DJ – G29T
Service Manual

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SCHEMATIC DIAGRAM

BLOCK DIAGRAM

ALINCO, INC.

SPECIFICATIONS

■General

● Frequency range: TX(Main band):   222.000 – 224.995MHz
                          902.000 – 927.995MHz
           RX(Main/Sub band): 216.000 – 249.995MHz
                          902.000 – 927.995MHz

● Antenna impedance: 50 ohm(SMA)
● Supply voltage: DC 7.4V(EBP-73 Li-ion battery pack)
                    DC 9~16V(external regulated source)
● Ground: Negative ground
● Current consumption:

          - TX approx. 1.7A/222MHz, 1.7A/902MHz
          - RX approx. 200mA/Dual, 150mA/Mono
          - Battery save (1:4) approx. average: Dual 56mA/Mono50mA
● Temperature range: -10℃~+45℃ (+14~+113°F)
● Frequency stability: +2.5ppm(@-10 - +45℃)
● Dimensions (WxHxD Projections exclusive):
               61 x 106 x 38 mm
               or 2.40 x 4.17 x 1.50 in.
● Weight (Antenna/EBP-73 inclusive):
               Approx. 296g /9.55 oz

■Transmitter

● Output power (approx):
          - DC13.8V:222MHz 5/1/0.4W, 902MHz 2.5/1/0.4W
          - EBP-73:222MHz 4/0.8/0.3W, 902MHz 1.7/0.8/0.3W
● Modulation mode: F1D/F2D/F3E
● Spurious emission: -60dB or less
● Maximum frequency deviation: ±5kHz

■Receiver

● System: Double-conversion super heterodyne
● IF frequencies(1st/2nd):
             Main band: 51.65MHz / 450kHz
             Sub band: 50.75MHz / 450kHz
● Sensitivity: Main band: 222MHz ham-radio bands –14dB μ
                    902MHz ham-radio bands –14dB μ
             Sub band: 222MHz ham-radio bands –14dB μ
                    902MHz ham-radio bands –14dB μ
● Selectivity: -6dB 12kHz or more / -60dB 35kHz or less
● Audio output power: More than 400mW (8Ω/MAX)

CIRCUIT DESCRIPTION

1) Reception

1. RX Method

FM:	Double Super Heterodyne Method
1st IF:	Main band 51.65 MHz
	Sub band 50.75 MHz
2nd IF:	450 kHz

2. Front End

2-1. 216 ～ 249.995MHz (MAIN)

The receiving signal is passed through the band-pass filer (C378, C405, C406, C406, C407, C415, C530, L223, L231, L259), and amplified in RF fast amplifier (Q234).
The amplified signal is led to band pass filter (C396, C397, C399, C404, C411, C412, L255, L256), and then input to the mixer IC204

2-2. 902 ～ 927.995MHz (MAIN)

The receiving signal is passed through the band-pass filer (C497, C498, C499, L254, L283, L284), and amplified in RF fast amplifier (Q250).
The amplified signal is led to band pass filter (C486, C488, L293, FL202) and amplified in RF second amplifier (Q258).
The amplified signal is led to high pass filter (C524, C525, L292), and then input to the mixer IC204

2-3. 216 ～ 249.995MHz (SUB)

The receiving signal is passed through the band-pass filer (C378, C405, C406, C406, C407, C415, C530, L223, L231, L259), and amplified in RF amplifier (Q234).
The amplified signal is led to band pass filter (C418, C419, C420, C421, C429, C430, C432, C433, C434, C435, C436, L261, L262, L264, L265), then input to the mixer IC206

2-4. .902 ～ 927.995MHz (SUB)

The receiving signal is passed through the band-pass filer (C497, C498, C499, L254, L283, L284), and amplified in RF amplifier (Q250).
The amplified signal is led to band pass filter (C508, C510, C258, L288, FL205) and amplified in RF second amplifier (Q256).
The amplified signal is led to high pass filter (C511, C512, L290), and then input to the mixer IC206

3.ATT

This circuit is used in case the receiving signal is disturbed by interfering signal, attenuating the receiving signal to reduce the interference. CPU (IC3) pin 30, 31 and 32 outputs a DC voltage to drive IC14, then ATTV on MAIN unit controlling D207 and D242. The serial resistor with diodes adjusted the attenuation value.

4 Mixer

4-1. Main Mixer

The input signal to the mixer IC204 and the 1st local signal are added or, then it is amplified at the 1st IF amplifier Q216 after the adjacent signal subtracted at mixer IC204, and the crystal filter XF201 selects the signal of 51.65MHz is eliminated.

4-2. Sub Mixer

The input signal to the mixer IC206 and the 1st local signal are added or, then it is amplified at the 1st IF amplifier Q225 after the adjacent signal subtracted at mixer IC206, and the crystal filter XF202 selects the signal of 50.75MHz is eliminated.

5. IF

5-1. Main IF

The signal amplified at the 1st IF amplifier Q216 is supplied to pin 16 of IC205 for demodulation. Also the signal of 12.8MHz pass through Q213 and Q214 and 51.2MHz (12.8MHz X 4) led to pin 1 of IC205.
2 input signals on pin 16 and 1, are mixed in the mixer circuit inside IC205 and converted into the 2nd IF signal of 450kHz. The converted 2nd IF signal is output from pin 3 of IC205.
The output signal from pin 3 of IC205 is led to pin 5 of IC205 after eliminating the adjacent channel signal at the ceramic filter FL201. The input 2nd IF signal to pin 5 of IC205 is demodulated at the limiter amplifier and quartered detector circuits inside of IC205, then output from pin 9 of IC205 as an AF signal.

5-2. Sub IF	The signal amplified at the 1st IF amplifier Q225 is supplied to pin 24 of IC208 for demodulation. Also the signal of 12.8MHz pass through Q213 and Q214 and 51.2MHz (12.8MHz X 4) led to pin 1 of IC208.

5-2. Sub IF

The signal amplified at the 1st IF amplifier Q225 is supplied to pin 24 of IC208 for demodulation. Also the signal of 12.8MHz pass through Q213 and Q214 and 51.2MHz (12.8MHz X 4) led to pin 1 of IC208.

2 input signals on pin 24 and 1, are mixed in the mixer circuit inside IC208 and converted into the 2nd IF signal of 450kHz. The converted 2nd IF signal is output from pin 3 of IC208.

The output signal from pin 3 of IC208 is led to pin 7 of IC208 after eliminating the adjacent channel signal at the ceramic filter FL204. The input 2nd IF signal to pin 7 of IC208 is demodulated at the limiter amplifier and quartered detector circuits inside of IC208, then output from pin 12 of IC205 as an AF signal

6. Squelch

6-1. Main Squelch

The AF signal got from pin 9 of IC205 is fed to pin 8 of IC205. The input signal is output from pin 14 of IC205 passing through the noise filter amplifier and rectifier circuits inside of IC205. The rectified signal (MSQL) is added to the A/D(Pin109) port of the microcomputer IC3. Judging the signal, the microcomputer controls ON/OFF of the audio output.

6-2. Sub Squelch

The AF signal got from pin 12 of IC208 is fed to pin 19 of IC208. The input signal is output from pin 21 of IC208 passing through the noise filter amplifier and rectifier circuits inside of IC208. The rectified signal (SSQL) is added to the A/D(Pin108) port of the microcomputer IC3. Judging the signal, the microcomputer controls ON/OFF of the audio output.

7. Audio

The all AF signal are attracted to the IC10 on the CPU unit.

The volume of output audio signal is adjusted at the volume IC10 and the AF amplifier Q7. And then the signal is input to pin 2 of audio power amplifier IC5 to output pass through the audio SW Q12 from pin 6 to drive a speaker, etc.

8. VCO

8-1. Main VCO

The Main VCO on oscillating frequency buffer amplifier Q602, oscillated signal is supplied to pin 4 of PLL-IC202 passing through the buffer amplifier Q201.

The VCO in 222 band consists of the Colpitts oscillator. D604, D605, D606 and L602 determine the oscillating frequency, and the signal is oscillated at the transistor Q603.

The VCO in 902 band consists of the Colpitts oscillator. D601, D607, D605, D609 and L603 determine the oscillating frequency, and the signal is oscillated at the transistor Q604.

8-2. Sub VCO

The Sub VCO on oscillating frequency buffer amplifier Q702, oscillated signal is supplied to pin 13 of PLL-IC202.

The VCO in 222 band consists of the Colpitts oscillator. D704, D706, and L703 determine the oscillating frequency, and the signal is oscillated at the transistor Q704.

The VCO in 902 band consists of the Colpitts oscillator. D707, D709 and L705 determine the oscillating frequency, and the signal is oscillated at the transistor Q706.

9. PLL

PLL-IC202 is used to control the oscillating frequency of the VCO.

IC202 is controlled by the serial control signal (DATA, CLK, STB1) sent from the microprocessor IC3. The 12.8MHz reference frequency of IC202, supplied from crystal oscillates X201.

IC202 compares the frequency gained by dividing the signal added to pin 16 of IC3 by the control signal from IC3 with the frequency gained by dividing the reference frequency 12.8MHz.

When the phase difference is found as a result of phase comparison, the pulse signal is output from the charge pump output of pin 8(Main band) and pin 9(Sub band) of IC202, then the signal is converted into the DC voltage at the passive filter and added to the cathode side of the VCO vari-cap D601, D604, D605, D606, D607, D608, D609, D704, D706, D707, D706 and D709 to make the phases equal. In result the stabilized oscillation can be done at the desired frequency.

2) Transmission

1. Microphone Amplifier

The audio signal is converted to a mute switch (Q20) and microphone gain (Q24) Electric signal in either the internal or external microphone pass through and two operational amplifiers, then supplied to IC10.

The voice is converted into the electric signal through the microphone, and then supplied to IC10.

The input signal is amplified and pre-emphasized to be output.

The signal output from microphone amplifier is adjusted the maximum frequency deviation at IC10. The adjusted signal is added to the cathode of the VCO vari-cap D605 and D608 for deviation to change the capacity of the oscillation circuit resulting the FM deviation.

2. Power Amplifier

The VCO in 222 band oscillated signal of the VCO is supplied to the power amplifier Q202, passing through buffer amplifier Q602 on VCO unit and then pre-driver amplifier IC201, driver amplifier Q203. The power-amplified signal is supplied to the antenna through the duplexer after the harmonics are attenuated enough.

The VCO in 902 band oscillated signal of the VCO is supplied to the power amplifier Q210, passing through buffer amplifier Q602 on VCO unit then pre-driver amplifier IC201, driver amplifier Q212. The power-amplified signal is supplied to the antenna through the duplexer after the harmonics are attenuated enough.

3) CPU Peripheral

1.Lamp

The CPU pin 117, 118 and 119 outputs a DC current to drive IC6, controls.

The brightness of the lamp can be adjusted by five stages lamp lights when operating

Lamp (D4, D5, D6, D7, D8, D8, D801, D802) lights when ten keys are operated.

The lamp outputs by five stages and adjusts the DC current with CPU pin 117, 118 and 119 to IC6.

2. Tone/DCS/DTMF Encoder

The CPU pin 7 is equipped with an internal tone/DCS/DTMF encoder.

The tone signal (67.0 to 250.3Hz) is output.

The DCS code (023 to 754) is output.

The DTMF code (1 to D) is output.

3. Tome/DCS Decoder

The AF signal from the IC205 or IC208 is filtered by an active filter (IC2) signal amplified and input to pin 121 of the CPU

3) CPU

M30625FG (XA1541)

Terminal Connection
  (TOP VIEW)
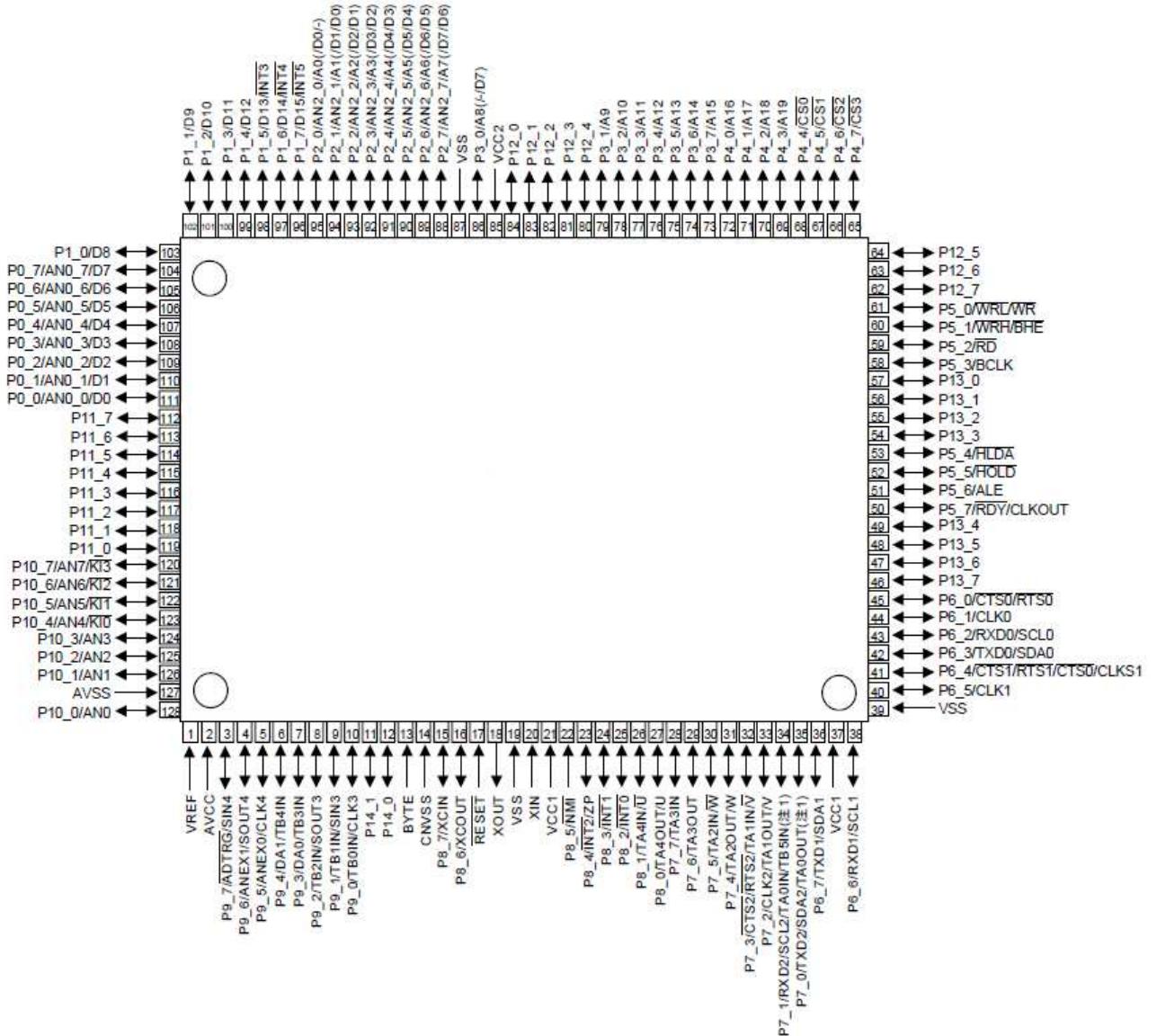
| No.	Terminal	Signal	I/O	Description
1	VREF	VDD2	-	Power supply
2	AVCC	VDD2	-	Power supply
3	P9_7	DCSW	O	DCS mute SW
4	P9_6	MUTE	O	Mute
5	P9_5	TDC	O	Tone mute SW
6	P9_4	TRKV	O	Front End control
7	P9_3	TDD		Tone/DCS/DTMF output
8	P9_2	MSW	I	MONI SW
9	P9_1	XBR	O	Cross Band Repeater SW
10	P9_0	DTSW	O	Tone/DCS/DTMF SW
11	P14_1	SCLK	-	Signal clock for EEPROM
12	P14_0	SDATA	-	Signal data for EEPROM
13	BATE	GND	-	GND
14	CNVSS	GND	-	GND
15	P8_7	TFSK	O	FSK output
16	P8_6	X SW	O	Clock shift output
17	RESET	RST	I	Rest input
18	XOUT	XOUT	O	Main clock output
19	VSS	GND	-	GND
20	XIN	XIN	I	Main clock input
21	VCC1	VDD	-	Power supply
22	P8_5	VDS	-	Power supply
23	P8_4	RFSK	I	FSK input
24	P8_3	R1A	I	MAIN RE
25	P8_2	R2A	I	MAIN RE
26	P8_1	R1B	I	MAIN RE
27	P8_0	BEEP	O	BEEP output
28	P7_7	R2B	I	MAIN RE
29	P7_6	TBST	O	Tone-burst output
30	P7_5	ATT1	O	ATT control output
31	P7_4	ATT2	O	ATT control output
32	P7_3	ATT3	O	ATT control output
33	P7_2	PUSH	I	MAIN RE
34	RSD2/SCL2	RXD	I	Clone data input
35	TXD2/SDA2	TXD	O	Clone data output
36	P6_7	MRLC	O	MAIN red Indicator output
37	VCC1	VDD	-	Power supply
38	P6_6	MTLC	O	MAIN green Indicator output
39	VSS	GND	-	GND
40	P6_5	/CS1	O	LCD
41	P6_4	/RES	O	LCD
42	P6_3	A0	O	LCD
43	P6_2	WR	O	LCD
44	P6_1	/RD	O	LCD
45	P6_0	NC	-	-
46	P13_7	D0	O	LCD
47	P13_6	D1	O	LCD
48	P13_5	D2	O	LCD
49	P13_4	D3	O	LCD
50	P5_7	RDCSW	O	DCS/Tone filter shift

No.	Terminal	Signal	I/O	Description
51	P5_6	NC	-	-
52	P5_5	MTSW	O	DCS/Tone filter SW
53	P5_4	STSW	O	DCS/Tone filter SW
54	P13_3	D4	O	LCD
55	P13_2	D5	O	LCD
56	P13_1	D6	O	LCD
57	P13_0	D7	O	LCD
58	P5_3	TP	-	TP12
59	P5_2	BPC1	O	BEEP Volume
60	P5_1	BPC2	O	BEEP Volume
61	P5_0	TC1	O	Tone/DCS/DTMF Volume SW
62	P12_7	TC2	O	Tone/DCS/DTMF Volume SW
63	P12_6	SRLC	O	SUB red Indicator output
64	P12_5	STLC	O	SUB green Indicator output
65	P4_7	EXT	O	Clone data SW
66	P4_6	LOPOW	O	TX low power SW
67	P4_5	SPC	O	Audio SW
68	P4_4	AFPC	O	Audio power SW
69	P4_3	PT3	I	TX Hi/Low input
70	P4_2	STB1	O	PLL (IC202) data output
71	P4_1	PT3	O	PTT SW
72	P4_0	PVC	O	PLL power
73	P3_7	T3C	O	T3V SW
74	P3_6	CHG	O	Battery charge SW
75	P3_5	C3C	O	C3V SW
76	P3_4	STB2	O	Parallel driver (IC207) data SW
77	P3_3	KI0	I	Key matrix input
78	P3_2	KI1	I	Key matrix input
79	P3_1	KI2	I	Key matrix input
70	P12_4	KI3	I	Key matrix input
81	P12_3	KO0	O	Key matrix output
82	P12_2	KO1	O	Key matrix output
83	P12_1	KO2	O	Key matrix output
84	P12_0	KO3	O	Key matrix output
85	VCC2	VDD2	-	Power supply
86	P3_0	FSKC	O	FSK SW
87	VSS	GND	-	GND
88	P2_7	VOXC	O	Microphone amplifier (IC12) power
89	P2_6	STB3	O	D/A IC (IC10) data input
90	P2_5	CLK	O	Data clock output
91	P2_4	DATA	O	DATA output
92	P2_3	TVC	O	222MHz band TX SW
93	P2_2	PS1	O	PLL SW of MAIN VCO
94	P2_1	PUSHH	I	SUB RE
95	P2_0	R2BB	I	SUB RE
96	P1_7	B2AA	I	SUB RE
97	P1_6	JDET	I	Ext power detection
98	P1_5	R1AA	I	SUB RE
99	P1_4	T12C	O	1200MHz band TX SW
100	P1_3	MVCC	O	Main VCO buffer SW

| No.	Terminal	Signal	I/O	Description
101	P1_2	M12C	O	Main VCO 902MHz band power
102	P1_1	MUC	O	Main VCO 222MHz band power
103	P1_0	BP1	I	Band pram detection
104	P0_7	SUC	O	SUB VCO 902MHz band power
105	P0_6	SVC	O	SUB VOC 222MHz band power
106	P0_5	R1BB	I	SUB RE
107	P0_4	DET	I	Battery voltage detection
108	P0_3	SSQL	I	SUB Squelch input
109	P0_2	MSQL	I	Main Squelch input
110	P0_1	MSMT	I	Main S-meter input
111	P0_0	SSMT	I	Sub S-meter input
112	P11_7	D/TC	O	DCS/Tone filter power
113	P11_6	JRC	O	BUG sound mode power
114	P11_5	SVCC	O	Sub VCO buffer SW
115	P11_4	MG1C	O	Mike gain SW1
116	P11_3	MG2C	O	Mike gain SW2
117	P11_2	LED3	O	Lamp SW1
118	P11_1	LED2	O	Lamp SW2
119	P11_0	LED1	O	Lamp SW3
120	P10_7	JRIN	I	BUG sound mode input
121	P10_6	TIN	I	DCS/Tone input
122	P10_5	VXDET	I	VOX voltage detection
123	P10_4	POSW	I	Power SW
124	P10_3	APTT	O	Mike SW
125	P10_2	FSW	I	FUNC SW
126	P10_1	BCHK	I	Power voltage detection
127	AVSS	GND	-	GND
128	P10_0	PCNT	O	Power voltage detection SW

CPU Unit Side A

It must be cut 0.0mm
from up0738 INTEGRATED

D2

D3

TP5
TP6
TP7
TP8

TP14
TP15
TP16
TP17

TP9   TP13
C14 C12
C15 IC12
C17 C16
C10 C9
C13 C11
C8

TP19   TP18

CN4

R5 R164 Q18 C72
R10
Q14   C74
C112   R93
C52   R63
R55 C59 C53 Q9
C56 C48
Q11   C50
R59

CN5

C82   C61
R26   C8
R140   C13
IC103
IC15
IC14
IC9
C70
R58
C80
C68
Q20
R85
R44 R147
R146 R42
R45
IC4
C45
R36
Q4
R35 C39
R110 R112
R111
R109
R168
C60 R72
C55 R71
IC135
R132 R131
R133
R129
C99
IC13

R75
C56

TP1

TP2

H MACL02AA

TP11   TP10
R3
Q3
R49
D5

Q19 C88 R6
R94

SW4
SW5
SW6
SW7
SW8

C134 R167

R50
D6
R169   R170
R51
D7

SW10
SW11
SW12
SW13
SW14

R53
D9

SW15
SW16
SW17
SW18
SW19

R52 D8
R48 D4

SW3
SW20

MIC1

CPU Unit Side B

MACL07AA (Blue)
MRCL07AA (Red)

MAIN Unit Side A

TZ0109×0.25

Take off the tape on the adhesive side.
And put the heat radiation sheet as like this figure.
At that time, press this sheet against Q249 and Q248.

TZ0113

MAIN Unit Side B

Take off the tape on the adhesive side.
And put the heat radiation sheet as like this figure.
At that time, press this sheet against D239 and Q247.

TZ0109

D239

D241

Q247

VCO Unit Side A

D606
L602
R611
R605
C604
L605
Q602
C602
R604
C613
Q603
C601
C616
R613
C615
C623
R620
D604
R612
C612
R609
C611
C614
C617
C618
R602
C622
R618
R617
C624
C621
L603
C620
R603
C619
R615
Q604
R616
R603
R614
D605
D607
R610
D601
D609
L604
C625
D608
C626
R621

VCO Unit Side B

CN601

DJG29T
BLOCK DIAGRAM
2011.12.16
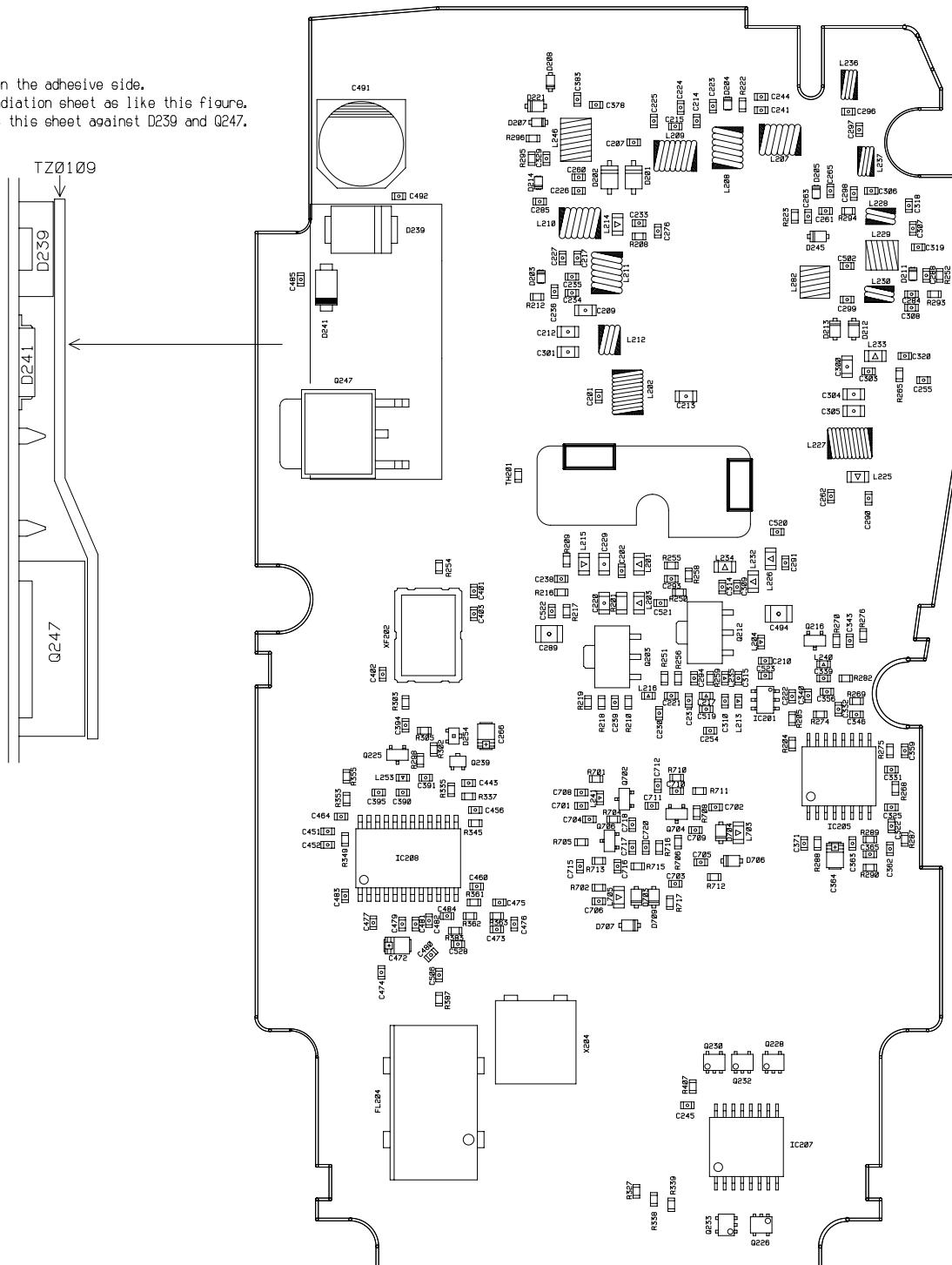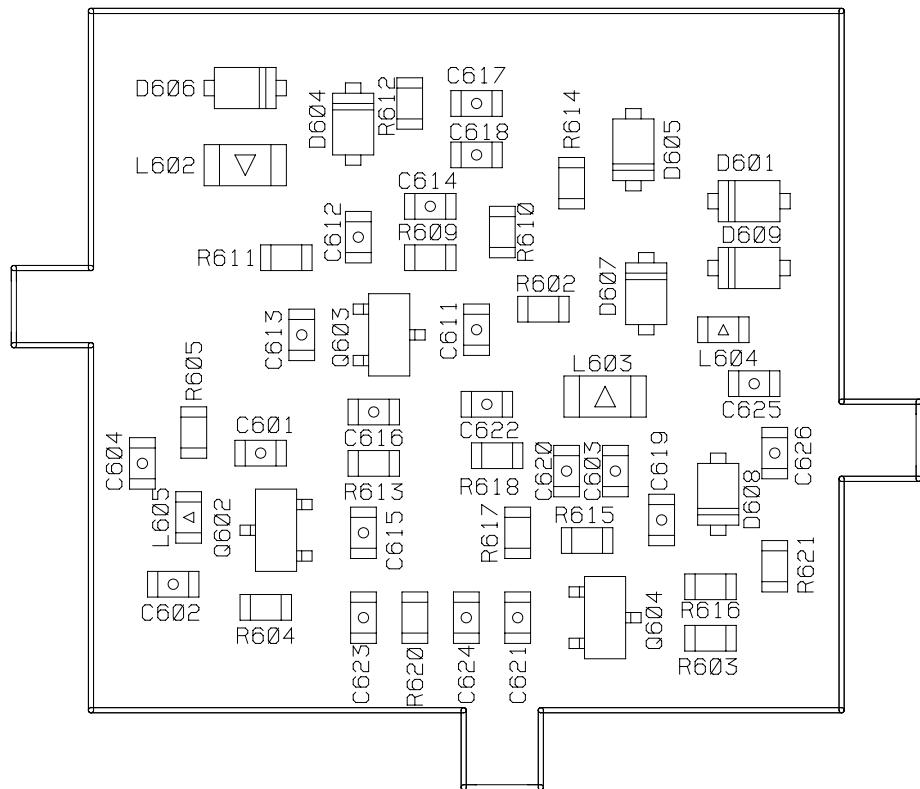
DJ-G29T — CPU UNIT — Ver.MP
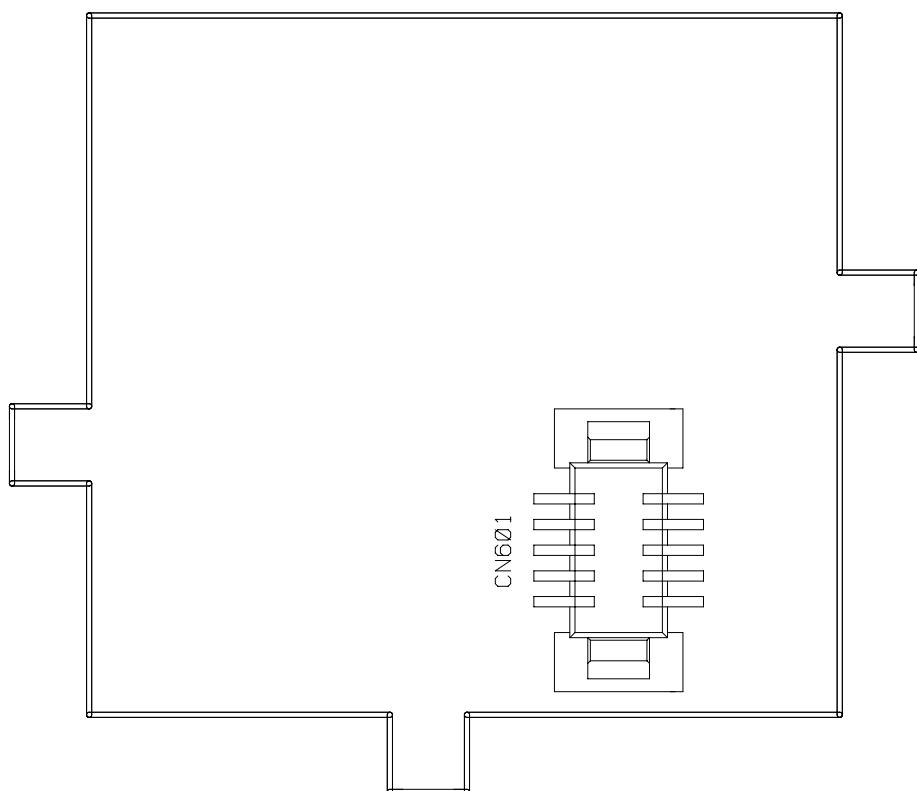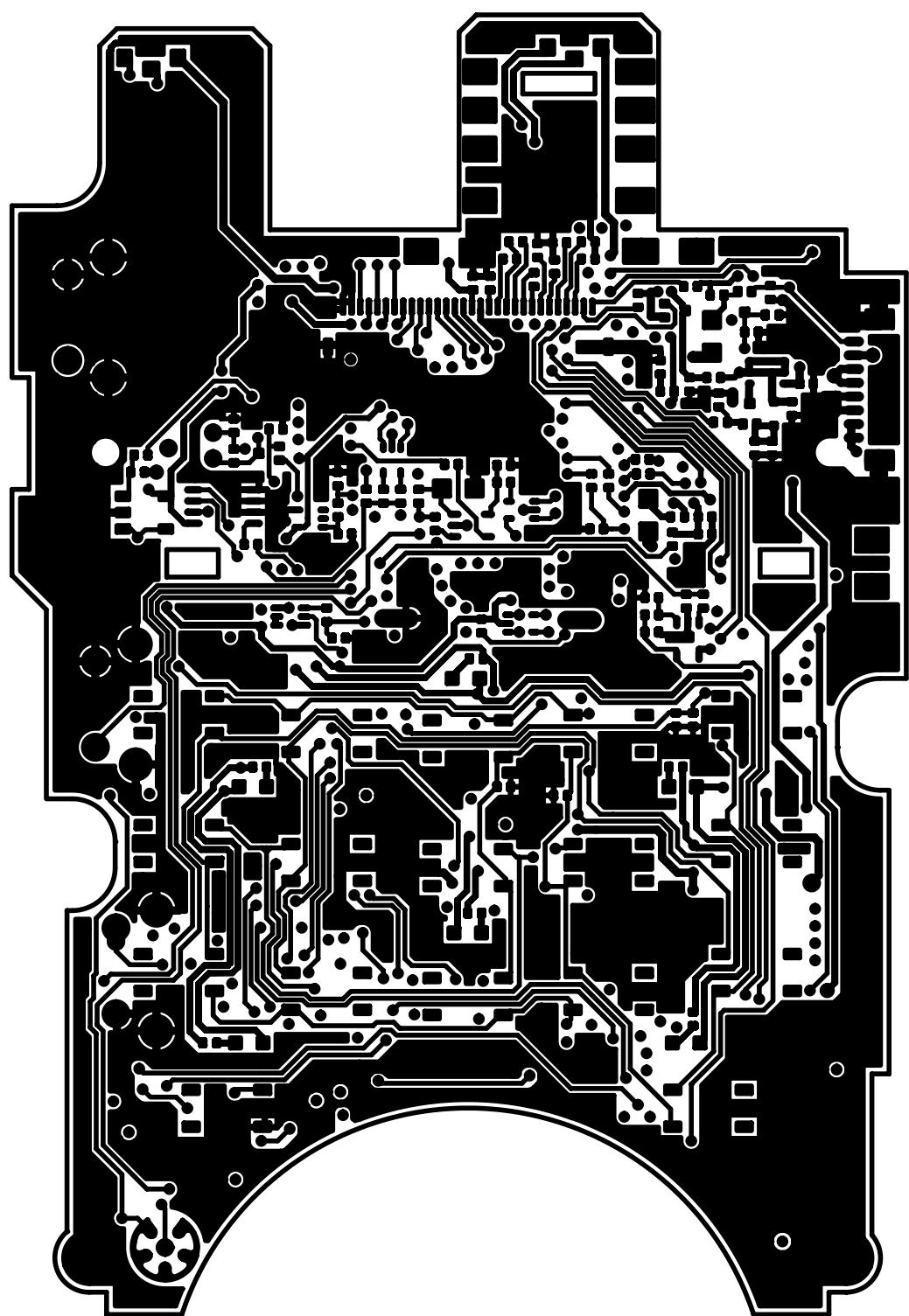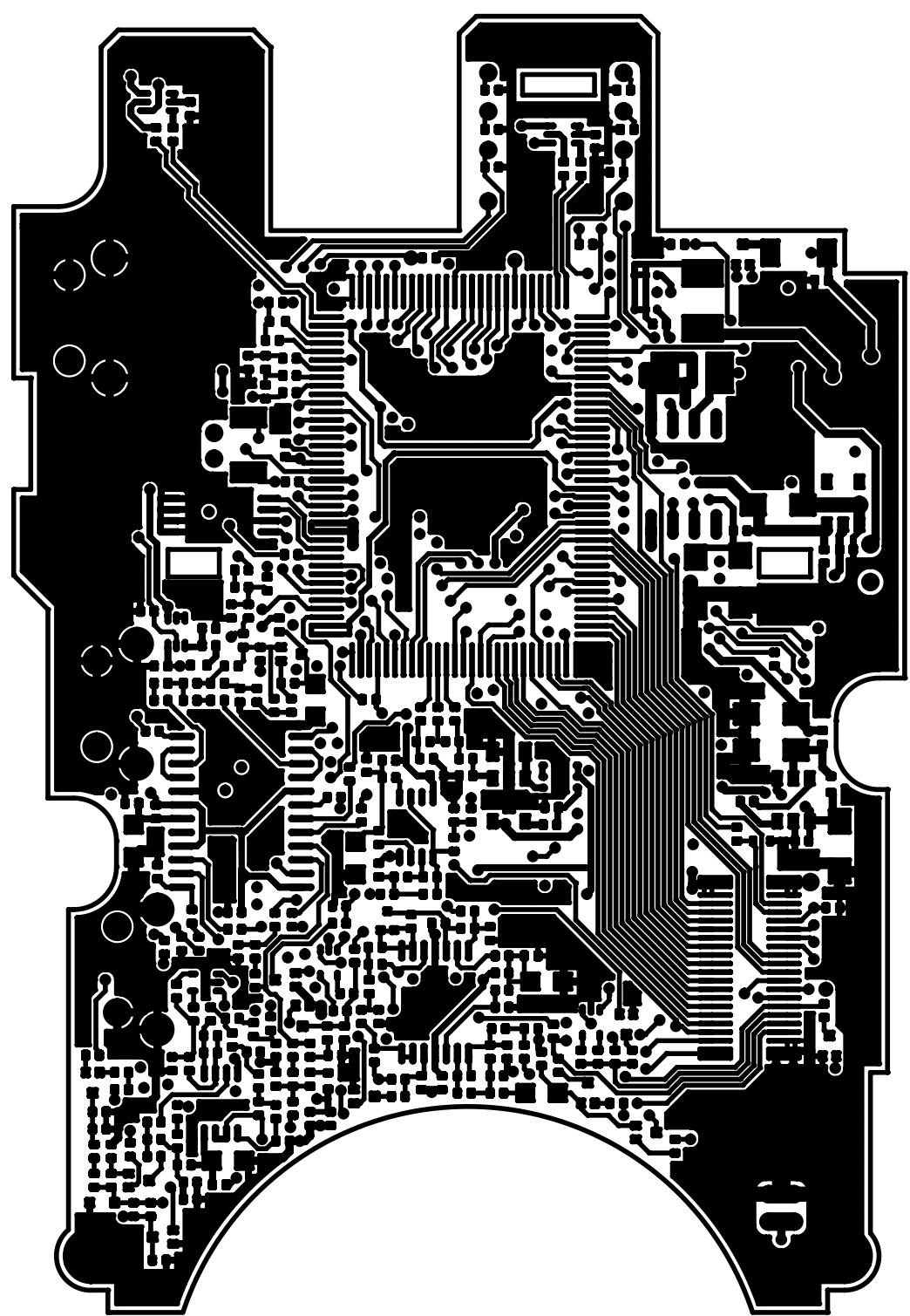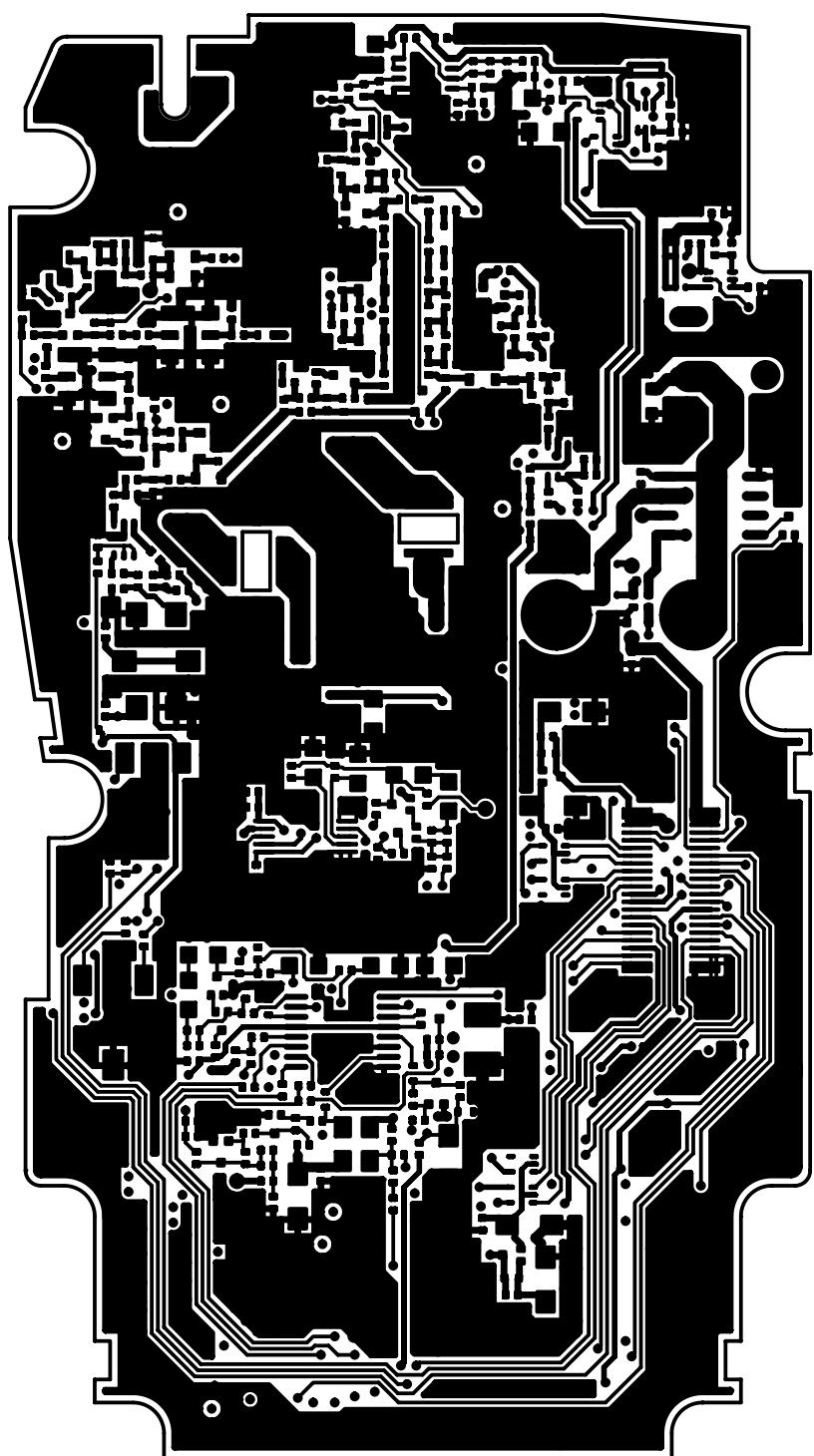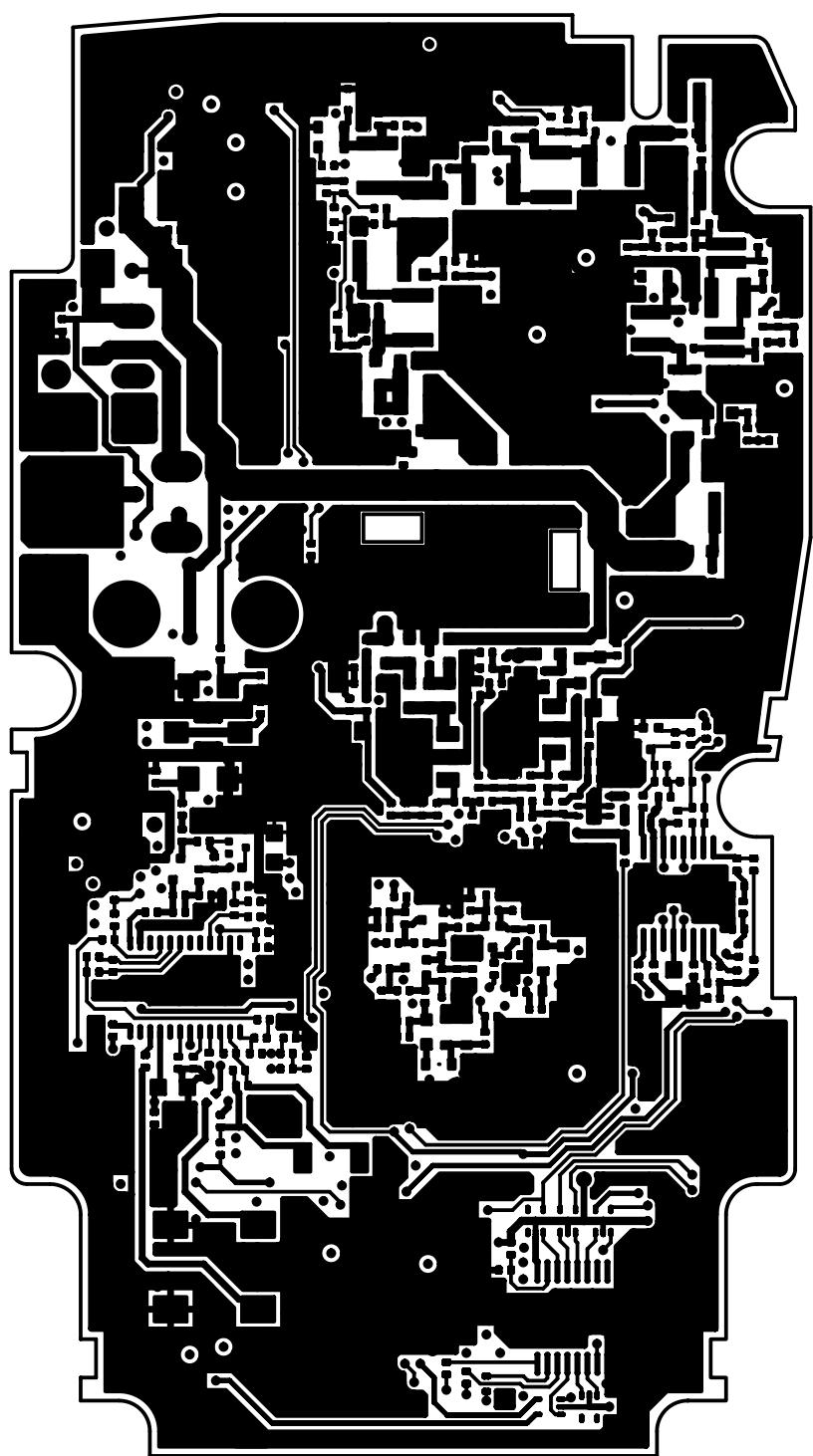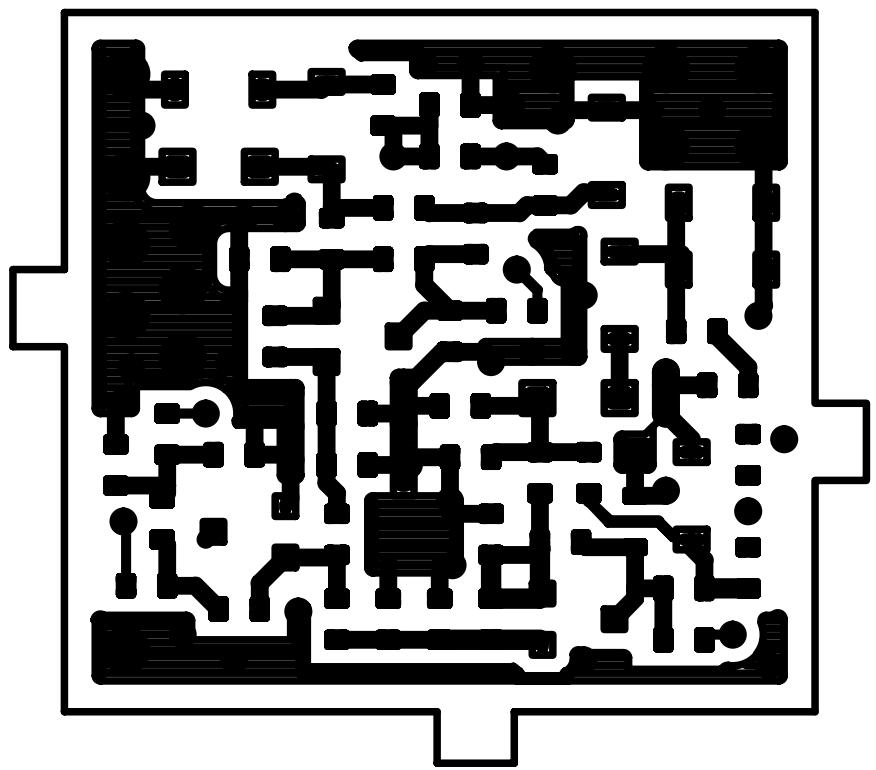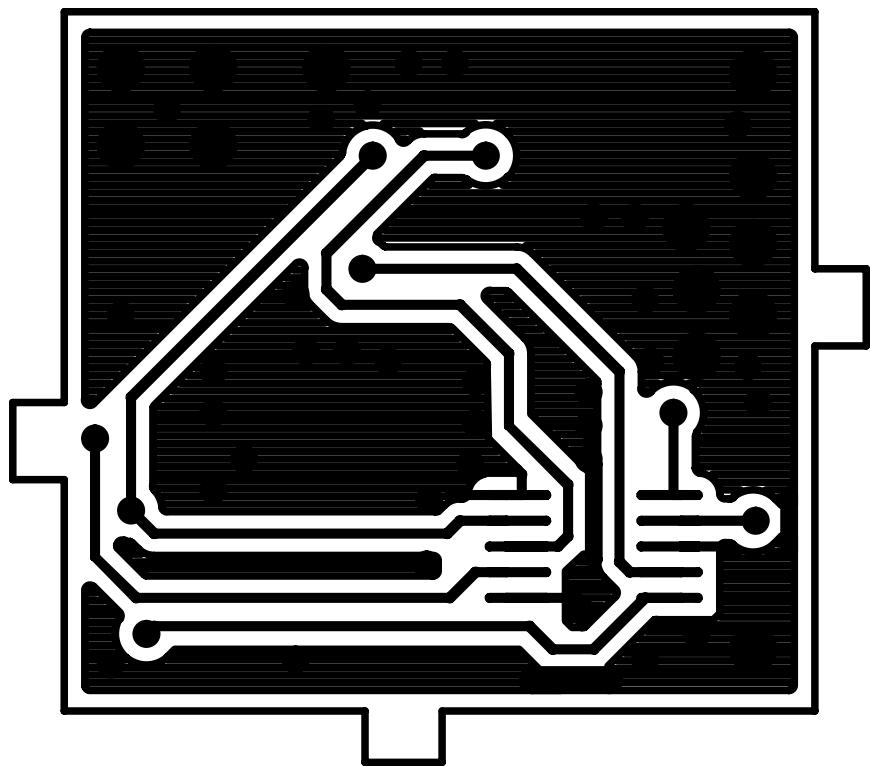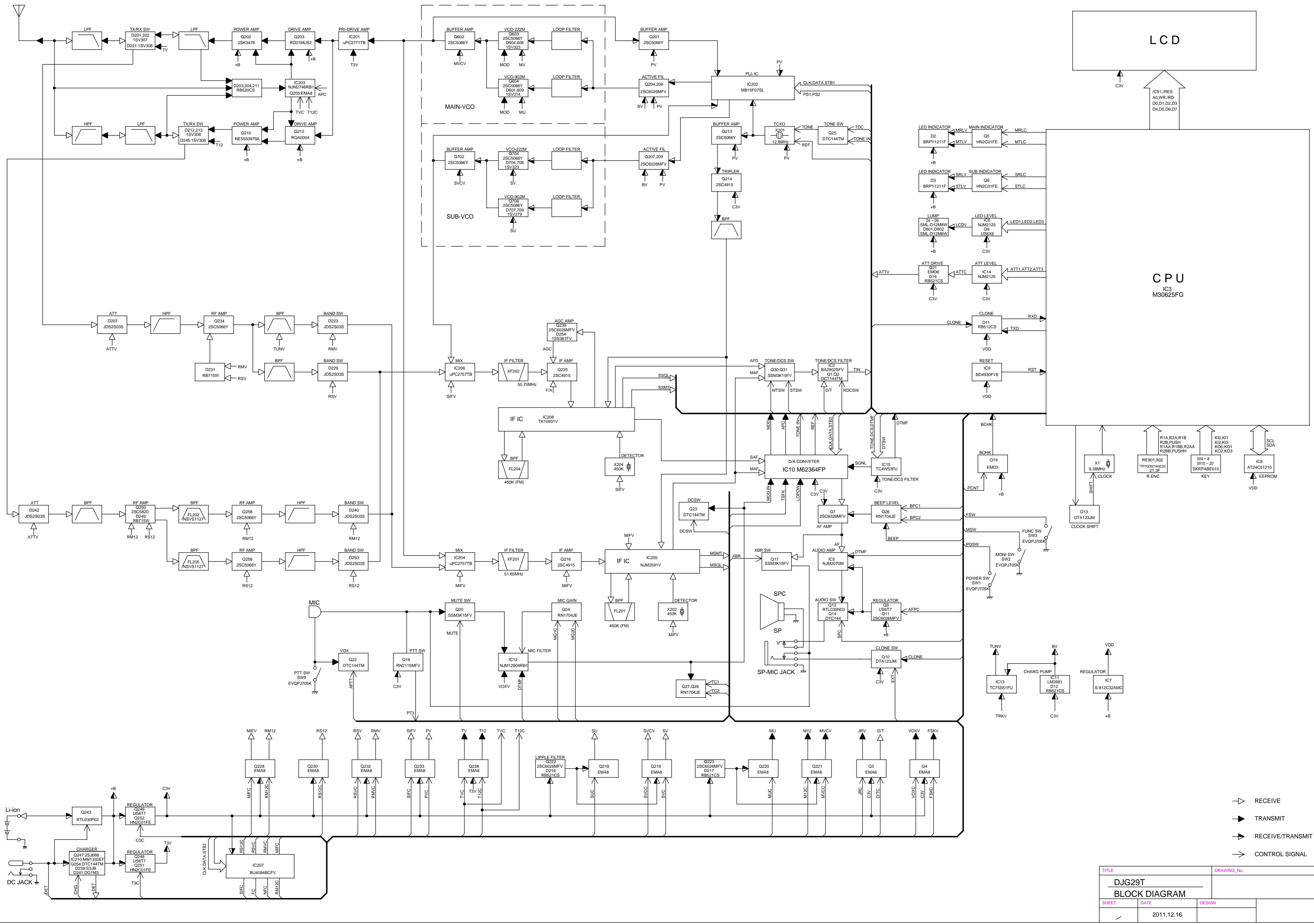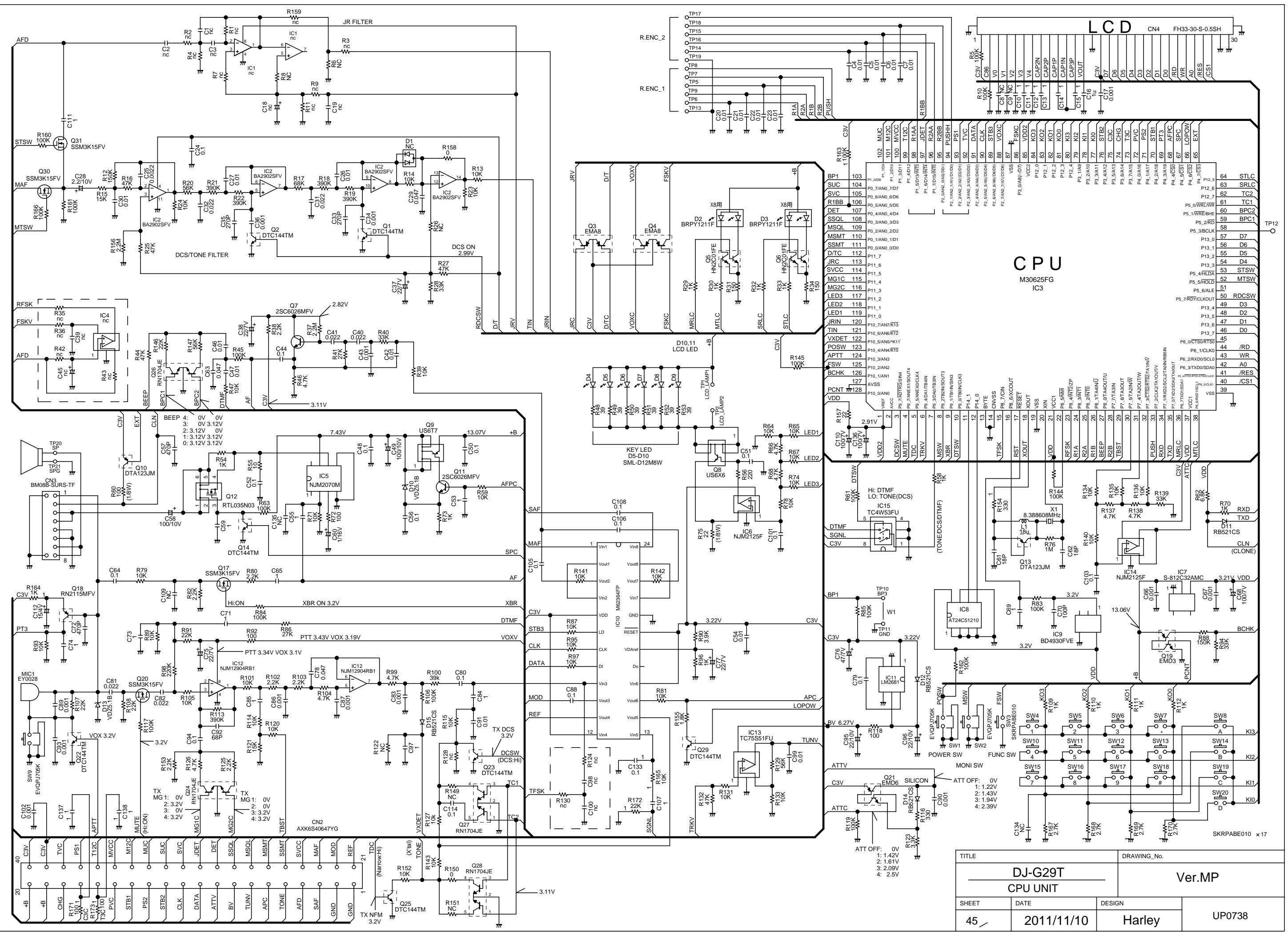
TITLE		DRAWING_No.
DJ-G29T		**Ver.MP**
CPU UNIT		

SHEET	DATE	DESIGN	
45	2011/11/10	Harley	UP0738

CPU M30625FG IC3

LCD CN4 FH33-30-S-0.5SH

SKRPABE010 × 17

VCO Unit

CN601
AXK6F10347YG

1 — 6 MVCV
MOD MOUT
MUPD
M12PD MU
M12

MOUT

R605
0
1.49V MVCV

L605 100n
C601 0.001
C604 220p
2.09V 2.1V MU

C611 0.001
R602 10 22)
Q603 2SC5066Y
R609 10k
R610 100K

C602 22p
1.49V

R604 22k
D604 1SV323
C612 15p
C614 0.5P
R612 2.2K

Q602 2SC5066Y
C615 0.5p
R613 470
C616 7p
R611 10K
High-Q L602 33n
D605 1SV279
R614 10K
D606 1SV323
C617 0.001
C618 220P
MUPD

MOD

222M

2.06V 2.08V M12

C619 220p
R603 10
Q604 2SC5066Y
R615 5.6k
R616 100k

High-Q L603 10n

C621 6p
C620 6p
C603 0.5p
C622 nc
R618 nc
D607 0
1608
L604 2.2u

C623 0.5P
R620 470
C624 3p
R617 10k
D608 JDS2S03S
R621 100k
D609 1SV314
D601 1SV314
C625 220p
C626 330p
M12PD

902M

TITLE		DRAWING_No.
SHEET	DATE	DESIGN

Standard condition   DC IN: 13.80V± 0.02V

Change to adjustment mode.
Press key   3   1   2   3   2   1   after key lock.
(Key lock: Press FUNC key for 2sec.)

Operation

RE1: Frequency/ Push: Squelch
RE2: Volume
RE3: Adjust
RE4: Adjust (5 Step)

  A: Forward
  B: Return
  D: Set
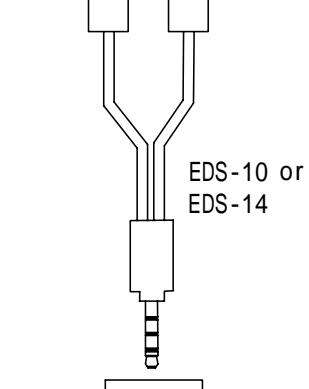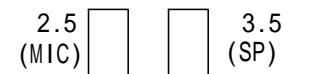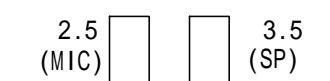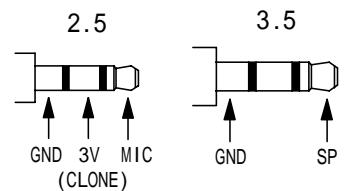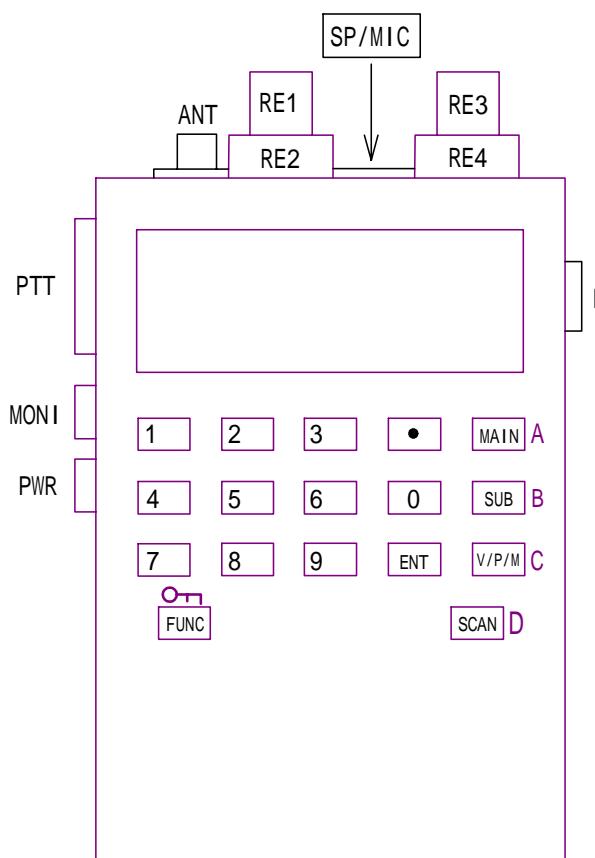
2.5

3.5

GND 3V MIC
(CLONE)

GND   SP

2.5
(MIC)

3.5
(SP)

EDS-10 or
EDS-14

SP/MIC

SP/MIC

ANT

RE1

RE3

RE2

RE4

PTT

DC IN

MON

PWR

1	2	3	●	MAIN A
4	5	6	0	SUB B
7	8	9	ENT	V/P/M C

FUNC

SCAN D

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TX Adjustment Specification			DJ-G29T	

Standard Measuring Condition   MOD Frequency: 1KHz

No.	Item	Freq.(MHz)	ADJ.	Adjustment SPEC.	Note	Operation
01	Ref. Frequency	915.15	RE3	± 200Hz		Press D key
02	Hi-Power	216.5	RE3	5.0± 0.1W	Check if the current is less than 1.6A.	Press D key
02	Hi-Power	223.55	RE3	5.1± 0.1W	Check if the current is less than 1.6A.	Press D key
02	Hi-Power	249.5	RE3	5.0± 0.1W	Check if the current is less than 1.6A.	Press D key
03	Mid-Power	223.55	RE3	1.0± 0.1W		Press D key
04	Low-Power	223.55	RE3	0.4± 0.1W		Press D key
06	Hi-Power	902.5	RE3	2.5± 0.1W	Check if the current is less than 1.6A.	Press D key
07	Hi-Power	915.15	RE3	2.5± 0.1W	Check if the current is less than 1.6A.	Press D key
08	Hi-Power	927.5	RE3	2.5± 0.1W	Check if the current is less than 1.6A.	Press D key
09	Mid-Power	915.15	RE3	1.0± 0.1W		Press D key
10	Low-Power	915.15	RE3	0.4± 0.1W		Press D key
11	MIC Dev **(FM)**	223.55	RE3	4.5± 0.1KHz	AG output level: 1KHz -30dBm BPF:OFF-20K	Press D key
12	MIC Dev **(NFM)**	223.55	RE3	2.2± 0.1KHz	AG output level: 1KHz -30dBm BPF:OFF-20K	Press D key
13	MIC Dev **(FM)**	915.15	RE3	4.5± 0.1KHz	AG output level: 1KHz -30dBm BPF:OFF-20K	Press D key
14	MIC Dev **(NFM)**	915.15	RE3	2.2± 0.1KHz	AG output level: 1KHz -30dBm BPF:OFF-20K	Press D key

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TX Adjustment Specification			DJ-G29T	

No.	Item	Freq.(MHz)	ADJ.	Adjustment SPEC.	Note	Operation
15	TONE Dev **(88.5Hz)**	223.55	RE3	0.8± 0.2KHz	BPF:OFF-3KHz	Press D key
16	DCS Dev **(023)**	223.55	RE3	0.85± 0.35KH (0.5 1.2KHz)	BPF:OFF-3KHz	Press D key
17	DTMF Dev	223.55	RE3	3.0± 0.6KHz	BPF:OFF-20K	Press D key
18	TBST Dev	223.55	RE3	3.0± 0.6KHz	BPF:OFF-20K	Press D key
19	TONE Dev **(88.5Hz)**	915.15	RE3	1.0± 0.2KHz	BPF:OFF-3KHz	Press D key
20	DCS Dev **(023)**	915.15	RE3	0.85± 0.35KH	BPF:OFF-3KHz	Press D key
21	DTMF Dev	915.15	RE3	3.0± 0.6KHz	BPF:OFF-20K	Press D key
22	TBST Dev	915.15	RE3	3.0± 0.6KHz	BPF:OFF-20K	Press D key
23	VOX	223.55		Voltage memory	Only press D key	Press D key

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RX Adjustment Specification			DJ-G29T	

Standard Measuring Condition
MOD Frequency: 1kHz, Deviation: FM 3.5KHz, AF output power: about 50mW(8   )

No.	Item	Freq.(MHz)	ADJ.	Adjustment SPEC.	Note	Operation
50	Sensitivity (Lower edge)	216.05	RE3	Less than -7dBu	Adjust RE3 to best position of sensitivity.	Press D key
51	Sensitivity (Center)	223.55	RE3	Less than -7dBu	Adjust RE3 to best position of sensitivity.	Press D key
52	Sensitivity (Upper edge)	249.95	RE3	Less than -7dBu	Adjust RE3 to best position of sensitivity.	Press D key
53	Squelch (Min.)	223.55		Voltage memory	SSG output level: **-10dBu**	Press D key
54	Squelch (Max.)	223.55		Voltage memory	SSG output level: **0dBu**	Press D key
55	S-meter (1 level)	223.55		Voltage memory	SSG output level: **0dBu**	Press D key
56	S-meter (Full level)	223.55		Voltage memory	SSG output level: **25dBu**	Press D key
61 (SUB)	Squelch (Min.)	223.55		Voltage memory	SSG output level: **-10dBu**	Press D key
62 (SUB)	Squelch (Max.)	223.55		Voltage memory	SSG output level: **0dBu**	Press D key
63 (SUB)	S-meter (1 level)	223.55		Voltage memory	SSG output level: **0dBu**	Press D key
64 (SUB)	S-meter (Full level)	223.55		Voltage memory	SSG output level: **25dBu**	Press D key

	RX Adjustment Specification				JOB		PAGE
						DJ-G29T	

No.	Item	Freq.(MHz)	ADJ.	Adjustment SPEC.	Note	Operation
57	Squelch (Min.)	915.15		Voltage memory	SSG output level: **-10Bu**	Press D̄ key
58	Squelch (Max.)	915.15		Voltage memory	SSG output level: **0dBu**	Press D̄ key
59	S-meter (1 level)	915.15		Voltage memory	SSG output level: **0dBu**	Press D̄ key
60	S-meter (Full level)	915.15		Voltage memory	SSG output level: **20dBu**	Press D̄ key
65 (SUB)	Squelch (Min.)	915.15		Voltage memory	SSG output level: **-10Bu**	Press D̄ key
66 (SUB)	Squelch (Max.)	915.15		Voltage memory	SSG output level: **0dBu**	Press D̄ key
67 (SUB)	S-meter (1 level)	915.15		Voltage memory	SSG output level: **0dBu**	Press D̄ key
68 (SUB)	S-meter (Full level)	915.15		Voltage memory	SSG output level: **20dBu**	Press D̄ key
69	Battery indicator (Full)	223.55		Voltage memory	**DC IN 13.80V ± 0.02V**	Press D̄ key
70	Aging test	223.55 915.15	Press D̄ key		Antenna connector: 50ohm dummy load Finish automatically in 30 minutes. Manual stop: Press FUNC key	

After adjust the all item, press the FUNC key.
Then take off from the adjustment mode.