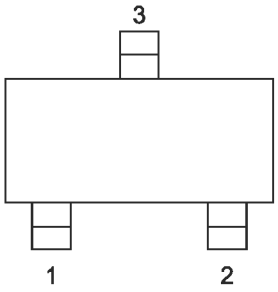


(Vcc=2.7 to 5.0V, Ta=-40ºC to +85oC)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Power supply voltage	Vcc	-	2.7	3.75	5.0	V
Power supply current	Icc	2500MHz Vcc=Vp=3.75V		8.0		mA
LPF supply voltage	Vp	-	Vcc	-	5.5	V
Local oscillator input level	Vfin	100MHz to 300MHz 300MHz to 2500MHz	-6 -15		+2 +2	dBm
Local oscillator input frequency	fin	-	100		2500	MHz
Xin input level	Vxin	-	0.5		Vcc	Vp-p
Xin input frequency	Fxin	-	3		40	MHz

8) XC6202P502MR (XA1119)

Voltage Regulator



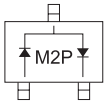
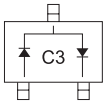
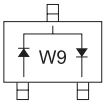
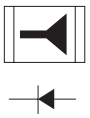
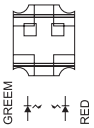
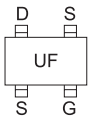
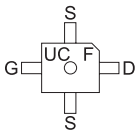
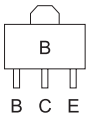
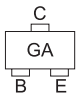
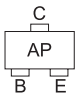
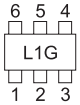
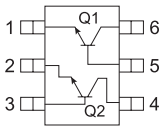
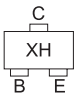
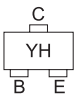
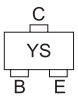
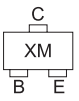
Pin No.	Pin name	Function
1	VOUT	Regulated Voltage Output
2	VIN	Supply Voltage Input
3	VSS	Ground

Absolute Maximum Ratings

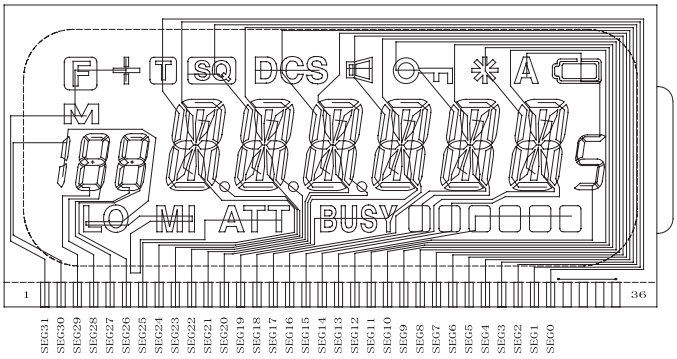
Parameter	Symbol	Rating	Units
Input Voltage	VIN	22	V
Output Current	IOUT	500	mA
Output Voltage	VOUT	VSS-0.3~VIN+0.3	V
Power Dissipation	Pd	150	mW
Operating Ambient Temperature	Topr	-40~+85	ºC
Storage Temperature	Tstg	-55~+125	ºC

9) Transistor, Diode and LED outline Drawings

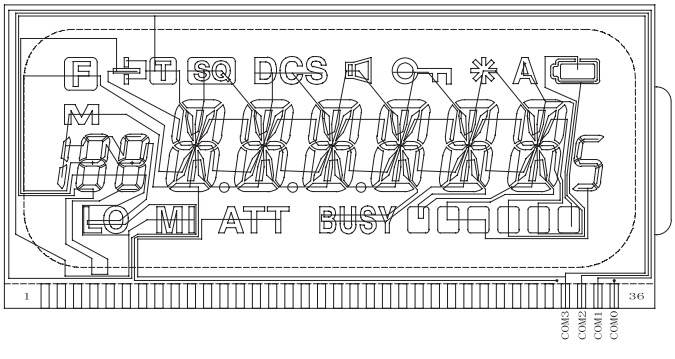
Top View

MA741WA-(TX)	1SS362(TE85L)	1SV308(TPH3)	MAZS0270HL	1SV314(TPH3,F)	1SS423(TE85L,F)	RB521S-30TE61
XD0251	XD0338	XD0339	XD0377	XD0403	XD0416	XD0418
						
1SS400TE61	FA3J3STP	HSC277TRF-E	S3JB-T	SML-310MTT86	SML-521MUWT86	
XD0419	XD0420	XD0422	XD0424	XL0036	XL0097	
						
3SK293 TE85L	SSM3K15FV(TPL)	2SK3475(TE12L,F)	2SK3476(TE12L,Q)	2SB766A-(TX)R	2SC5066FT-Y	2SC6026MFV
XE0053	XE0069	XE0070	XE0071	XT0170	XT0180	XT0210
						
2SA1955FV-A(TPL3)	2SC5659T2L	HN2C01FE-GR(T5L,F)	RN1107MFV(TPL3)	RN2107MFV(TPL3)	RN2115MFV(TPL3)	RN1111MFV(TPL3),F
XT0212	XT0213	XT0214	XU0210	XU0211	XU0212	XU0213
		 	 Rb=10kohm Rbe=47kohm	 Rb=10kohm Rbe=47kohm	 Rb=2.2kohm Rbe=10kohm	 Rb= min :7kohm typ. : 10kohm max :13kohm Rbe=none
RN2111MFV(TPL3)						
XU0220						
 Rb=min:7kohm typ. : 10kohm max :13kohm Rbe=none						

10) LCD Connection (EL0059)



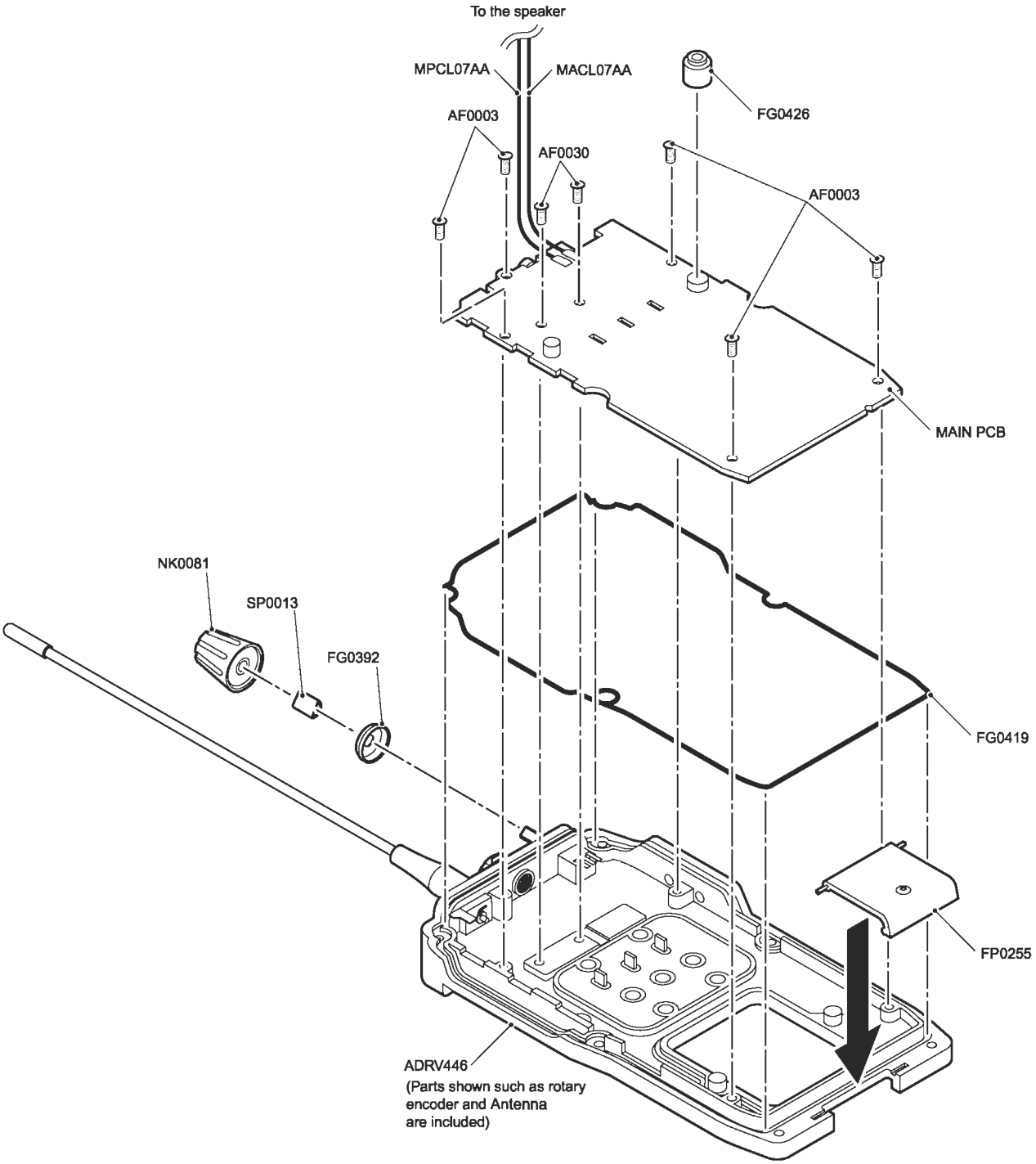
SEGMENT



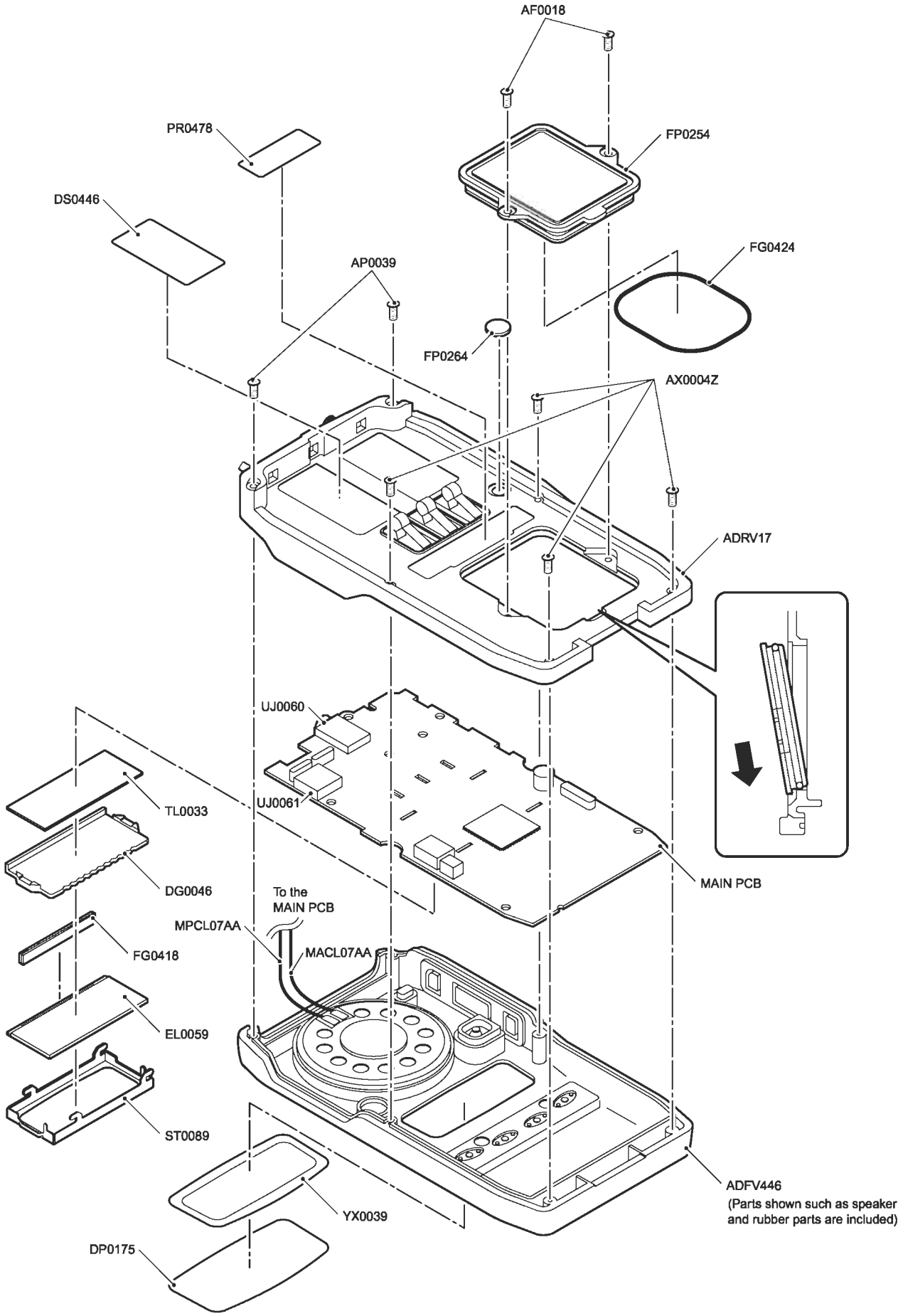
COMMON

EXPLODED VIEW

1) Front View



2) Rear View


AF0018
PR0478
FP0254
DS0446
FG0424
AP0039
FP0264
AX0004Z
ADRV17
UJ0060
UJ0061
TL0033
DG0046
To the
MAIN PCB
MAIN PCB
MPCL07AA
MACL07AA
FG0418
EL0059
ST0089
YX0039
DP0175
ADFV446
(Parts shown such as speaker
and rubber parts are included)

PARTS LIST

MAIN Unit

Ref. No.	Parts No.	Description	Parts Name
C101	CU3031	Chip C	C1608JB1H471KT-AS
C102	CU3031	Chip C	C1608JB1H471KT-AS
C103	CU3031	Chip C	C1608JB1H471KT-AS
C104	CU3510	Chip C	GRP1552C1H9R0DZ01E
C105	CU3511	Chip C	GRP1552C1H100JZ01E
C106	CU3503	Chip C	GRP1554C1H2R0CZ01E
C107	CU3006	Chip C	C1608CH1H050CT-AS
C108	CU3006	Chip C	C1608CH1H050CT-AS
C109	CU3009	Chip C	C1608CH1H080DT-A
C110	CU3012	Chip C	C1608CH1H120JT-AS
C111	CU3013	Chip C	C1608CH1H150JT-AS
C112	CU3011	Chip C	C1608CH1H100DT-AS
C113	CU3011	Chip C	C1608CH1H100DT-AS
C114	CU3006	Chip C	C1608CH1H050CT-AS
C115	CU3514	Chip C	GRP1552C1H180JZ01E
C116	CU3531	Chip C	GRP155B11H471KD01E
C117	NC		
C118	CU3502	Chip C	GRP1554C1H1R0CZ01E
C119	CU3501	Chip C	GRP1554C1HR50CZ01E
C120	NC		
C121	NC		
C122	CU3547	Chip C	GRP155B11C103KA01E
C123	NC		
C124	CU3005	Chip C	C1608CH1H040CT-AS
C125	CU3006	Chip C	C1608CH1H050CT-AS
C126	CU3006	Chip C	C1608CH1H050CT-AS
C127	CU3006	Chip C	C1608CH1H050CT-AS
C128	CU3554	Chip C	GRP155B11A104KA01E
C129	CU3531	Chip C	GRP155B11H471KD01E
C130	CU3531	Chip C	GRP155B11H471KD01E
C131	NC		
C132	CU3547	Chip C	GRP155B11C103KA01E
C133	CU3531	Chip C	GRP155B11H471KD01E
C134	CU3547	Chip C	GRP155B11C103KA01E
C135	CU3531	Chip C	GRP155B11H471KD01E
C136	CU3531	Chip C	GRP155B11H471KD01E
C137	CU3511	Chip C	GRP1552C1H100JZ01E
C138	NC		
C139	NC		
C140	NC		
C141	CU3513	Chip C	GRP1552C1H150JZ01E
C142	CS0441	Chip Tantalum	TMCMA0J226MTRF
C143	CU3531	Chip C	GRP155B11H471KD01E
C144	CU3531	Chip C	GRP155B11H471KD01E
C145	CU3531	Chip C	GRP155B11H471KD01E
C146	CU3531	Chip C	GRP155B11H471KD01E
C147	NC		
C148	CU3507	Chip C	GRP1552C1H6R0DZ01E
C149	CU3531	Chip C	GRP155B11H471KD01E
C150	NC		
C151	CU3501	Chip C	GRP1554C1HR50CZ01E
C152	CU3516	Chip C	GRP1552C1H270JZ01E
C153	CU3507	Chip C	GRP1552C1H6R0DZ01E
C154	CU3523	Chip C	GRP1552C1H101JD01E
C155	CU3559	Chip C	GRM155B30J105KE18D
C156	CU3511	Chip C	GRP1552C1H100JZ01E
C157	CU3501	Chip C	GRP1554C1HR50CZ01E

Ref. No.	Parts No.	Description	Parts Name
C158	NC		
C159	CU3535	Chip C	GRP155B11H102KA01E
C160	CU3511	Chip C	GRP1552C1H100JZ01E
C161	CU3504	Chip C	GRP1553C1H3R0CZ01E
C162	CU3527	Chip C	GRP1552C1E221JD01E
C163	CS0426	Chip Tantalum	F931A106MAA
C164	CS0426	Chip Tantalum	F931A106MAA
C165	CU3554	Chip C	GRP155B11A104KA01E
C166	CU3531	Chip C	GRP155B11H471KD01E
C167	CU3547	Chip C	GRP155B11C103KA01E
C168	CU3531	Chip C	GRP155B11H471KD01E
C169	CU3531	Chip C	GRP155B11H471KD01E
C170	NC		
C171	CU3515	Chip C	GRP1552C1H220JZ01E
C172	NC		
C173	CU3531	Chip C	GRP155B11H471KD01E
C174	CS0396	Chip Tantalum	TMCP1D104MTR
C176	NC		
C177	CU3505	Chip C	GRP1552C1H4R0CZ01E
C178	CU3502	Chip C	GRP1554C1H1R0CZ01E
C179	CU3133	Chip C	TMK107BJ105KA-T
C180	CU3531	Chip C	GRP155B11H471KD01E
C181	CU3531	Chip C	GRP155B11H471KD01E
C182	CU3133	Chip C	TMK107BJ105KA-T
C183	CS0398	Chip Tantalum	TMCP0J225MTR
C184	NC		
C185	CU3531	Chip C	GRP155B11H471KD01E
C186	CU3554	Chip C	GRP155B11A104KA01E
C187	CU3523	Chip C	GRP1552C1H101JD01E
C188	CU3531	Chip C	GRP155B11H471KD01E
C189	CU3531	Chip C	GRP155B11H471KD01E
C190	CU3503	Chip C	GRP1554C1H2R0CZ01E
C191	CU3505	Chip C	GRP1552C1H4R0CZ01E
C192	CU3503	Chip C	GRP1554C1H2R0CZ01E
C193	CU3502	Chip C	GRP1554C1H1R0CZ01E
C194	CU3531	Chip C	GRP155B11H471KD01E
C195	CU3506	Chip C	GRP1552C1H5R0CZ01E
C196	CU3559	Chip C	GRM155B30J105KE18D
C197	CU3520	Chip C	GRP1552C1H560JD01E
C198	NC		
C199	CU3531	Chip C	GRP155B11H471KD01E
C200	CU3502	Chip C	GRP1554C1H1R0CZ01E
C201	CU3502	Chip C	GRP1554C1H1R0CZ01E
C202	CU3524	Chip C	GRP1552C1H121JD01E
C203	CU3505	Chip C	GRP1552C1H4R0CZ01E
C204	CU3531	Chip C	GRP155B11H471KD01E
C205	CU3535	Chip C	GRP155B11H102KA01E
C206	CU3531	Chip C	GRP155B11H471KD01E
C207	CU3547	Chip C	GRP155B11C103KA01E
C208	CU3523	Chip C	GRP1552C1H101JD01E
C209	CU3511	Chip C	GRP1552C1H100JZ01E
C210	CU3547	Chip C	GRP155B11C103KA01E
C211	CU3547	Chip C	GRP155B11C103KA01E
C212	CU3515	Chip C	GRP1552C1H220JZ01E
C213	CU3531	Chip C	GRP155B11H471KD01E
C214	CU3531	Chip C	GRP155B11H471KD01E
C215	CU3513	Chip C	GRP1552C1H150JZ01E

Ref. No.	Parts No.	Description	Parts Name
C216	CU3513	Chip C	GRP1552C1H150JZ01E
C217	CU3531	Chip C	GRP155B11H471KD01E
C218	CU3547	Chip C	GRP155B11C103KA01E
C219	CU3513	Chip C	GRP1552C1H150JZ01E
C220	CU3513	Chip C	GRP1552C1H150JZ01E
C221	CU3504	Chip C	GRP1553C1H3R0CZ01E
C222	CU3513	Chip C	GRP1552C1H150JZ01E
C223	CU3504	Chip C	GRP1553C1H3R0CZ01E
C224	CU3551	Chip C	GRP155B11C223KD01E
C225	CU3531	Chip C	GRP155B11H471KD01E
C226	CU3133	Chip C	TMK107BJ105KA-T
C227	CU3536	Chip C	GRM36B122K50PT
C228	CU3547	Chip C	GRP155B11C103KA01E
C229	CU3547	Chip C	GRP155B11C103KA01E
C230	CU3554	Chip C	GRP155B11A104KA01E
C231	CU3554	Chip C	GRP155B11A104KA01E
C232	CU3522	Chip C	GRP1552C1H820JD01E
C233	CU3535	Chip C	GRP155B11H102KA01E
C234	CU3554	Chip C	GRP155B11A104KA01E
C235	CU3554	Chip C	GRP155B11A104KA01E
C236	CU3523	Chip C	GRP1552C1H101JD01E
C237	CU3554	Chip C	GRP155B11A104KA01E
C238	CU3531	Chip C	GRP155B11H471KD01E
C239	CU3531	Chip C	GRP155B11H471KD01E
C240	NC		
C241	CU3554	Chip C	GRP155B11A104KA01E
C242	CU3547	Chip C	GRP155B11C103KA01E
C243	CU3531	Chip C	GRP155B11H471KD01E
C244	CU3554	Chip C	GRP155B11A104KA01E
C245	CS0441	Chip Tantalum	TMCMA0J226MTRF
C246	CU3559	Chip C	GRM155B30J105KE18D
C247	CU3531	Chip C	GRP155B11H471KD01E
C248	CU3535	Chip C	GRP155B11H102KA01E
C249	CU3547	Chip C	GRP155B11C103KA01E
C250	CU3531	Chip C	GRP155B11H471KD01E
C251	CU3547	Chip C	GRP155B11C103KA01E
C252	CU3519	Chip C	GRP1552C1H470JZ01E
C253	CU3535	Chip C	GRP155B11H102KA01E
C254	CU3535	Chip C	GRP155B11H102KA01E
C255	CU3553	Chip C	GRP155B11A473KA01E
C256	CU3554	Chip C	GRP155B11A104KA01E
C257	CS0441	Chip Tantalum	TMCMA0J226MTRF
C258	CU3554	Chip C	GRP155B11A104KA01E
C259	CU3531	Chip C	GRP155B11H471KD01E
C260	CU3529	Chip C	GRP155B11H331KD01E
C261	CU3522	Chip C	GRP1552C1H820JD01E
C262	CU3554	Chip C	GRP155B11A104KA01E
C263	CU3531	Chip C	GRP155B11H471KD01E
C264	CU3554	Chip C	GRP155B11A104KA01E
C265	CU3531	Chip C	GRP155B11H471KD01E
C266	CU3554	Chip C	GRP155B11A104KA01E
C267	CU3529	Chip C	GRP155B11H331KD01E
C268	CU3535	Chip C	GRP155B11H102KA01E
C269	CU3547	Chip C	GRP155B11C103KA01E
C270	CU3535	Chip C	GRP155B11H102KA01E
C271	CU3531	Chip C	GRP155B11H471KD01E
C272	CU3559	Chip C	GRM155B30J105KE18D
C273	CU3513	Chip C	GRP1552C1H150JZ01E
C274	CU3514	Chip C	GRP1552C1H180JZ01E
C275	CU3543	Chip C	GRP155B11E472KD01E

Ref. No.	Parts No.	Description	Parts Name
C276	CU3531	Chip C	GRP155B11H471KD01E
C277	CU3133	Chip C	TMK107BJ105KA-T
C278	CU3554	Chip C	GRP155B11A104KA01E
C279	CS0439	Chip Tantalum	TMCMA0J476MTRF
C280	CU3554	Chip C	GRP155B11A104KA01E
C281	CE0437	Electrolytic C	10CE150BSS
C282	CU3554	Chip C	GRP155B11A104KA01E
C283	CU3551	Chip C	GRP155B11C223KD01E
C284	CU3551	Chip C	GRP155B11C223KD01E
C285	CU3535	Chip C	GRP155B11H102KA01E
C286	CU3535	Chip C	GRP155B11H102KA01E
C287	CU3554	Chip C	GRP155B11A104KA01E
C288	CU3559	Chip C	GRM155B30J105KE18D
C289	CS0441	Chip Tantalum	TMCMA0J226MTRF
C290	CS0397	Chip Tantalum	TMCP1C105MTR
C291	CU3531	Chip C	GRP155B11H471KD01E
C292	CS0440	Chip Tantalum	TMCMB1C476MTRF
C293	CU3559	Chip C	GRM155B30J105KE18D
C294	CU3554	Chip C	GRP155B11A104KA01E
C295	CU3547	Chip C	GRP155B11C103KA01E
C296	CU3554	Chip C	GRP155B11A104KA01E
C297	CU3553	Chip C	GRP155B11A473KA01E
C298	CU3535	Chip C	GRP155B11H102KA01E
C299	CU3531	Chip C	GRP155B11H471KD01E
C300	NC		
C301	NC		
C302	CU3531	Chip C	GRP155B11H471KD01E
C303	CU3551	Chip C	GRP155B11C223KD01E
C304	CU3552	Chip C	GRP155B11A333KA01E
C305	NC		
C306	CU3531	Chip C	GRP155B11H471KD01E
C307	CS0439	Chip Tantalum	TMCMA0J476MTRF
C308	CU3531	Chip C	GRP155B11H471KD01E
C309	CU3531	Chip C	GRP155B11H471KD01E
C310	CU3531	Chip C	GRP155B11H471KD01E
C311	CU3531	Chip C	GRP155B11H471KD01E
C312	CS0426	Chip Tantalum	F931A106MAA
C313	CU3531	Chip C	GRP155B11H471KD01E
C314	CU3547	Chip C	GRP155B11C103KA01E
C315	CU3547	Chip C	GRP155B11C103KA01E
C316	CU3535	Chip C	GRP155B11H102KA01E
C317	CU3531	Chip C	GRP155B11H471KD01E
C318	CU3531	Chip C	GRP155B11H471KD01E
C319	CU3531	Chip C	GRP155B11H471KD01E
C320	CU3554	Chip C	GRP155B11A104KA01E
C321	CS0439	Chip Tantalum	TMCMA0J476MTRF
C322	CU3554	Chip C	GRP155B11A104KA01E
C323	CU3547	Chip C	GRP155B11C103KA01E
C324	CU3547	Chip C	GRP155B11C103KA01E
C325	CU3531	Chip C	GRP155B11H471KD01E
C326	CE0436	Electrolytic C	16CE47BSS
C327	CU3133	Chip C	TMK107BJ105KA-T
C328	CU3531	Chip C	GRP155B11H471KD01E
C331	CU3535	Chip C	GRP155B11H102KA01E
C332	CU3554	Chip C	GRP155B11A104KA01E
C334	CU3502	Chip C	GRP1554C1H1R0CZ01E
C336	CS0396	Chip Tantalum	TMCP1D104MTR
C347	CU3531	Chip C	GRP155B11H471KD01E
C349	CU3559	Chip C	GRM155B30J105KE18D
C350	CU3559	Chip C	GRM155B30J105KE18D

Ref. No.	Parts No.	Description	Parts Name
C351	CU3133	Chip C	TMK107BJ105KA-T
C352	CU3531	Chip C	GRP155B11H471KD01E
C353	CU3531	Chip C	GRP155B11H471KD01E
C354	CU3531	Chip C	GRP155B11H471KD01E
C355	CS0398	Chip Tantalum	TMCP0J225MTR
C356	CU3547	Chip C	GRP155B11C103KA01E
C357	NC		
C358	NC		
C359	CU3531	Chip C	GRP155B11H471KD01E
C360	CU3531	Chip C	GRP155B11H471KD01E
C362	CU3531	Chip C	GRP155B11H471KD01E
C363	CU3531	Chip C	GRP155B11H471KD01E
C372	CU3531	Chip C	GRP155B11H471KD01E
CN101	UE0410	Connector	9210B-1-02-GF
CN102	NC		
CN103	NC		
D101	XD0339	Diode	1SV308(TPH3)
D102	XD0419	Diode	1SS400TE61
D103	XD0339	Diode	1SV308(TPH3)
D104	NC		
D105	XD0251	Diode	MA741WA-(TX)
D106	NC		
D107	NC		
D108	XD0422	Diode	HSC277TRF-E
D109	XD0403	Diode	1SV314(TPH3,F)
D110	XD0403	Diode	1SV314(TPH3,F)
D111	NC		
D112	XD0339	Diode	1SV308(TPH3)
D113	XD0339	Diode	1SV308(TPH3)
D114	XD0339	Diode	1SV308(TPH3)
D115	XD0403	Diode	1SV314(TPH3,F)
D116	XD0403	Diode	1SV314(TPH3,F)
D117	XD0403	Diode	1SV314(TPH3,F)
D118	XD0403	Diode	1SV314(TPH3,F)
D119	XL0097	Chip LED	SML-521MUWT86
D120	XD0338	Diode	1SS362(TE85L)
D121	XD0419	Diode	1SS400TE61
D122	XD0424	Diode	S3JB-T
D123	XD0420	Diode	FA3J3STP
D124	XD0338	Diode	1SS362(TE85L)
D125	XD0420	Diode	FA3J3STP
D126	XL0036	Chip LED	SML-310MTT86
D127	XL0036	Chip LED	SML-310MTT86
D128	NC		
D129	NC		
D130	XD0416	Diode	1SS423(TE85L,F)
D131	XL0036	Chip LED	SML-310MTT86
D132	XL0036	Chip LED	SML-310MTT86
D133	XD0418	Diode	RB521S-30TE61
D134	XD0418	Diode	RB521S-30TE61
D135	XD0377		MAZS0270HL
FL101	XF0072	MCF	38M08B5
FL103	XC0052	Filter	ALFYM450G=K
IC101	XA1107	IC	MB15E07SR
IC102	XA1106	IC	LM2902PWR
IC103	XA0404	IC	TA31136FN(EL)
IC104	XA1120	IC	S80845CLNB-B66-T2G
IC105	XA1117	IC	S24CS64A01-J8T1G
IC106	XA0210	IC	NJM2070M T1
IC107	XA1118	IC	M62429FP/CF0J

Ref. No.	Parts No.	Description	Parts Name
IC108	XA1106	IC	LM2902PWR
IC109	XA1169	CPU	M38268MCA-077GP#UO
IC110	XA1119	IC	XC6202P502MR
JK101	UJ0060	Jack	HSJ1594-010150
JK102	UJ0061	Jack	LD-0208-1.3
L101	QS401405	Coil	0.40-1.4-5TL
L102	QS401405	Coil	0.40-1.4-5TL
L103	QS401405	Coil	0.40-1.4-5TL
L104	QS4011Z4	Coil	E2-0.4-1.1-4TL
L106	QC0749	Chip Inductor	C1608CB1N5K
L107	QC0801	Chip Inductor	MLG1005S12NJT
L108	QS30200D	Coil	0.30-2.0-13TL
L109	QC0804	Chip Inductor	MLG1005S22NJT
L110	QC0763	Chip Inductor	C1608CB68NJ
L111	QC0803	Chip Inductor	MLG1005S18NJT
L112	QC0773	Chip Inductor	C1608CBR47J
L113	QS501405	Coil	E2-0.5-1.4-5TL
L114	QB0057	Chip Inductor	MPZ1608S101AT
L115	QB0057	Chip Inductor	MPZ1608S101AT
L116	QC0804	Chip Inductor	MLG1005S22NJT
L117	QC0860	Chip Inductor	C2012H10NH
L118	QB0057	Chip Inductor	MPZ1608S101AT
L120	QC0812	Chip Inductor	MLG1005SR10JT
L121	QC0803	Chip Inductor	MLG1005S18NJT
L122	QC0817	Chip Inductor	MLG1005SR27JT
L123	QC0766	Chip Inductor	C1608CBR12J
L124	QC0768	Chip Inductor	C1608CBR18J
L125	QC0757	Chip Inductor	C1608CB22NJ
L126	QC0755	Chip Inductor	C1608CB15NJ
L127	QC0768	Chip Inductor	C1608CBR18J
L128	QC0757	Chip Inductor	C1608CB22NJ
L129	QC0755	Chip Inductor	C1608CB15NJ
L130	QC0820	Chip Inductor	LB2518T151K
L131	QC0842	Chip Inductor	LB2518T221K
L136	QC0812	Chip Inductor	MLG1005SR10JT
L137	QC0812	Chip Inductor	MLG1005SR10JT
LCD101	EL0059	LCD	LCD DJ170
MIC101	EY0017	Microphone	OB-27P44
Q101	XT0210	Transistor	2SC6026MFV-GR
Q102	XE0071	FET	2SK3476(TE12L,Q)
Q103	XE0070	FET	2SK3475(TE12L,F)
Q104	XT0180	Transistor	2SC5066FT-Y (TE85L)
Q105	XT0180	Transistor	2SC5066FT-Y (TE85L)
Q106	NC		
Q107	XT0213	Transistor	2SC5659T2L
Q108	XT0180	Transistor	2SC5066FT-Y (TE85L)
Q109	NC		
Q110	XT0180	Transistor	2SC5066FT-Y (TE85L)
Q111	XT0214	Transistor	HN2C01FE-GR(T5L,F)
Q112	XU0210	Transistor	RN1107MFV(TPL3)
Q113	XT0180	Transistor	2SC5066FT-Y (TE85L)
Q114	XE0053	FET	3SK293 TE85L
Q115	XT0213	Transistor	2SC5659T2L
Q116	XE0053	FET	3SK293 TE85L
Q117	XU0210	Transistor	RN1107MFV(TPL3)
Q118	XT0180	Transistor	2SC5066FT-Y (TE85L)
Q119	XT0213	Transistor	2SC5659T2L
Q120	XT0210	Transistor	2SC6026MFV-GR
Q121	XU0212	Transistor	RN2115MFV(TPL3)
Q122	XU0210	Transistor	RN1107MFV(TPL3)

Ref. No.	Parts No.	Description	Parts Name
Q124	XU0220	Transistor	RN2111MFV(TLP3)
Q125	XU0210	Transistor	RN1107MFV(TPL3)
Q126	XU0210	Transistor	RN1107MFV(TPL3)
Q127	XU0220	Transistor	RN2111MFV(TLP3)
Q128	XT0210	Transistor	2SC6026MFV-GR
Q129	XT0210	Transistor	2SC6026MFV-GR
Q130	XT0170	Transistor	2SB766A-(TX)R
Q131	XT0210	Transistor	2SC6026MFV-GR
Q132	XT0170	Transistor	2SB766A-(TX)R
Q133	XE0069	FET	SSM3K15FV(TPL3,Z)
Q134	XU0210	Transistor	RN1107MFV(TPL3)
Q135	XT0214	Transistor	HN2C01FE-GR(T5L,F)
Q136	XT0170	Transistor	2SB766A-(TX)R
Q137	XT0212	Transistor	2SA1955FV-A(TPL3)
Q138	XT0212	Transistor	2SA1955FV-A(TPL3)
Q139	XT0214	Transistor	HN2C01FE-GR(T5L,F)
Q140	XT0212	Transistor	2SA1955FV-A(TPL3)
Q141	XT0210	Transistor	2SC6026MFV-GR
Q142	XU0213	Transistor	RN1111MFV(TPL3),F
Q143	NC		
Q144	XU0210	Transistor	RN1107MFV(TPL3)
Q145	XU0211	Transistor	RN2107MFV(TPL3)
Q146	XU0213	Transistor	RN1111MFV(TPL3),F
Q147	XE0069	FET	SSM3K15FV(TPL3,Z)
Q148	XE0069	FET	SSM3K15FV(TPL3,Z)
Q149	XT0210	Transistor	2SC6026MFV-GR
Q152	XU0211	Transistor	RN2107MFV(TPL3)
Q153	XU0211	Transistor	RN2107MFV(TPL3)
R101	RK3534	Chip R	ERJ2GEJ471X
R102	RK3545	Chip R	ERJ2GEJ392X
R103	RK3550	Chip R	ERJ2GEJ103X
R104	RK3501	Chip R	ERJ2GE0R00X
R105	NC		
R106	NC		
R107	RK3526	Chip R	ERJ2GEJ101X
R108	RK3534	Chip R	ERJ2GEJ471X
R109	RK3030	Chip R	MCR03EZHJ221
R111	RK3542	Chip R	ERJ2GEJ222X
R112	RK3556	Chip R	ERJ2GEJ333X
R113	RK3548	Chip R	ERJ2GEJ682X
R114	NC		
R115	NC		
R116	RK3022	Chip R	MCR03EZHJ470
R117	RK3530	Chip R	ERJ2GEJ221X
R118	RK3526	Chip R	ERJ2GEJ101X
R119	RK3566	Chip R	ERJ2GEJ224X
R120	NC		
R121	RK3538	Chip R	ERJ2GEJ102X
R122	RK3542	Chip R	ERJ2GEJ222X
R123	RK3522	Chip R	ERJ2GEJ470X
R124	RK3526	Chip R	ERJ2GEJ101X
R125	NC		
R126	RK3562	Chip R	ERJ2GEJ104X
R127	RK3562	Chip R	ERJ2GEJ104X
R128	RK3550	Chip R	ERJ2GEJ103X
R129	RK3574	Chip R	ERJ2GEJ105X
R130	NC		
R131	RK3552	Chip R	ERJ2GEJ153X
R132	RK3530	Chip R	ERJ2GEJ221X
R133	RK3550	Chip R	ERJ2GEJ103X

Ref. No.	Parts No.	Description	Parts Name
R136	RK3538	Chip R	ERJ2GEJ102X
R137	RK3556	Chip R	ERJ2GEJ333X
R138	RK3562	Chip R	ERJ2GEJ104X
R139	RK3550	Chip R	ERJ2GEJ103X
R140	RK3501	Chip R	ERJ2GE0R00X
R141	RK3555	Chip R	ERJ2GEJ273X
R142	RK3550	Chip R	ERJ2GEJ103X
R143	RK3546	Chip R	ERJ2GEJ472X
R144	RK3501	Chip R	ERJ2GE0R00X
R145	RK3550	Chip R	ERJ2GEJ103X
R146	RK3537	Chip R	ERJ2GEJ821X
R147	RK3526	Chip R	ERJ2GEJ101X
R148	RK3542	Chip R	ERJ2GEJ222X
R149	RK3532	Chip R	ERJ2GEJ331X
R150	RK3568	Chip R	ERJ2GEJ334X
R151	NC		
R152	RK3542	Chip R	ERJ2GEJ222X
R154	RK3570	Chip R	ERJ2GEJ474X
R155	RK3542	Chip R	ERJ2GEJ222X
R156	RK3538	Chip R	ERJ2GEJ102X
R157	RK3550	Chip R	ERJ2GEJ103X
R159	RK3539	Chip R	ERJ2GEJ122X
R161	RK3538	Chip R	ERJ2GEJ102X
R162	RK3564	Chip R	ERJ2GEJ154X
R163	RK3522	Chip R	ERJ2GEJ470X
R164	RK3550	Chip R	ERJ2GEJ103X
R165	RK3544	Chip R	ERJ2GEJ332X
R166	RK3526	Chip R	ERJ2GEJ101X
R167	RK3542	Chip R	ERJ2GEJ222X
R168	NC		
R169	RK3550	Chip R	ERJ2GEJ103X
R170	RK3530	Chip R	ERJ2GEJ221X
R171	RK3526	Chip R	ERJ2GEJ101X
R172	RK3501	Chip R	ERJ2GE0R00X
R173	RK3564	Chip R	ERJ2GEJ154X
R174	RK3530	Chip R	ERJ2GEJ221X
R175	RK3550	Chip R	ERJ2GEJ103X
R176	RK3570	Chip R	ERJ2GEJ474X
R177	RK3562	Chip R	ERJ2GEJ104X
R178	RK3550	Chip R	ERJ2GEJ103X
R179	RK3538	Chip R	ERJ2GEJ102X
R180	RK3501	Chip R	ERJ2GE0R00X
R181	RK3550	Chip R	ERJ2GEJ103X
R182	RK3566	Chip R	ERJ2GEJ224X
R183	NC		
R184	RK3568	Chip R	ERJ2GEJ334X
R185	RK3562	Chip R	ERJ2GEJ104X
R186	RK3550	Chip R	ERJ2GEJ103X
R187	RK3526	Chip R	ERJ2GEJ101X
R188	RK3538	Chip R	ERJ2GEJ102X
R189	RK3532	Chip R	ERJ2GEJ331X
R190	RK3530	Chip R	ERJ2GEJ221X
R191	RK3550	Chip R	ERJ2GEJ103X
R192	RK3558	Chip R	ERJ2GEJ473X
R193	RK3562	Chip R	ERJ2GEJ104X
R194	RK3522	Chip R	ERJ2GEJ470X
R195	RK3558	Chip R	ERJ2GEJ473X
R196	RK3558	Chip R	ERJ2GEJ473X
R197	RK3574	Chip R	ERJ2GEJ105X
R198	RK3574	Chip R	ERJ2GEJ105X

Ref. No.	Parts No.	Description	Parts Name
R199	RK3555	Chip R	ERJ2GEJ273X
R200	RK3560	Chip R	ERJ2GEJ683X
R201	RK3522	Chip R	ERJ2GEJ470X
R202	RK3532	Chip R	ERJ2GEJ331X
R203	RK3566	Chip R	ERJ2GEJ224X
R204	RK3574	Chip R	ERJ2GEJ105X
R205	RK3574	Chip R	ERJ2GEJ105X
R206	RK3558	Chip R	ERJ2GEJ473X
R207	RK3556	Chip R	ERJ2GEJ333X
R208	NC		
R209	RK3574	Chip R	ERJ2GEJ105X
R210	RK3522	Chip R	ERJ2GEJ470X
R211	RK3558	Chip R	ERJ2GEJ473X
R212	RK3550	Chip R	ERJ2GEJ103X
R213	RK3558	Chip R	ERJ2GEJ473X
R214	RK3564	Chip R	ERJ2GEJ154X
R215	RK3561	Chip R	ERJ2GEJ823X
R216	RK3538	Chip R	ERJ2GEJ102X
R218	RK3558	Chip R	ERJ2GEJ473X
R219	RK3554	Chip R	ERJ2GEJ223X
R220	RK3553	Chip R	ERJ2GEJ183X
R221	RK3548	Chip R	ERJ2GEJ682X
R222	RK3562	Chip R	ERJ2GEJ104X
R223	RK3550	Chip R	ERJ2GEJ103X
R224	RK3550	Chip R	ERJ2GEJ103X
R225	RK3554	Chip R	ERJ2GEJ223X
R226	RK3554	Chip R	ERJ2GEJ223X
R227	RK3559	Chip R	ERJ2GEJ563X
R228	RK3550	Chip R	ERJ2GEJ103X
R229	RK3550	Chip R	ERJ2GEJ103X
R230	RK3567	Chip R	ERJ2GEJ274X
R231	RK3538	Chip R	ERJ2GEJ102X
R232	RK3566	Chip R	ERJ2GEJ224X
R234	RK3550	Chip R	ERJ2GEJ103X
R235	RK3562	Chip R	ERJ2GEJ104X
R236	RK3562	Chip R	ERJ2GEJ104X
R237	RK3522	Chip R	ERJ2GEJ470X
R238	RK3550	Chip R	ERJ2GEJ103X
R239	RK3567	Chip R	ERJ2GEJ274X
R240	RK3562	Chip R	ERJ2GEJ104X
R242	RK3501	Chip R	ERJ2GE0R00X
R243	RK3550	Chip R	ERJ2GEJ103X
R244	RK3564	Chip R	ERJ2GEJ154X
R245	RK3544	Chip R	ERJ2GEJ332X
R246	RK3562	Chip R	ERJ2GEJ104X
R247	RK3559	Chip R	ERJ2GEJ563X
R248	RK3538	Chip R	ERJ2GEJ102X
R249	NC		
R250	RK3550	Chip R	ERJ2GEJ103X
R251	RK3560	Chip R	ERJ2GEJ683X
R252	RK3561	Chip R	ERJ2GEJ823X
R253	RK3566	Chip R	ERJ2GEJ224X
R254	RK3550	Chip R	ERJ2GEJ103X
R255	RK3562	Chip R	ERJ2GEJ104X
R256	RK3560	Chip R	ERJ2GEJ683X
R257	RK3538	Chip R	ERJ2GEJ102X
R258	RK3574	Chip R	ERJ2GEJ105X
R259	RK3566	Chip R	ERJ2GEJ224X
R260	NC		
R261	RK3574	Chip R	ERJ2GEJ105X

Ref. No.	Parts No.	Description	Parts Name
R262	RK3562	Chip R	ERJ2GEJ104X
R263	RK3562	Chip R	ERJ2GEJ104X
R264	RK3558	Chip R	ERJ2GEJ473X
R265	RK3536	Chip R	ERJ2GEJ681X
R266	RK3518	Chip R	ERJ2GEJ220X
R267	NC		
R269	RK3532	Chip R	ERJ2GEJ331X
R270	RK3560	Chip R	ERJ2GEJ683X
R272	RK3556	Chip R	ERJ2GEJ333X
R273	RK3566	Chip R	ERJ2GEJ224X
R274	RK3544	Chip R	ERJ2GEJ332X
R275	RK3566	Chip R	ERJ2GEJ224X
R276	RK3560	Chip R	ERJ2GEJ683X
R277	RK3552	Chip R	ERJ2GEJ153X
R278	RK3562	Chip R	ERJ2GEJ104X
R279	RK3558	Chip R	ERJ2GEJ473X
R280	RK3556	Chip R	ERJ2GEJ333X
R281	RK3017	Chip R	MCR03EZHJ180
R282	RK3514	Chip R	ERJ2GEJ100X
R283	RK3554	Chip R	ERJ2GEJ223X
R284	RK3561	Chip R	ERJ2GEJ823X
R285	RK3550	Chip R	ERJ2GEJ103X
R286	RK3570	Chip R	ERJ2GEJ474X
R287	RK3550	Chip R	ERJ2GEJ103X
R288	RK3550	Chip R	ERJ2GEJ103X
R289	RK3565	Chip R	ERJ2GEJ184X
R290	RK3017	Chip R	MCR03EZHJ180
R291	RK3551	Chip R	ERJ2GEJ123X
R292	RK3569	Chip R	ERJ2GEJ394X
R293	RK3532	Chip R	ERJ2GEJ331X
R294	RK3562	Chip R	ERJ2GEJ104X
R295	RK3538	Chip R	ERJ2GEJ102X
R296	RK3530	Chip R	ERJ2GEJ221X
R297	RK3546	Chip R	ERJ2GEJ472X
R298	RK3549	Chip R	ERJ2GEJ822X
R299	RK3544	Chip R	ERJ2GEJ332X
R300	RK3538	Chip R	ERJ2GEJ102X
R301	RK3501	Chip R	ERJ2GE0R00X
R302	RK3538	Chip R	ERJ2GEJ102X
R303	RK3550	Chip R	ERJ2GEJ103X
R304	RK3546	Chip R	ERJ2GEJ472X
R305	RK3550	Chip R	ERJ2GEJ103X
R306	RK3550	Chip R	ERJ2GEJ103X
R308	RK3574	Chip R	ERJ2GEJ105X
R309	RK3574	Chip R	ERJ2GEJ105X
R310	RK3550	Chip R	ERJ2GEJ103X
R311	RK3550	Chip R	ERJ2GEJ103X
R312	RK3570	Chip R	ERJ2GEJ474X
R313	RK3550	Chip R	ERJ2GEJ103X
R314	RK3554	Chip R	ERJ2GEJ223X
R315	RK3542	Chip R	ERJ2GEJ222X
R316	RK3550	Chip R	ERJ2GEJ103X
R317	RK3570	Chip R	ERJ2GEJ474X
R318	RK3550	Chip R	ERJ2GEJ103X
R319	RK3554	Chip R	ERJ2GEJ223X
R320	RK3574	Chip R	ERJ2GEJ105X
R321	RK3550	Chip R	ERJ2GEJ103X
R322	RK3568	Chip R	ERJ2GEJ334X
R323	RK3550	Chip R	ERJ2GEJ103X
R324	RK3548	Chip R	ERJ2GEJ682X

Ref. No.	Parts No.	Description	Parts Name
R325	RK3559	Chip R	ERJ2GEJ563X
R326	RK3559	Chip R	ERJ2GEJ563X
R327	RK3550	Chip R	ERJ2GEJ103X
R328	RK3550	Chip R	ERJ2GEJ103X
R330	RK3546	Chip R	ERJ2GEJ472X
R331	RK3546	Chip R	ERJ2GEJ472X
R332	RK3546	Chip R	ERJ2GEJ472X
R333	RK3546	Chip R	ERJ2GEJ472X
R334	RK3562	Chip R	ERJ2GEJ104X
R335	RK3562	Chip R	ERJ2GEJ104X
R336	RK3562	Chip R	ERJ2GEJ104X
R337	RK3550	Chip R	ERJ2GEJ103X
R338	RK3542	Chip R	ERJ2GEJ222X
R339	RK3550	Chip R	ERJ2GEJ103X
R340	RK3550	Chip R	ERJ2GEJ103X
R341	RK3550	Chip R	ERJ2GEJ103X
R342	RK3538	Chip R	ERJ2GEJ102X
R343	RK3550	Chip R	ERJ2GEJ103X
R344	RK3537	Chip R	ERJ2GEJ821X
R345	RK3558	Chip R	ERJ2GEJ473X
R346	NC		
R347	NC		
R348	RK3552	Chip R	ERJ2GEJ153X
R349	NC		
R350	RK3562	Chip R	ERJ2GEJ104X
R351	RK3550	Chip R	ERJ2GEJ103X
R352	NC		
R353	RK3546	Chip R	ERJ2GEJ472X
R354	RK3550	Chip R	ERJ2GEJ103X
R355	RK3550	Chip R	ERJ2GEJ103X
R357	RK3501	Chip R	ERJ2GE0R00X
R358	NC		
R359	NC		
R360	NC		
R361	NC		
R362	RK3536	Chip R	ERJ2GEJ681X
R363	RK3558	Chip R	ERJ2GEJ473X
R364	RK1018	Chip R	ERJ8GEYJ101V
R365	RK3546	Chip R	ERJ2GEJ472X
R366	RK3566	Chip R	ERJ2GEJ224X
R367	RK3558	Chip R	ERJ2GEJ473X
R368	RK3548	Chip R	ERJ2GEJ682X
R369	RK3538	Chip R	ERJ2GEJ102X
R370	RK3501	Chip R	ERJ2GE0R00X
R371	RK3546	Chip R	ERJ2GEJ472X
R372	RK3550	Chip R	ERJ2GEJ103X
R373	RK3546	Chip R	ERJ2GEJ472X
R374	RK3562	Chip R	ERJ2GEJ104X
R375	RK3550	Chip R	ERJ2GEJ103X
R376	RK3562	Chip R	ERJ2GEJ104X
R377	RK3562	Chip R	ERJ2GEJ104X
R378	RK3566	Chip R	ERJ2GEJ224X
R379	RK3562	Chip R	ERJ2GEJ104X
R380	RK3566	Chip R	ERJ2GEJ224X
R381	RK3554	Chip R	ERJ2GEJ223X
R382	NC		
R384	NC		
R385	RK3064	Chip R	MCR03EZHJ154
R386	NC		
R387	NC		

Ref. No.	Parts No.	Description	Parts Name
R388	RK3550	Chip R	ERJ2GEJ103X
R392	RK3550	Chip R	ERJ2GEJ103X
R393	RK3534	Chip R	ERJ2GEJ471X
R394	RK3530	Chip R	ERJ2GEJ221X
R395	RK3556	Chip R	ERJ2GEJ333X
R396	RK3556	Chip R	ERJ2GEJ333X
R398	RK3564	Chip R	ERJ2GEJ154X
R401	RK3501	Chip R	ERJ2GE0R00X
R402	RK3501	Chip R	ERJ2GE0R00X
R403	RK3570	Chip R	ERJ2GEJ474X
R404	RK3546	Chip R	ERJ2GEJ472X
R405	RK3542	Chip R	ERJ2GEJ222X
R406	RK3546	Chip R	ERJ2GEJ472X
R407	RK3562	Chip R	ERJ2GEJ104X
R409	RK3534	Chip R	ERJ2GEJ471X
R410	RK0107	Chip R	ERJ6GEY0R00V
SW101	UU0041	Switch	EVQP4203M
SW102	UU0041	Switch	EVQP4203M
SW103	UU0041	Switch	EVQP4203M
TC101	NC		
TH101	XS0052	Thermistor	NTCG104LH104JT1
VR101	RH0233	Trimmer R	RH02B1C15X
VR102	RH0233	Trimmer R	RH02B1C15X
VR103	RH0225	Trimmer R	RH02B1CS3X
VR104	RH0225	Trimmer R	RH02B1CS3X
VR105	RH0225	Trimmer R	RH02B1CS3X
W101	MPCL07AA	Wire	#30P02-070-02
W102	MACL07AA	Wire	#30A02-070-02
W103	MACLH2GG	Wire	#30AH1-025-H1
X101	NC		
X102	XQ0194	Crystal	NT3225SA12.8M
X103	XK0004	Discriminator	CDBLB450KCAY24-B0
X104	XQ0184	Crystal	AT49 3.6864M
	DG0046		LCD LIGHT
	FG0418		LCD RUB CONE
	FM0265		HEAT SINK DJ170
	ST0089		LCD HOLDER
	TL0033		REFLECTIVE SHEET
	TS0183		VCO CASE
	TZ0049		SILICON DUMPER
PCB	UP0541	PCB	DJ170 INTEGRATED

Mechanical Unit

Ref. No.	Parts No.	Description	Parts Name
	ADFV446	FRONT CASE ASSY	FRONT CASE ASSY
	ADRV446	REAR CASE ASSY	REAR CASE ASSY
	AF0018	SCREW	XQN2+C4FZ
	AF0030	SCREW	XQN2+A6FN(58364-0001
	AP0039	SCREW	PH P2+20 FE/3BBC
	AX0004Z	SCREW	PT 3P 2X8 BBC AX0004
	DG0046		LCD LIGHT
	DP0175		LCD PANNEL DJV17
	FG0392		WATERPROOF
	FG0418		LCD RUBBER CONE
	FG0419		WATERPROOF RUBBER
	FG0424		O RING (R COVER)
	FG0426		MIC RUBBER

Ref. No.	Parts No.	Description	Parts Name
	FP0254		REAR COVER
	FP0255		ROCK LEVER
	FP0264		BLIND SEAL
	NK0081		VOL KNOB
	SP0013		LECTRA #7800
	ST0089		LCD HOLDER
	TL0033		REFLECTIVE SHEET
	YX0039		LCD TAPE DJS45

Packing Unit

Ref. No.	Parts No.	Description	Parts Name	Version
	EG0065	BATTERY	EBP-65A P BAG	
	EDC147	ADAPTOR	ADAPTOR 230V	
	EDC148	ADAPTOR	ADAPTOR 230V (UK)	EUK
	PR0478		SERIAL SEAL	
	DS0446		NITTO MODEL PLATE(S)	
	HU0238		INNER DJV446	
	PS0526	INSTRUCTION MANUAL	INSTRUCTION DJV446	
	PK0115		CIRCUIT DIAGRAM V446	
	HK0647		INDI PACKAGE DJV446	
	HP0034		PLA.BAG 5X125X400	
	BH0017	BELT CLIP	BELT CLIP	
	BB0009Y	HAND STRAP	HAND STRAP DJS41	
	AA0076		PH M3+6FE/B·ZN	
	HP0003		PLA.BAG 5X75X110	

CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

ADJUSTMENTS

1) Required Test Equipment

The following items are required to adjust radio parameters

1.Regulated power supply

Supply voltage:	13.8 DC
Current:	3A or more

2.Digital multimeter

Voltage range:	FS = Approx. 20V
Current:	10A or more
Input resistance:	High impedance

3.Oscilloscope

Measurable frequency:	Audio frequency

4.Audio dummy load

Impedance:	8Ω
Dissipation:	1W or more
Jack:	3.5mmΦ

5.SSG

Output frequency:	500MHz or more
Impedance:	50Ω, unbalanced
Modulation:	FM

6.Power meter

Measurable frequency:	500MHz or more
Impedance:	50Ω, unbalanced
Measuring range:	10W or more

7.Audio volmeter

Measurable frequency:	Up to 100kHz
Sensitivity:	1mV to 10V

8.Audio generator

Output frequency:	67Hz to 10kHz
Output impedance:	600Ω, unbalanced

9.Distortion meter/SINAD meter

Measurable frequency:	1kHz
Input level:	Up to 40dB
Distortion:	1%-100%

10.Frequency counter

Measurable frequency:	500MHz or more
Measurable stability:	Approx. ±0.1ppm

11.Linear detector

Measurable frequency:	500MHz or more
Characteristics:	Flat
CN:	60dB or more

Note:

(1). SSG initial setting

Modulation Frequency : 1kHz

Modulation Level : 1.5kHz

(2). Necessary optional accessory : EDS-10 (Microphone/Speaker Cable)

(3). Reference sensitivity : 12dB SINAD

(4). Specified audio output level : 500mW at 8Ω

(5). Standard audio output level : 50mW at 8Ω

(6). Use an RF cable (3D2W : 1M) for test equipment.

(7). Attach a fuse to the RF test equipment.

(8). All SSG outputs are indicated by EMF

(9). Supply voltage for the transceiver : 13.8VDC

2)Preparation:

1. Turn off the power of the adjusting unit (the unit hereafter).
2. Remove the screw ①.
3. Remove the rear cover ②.
4. Turn on the unit by pressing "F" key and "V/M" key together. The display will be blank out for 2 seconds then comes back normal.

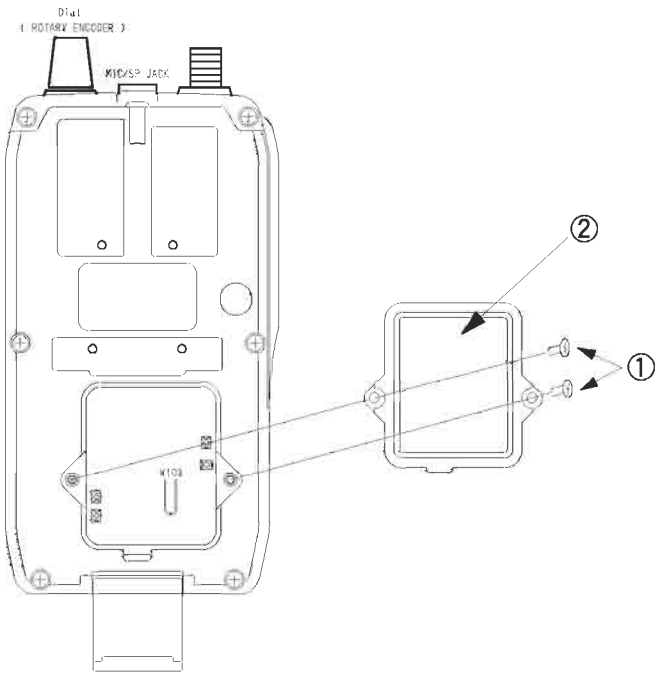


Chart 1 : Removing the rear cover

3) Adjustment mode

The adjustment should be operated in the Adjustment mode. Therefore except for the reference frequency, deviation and tone-deviation adjustments an operator won't touch the components on the board, but most of the adjustments should be done by operating the dial and keys on the unit. During such operation, memory channels are used temporary therefore it is required to program memories before the unit is set to the adjustment mod. Please refer the chart below for the programming channels. The channels may be varied depending on the RF environment around your work area, and refer the instruction manual for how to program the memories into the memory-channels.

To enter the adjustment mode, press "F" then "KL" to key-lock the unit. Then press the keys in order of "MONI", "V/M" 6 times, "SCAN" twice, "T SQL" twice and "V/M". Observe that decimal points appear on the display on both side of the channel number. To exit from the adjustment mode, repeat the whole sequence (key-lock then enter the code in order). NEVER RESET THE UNIT WHILE OPERATING IN THE SET MODE. This may reset whole adjustment values resulting the malfunction of the unit in the operating mode. The chart below shows the adjustment points and interface between the unit and instruments. Please use an attenuator in case the specifications of the linear-detector and frequency counter may exceed the requirement herein.

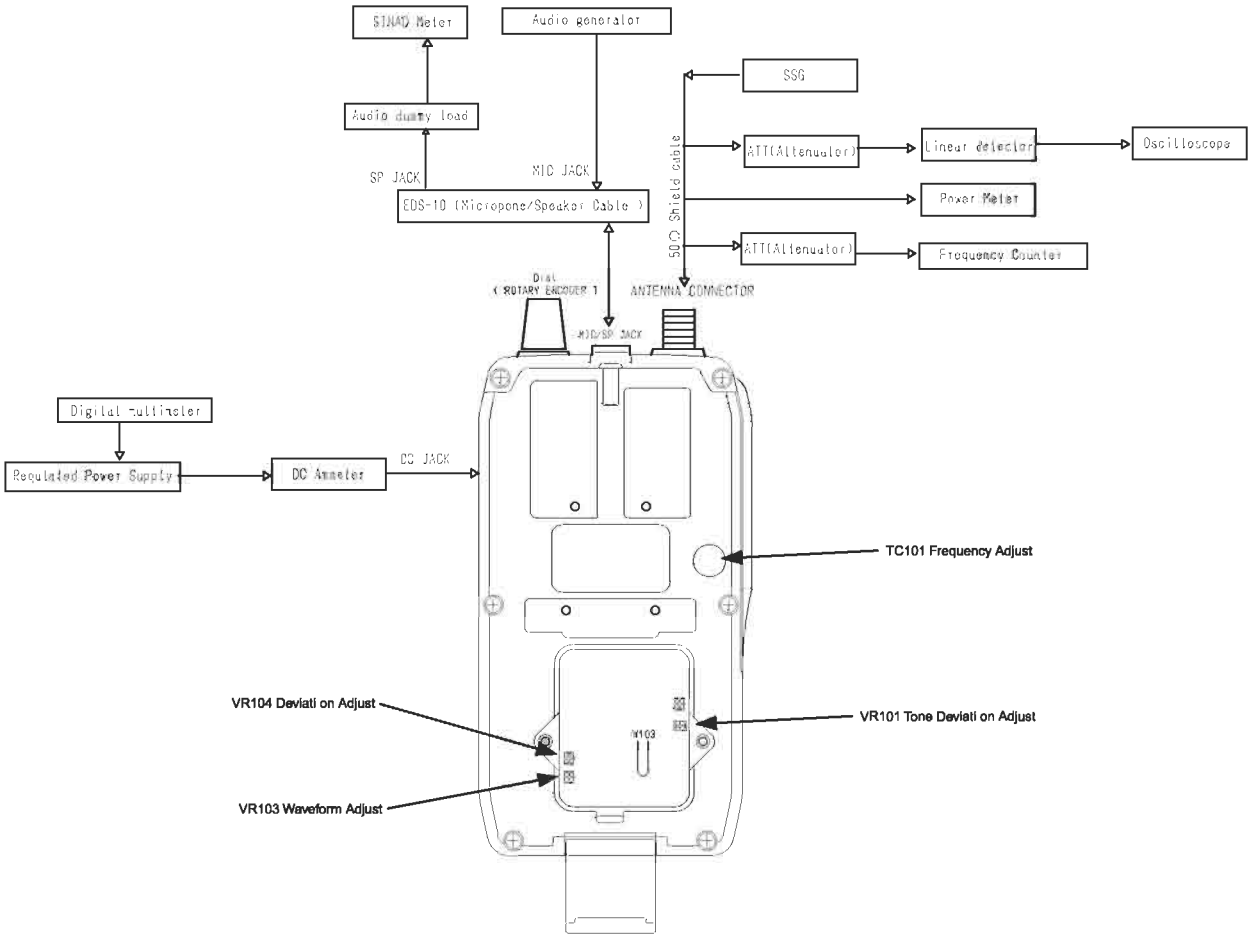


Chart 2 : Adjustment points and interface between the unit and instruments

Table 1: Memory programming for adjustment mode

* Simply memory the frequencies only into the relative memory channels.

Channel	Adjustment menu	Channel No.
1	Frequency Adjustment	5-OF
3	TX-output	5-OF
4	Microphone deviation	5-OF
8	CTCSS tone deviation	5-OF
11	Check Tone-burst tone deviation	5-OF
13	Sensitivity adjustment	5-OF
15	Squelch adjustment (minimum)	5-OF
16	Squelch adjustment (maximum)	5-OF
17	S-meter adjustment (1)	5-OF
18	S-meter adjustment (Full)	5-OF
19	ATT (Attenuator) adjustment	5-OF
25	Low-battery icon appearance (Alkaline)	5-OF

1. Frequency adjustment

Select memory ch.1.

Press PTT on the unit to transmit and measure the TX frequency. Align TC101 to bring the value to the range specified below.

Specification value : ±50Hz

Necessary instrument : Frequency counter

2. TX output

Select memory ch.3.

Press PTT on the unit to transmit. One of digits 0-F should appear on the display where memory channel number was shown. Rotate the dial on the unit to adjust the TX power to meet the specification. Release the PTT to finish the adjustment. Be sure to check the consuming current value after the adjustment is completed.

Specification :

TX-output power : 0.5 watts

Necessary instrument : Power meter

3. Microphone deviation

Select memory ch.4.

Input the signal as specified below from an Audio generator and transmit. Measure the deviation value using a Liner-detector. Align VR104 to bring the value to the range specified below.

Specification : 2.2±0.1kHz

Measuring condition :

(1). Audio generator setting

Frequency : 1kHz

Output Level : 50mV

Necessary instrument : Audio generator / Linear detector

Optional accessory required : EDS-10

4. CTCSS tone 88.5Hz deviation and adjustment of the sign-wave

Select memory ch.8.

Press PTT to automatically transmit 88.5Hz tone. Measure the deviation value using a Liner-detector. Align VR101 to bring the value to the range specified below. Use an oscilloscope to monitor the sign-wave then correct the wave shape (see the chart 3 below).

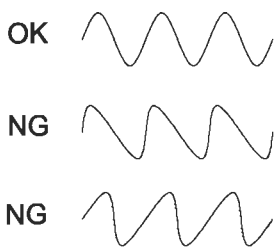


Chart 3: sign-wave correction

Specification : 0.50±0.05Hz

Necessary instrument : Linear detector / Oscilloscope

5. Check Tone-burst tone 1750Hz deviation

Select memory ch.11.

Press PTT to automatically transmit a tone-burst tone 1750Hz. Make sure the value is within the specification using a linear-detector.

Specification : 1.3~1.7kHz

Necessary instrument : Linear detector

6. Receiver sensitivity adjustment

Preparation : Set the speaker audio output level to 50mW.

Operation : Set the memory channels accordingly. Input an RF signal from the SSG to the antenna connector then measure output signal at the speaker jack using a SINAD meter.
Press "F" (FUNC) key on the unit. One of digits 0-FF should appear on the display where memory channel number was shown. Rotate the dial on the unit to bring the SINAD value to 12dB or better.

Condition :
(1). Memory Channel : 13
(2). SSG setting
Frequency : 446.05625MHz
RF Output Level :-4.0dB μ
Modulation Frequency : 1kHz
Modulation Level : 1.5kHz

Necessary instruments : Audio voltmeter/SSG/SINAD Meter/Audio dummy load
Optional accessory required : EDS-10

Note:
Press "FUNC" key or leave the unit for 5 seconds to enter the new values and go to the next adjustment procedure. Memory number should appear on the display when the unit exits the sensitivity adjustment.

7. Squelch adjustments:

Select the memory channel number accordingly to adjust the level Min and Max.
Input an RF signal to the antenna connector from SSG then press FUNC key on the unit. A beep ("pip") sounds and completes the adjustment.

a. Squelch level (Min.)
Condition :
(1). Memory Channel : 15
(2). SSG setting
Frequency : 446.05625MHz
RF Output Level :-9.0dB μ
Modulation Frequency : 1kHz
Modulation Level : 1.5kHz

b. Squelch level (Max.)
Condition :
(1). Memory Channel : 16
(2). SSG setting
Frequency : 446.05625MHz
RF Output Level :0dB μ
Modulation Frequency : 1kHz
Modulation Level : 1.5kHz

Necessary instrument : SSG

8. S-meter adjustments

Select the memory channel number accordingly to adjust the S-meter level 1 and full.
Input an RF signal to the antenna connector from SSG then press FUNC key on the unit. A beep ("pip") sounds and completes the adjustment.

a. S-meter level 1

Condition :
(1). Memory Channel : 17
(2). SSG setting
Frequency : 446.05625MHz
RF Output Level : 0dB μ
Modulation Frequency : 1kHz
Modulation Level : 1.5kHz

b. S-meter level Full

Condition :
(1). Memory Channel : 18
(2). SSG setting
Frequency : 446.05625MHz
RF Output Level : 20dB μ
Modulation Frequency : 1kHz
Modulation Level : 1.5kHz

Necessary instrument : SSG

9. Attenuator adjustment

Select the memory ch.19.
Input an RF signal to the antenna connector from SSG then press FUNC key on the unit.
One of digits 0-FF should appear on the display where memory channel number was shown. Rotate the dial on the unit to adjust to the point that the S-meter shows 5th segment just from the 4th (OK even 5th may blinks).

Condition :
(1). SSG setting
Frequency : 446.05625MHz
RF Output Level : 20dB μ
Modulation Frequency : 1kHz
Modulation Level : 1.5kHz

Necessary instrument : SSG

Note:

(1) Press "FUNC" key or leave the unit for 5 seconds to go to the next adjustment procedure. Memory number should appear on the display when the unit exits this adjustment point.
(2) The S-meter adjustment should be completed before you perform this operation.

10. Low-battery icon appearance (Alkaline)

Select the memory ch.25.

Press "F" (FUNC) key on the unit. One of digits 0-FF should appear on the display where memory channel number was shown. Rotate the dial on the unit to select "6A". The value can be varied by rotating the dial, but select always 6A.

Note:

Press "FUNC" key or leave the unit for 5 seconds to go to the next adjustment procedure.

Memory number should appear on the display when the unit exits this adjustment point.

4) Re-assembly

1. Turn off the unit.
2. According to the instruction below ③, mount the rear-cover ②.
3. Securely screw ① to fix the cover.
4. Turn on the unit by pressing "F" key and "V/M" key together to reset the CPU. The display will be blank out for 2 seconds then comes back normal.

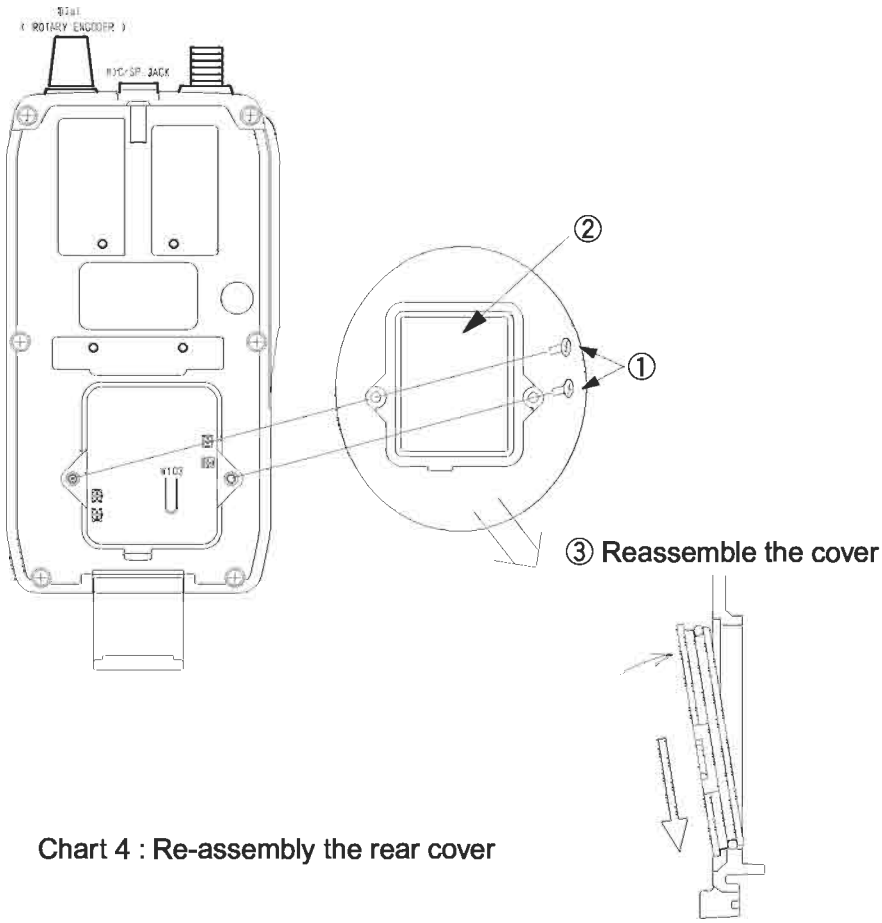
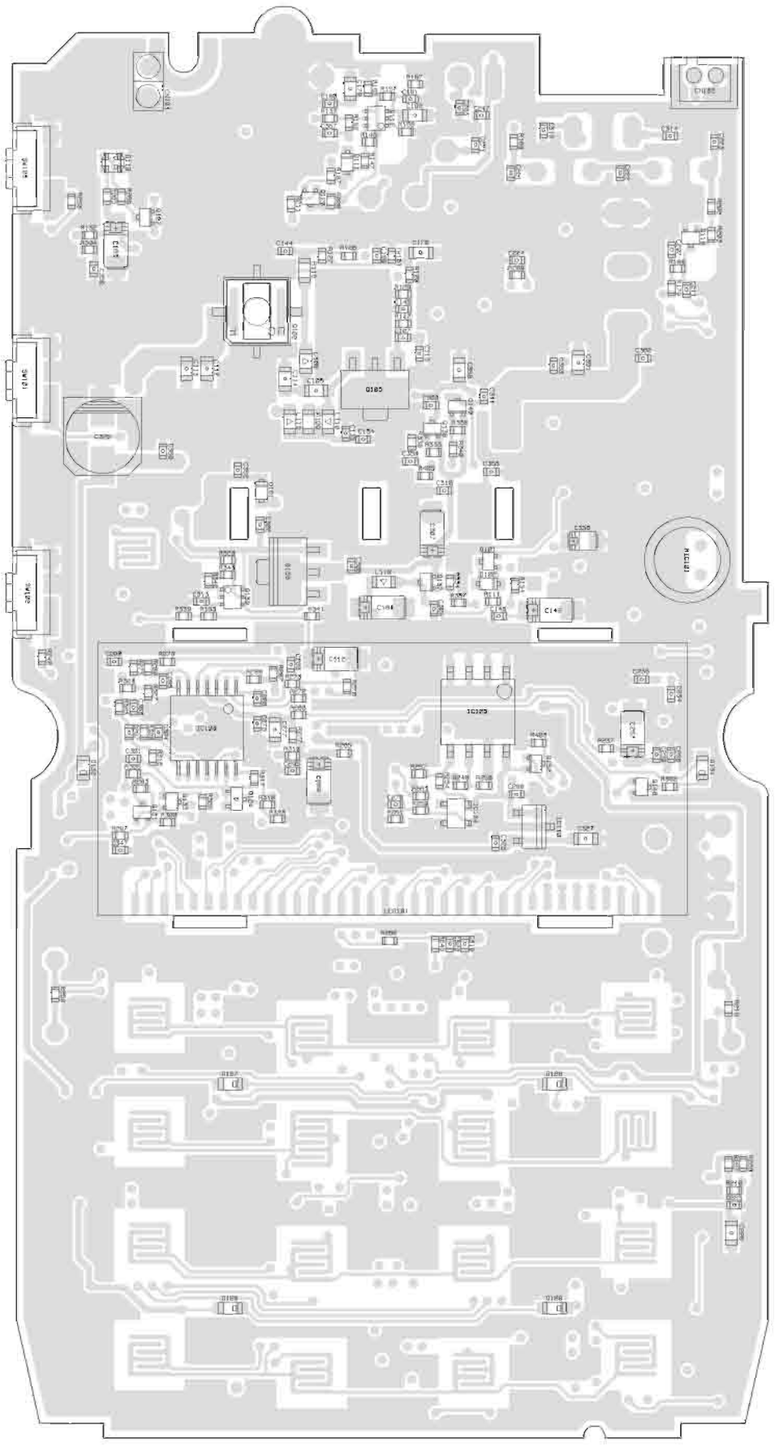


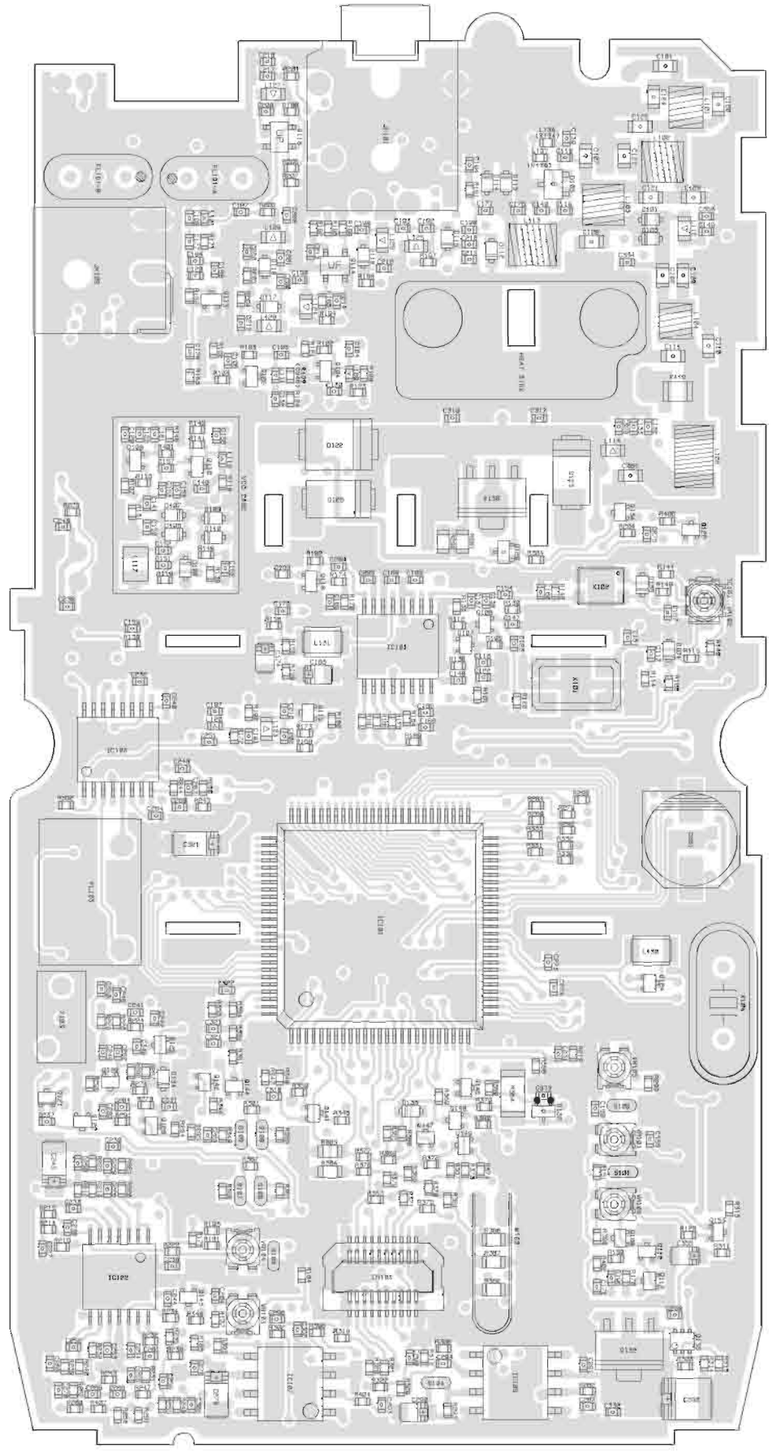
Chart 4 : Re-assembly the rear cover

PC BOARD VIEW

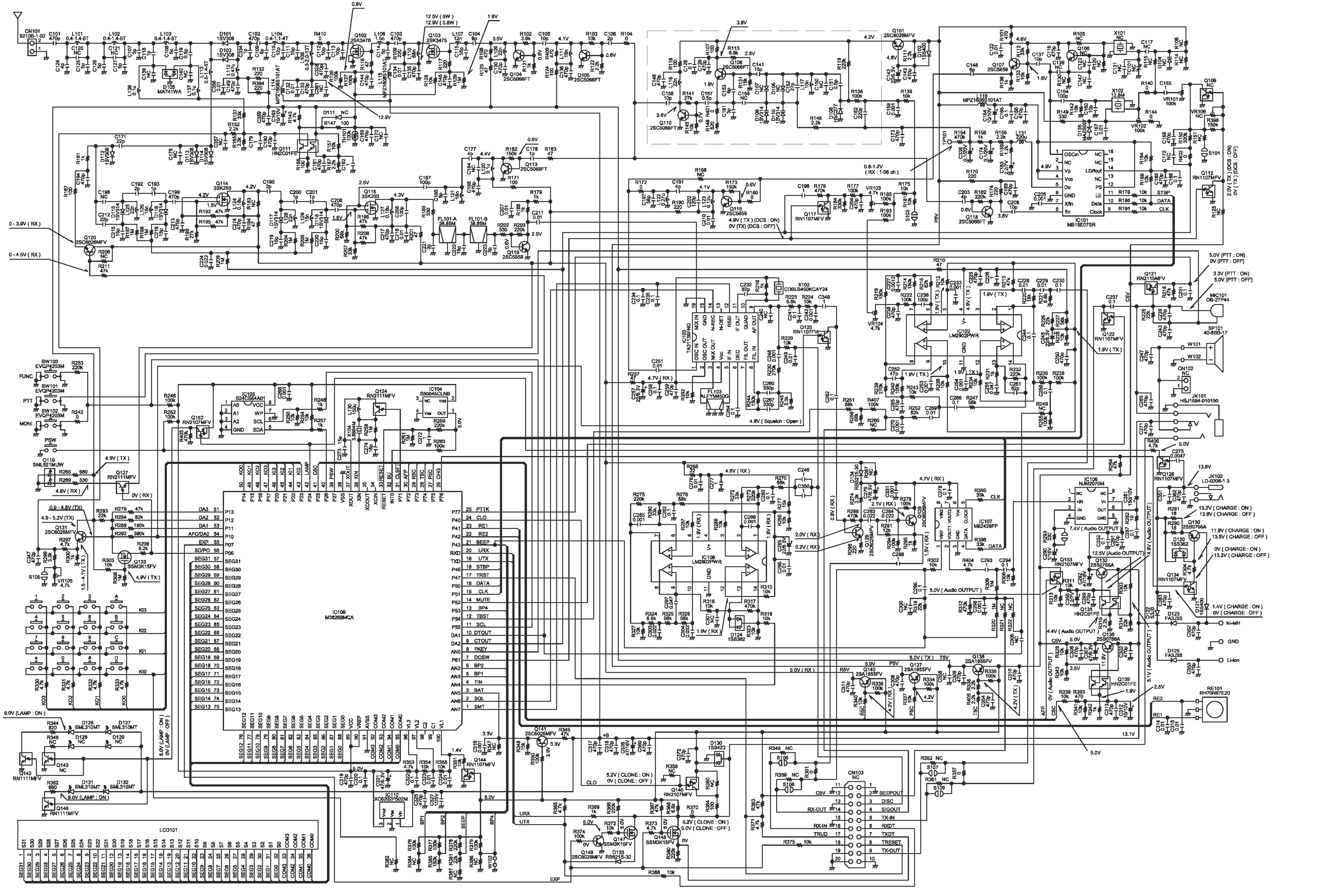
MAIN SIDE A



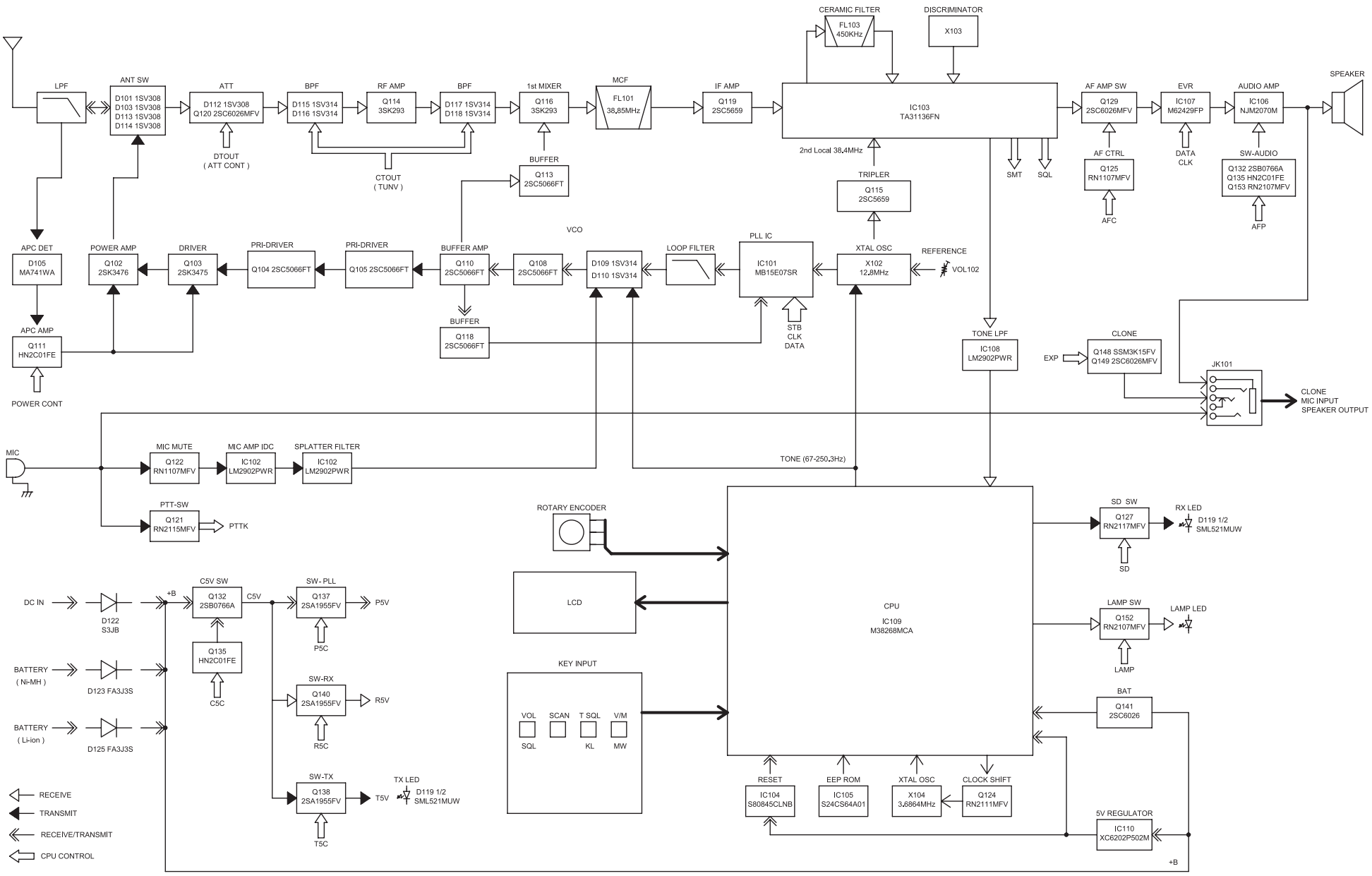
MAIN SIDE B



SCHEMATIC DIAGRAM



BLOCK DIAGRAM



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Dealer/Distributor

Printed in Japan
Updated AE3619

PM0094
FNNK-NE