

DJ-S41T/T2/(J)/(C) EC10 DJ-S11T/E

Service Manual

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BLOCK DIAGRAM

ALINCO, INC.

SPECIFICATIONS

1) General

	DJ-S41T/T2 / (J) / (C) & EC10	DJ-S11T/E
Frequency Range :	430.000~449.995MHz (T Version) 450.000~470.000MHz (T2 Version) 430.000~439.995MHz (J Version) 433.050~434.790MHz (C Version & EC10)	144.000~147.995MHz (T Version) 144.000~145.995MHz (E Version)
Modulation :	F3E	F3E
DC Power Source :	3.6~4.5 Volts DC (internal battery) 5.5V (external regulated source)	3.6~4.5 Volts DC (internal battery) 5.5V (external regulated source)
Current Consumption :	TX/approx. 30mA(@ 5.5V DC) (C Version & EC10) 280mA(Hi Power @ 5.5V DC) (T,J Version) RX/approx. 33mA (squelched)	TX/approx. 260mA(Hi Power @ 5.5V DC) RX/approx. 33mA (squelched)
Dimensions :	55(W) × 100(H) × 28(D)mm without projections	55(W) × 100(H) × 28(D)mm without projections
Weight :	approx. 185g (with three AA drycells)	approx. 185g (with three AA drycells)

2) Transmitter

Output Power :	approx. 10mW(with 5.5V DC supply)(C Version & EC 10) approx. 340mW(with 5.5V DC supply)(T,J Version) approx. 300mW(with 5.5V DC supply)(T2 Version)	approx. 340mW(with 5.5V DC supply)
Modulator :	Variable Reactance	Variable Reactance
Max.Deviation :	± 5kHz	± 5kHz

3) Receiver

Configuration :	Double Conversion Superheterodyne	Double Conversion Superheterodyne
Intermediate Frequency :	First : 23.05MHz/Second : 450kHz	First : 23.05MHz/Second : 450kHz
Sensitivity :	Better than -15dB μ (12dB SINAD)	Better than -15dB μ (12dB SINAD)
AF Output :	Not less than 100mW (@ 10% distortion @ 8Ω)	Not less than 100mW (@ 10% distortion @ 8Ω)

Note : Specifications are subject to change without notice or obligation.

CIRCUIT DESCRIPTION

1) Receiver System

The receiver system is the double superheterodyne.
The first IF is 23.05MHz and the second IF is 450kHz.

1. Front End

The signal from the antenna is passed through a low-pass filter and input to RF coil L21.

The signal from L21 is amplified by Q10, Q12 and led to the band pass filter, and led to the first mixer base of Q7.

2. First Mixer

The amplified signal (I0) by Q10, Q12^{*} is mixed with the first local oscillator signal (f0-23.05MHz) from the PLL circuit by the first stage mixer Q7 and so is converted into the first IF signal.

The unwanted frequency band of the first IF signal is eliminated by the monolithic crystal filter FL1, and led to IF amplifier Q9.

3. IF Circuit

The first IF signal is amplified by Q9, and input to pin16 of IC2, where it is mixed with the second local oscillator signal (22.6 or 23.5MHz) and so is converted into the second IF signal (450kHz).

The second IF signal is output from pin3 of IC2, and unwanted frequency band of second IF signal is eliminated by a ceramic filter FL2.

The resulting signal is then amplified by the second IF limiting amplifier, and detected by quadrature circuit. The audio signal is output from pin9 of IC2.

4. Audio Circuit

The detected signal from IC2 is passed through the low-pass filter and led to the amplifier Q307, Q306.

Q308 is switched ON/OFF by AFC signal from CPU.

The audio signal is input to the main volume VR301 and amplified by the power amplifier IC302 to drive the speaker.

The power supply voltage of IC302 is limited by AF regulator consisting of Q304.

The power supply voltage of IC302 is switched ON/OFF by AFP signal from CPU.

5. Squelch Circuit

The noise in the audio signal from IC2 is passed through the squelch control variable resistor RT2 and input pin8 of IC2.

IC2 includes filter amplifier, high-pass filter and rectifier.

When squelch circuit is close, pin13 of IC2 goes to "High".

When squelch circuit is open or a signal is received, pin13 of IC2 goes to "Low", then the signal of pin13 is led to CPU.

* for S41 only.

2) PLL, VCO Circuit

Output frequency of PLL circuit is set by the serial data from microprocessor.

PLL circuit consists of VCO Q101, buffer amplifier Q102.

The pulse wave output of charge pump is converted to DC voltage by PLL loop filter circuit, and supplied to D102, D103 of varicap diode in VCO unit.

The frequency modulation is executed when audio signal voltage is supplied to the varicap D104.

When PLL is unlocked, pin7 of IC1 goes to "High".

3) Transmitter System

1. Microphone Amplifier

The voice from the internal or external microphone is led to the pre-emphasis circuit, and then input to the microphone amplifier IC301, which consists of two operational amplifiers.

The amplified signal is input to the low-pass filter IC301.

The output from the microphone amplifier is passed through variable resistors RT301 for modulation adjustment to varicap diode of the VCO.

2. Power Amplifier

The signal from VCO is passed through Tx/Rx switch circuit D3.

The signal is amplified by Q4 and Q5, and input to power amplifier Q2, Q3, Q6, and then passed through the low-pass filter, the antenna switch circuit and the output low-pass filter.

The unwanted harmonics frequency signal is eliminated by the low-pass filter and input to the antenna.

4) Terminal function of CPU

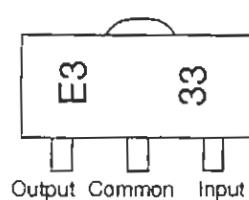
No.	Name	IO	Description	H	L
1	UPK	I	Frequency UP key input		Active
2	DOWNK	I	Frequency DOWN key input		Active
3	TX LOW	O	TX output power switch High/Low	Low power	High power
4	NC	-	No Use		
5	LB	I	Low voltage detection input		
6	RXC	O	Power supply control for RX		Active
7	SMT (CAS)	I	S meter signal input		
8	SD	I	SD signal input		Active
9	EECLK	O	EEPROM clock output		
10	EEDATA	O	EEPROM data output		
11	CBEEP	O	No use		
12	BEEP	O	Beep sound output		
13	LBSW	O			
14	BP1	I	Band plan 1 input		
15	BP2	I	Band plan 2 input		
16	PSTB	O	PLL IC strobe output		
17	DATA	O	PLL IC data output		
18	CLK	O	PLL IC clock output		
19	TXD	O	Clone TX data output		
20	RXD	I	Clone RX data input		
21	TXC	O	Power supply control for TX output		Active
22	CLO	O	Power supply control for Clone output	Normal	Clone
23	TXA	O	Switches VCO output to TX		Active
24	UL	I	PLL unlock signal input	Active	
25	RESET	I	CPU reset input	at work	on reset
26	PLLC	O	Power supply control for VCO output		Active
27	LAMP	O	Lamp ON/OFF output		Active
28	X IN	I	Internal oscillator input		
29	X OUT	O	Internal oscillator output		
30	Vss	I	GND		
31	CALLK	I	Call key input		Active
32	SCANK	I	Scan key input		Active
33	VMK	I	V/M key input		Active
34	LAMPK	I	Lamp key input		Active
35	FK	I	Function key input		Active
36	MONIK	I	Moni key input		Active
37	SHIFTC	O	VCO shift output		
38	M.MUTE	O	Microphone mute output	Active	

No.	Name	I/O	Description	H	L
39	AFP	O	Power supply control for AF amp		Active
40	AFC	O	AF mute		Active
41	TONE5	O	Sub tone signal output		
42	TONE4	O	Sub tone signal output		
43	TONE3	O	Sub tone signal output		
44	TONE2	O	Sub tone signal output		
45	TONE1	O	Sub tone signal output		
46	TONE0	O	Sub tone signal output		
47	PTTK	I	PTT key input		
48	REF	I	PLL reference select	22.6MHz	23.5MHz
49	OPEN	-	No use		
50	OPEN	-	No use		
51	OPEN	-	No use		
52	OPEN	-	No use		
53	OPEN	-	No use		
54	OPEN	-	No use		
55	OPEN	-	No use		
56	S14	O	LCD SEG14		
57	S13	O	LCD SEG13		
58	S12	O	LCD SEG12		
59	S11	O	LCD SEG11		
60	S10	O	LCD SEG10		
61	S9	O	LCD SEG9		
62	S8	O	LCD SEG8		
63	S7	O	LCD SEG7		
64	S6	O	LCD SEG6		
65	S5	O	LCD SEG5		
66	S4	O	LCD SEG4		
67	S3	O	LCD SEG3		
68	S2	O	LCD SEG2		
69	S1	O	LCD SEG1		
70	S0	O	LCD SEG0		
71	Vcc	I	Power supply terminal 3V		
72	VREF	I	A/D reference level 3V		
73	GND	I	Analog ground		
74	COM3	O	LCD COM3		
75	COM2	O	LCD COM2		
76	COM1	O	LCD COM1		
77	COM0	O	LCD COM0		
78	VL3	O	LCD power supply		
79	VL2	O	LCD power supply		
80	VL1	O	LCD power supply		

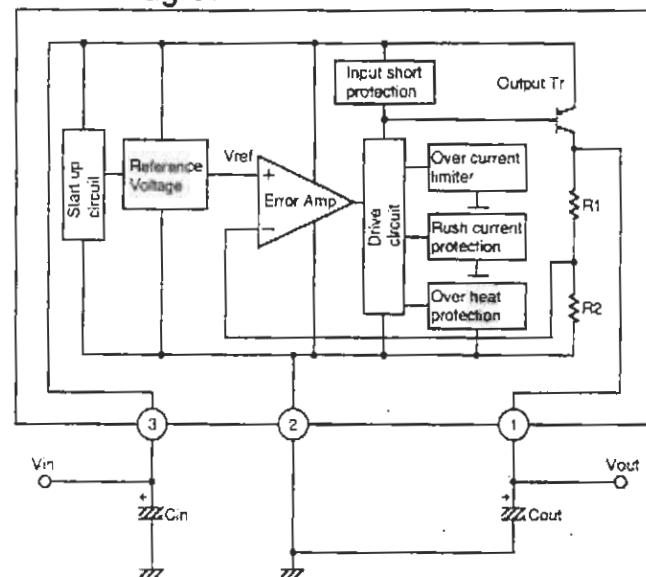
SEMICONDUCTOR DATA

1) AN77L03M (XA0230)

Voltage Regulator



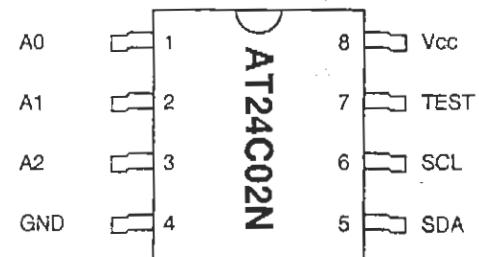
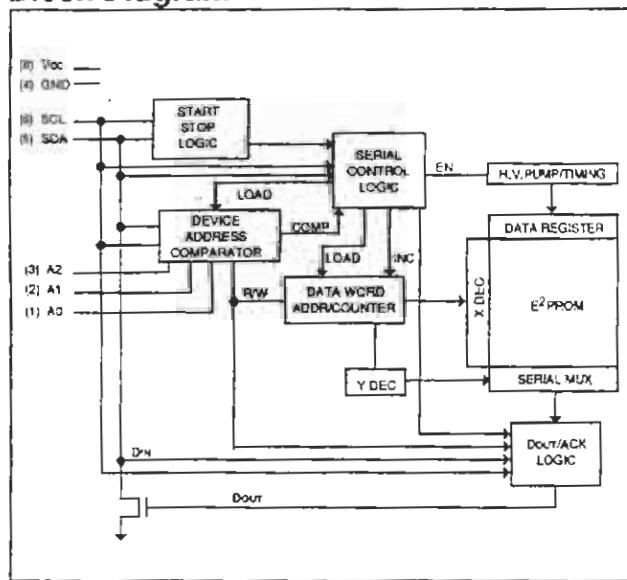
Block Diagram



2) AT24C02N (XA0364)

CMOS Serial EEPROM

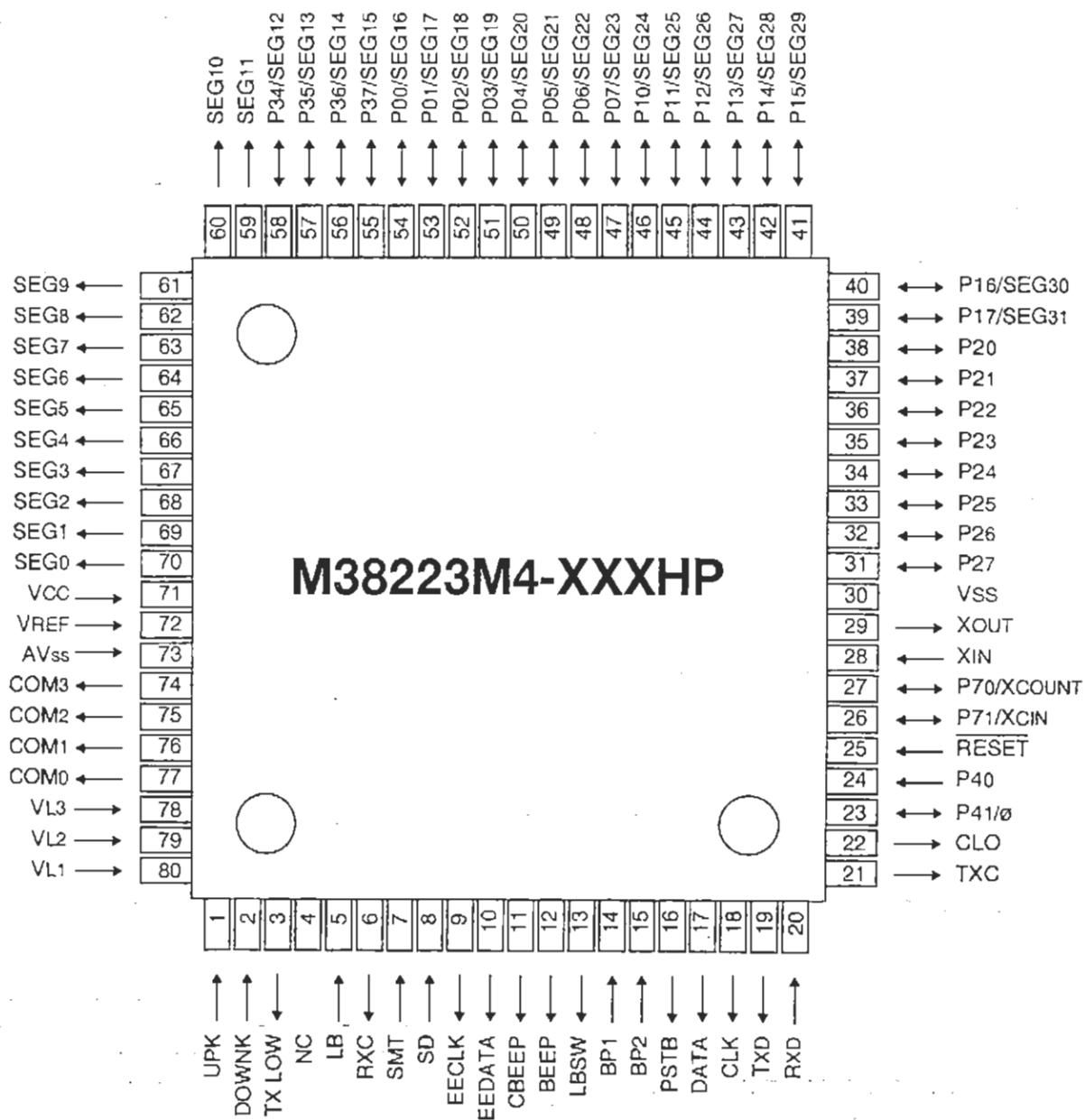
Block Diagram



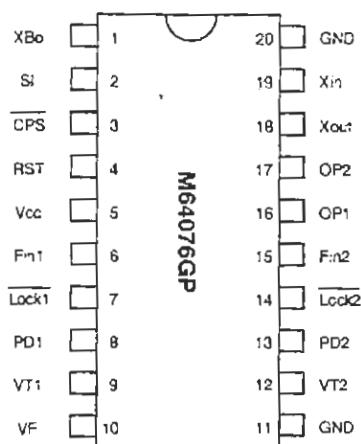
Pin Configurations

Pin Name	Function
A0 to A2	Address Inputs
SDA	Serial Data
SCL	Serial Clock
Test	Test Input (GND or Vcc)
NC	No Connect

3) M38223M4HP (XA0470) CPU

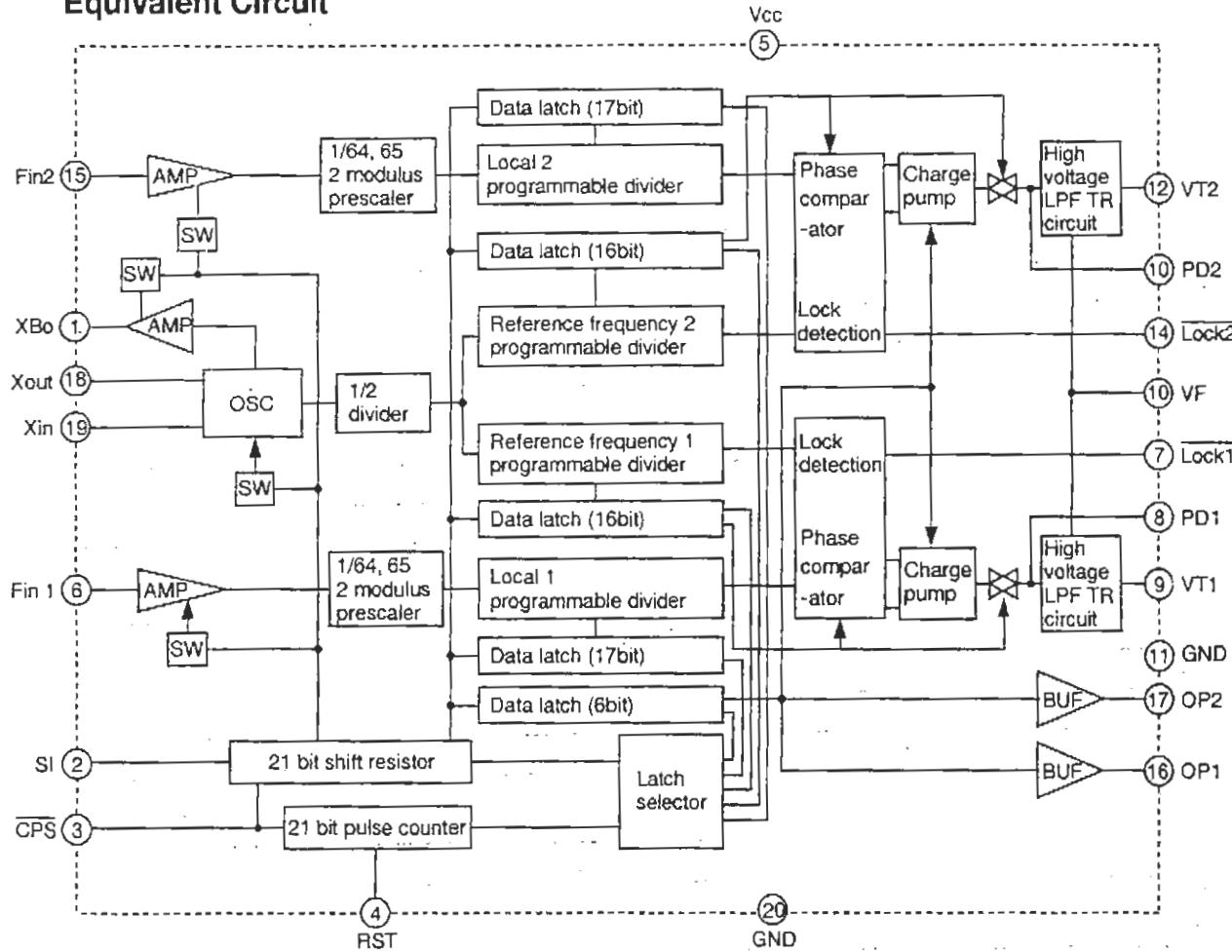


4) M64076GP (XA0352) Dual PLL Synthesizer



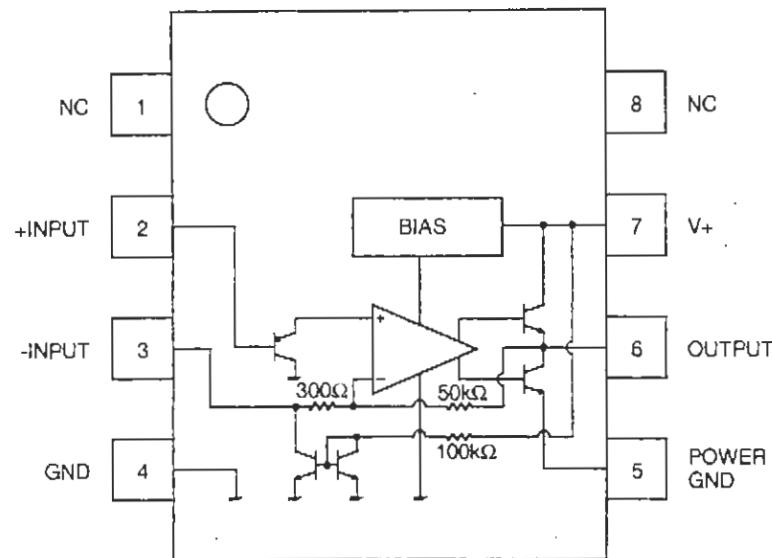
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Power supply voltage	Vcc	Fin=80~520MHz Vin=-10dBm	2.7	-	5.5	V
LPF supply voltage	VF		-	9	12	V
Local oscillator input level	Vin	Fin=80~520MHz Vcc=2.7~5.5V	-20	-	-4	dBm
Local oscillator input frequency	Fin	Vin=-20~40dBm Vcc=2.7~5.5V	80	-	520	MHz
Xin input level	Vxin	Vcc=2.7~5.5V Fxin=10~25MHz Sine wave	0.4	-	1.4	Vp-p
Xin input frequency	Fxin	Vcc=2.7~5.5V Vxin=0.4~1.4Vp-p	10	-	25	MHz

Equivalent Circuit



5) NJM2070M (XA0210) Low Voltage Power Amplifier

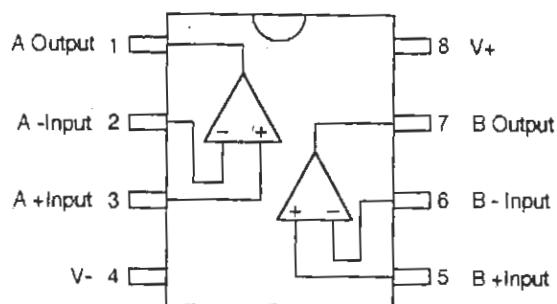
Equivalent Circuit



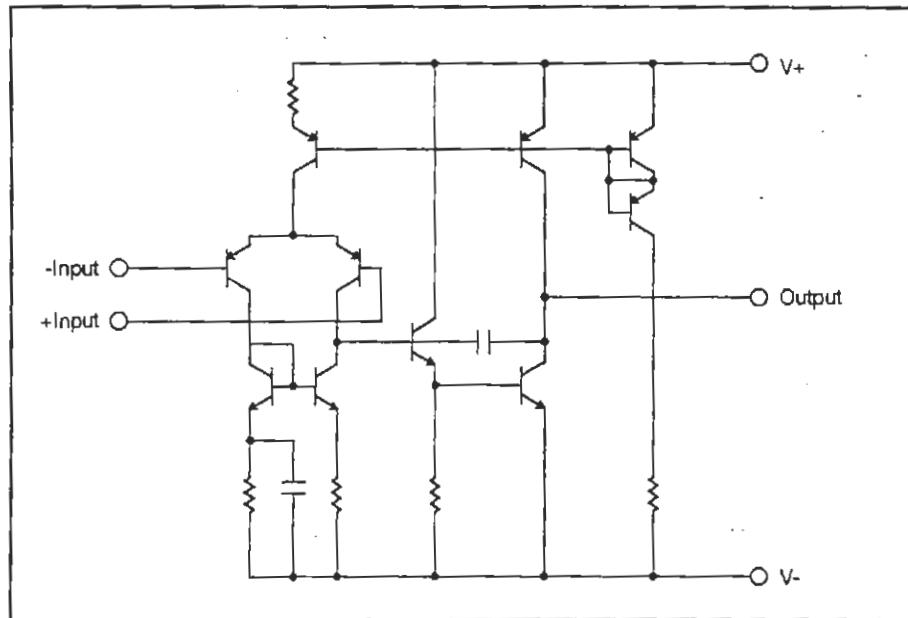
V₊=6V, Ta=25±2°C

Parameter	Condition		Symbol	Min.	Typ.	Max.	Unit
Supply voltage			V ₊	1.8	-	15	V
Idle current	RL=∞		I _Q	-	4	7	mA
Output voltage			V _O	-	2.7	-	V
Input bias current			I _B	-	200	-	nA
Output power	THD=10%, f=1kHz	V ₊ =6V, RL=4Ω	P _O	0.5	0.6	-	W
		V ₊ =4.5V, RL=4Ω		-	0.32	-	W
		V ₊ =3V, RL=4Ω		-	120	-	mW
	THD=1%, f=1kHz	V ₊ =2V, RL=4Ω		-	30	-	mW
		V ₊ =6V, RL=4Ω		-	500	-	mW
		V ₊ =4.5V, RL=4Ω		-	250	-	mW
Distortion	P _O =0.4W, RL=4Ω, f=1kHz		THD	-	0.25	-	%
Voltage gain	f=1kHz		A _V	41	44	47	dB
Input impedance	f=1kHz		Z _{IN}	100	-	-	kΩ
Equivalent input noise voltage	R _S =10kΩ	A curve	V _{n1}	-	2.5	-	μV
		B=22Hz to 22kHz	V _{n2}	-	3	-	μV
Power supply voltage rejection ratio	f=100Hz, C _x =100μF		SVR	24	30	-	dB
Power gain band width (-3dB)	RL=8Ω, P _O =250mW		P.B	-	200	-	kHz

6) NJM2100M (XA0209) Dual Operational Amplifiers

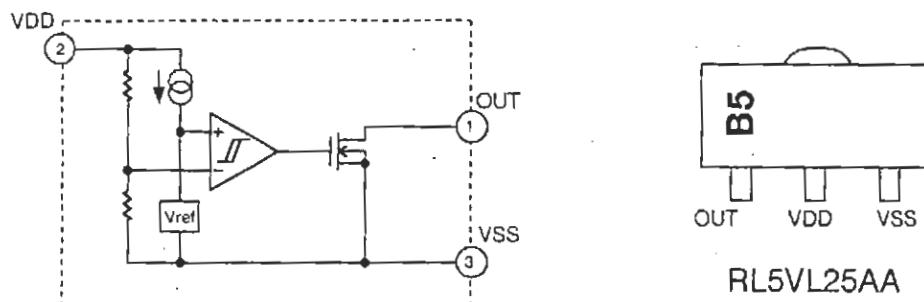


Equivalent Circuit



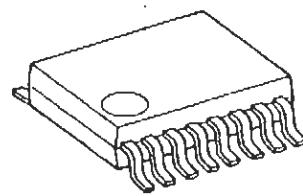
7) RN5VL25AA-T1 (XA0309) C-MOS Voltage Detector

Equivalent Circuit

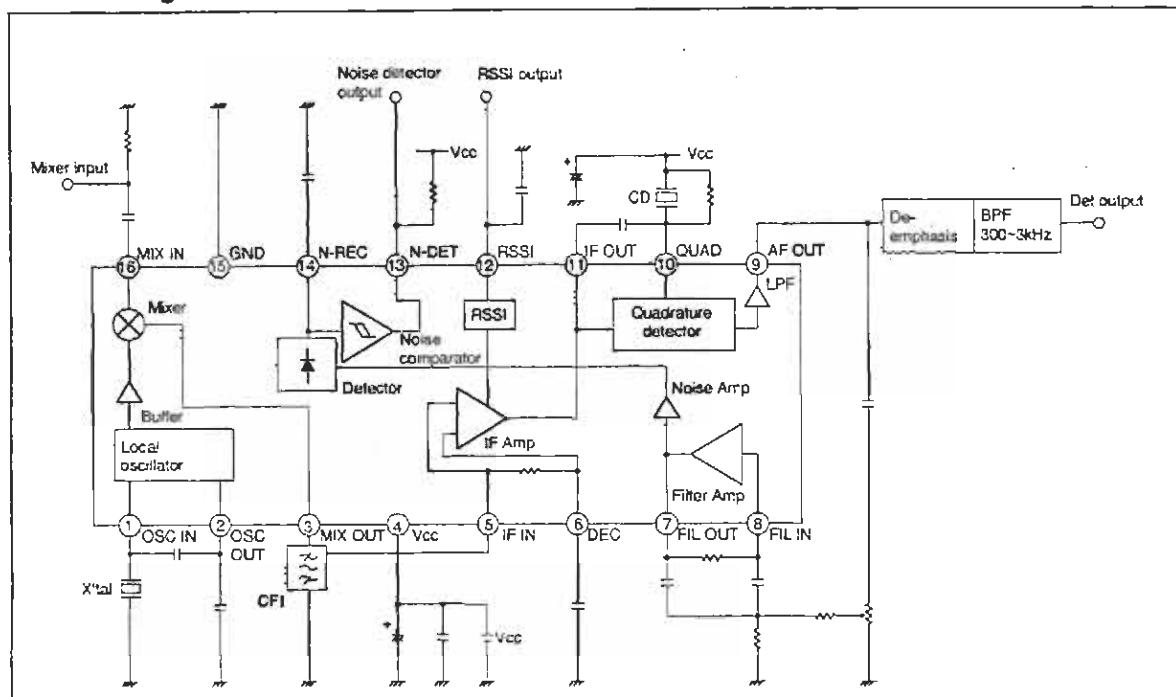


8) TA31136FN (XA0404)

Low Power FM IF



Block Diagram



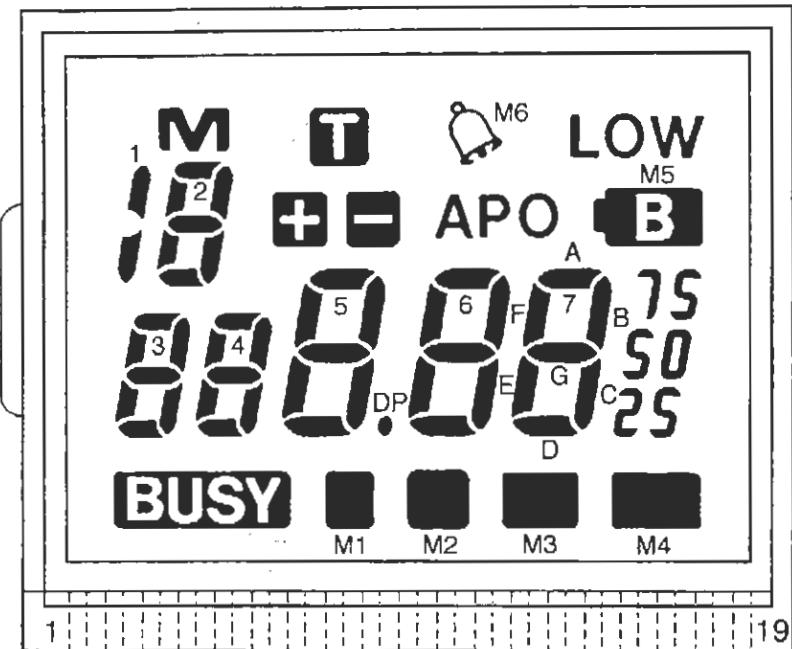
9) Transistor, Diode and LED Outline Drawings

Top View

ISS356 XD0272	1SV237 XD0141	1SV239 XD0236	1SV257 XD0293	MA111 XD0290	SML-110MT XL0037	SML-310UT XL0035	U1GWJ44 XD0225
2SA1576 XT0094	2SC3356 XT0142	2SC4081 XT0095	2SC4213A XT0105	2SC4226 XT0141	2SC5065 XT0137	UN511H XU0166	UN2122 XU0167
UN5214 XU0052	XN111M XU0046	XD0134 HVU359					

10) LCD

LCD Pattern

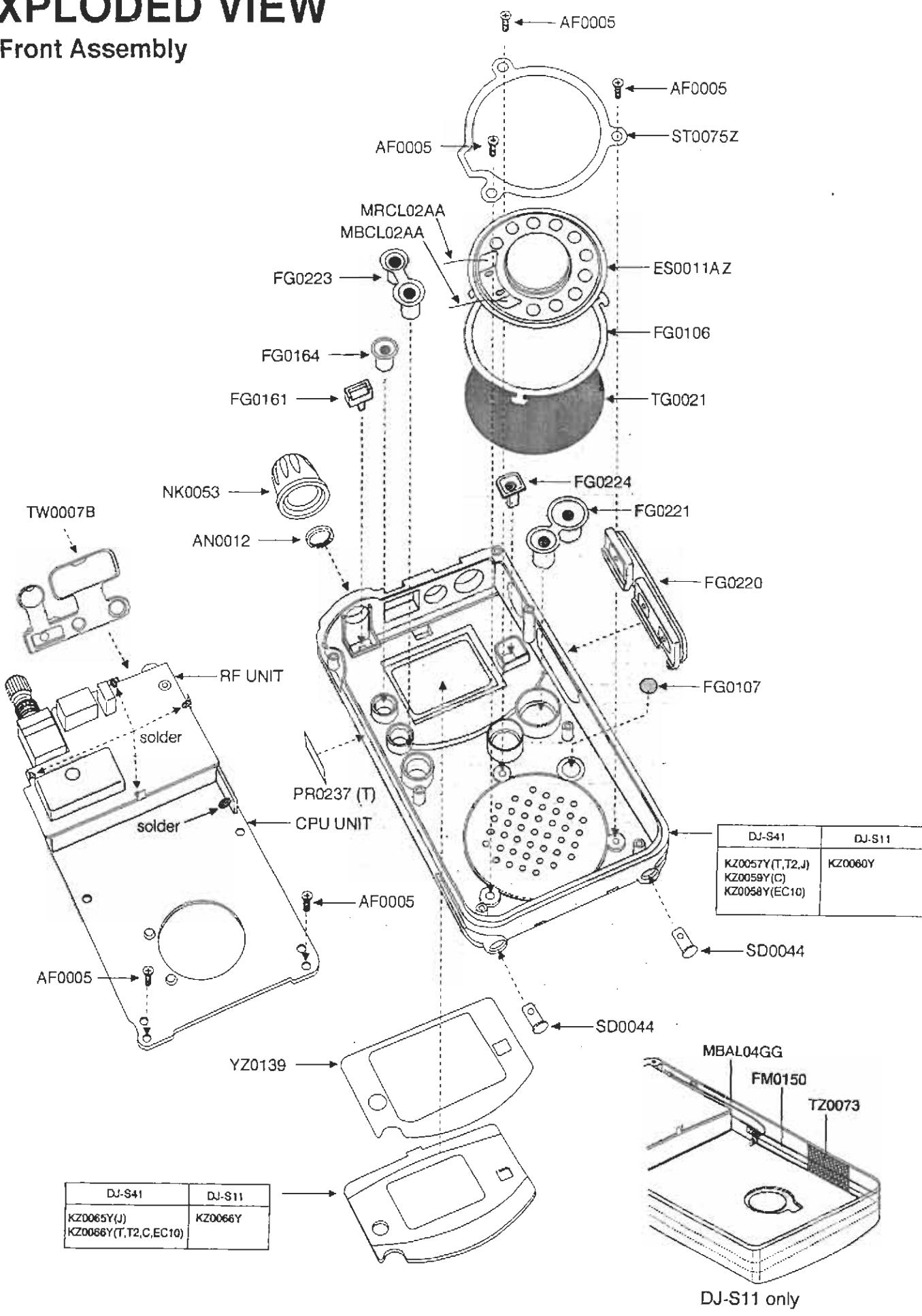


LCD connection table

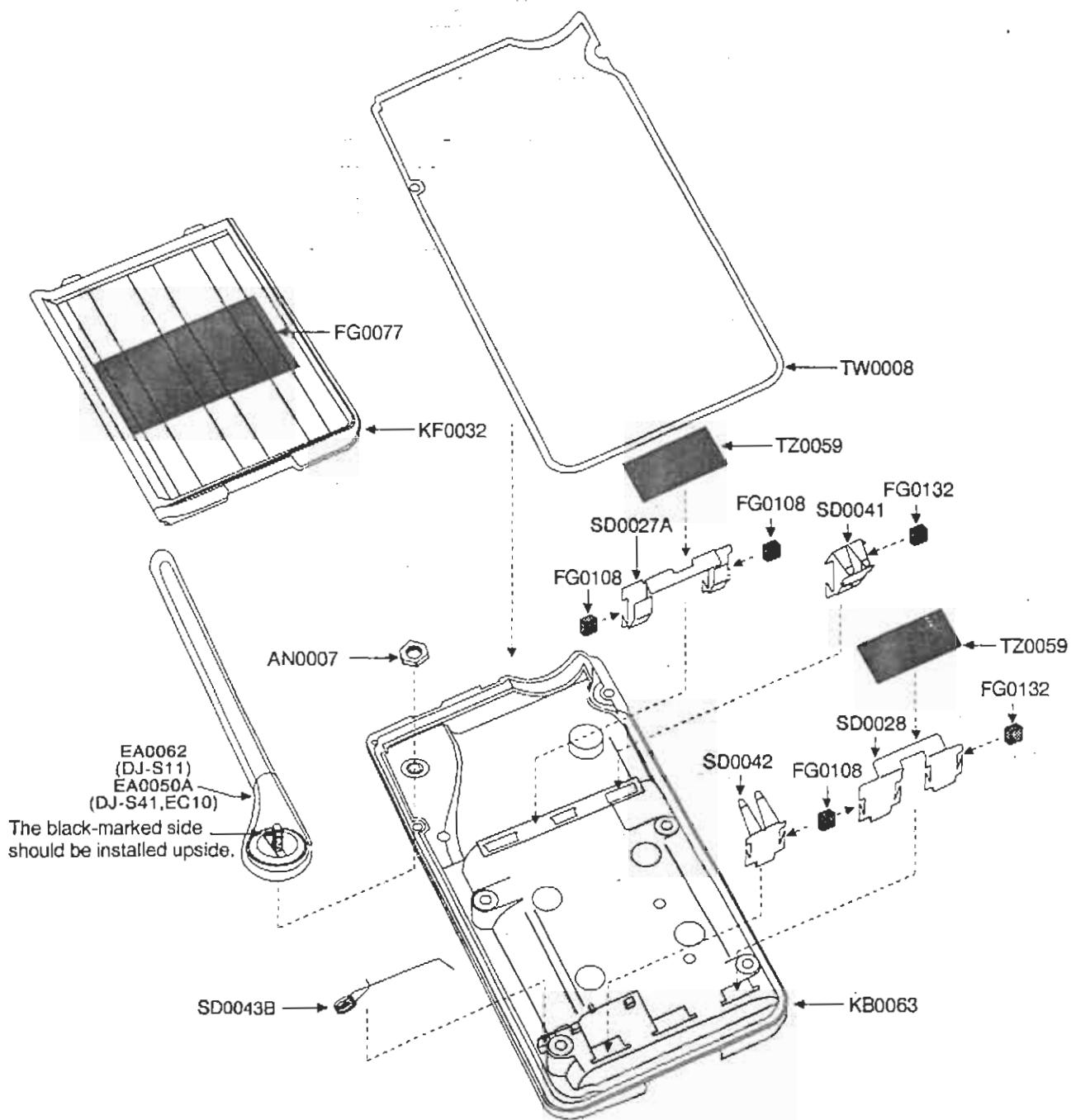
No.	COM1	COM2	COM3	COM4
1	COM1	-	-	-
2	-	COM2	-	-
3	-	-	COM3	-
4	-	-	-	COM4
5	[□]	[+]	[T]	M
6	2E	2G	2F	1B, C
7	2C	2B	2A	2D
8	APO	M5	LOW	M6
9	3F	3G	3E	BUSY
10	3A	3B	3C	3D
11	4F	4G	4E	M1
12	4A	4B	4C	4D
13	5F	5G	5E	M2
14	5A	5B	5C	5D
15	6F	6G	6E	DP
16	6A	6B	6C	6D
17	7F	7G	7E	M3
18	7A	7B	7C	7D
19	75	50	25	M4

EXPLODED VIEW

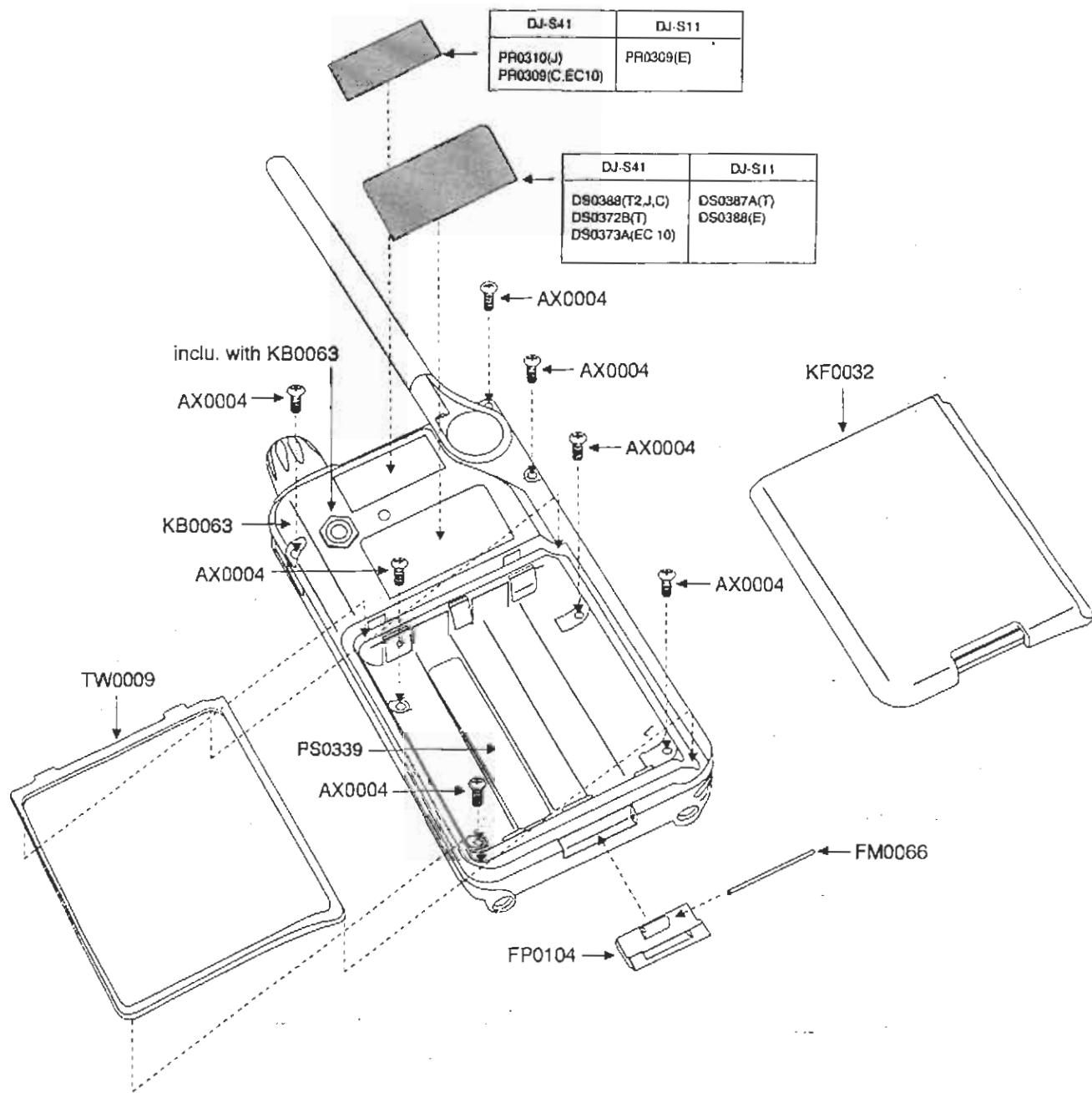
1) Front Assembly



2) Rear Assembly 1



3) Rear Assembly 2



PARIS LIST

For DJ-S41T/T2/(J)/(C) & EC10

Ref. No.	Parts No.	Description	Parts Name	Ver.
L1.2	QD0210	Cap	L1.1008-PLNK	C
L1.2	QD0420	Cap	L1.1008-PLNK	EC10
L1.3	QD0306	Cap	L1.1011-UN004	
L1.4	QD0446	Cap	M1.1008A22P25W	
L1.5	QD0346	Cap	M1.1008A22P25W	
L1.6	QD0319	Cap	L1.2012-PN-S2K	
L1.7	QD0400	Cap	L1.2111-UN004	
L1.8	QD0519	Cap	L1.2012-PN-S2K	
L1.9	QD0519	Cap	L1.2012-UN-S2K	
L2.0	QD0539	Cap	L1.2012-PN-S2K	
L2.1	QD0336	Cap	L1.2111-UN004	
L2.2	QD0403	Cap	L1.2111-UN004	
Q1	XU0316	Transistor	UE111H-YX	
Q2	XTO142	Transistor	2S1356ETTB-B25	
Q3	XTO142	Transistor	2S1356ETTB-B25	
Q4	XTO141	Transistor	2S1326-T1-P4	
Q5	XTO142	Transistor	2S1356ETTB-B25	
Q6	XTO142	Transistor	2S1356ETTB-B25	
Q7	XTO137	Transistor	2S1306-QT-E85L	
Q8	XTO137	Transistor	2S1306-QT-E85L	
Q9	XTO137	Transistor	2S1306-QT-E85L	
Q10	XTO137	Transistor	2S1306-QT-E85L	
Q11	XTO137	Transistor	2S1306-QT-E85L	
Q12	XTO137	Transistor	2S1306-QT-E85L	
E1	RF5301H	Coupler	ERJ36SY122W	
E2	RF5302	Coupler	ERJ36SY133IV	
E3	RF53011	Coupler	ERJ36SY121IV	
E4	RF53010	Coupler	ERJ36SY141IV	
E5	RF53014	Coupler	ERJ36SY1100V	
E6	RF53001	Coupler	ERJ36SY1000V	
E7	RF53014	Coupler	ERJ36SY1100V	J
E8	RF53014	Coupler	ERJ36SY1100V	C
E9	RF53014	Coupler	ERJ36SY1100V	EC10
E10	RF53020	Coupler	ERJ36SY1100V	
E11	RF53022	Coupler	ERJ36SY1100V	
E12	RF53020	Coupler	ERJ36SY1100V	
E13	RF53010	Coupler	ERJ36SY1100V	
E14	RF53012	Coupler	ERJ36SY1100V	
E15	RF53014	Coupler	ERJ36SY1100V	
E16	RF53010	Coupler	ERJ36SY1100V	
E17	RF53042	Coupler	ERJ36SY1100V	

Row No.	Parts No.	Description	Parts Name	Ver.
RF Unit				
C1	CF003	Chip C.	CF003CH1H02TA	
C2	CF005	Chip C.	CF005CH1H02TA	
C3	CF005	Chip C.	CF005CH1H02TA	
C4	CF005	Chip C.	CF005CH1H02TA	
C5	CF005	Chip C.	CF005CH1H02TA	
C6	CF005	Chip C.	CF005CH1H02TA	
C7	CF005	Chip C.	CF005CH1H02TA	
C8	CF005	Chip C.	CF005CH1H02TA	
C9	CF005	Chip C.	CF005CH1H02TA	
C10	CF005	Chip C.	CF005CH1H02TA	
C11	CF005	Chip C.	CF005CH1H02TA	
C12	CF005	Chip C.	CF005CH1H02TA	
C13	CF005	Chip C.	CF005CH1H02TA	
C14	CF005	Chip C.	CF005CH1H02TA	
C15	CF005	Chip C.	CF005CH1H02TA	
C16	CF005	Chip C.	CF005CH1H02TA	
C17	CF007	Chip C.	CF007CH1H02TA	
C19	CF023	Chip C.	CF023CH1H02TA	
C22	CF005	Chip C.	CF005CH1H02TA	
C23	CF005	Chip C.	CF005CH1H02TA	
C24	CF004	Chip C.	CF004CH1H02TA	
C25	CF001	Chip C.	CF001CH1H02TA	
C26	CF006	Chip C.	CF006CH1H02TA	
C27	CF005	Chip C.	CF005CH1H02TA	
C28	CF005	Chip C.	CF005CH1H02TA	
C29	CF026	Chip Trans	CF026CH1H02TA	
C30	CF008	Chip C.	CF008CH1H02TA	
C31	CF007	Chip C.	CF007CH1H02TA	
C32	CF001	Chip C.	CF001CH1H02TA	
C33	CF001	Chip C.	CF001CH1H02TA	
C34	CF005	Chip C.	CF005CH1H02TA	
C35	CF006	Chip C.	CF006CH1H02TA	
C36	CF004	Chip C.	CF004CH1H02TA	
C37	CF004	Chip C.	CF004CH1H02TA	
C38	CF004	Chip C.	CF004CH1H02TA	
C39	CF004	Chip C.	CF004CH1H02TA	
C40	CF004	Chip C.	CF004CH1H02TA	
C41	CF004	Chip C.	CF004CH1H02TA	
C42	CF004	Chip C.	CF004CH1H02TA	
C43	CF004	Chip C.	CF004CH1H02TA	
C44	CF004	Chip C.	CF004CH1H02TA	
C45	CF004	Chip C.	CF004CH1H02TA	
C46	CF004	Chip C.	CF004CH1H02TA	
C47	CF004	Chip C.	CF004CH1H02TA	
C48	CF004	Chip C.	CF004CH1H02TA	
C49	CF004	Chip C.	CF004CH1H02TA	
C50	CF004	Chip C.	CF004CH1H02TA	
C51	CF004	Chip C.	CF004CH1H02TA	
C52	CF004	Chip C.	CF004CH1H02TA	
C53	CF004	Chip C.	CF004CH1H02TA	

For DJ-S41T/T2/(J)/(C) & EC10

CPU Unit											
Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description	Ref. No.	Parts No.	Description
Ver.	Ver.	Ver.	Ver.	Ver.	Ver.	Ver.	Ver.	Ver.	Ver.	Ver.	Ver.
R16	RA2002	Clip R.	X1	XQ0059	C301	SAC117 25.5MHz	J	JH102	U10016	Jack	
R19	RA2007	Clip R.	X1	XQ0058	晶振	C302	SAC117 25.5MHz	C	JR003	U10026	Jack
R20	RA2024	Clip R.	X1	XQ0060	晶振	C303	SAC117 25.5MHz		L010	QC0070	Cap
R21	RA2005	Clip R.	S2	XK0004	Discriminator	C304	TMC5A165MTR		M01010	ET0012	Me
R22	RA2022	Clip R.				C305	C1688BIH03TA		EM-137	XT0054	Transistor
R26	RA2008	Clip R.				C306	C1688BIH03TA		LSA156AT10ER	X10066	Transistor
R28	RA2009	Clip R.				C307	C1688BIH03TA		LN611H-TX	X10105	Transistor
R29	RA2022	Clip R.				C308	C1688BIH03TA		SCS2123ATB5L	X10167	Transistor
R30	RA2002	Clip R.				C309	C1688BIH03TA		UN5212-TX	X10168	Transistor
R35	RA2002	Clip R.				C310	C1688BIH03TA		UN5214-TX	X10169	Transistor
R36	RA2004	Clip R.				C311	C1688BIH03TA		2SC4061 TUBE	X10096	Transistor
R37	RA2004	Clip R.				C312	TMC5A165MTR		2SC4061 TUBE	X10095	Transistor
R38	RA2004	Clip R.				C313	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R39	RA2004	Clip R.				C314	C1688BIH03TA		2SC4061 TUBE	X10107	Transistor
R40	RA2002	Clip R.				C315	C1688BIH03TA		UN5214 TX	X10062	Transistor
R41	RA2002	Clip R.				C316	C1688BIH03TA		X511UM-TX	X10046	Transistor
R42	RA2002	Clip R.				C317	C1688BIH03TA		X511UM TX	X10046	Transistor
R43	RA2004	Clip R.				C318	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R44	RA2004	Clip R.				C319	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R45	RA2008	Clip R.				C320	C1688BIH03TA		UN5214-TX	X10107	Transistor
R46	RA2005	Clip R.				C321	C1688BIH03TA		X511UM-TX	X10046	Transistor
R47	RA2005	Clip R.				C322	C1688BIH03TA		X511UM TX	X10046	Transistor
R48	RA2005	Clip R.				C323	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R49	RA2004	Clip R.				C324	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R50	RA2008	Clip R.				C325	C1688BIH03TA		UN5214-TX	X10107	Transistor
R51	RA2002	Clip R.				C326	C1688BIH03TA		X511UM-TX	X10046	Transistor
R52	RA2002	Clip R.				C327	C1688BIH03TA		X511UM TX	X10046	Transistor
R53	RA2004	Clip R.				C328	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R54	RA2004	Clip R.				C329	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R55	RA2004	Clip R.				C330	C1688BIH03TA		UN5214-TX	X10107	Transistor
R56	RA2005	Clip R.				C331	C1688BIH03TA		X511UM-TX	X10046	Transistor
R57	RA2004	Clip R.				C332	C1688BIH03TA		X511UM TX	X10046	Transistor
R58	RA2004	Clip R.				C333	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R59	RA2004	Clip R.				C334	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R60	RA2004	Clip R.				C335	C1688BIH03TA		UN5214-TX	X10107	Transistor
R61	RA2004	Clip R.				C336	C1688BIH03TA		X511UM-TX	X10046	Transistor
R62	RA2005	Clip R.				C337	C1688BIH03TA		X511UM TX	X10046	Transistor
R63	RA2005	Clip R.				C338	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R64	RA2004	Clip R.				C339	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R65	RA2004	Clip R.				C340	C1688BIH03TA		UN5214-TX	X10107	Transistor
R66	RA2005	Clip R.				C341	C1688BIH03TA		X511UM-TX	X10046	Transistor
R67	RA2005	Clip R.				C342	C1688BIH03TA		X511UM TX	X10046	Transistor
R68	RA2005	Clip R.				C343	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R69	RA2005	Clip R.				C344	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R70	RA2005	Clip R.				C345	C1688BIH03TA		UN5214-TX	X10107	Transistor
R71	RA2005	Clip R.				C346	C1688BIH03TA		X511UM-TX	X10046	Transistor
R72	RA2005	Clip R.				C347	C1688BIH03TA		X511UM TX	X10046	Transistor
R73	RA2004	Clip R.				C348	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R74	RA2005	Clip R.				C349	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R75	RA2005	Clip R.				C350	C1688BIH03TA		UN5214 TX	X10107	Transistor
R76	RA2005	Clip R.				C351	C1688BIH03TA		X511UM-TX	X10046	Transistor
R77	RA2005	Clip R.				C352	C1688BIH03TA		X511UM TX	X10046	Transistor
R78	RA2005	Clip R.				C353	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R79	RA2005	Clip R.				C354	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R80	RA2005	Clip R.				C355	C1688BIH03TA		UN5214-TX	X10107	Transistor
R81	RA2005	Clip R.				C356	C1688BIH03TA		X511UM-TX	X10046	Transistor
R82	RA2005	Clip R.				C357	C1688BIH03TA		X511UM TX	X10046	Transistor
R83	RA2005	Clip R.				C358	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R84	RA2005	Clip R.				C359	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R85	RA2005	Clip R.				C360	C1688BIH03TA		UN5214-TX	X10107	Transistor
R86	RA2005	Clip R.				C361	C1688BIH03TA		X511UM-TX	X10046	Transistor
R87	RA2005	Clip R.				C362	C1688BIH03TA		X511UM TX	X10046	Transistor
R88	RA2005	Clip R.				C363	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R89	RA2005	Clip R.				C364	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R90	RA2005	Clip R.				C365	C1688BIH03TA		UN5214-TX	X10107	Transistor
R91	RA2005	Clip R.				C366	C1688BIH03TA		X511UM-TX	X10046	Transistor
R92	RA2005	Clip R.				C367	C1688BIH03TA		X511UM TX	X10046	Transistor
R93	RA2005	Clip R.				C368	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R94	RA2005	Clip R.				C369	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R95	RA2005	Clip R.				C370	C1688BIH03TA		UN5214-TX	X10107	Transistor
R96	RA2005	Clip R.				C371	C1688BIH03TA		X511UM-TX	X10046	Transistor
R97	RA2005	Clip R.				C372	C1688BIH03TA		X511UM TX	X10046	Transistor
R98	RA2005	Clip R.				C373	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R99	RA2005	Clip R.				C374	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R100	RA2005	Clip R.				C375	C1688BIH03TA		UN5214-TX	X10107	Transistor
R101	RA2005	Clip R.				C376	C1688BIH03TA		X511UM-TX	X10046	Transistor
R102	RA2005	Clip R.				C377	C1688BIH03TA		X511UM TX	X10046	Transistor
R103	RA2005	Clip R.				C378	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R104	RA2005	Clip R.				C379	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R105	RA2005	Clip R.				C380	C1688BIH03TA		UN5214-TX	X10107	Transistor
R106	RA2005	Clip R.				C381	C1688BIH03TA		X511UM-TX	X10046	Transistor
R107	RA2005	Clip R.				C382	C1688BIH03TA		X511UM TX	X10046	Transistor
R108	RA2005	Clip R.				C383	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R109	RA2005	Clip R.				C384	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R110	RA2005	Clip R.				C385	C1688BIH03TA		UN5214-TX	X10107	Transistor
R111	RA2005	Clip R.				C386	C1688BIH03TA		X511UM-TX	X10046	Transistor
R112	RA2005	Clip R.				C387	C1688BIH03TA		X511UM TX	X10046	Transistor
R113	RA2005	Clip R.				C388	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R114	RA2005	Clip R.				C389	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R115	RA2005	Clip R.				C390	C1688BIH03TA		UN5214-TX	X10107	Transistor
R116	RA2005	Clip R.				C391	C1688BIH03TA		X511UM-TX	X10046	Transistor
R117	RA2005	Clip R.				C392	C1688BIH03TA		X511UM TX	X10046	Transistor
R118	RA2005	Clip R.				C393	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R119	RA2005	Clip R.				C394	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R120	RA2005	Clip R.				C395	C1688BIH03TA		UN5214-TX	X10107	Transistor
R121	RA2005	Clip R.				C396	C1688BIH03TA		X511UM-TX	X10046	Transistor
R122	RA2005	Clip R.				C397	C1688BIH03TA		X511UM TX	X10046	Transistor
R123	RA2005	Clip R.				C398	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R124	RA2005	Clip R.				C399	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R125	RA2005	Clip R.				C400	C1688BIH03TA		UN5214-TX	X10107	Transistor
R126	RA2005	Clip R.				C401	C1688BIH03TA		X511UM-TX	X10046	Transistor
R127	RA2005	Clip R.				C402	C1688BIH03TA		X511UM TX	X10046	Transistor
R128	RA2005	Clip R.				C403	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R129	RA2005	Clip R.				C404	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R130	RA2005	Clip R.				C405	C1688BIH03TA		UN5214-TX	X10107	Transistor
R131	RA2005	Clip R.				C406	C1688BIH03TA		X511UM-TX	X10046	Transistor
R132	RA2005	Clip R.				C407	C1688BIH03TA		X511UM TX	X10046	Transistor
R133	RA2005	Clip R.				C408	C1688BIH03TA		2SC4061 TUBE	X10095	Transistor
R134	RA2005	Clip R.				C409	C1688BIH03TA		2SC4061 TUBE	X10106	Transistor
R135	RA2005	Clip R.				C410	C1688BIH03TA		UN52		

For DJ-S41T/T2/(J)/(C) & EC10

VCO unit/Mechanical Parts						
Ref. No.	Parts No.	Part Name	Ver.	Ref. No.	Parts No.	Part Name
R509	RK0041	Clip R.		AJ0012	AJ0012	Dial Nut
R510	RK0041	Clip R.		AJ0004	AJ0004	2.8 FPC
R511	RK0041	Clip R.		RA0050A	RA0050A	Antenna
R512	RK0041	Clip R.		ES00112	ES00112	Speaker
R513	RK0041	Clip R.		FG0077	FG0077	Battery Cushion
R514	RK0041	Clip R.		F00106	F00106	SF Cushion
R515	RK0041	Clip R.		FG0107	FG0107	Mic Sheet
R516	RK0041	Clip R.		FG0108	FG0108	Battery Rubber
R517	RK0041	Clip R.		FG0132	FG0132	Battery Rubber
R518	RK0041	Clip R.		F00115	F00115	On Air Light
R519	RK0041	Clip R.		F00164	F00164	Same Key
R520	RK0041	Clip R.		F00220	F00220	PTT Rubber
R521	RK0041	Clip R.		FD0221	FD0221	UD Key
R522	RK0041	Clip R.		F00223	F00223	Lamp Key
R523	RK0041	Clip R.		FG0224	FG0224	VIS Key
R524	RK0041	Clip R.		FM0055	FM0055	Pin
R525	RK0041	Clip R.		FF0104	FF0104	Lock Lever
R526	RK0041	Clip R.		CN0101200216	CN0101200216	SP Spacer
R527	RK0041	Clip R.		D101	XJ0272	Diode
R528	RK0041	Clip R.		D102	XJ0280	Diode
R529	RK0041	Clip R.		D103	XJ0286	Diode
R530	RK0041	Clip R.		D104	XJ0291	Diode
R531	RK0041	Clip R.		L101	QD0422	Cap
R532	RK0041	Clip R.		L102	QK025A	Cap
R533	RK0041	Clip R.		Q101	XJ0137	Transistor
R534	RK0041	Clip R.		Q102	XJ0137	Transistor
R535	RK0041	Clip R.		Q103	XJ0074	Transistor
R536	RK0041	Clip R.		R101	RS3062	Chip G.
R537	RK0041	Clip R.		R103	RS3042	Chip G.
R538	RK0041	Clip R.		R104	RS3022	Chip G.
R539	RK0041	Clip R.		R105	RS3012	Chip G.
R540	RK0041	Clip R.		R106	RS3022	Chip G.
R541	RK0041	Clip R.		R106	RS3014	Chip G.
R542	RK0041	Clip R.		R106	RS3022	Chip G.
R543	RK0041	Clip R.		R107	RS3014	Chip G.
R544	RK0041	Clip R.		R108	RS3032	Chip G.
R545	RK0041	Clip R.		R109	RS3022	Chip G.
R546	RK0041	Clip R.		R110	RS3022	Chip G.
R547	RK0041	Clip R.		R111	RS3035	Chip G.
R548	RK0041	Clip R.		R112	RS3034	Chip G.
R549	RK0041	Clip R.		R113	RS3035	Chip G.
R550	RK0041	Clip R.		R114	RS3035	Chip G.
R551	RK0041	Clip R.		R115	RS3001	Chip G.
R552	RK0041	Clip R.		TS0117	TS0117	VCO Case
R553	RK0041	Clip R.				
R554	RK0041	Clip R.				
R555	RK0041	Clip R.				
R556	RK0041	Clip R.				
R557	RK0041	Clip R.				
R558	RK0041	Clip R.				
R559	RK0041	Clip R.				
R560	RK0041	Clip R.				
R561	RK0041	Clip R.				
R562	RK0041	Clip R.				
R563	RK0041	Clip R.				
R564	RK0041	Clip R.				
R565	RK0041	Clip R.				
R566	RK0041	Clip R.				
R567	RK0041	Clip R.				
R568	RK0041	Clip R.				
R569	RK0041	Clip R.				
R570	RK0041	Clip R.				
R571	RK0041	Clip R.				
R572	RK0041	Clip R.				
R573	RK0041	Clip R.				
R574	RK0041	Clip R.				

CPU Unit / VCO Unit /						
Ref. No.	Parts No.	Part Name	Ver.	Ref. No.	Parts No.	Part Name
R509	RK0041	Clip R.		C107	C107	Clip C.
R510	RK0041	Clip R.		C108	C108	Clip C.
R511	RK0041	Clip R.		C109	C109	Clip C.
R512	RK0041	Clip R.		C110	C109	Clip C.
R513	RK0041	Clip R.		C111	C109	Clip C.
R514	RK0041	Clip R.		C112	C105	Clip C.
R515	RK0041	Clip R.		C113	C101	Clip C.
R516	RK0041	Clip R.		C114	C108	Clip C.
R517	RK0041	Clip R.		C115	C104	Clip C.
R518	RK0041	Clip R.		C116	C104	Clip C.
R519	RK0041	Clip R.		C117	C104	Clip C.
R520	RK0041	Clip R.		C118	C105	Clip C.
R521	RK0041	Clip R.		CN0101200216	CN0101200216	Connector
R522	RK0041	Clip R.		E010	E010	EC10
R523	RK0041	Clip R.		E011	E011	EC10
R524	RK0041	Clip R.		E012	E012	EC10
R525	RK0041	Clip R.		E013	E013	EC10
R526	RK0041	Clip R.		E014	E014	EC10
R527	RK0041	Clip R.		E015	E015	EC10
R528	RK0041	Clip R.		E016	E016	EC10
R529	RK0041	Clip R.		E017	E017	EC10
R530	RK0041	Clip R.		E018	E018	EC10
R531	RK0041	Clip R.		E019	E019	EC10
R532	RK0041	Clip R.		E020	E020	EC10
R533	RK0041	Clip R.		E021	E021	EC10
R534	RK0041	Clip R.		E022	E022	EC10
R535	RK0041	Clip R.		E023	E023	EC10
R536	RK0041	Clip R.		E024	E024	EC10
R537	RK0041	Clip R.		E025	E025	EC10
R538	RK0041	Clip R.		E026	E026	EC10
R539	RK0041	Clip R.		E027	E027	EC10
R540	RK0041	Clip R.		E028	E028	EC10
R541	RK0041	Clip R.		E029	E029	EC10
R542	RK0041	Clip R.		E030	E030	EC10
R543	RK0041	Clip R.		E031	E031	EC10
R544	RK0041	Clip R.		E032	E032	EC10
R545	RK0041	Clip R.		E033	E033	EC10
R546	RK0041	Clip R.		E034	E034	EC10
R547	RK0041	Clip R.		E035	E035	EC10
R548	RK0041	Clip R.		E036	E036	EC10
R549	RK0041	Clip R.		E037	E037	EC10
R550	RK0041	Clip R.		E038	E038	EC10
R551	RK0041	Clip R.		E039	E039	EC10
R552	RK0041	Clip R.		E040	E040	EC10
R553	RK0041	Clip R.		E041	E041	EC10
R554	RK0041	Clip R.		E042	E042	EC10
R555	RK0041	Clip R.		E043	E043	EC10
R556	RK0041	Clip R.		E044	E044	EC10
R557	RK0041	Clip R.		E045	E045	EC10
R558	RK0041	Clip R.		E046	E046	EC10
R559	RK0041	Clip R.		E047	E047	EC10
R560	RK0041	Clip R.		E048	E048	EC10
R561	RK0041	Clip R.		E049	E049	EC10
R562	RK0041	Clip R.		E050	E050	EC10
R563	RK0041	Clip R.		E051	E051	EC10
R564	RK0041	Clip R.		E052	E052	EC10
R565	RK0041	Clip R.		E053	E053	EC10
R566	RK0041	Clip R.		E054	E054	EC10
R567	RK0041	Clip R.		E055	E055	EC10
R568	RK0041	Clip R.		E056	E056	EC10
R569	RK0041	Clip R.		E057	E057	EC10
R570	RK0041	Clip R.		E058	E058	EC10
R571	RK0041	Clip R.		E059	E059	EC10
R572	RK0041	Clip R.		E060	E060	EC10
R573	RK0041	Clip R.		E061	E061	EC10
R574	RK0041	Clip R.		E062	E062	EC10

VCO Unit						
Ref. No.	Parts No.	Part Name	Ver.	Ref. No.	Parts No.	Part Name
C101	C13016	Clip C.		C102	C13059	Clip C.
C103	C13060	Clip C.		C104	C13063	Clip C.
C105	C13064	Clip C.		C106	C13035	Clip C.
C107	C13036	Clip C.		TL0013	TL0013	Adhesive Tape
C108	C13037	Clip C.		TL0029	TL0029	Adhesive Tape
C109	C13038	Clip C.		TS0001	TS0001	Insulation Tape
C110	C13039	Clip C.		TZ0072	TZ0072	Adhesive Tape
C111	C13040	Clip C.		Y20145	Y20145	Adhesive Tape
C112	C13041	Clip C.				
C113	C13042	Clip C.				
C114	C13043	Clip C.				
C115	C13001	Clip C.		TS0117	TS0117	VCO Unit

Mechanical Parts						
Ref. No.	Parts No.	Part Name	Ver.	Ref. No.	Parts No.	Part Name
AJ0005	AJ0005	Screw		AN0007	AN0007	2+3 FeNi
		Nut				1 M 0.7 FeNi

For DJ-S41T/T2/(J)/(C) & EC10

ADJUSTMENT

For DJ-S41T/T2/(J)/(C) & EC10

1) Required Test Equipment

1. Digital Multimeter

2. Regulated Power Supply

Supply voltage: 5.5VDC

Current: 1A or more

3. Oscilloscope

Measurable frequency: Audio Frequency

4. Spectrum Analyzer

Measuring range: Up to 2GHz or more

5. Power Meter

Measurable frequency: Up to 500MHz

Impedance: 50Ω

Power: 1W or more

6. Speaker

Impedance: 8Ω

7. SSG

Output frequency: Up to 1GHz

Output level: -20dB/0.1μV to 120dB/1V

Modulation: FM

8. Transceiver Tester

Up to 500MHz

a. Frequency Counter

b. Power Meter

Impedance: 50Ω

Measuring range: 1W or more

c. Audio Voltmeter

Measurable frequency: 50Hz ~ 10kHz

Sensitivity: 1mV ~ 10V

d. Distortion Meter

Measurable frequency: 1kHz

Input level: Up to 40dB

Distortion level: 1% ~ 100%

e. Audio Generator

Output frequency: 1kHz ~ 10kHz

Output impedance: 600Ω

f. Linear Detector

Note:

1. 5.5V of power voltage is supplied from DC jack.
2. The transmitter system should be adjusted or inspected in high power.

2) Adjustment For DJ-S41T/T2(J)/(C) & EC10

Item	Condition	Measurement			Adjustment			Specifications
		Equipment	Unit	Terminal	Unit	Parts	Method	
PLL VCO	f=439.95 RX(J) f=434.05 RX(C)(EC10) f=449.95 RX(T)	Digital Multimeter	RF	PD	VCO	-	See *1.	1.6~1.8V(J) 1.2~1.4V(C) 0.7~0.9V(T)
	f=439.95 TX(J) f=434.05 TX(C)(EC10) f=449.95 TX(T)						Check	2.3V or below (J,T) 1.8 or below(C)
Reference Frequency	f=435.05 TX(J)(T) f=434.05 TX(C)(EC10)	Freq. Counter			RF	TC5	f=435.05 (J)(T) f=434.05 (C)(EC10)	±100Hz
TX Power	f=434.05 TX(C)(EC10)	Power Meter	RF	ANT	RF	RT3	10mW±0.5mW	10mW±0.5mW
TX Power Hi	f=435.05 TX(J)(T) DC=5.5V				-	-	Check	340mW or more
TX Power Low	See *2.						Check	150mW or below
Deviation	f=435.05 TX(J)(T) f=434.05 TX(C)(EC10) AG:1kHz 50mV (-30dBm)	Linear Det. Oscilloscope Power Meter AG	RF	ANT	CPU	RT301	4.5±0.1kHz	4.5±0.1kHz
Tone	f=435.05 TX(J)(T) f=434.05 TX(C)(EC10)				-	-	Check	0.8 ~ 1.0kHz
Sensitivity	f=435.05 RX(J)(T) f=434.05 RX(C)(EC10)						RF	TC2,4 12dB SINAD max. -8dBμ (EMF) or below
Squelch	f=435.05 TX(J)(T) f=434.05 TX(C)(EC10) Output: -12dBμ Mod: ON	SSG Distortion Meter Oscilloscope Level Meter	RF	ANT	RF	RT2	SQ Open	-15dBμ > Close -9dBμ < Open
S meter	f=435.05 RX(J)(T) f=434.05 RX(C)(EC10) Out put: +12dBμ Mod: ON				CPU	RT302	All digits are lit up.	

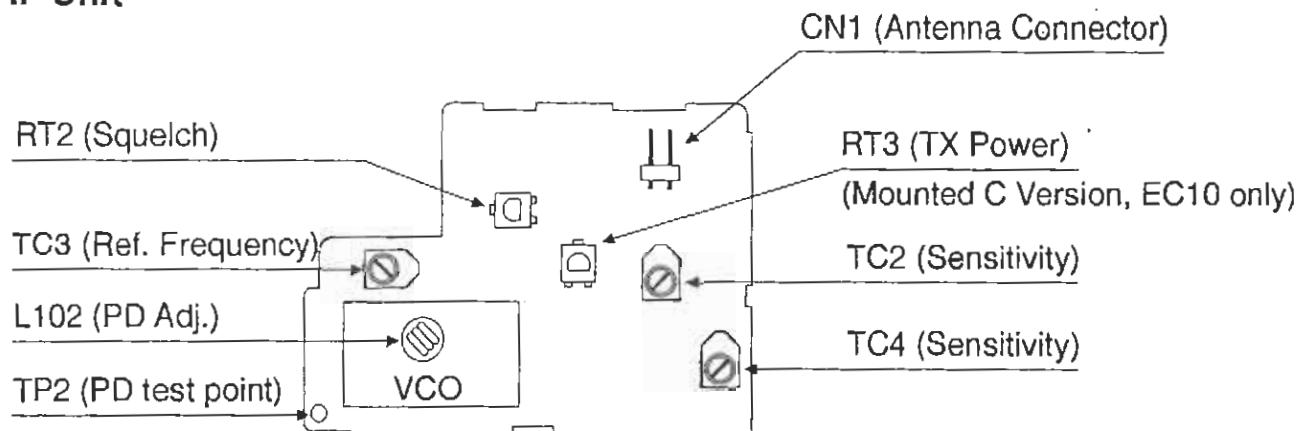
*1:Extend the coil L102 so that the P.D. voltage becomes $\left\{ \begin{array}{l} 1.7 \pm 0.1V(J) \\ 1.3 \pm 0.1(C)(EC10) \\ 0.8 \pm 0.1V(T) \end{array} \right.$

*2:Switching to Low power

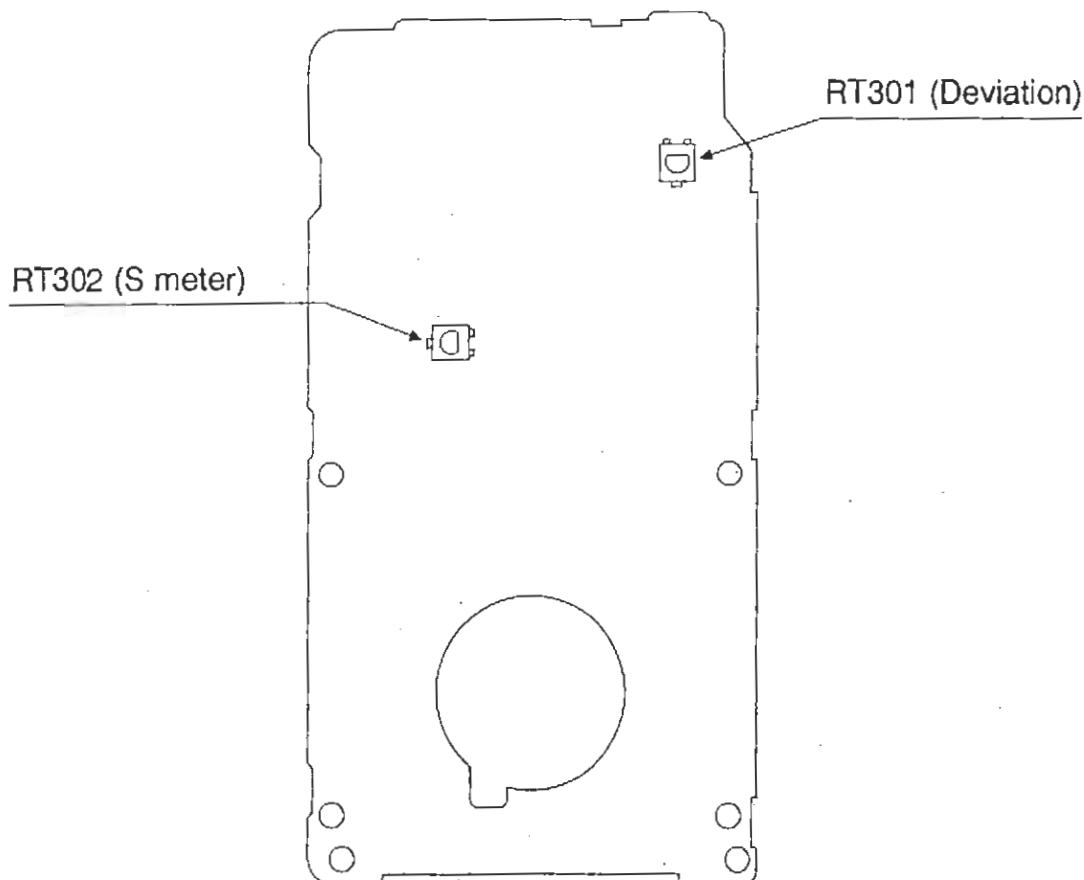
- (J)Press RPT key while transmitting.
- (T)Press SCAN key while transmitting.
- (C)(EC10)No TX power selector

3) Adjustment Points **For DJ-S41T/T2/(J)/(C) & EC10**

RF Unit



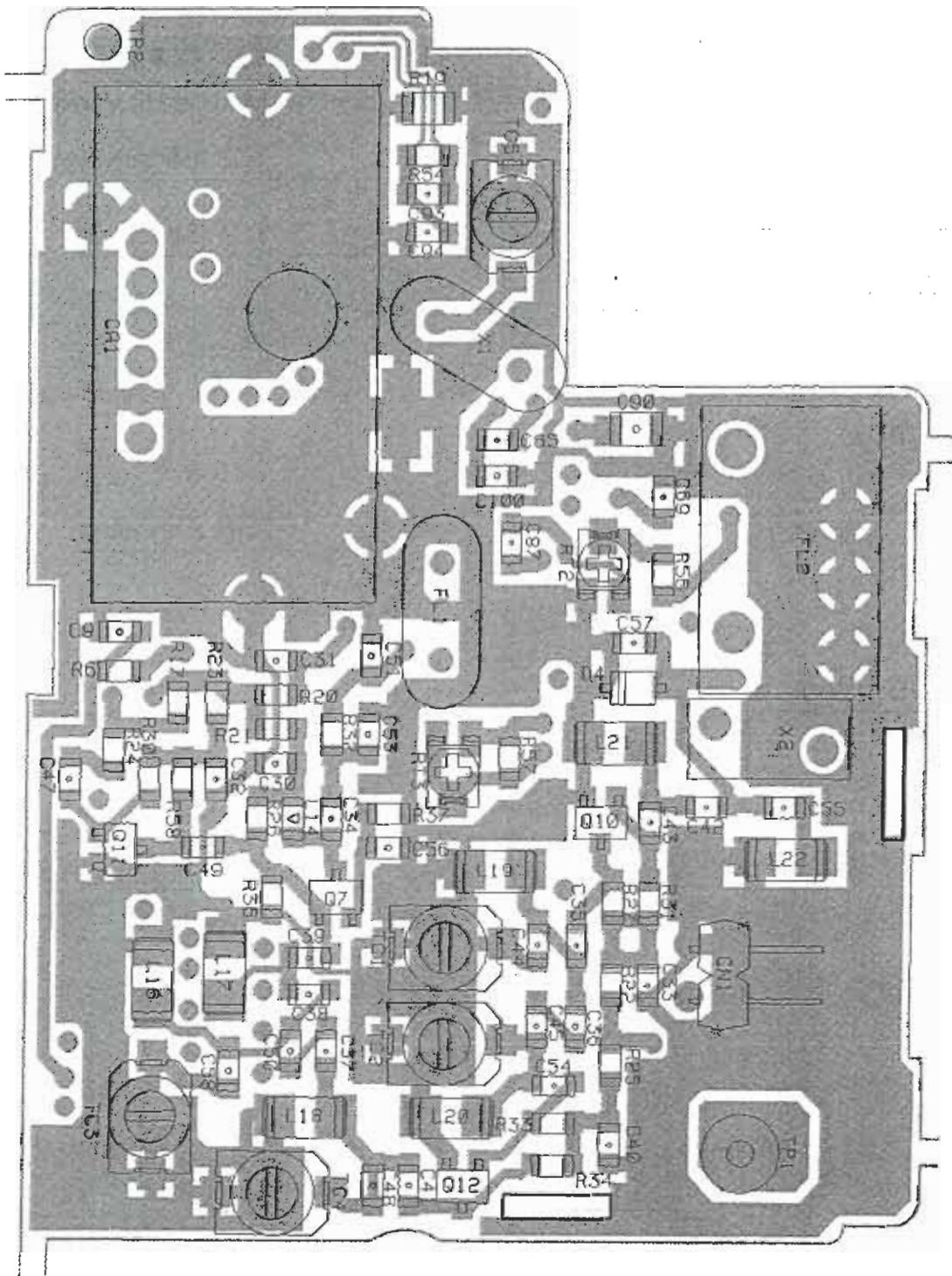
CPU Unit



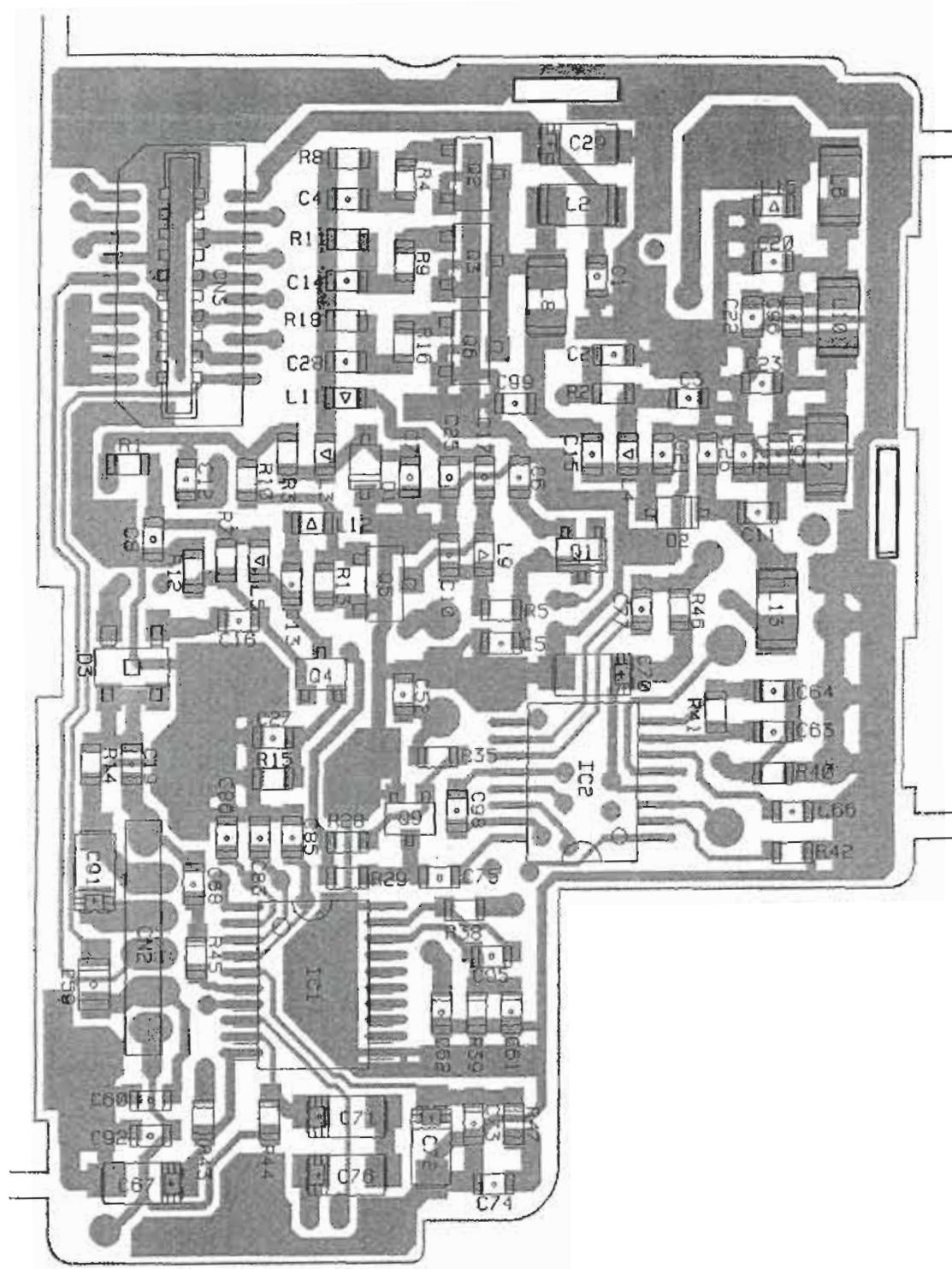
PC BOARD VIEW

1) RF Unit

Component side For DJ-S41T/T2/(J)/(C) & EC10

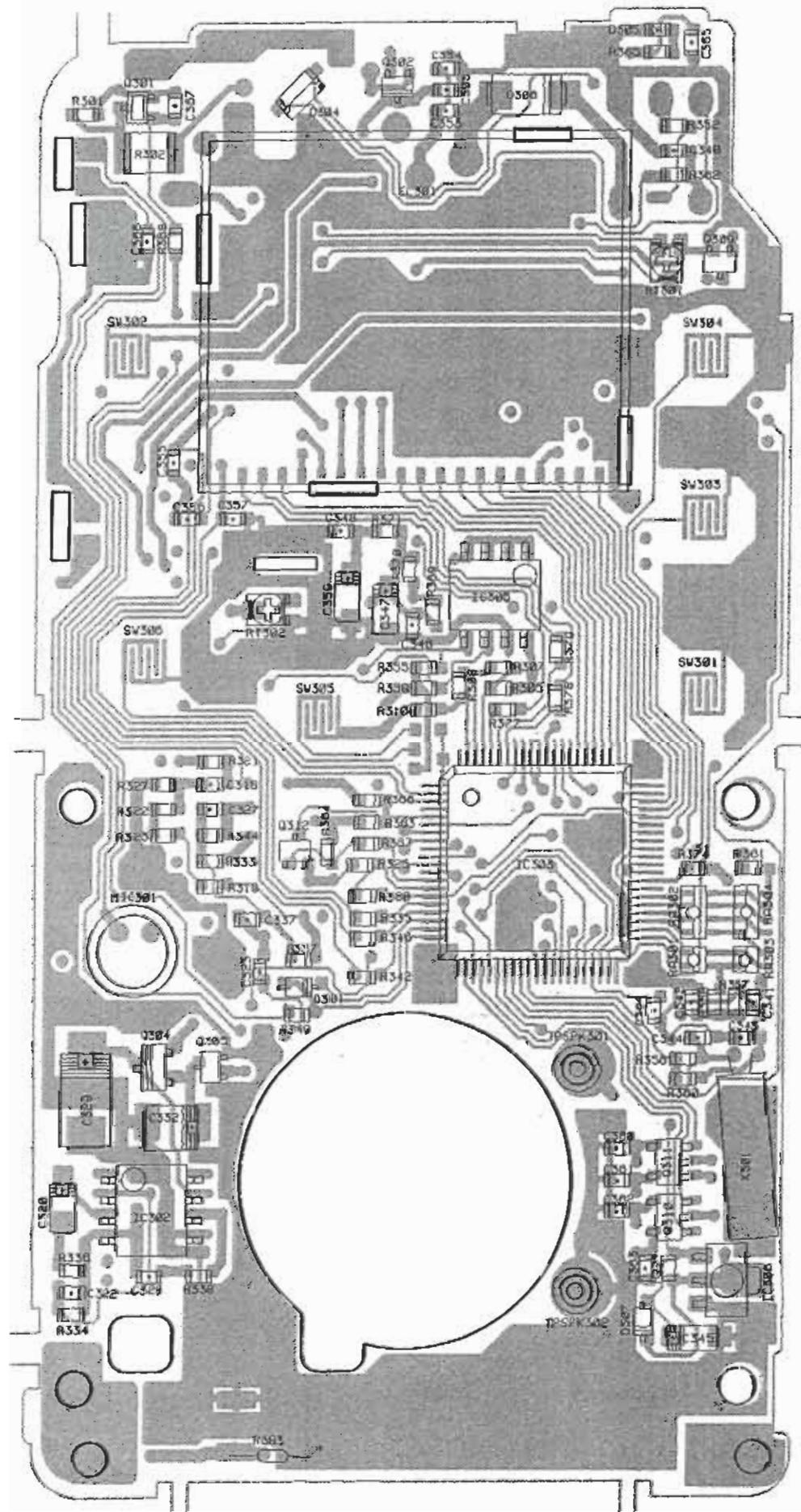


Solder side For DJ-S41T/T2/(J)/(C) & EC10



2) CPU Unit early version

Component side **For DJ-S41T/T2/(J)/(C)** (Not for EC10)

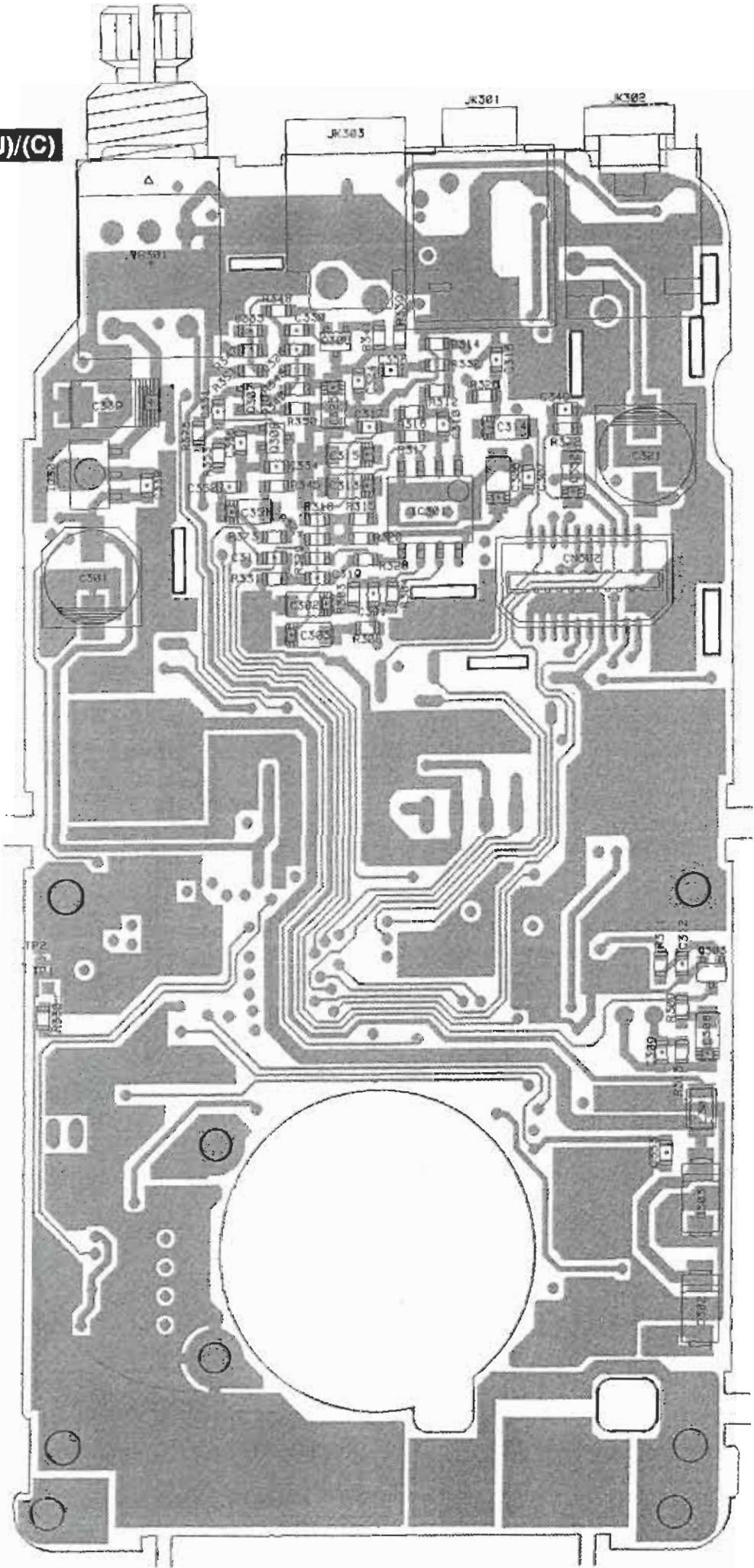


* Installing R383 will make C41 rechargeable thru the DC jack (max. 6V DC).

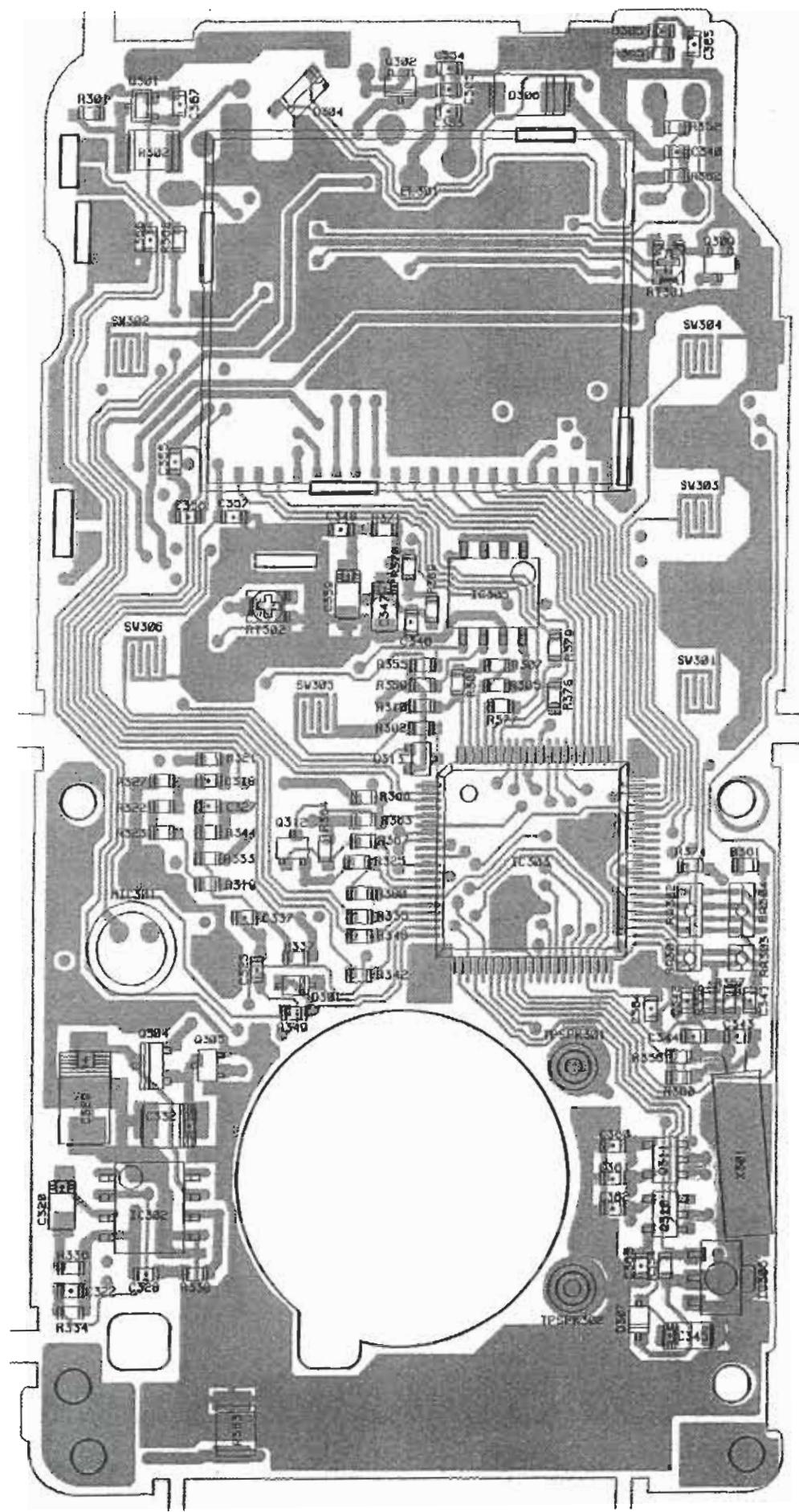
Solder side

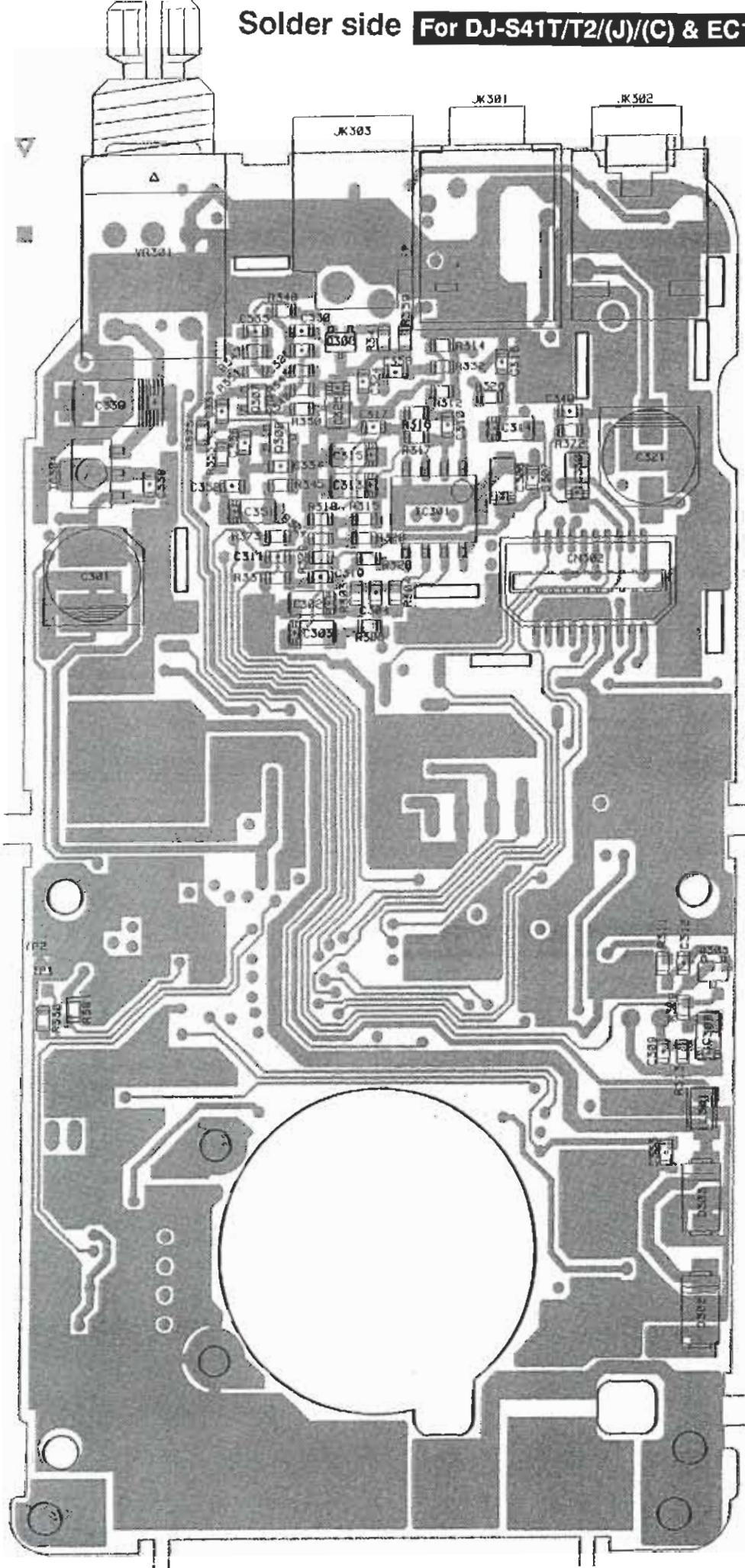
For DJ-S41T/T2/(J)/(C)

(Not for EC10)



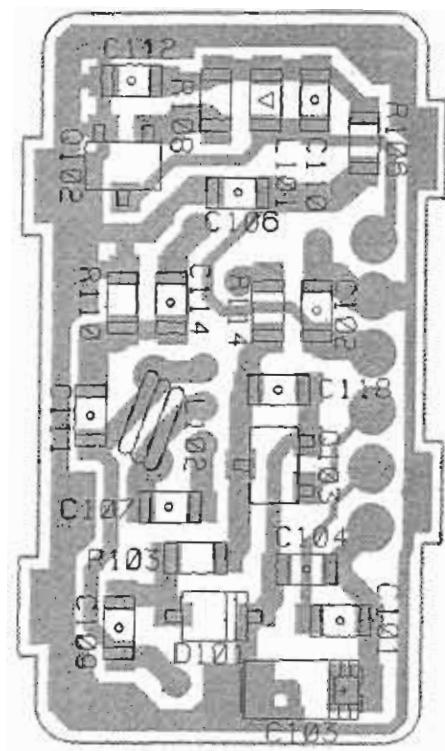
3) CPU Unit later version Component side For DJ-S41T/T2/(J)/(C) & EC10



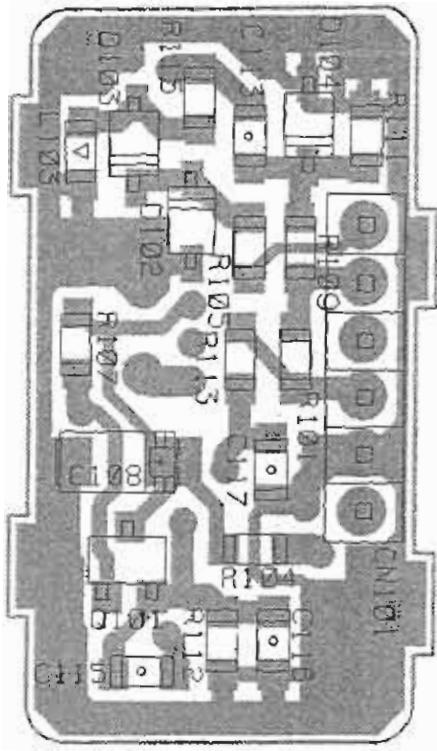


4) VCO Unit For DJ-S41T/T2/(J)/(C) & EC10

Component side

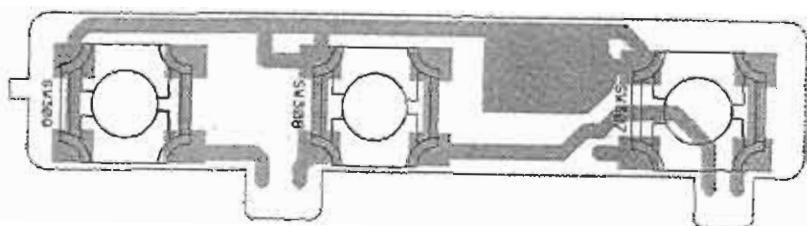


Solder side



5) SW Unit For DJ-S41T/T2/(J)/(C) & EC10

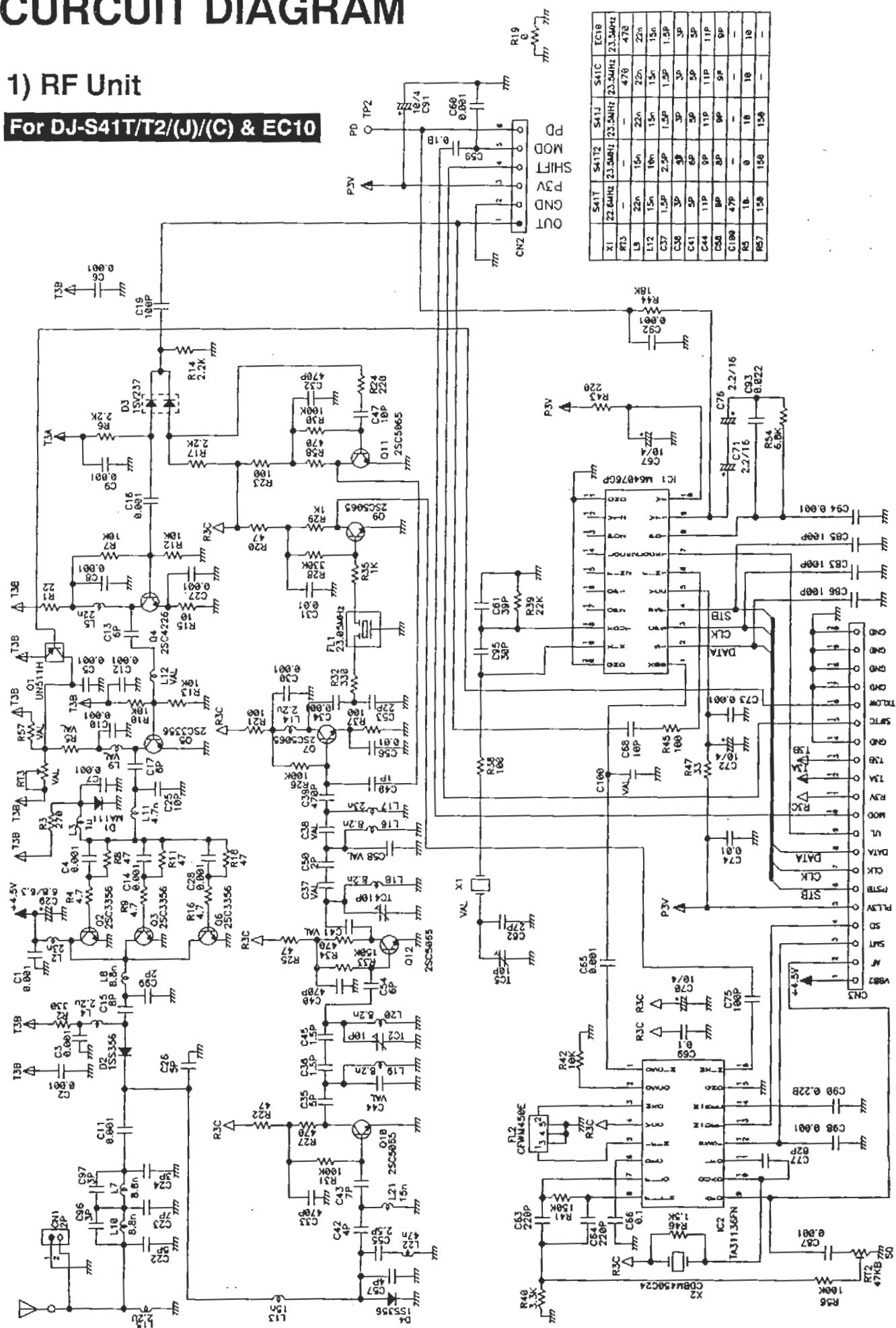
Component side



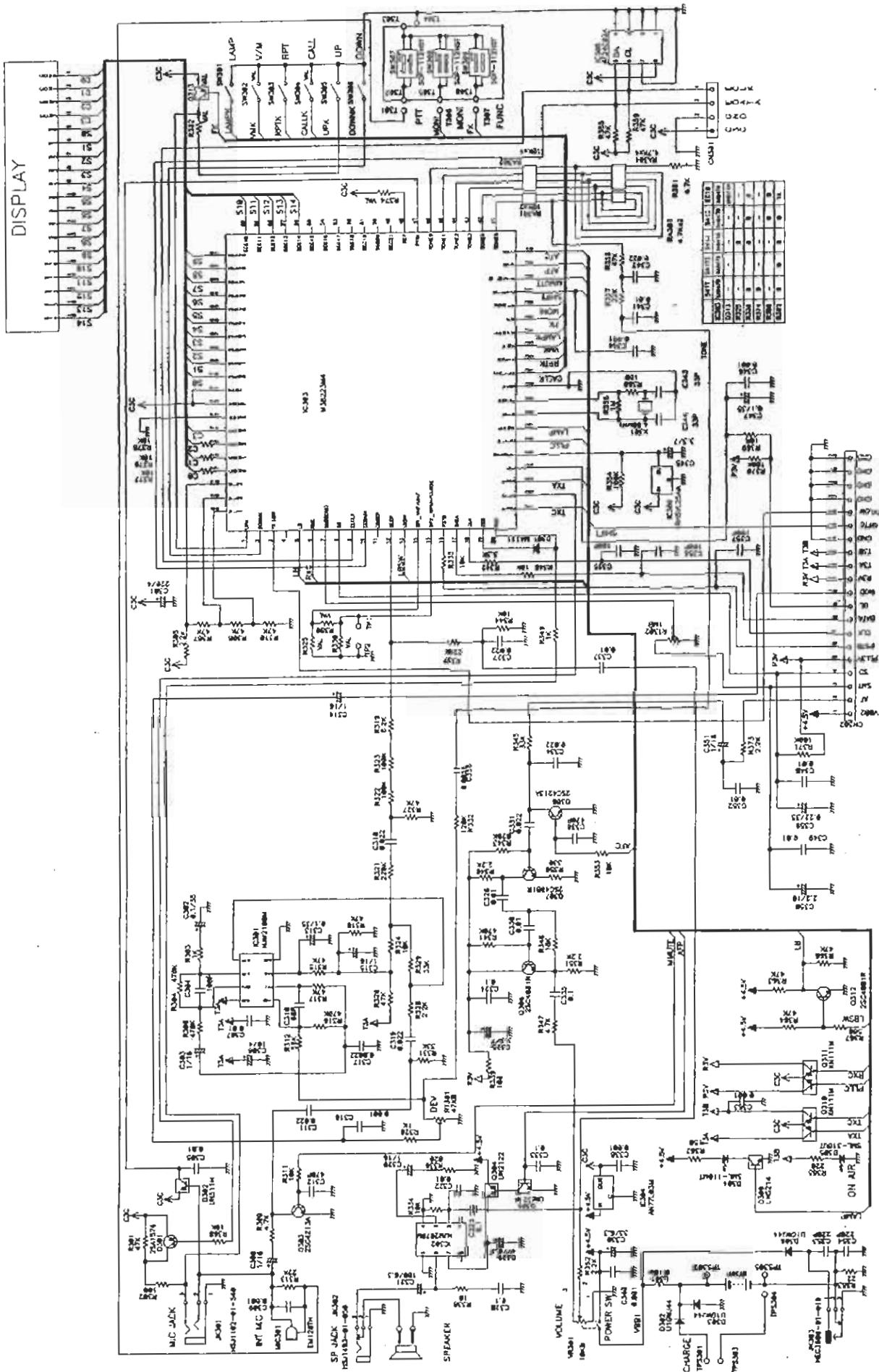
CURCUIT DIAGRAM

1) RF Unit

For DJ-S41T/T2/(J)/(C) & EC10

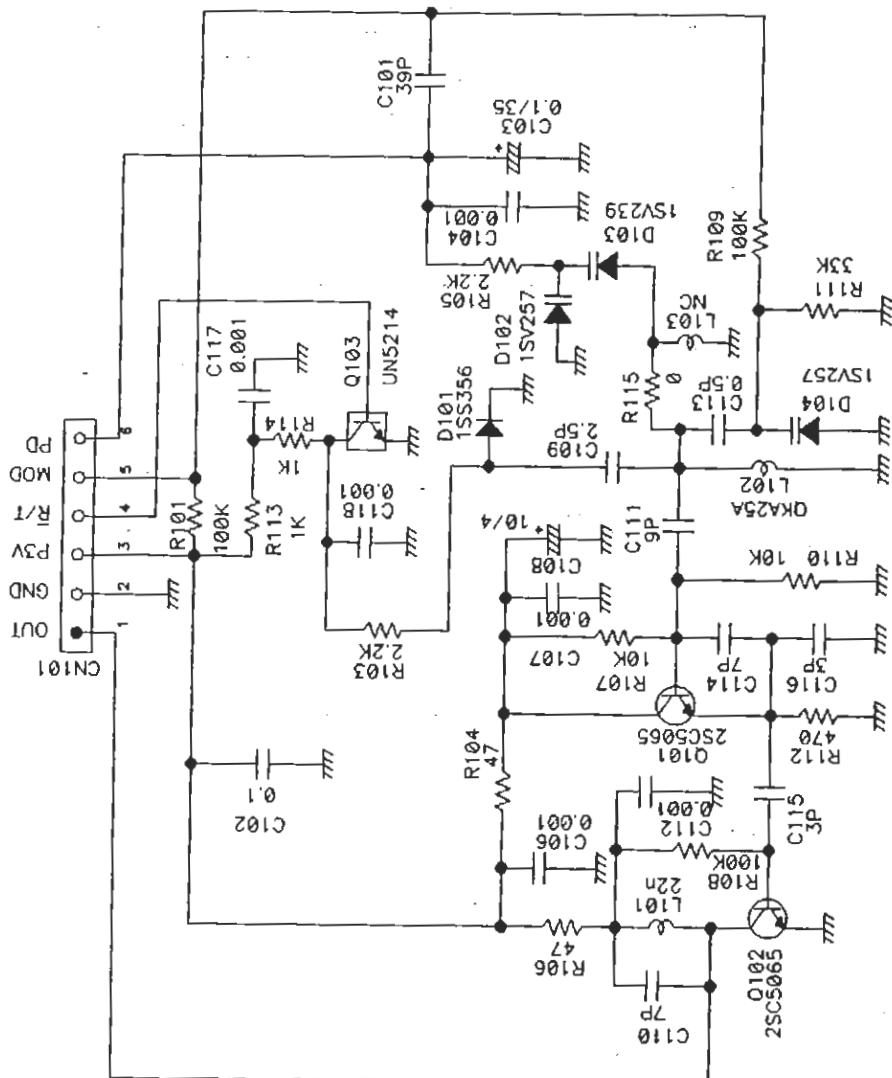


2) CPU UNIT For DJ-S41T/T2/(J)/(C) & EC10



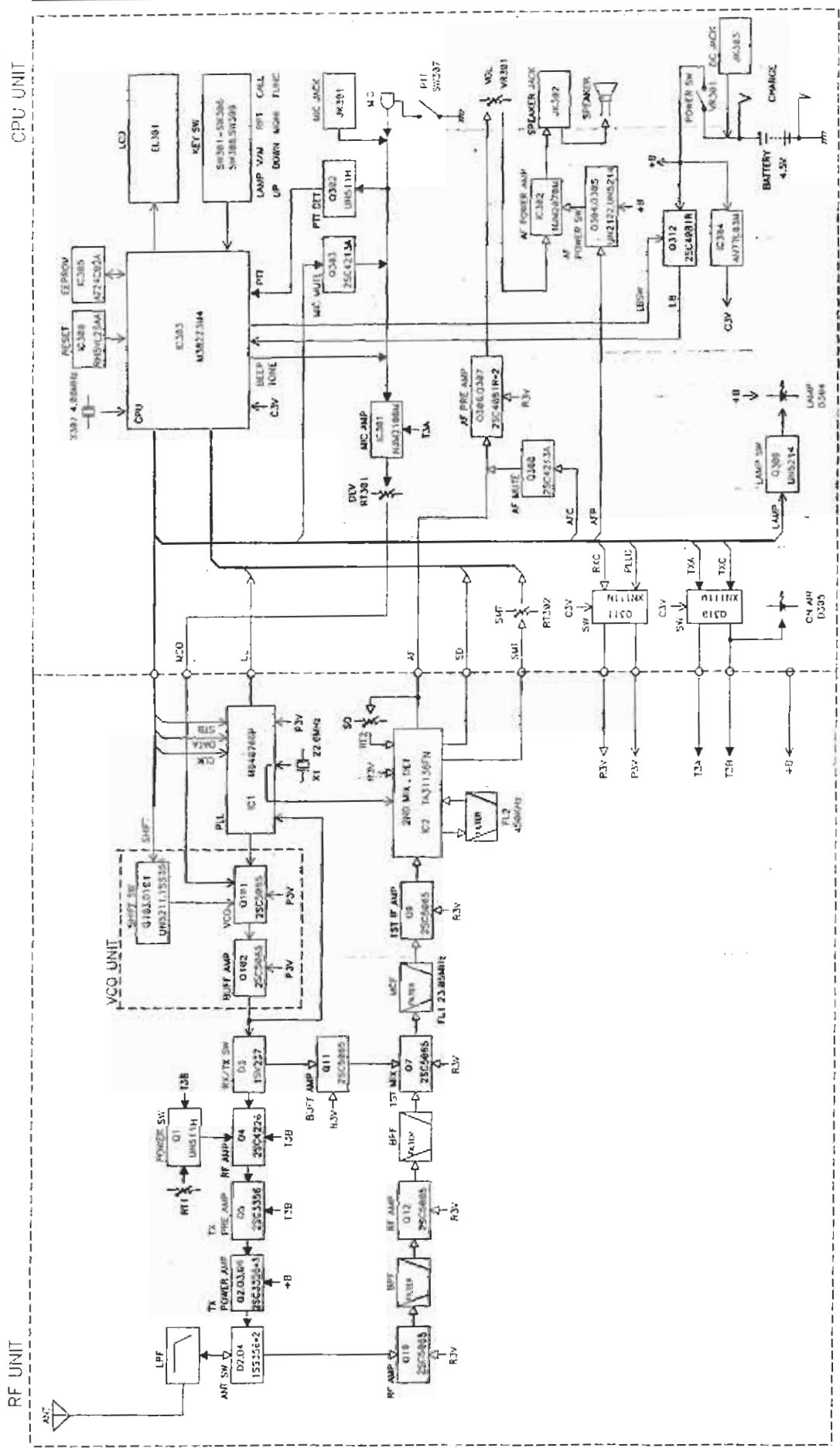
Installing R383 will make C41 rechargeable thru the DC jack (max. 6V DC).

3) VCO Unit For DJ-S41T/T2/(J)/(C) & EC10



BLOCK DIAGRAM

For DJ-S41T/T2/(J)/(C) & EC10



REF UNIT

1

272

34

PARTS LIST

For DJ-S11T/E

RFI Unit		Ref. No.	Parts No.	Description	Parts Name	Ver.
R21	RK3026	Clip R.		ERJG5YJ0W		
R22	RK3022	Clip R.		ERJG5YJ0W		
R23	RK3026	Clip R.		ERJG5YJ0W		
R24	RK3020	Clip R.		ERJG5YJ0W		
R25	RK3022	Clip R.		ERJG5YJ0W		
R27	RK3024	Clip R.		ERJG5YJ0W		
R28	RK3026	Clip R.		ERJG5YJ0W		
R29	RK3018	Clip R.		ERJG5YJ0W		
R30	RK3022	Clip R.		ERJG5YJ0W		
R31	RK3019	Clip R.		ERJG5YJ0W		
R32	RK3012	Clip R.		ERJG5YJ0W		
R33	RK3001	Clip R.		ERJG5YJ0W		
R34	RK3011	Clip R.		ERJG5YJ0W		
R35	RK3018	Clip R.		ERJG5YJ0W		
R37	RK3026	Clip R.		ERJG5YJ0W		
R38	RK3026	Clip R.		ERJG5YJ0W		
R40	RK3044	Clip R.		ERJG5YJ0W		
R41	RK3004	Clip R.		ERJG5YJ0W		
R42	RK3010	Clip R.		ERJG5YJ0W		
R43	RK3024	Clip R.		ERJG5YJ0W		
R44	RK3013	Clip R.		ERJG5YJ0W		
R45	RK3026	Clip R.		ERJG5YJ0W		
R46	RK3040	Clip L.		ERJG5YJ0W		
R47	RK3020	Clip R.		ERJG5YJ0W		
R48	RK3039	Clip L.		ERJG5YJ0W		
R54	RK3048	Clip R.		ERJG5YJ0W		
R56	RK3052	Clip R.		ERJG5YJ0W		
R57	RK3034	Clip R.		ERJG5YJ0W		
R58	RK3026	Clip R.		ERJG5YJ0W		
R59	RK3001	Clip R.		ERJG5YJ0W		
R60	RK3011	Clip R.		ERJG5YJ0W		
R61	RK3001	Clip R.		ERJG5YJ0W		
R62	RK3001	Clip R.		ERJG5YJ0W		
R63	RK3001	Clip R.		ERJG5YJ0W		
R64	RK3001	Clip R.		ERJG5YJ0W		
R65	RK3001	Clip R.		ERJG5YJ0W		
R72	RH0146	Trim. Pot		MV22HBFRN73		
C7000		TC2		CT200CW		
C7000		TC4		CT200CW		
C7012		Trimmer		CT200AW		
TP1	UEB213A	Connector		CONTACT PIN D051		
X1	XQ3040	Cystal		38.4MHz 25.5MHz		
X2	XH0004	Ceramic Disc.		CDBA450C24		

Ref. No.	Parts No.	Description	Parts Name	Ver.
L3	QC0442	Clip L.	MCP1608A100C7000	
L4	QC0446	Clip L.	MLT1608A100C7000T	
L5	QC0520	Clip L.	LJ1608-1122RK	
L7	QC0401	Clip L.	LQNU1608U04	
L8	QC0402	Clip L.	LQNU1608U04	
L9	QC0520	Clip L.	LJ1608-1122RK	
L10	QC2002	Clip L.	LQSY1608U04	
L13	QC0385	Clip L.	LQSY1608U04	
L14	QC0446	Clip L.	MLP1608A100C7000T	
L15	QC0446	Clip L.	MLP1608A100C7000T	
L18	QC0402	Clip L.	LQSY1608U04	
L20	QC0402	Clip L.	LQSY1608U04	
L21	QC2003	Clip L.	LQSY1608U04	
L22	QC0521	Clip L.	LJ1608-1122RK	
Q1	XU3166	Transistor	LNS51W1P1X	
Q2	XT0142	Transistor	2SC2306(T)1B1225	
Q3	XT0142	Transistor	2SC2306(T)1B1225	
Q4	XT0541	Transistor	2SA1256-111R4	
Q5	XT0142	Transistor	2SC2306(T)1B1225	
Q6	XT0142	Transistor	2SC2306-04(T)2551	
Q7	XT0137	Transistor	2SA1256-04(T)2551	
Q9	XT0137	Transistor	2SA1256-04(T)2551	
Q10	XU3111	Transistor	2SC2306(T)1B1225(L)	
Q11	XT0137	Transistor	2SC2306(T)1B1225(L)	
R1	RE2018	Clip R.	EP10C572209V	
R2	RE3032	Clip P.	EP2020V1121V	
R3	RE3035	Clip R.	EP10C57158V	
R4	RE3010	Clip R.	EP10C57148V	
R5	RE2014	Clip R.	EP10C57100V	
R6	RE2002	Clip R.	EP10C57322V	
R7	RE3063	Clip R.	EP10C57148V	
R8	RE3022	Clip R.	EP10C571470V	
R9	RE2010	Clip R.	EP10C57148V	
R10	RE3066	Clip R.	EP10C57133V	
R11	RE3022	Clip R.	EP10C57100V	
R12	RE2010	Clip R.	EP10C57148V	
R13	RE3050	Clip R.	EP10C57100V	
R14	RE3042	Clip R.	EP10C57122V	
R15	RE3014	Clip R.	EP10C57100V	
R16	RE2010	Clip R.	EP10C57148V	
R17	RE3012	Clip R.	EP10C57122V	
R18	RE3022	Clip R.	EP10C571470V	
RK0017	RK3220	Clip R.	EP10C57148V	

Ref. No.	Parts No.	Description	Parts Name	Ver.
C-9	CL5342	Clip C.	C2012IC104KTA	
(60)	CU3935	Clip C.	C1660B1H102TA	
G61	CU2015	Clip C.	C1660CH1H102TA	
G62	CU3915	Clip C.	C1660CH1H102TA	
G63	CU3927	Clip C.	C1660CH1H102TA	
G64	CU3927	Clip C.	C1660CH1H102TA	
G65	CU3935	Clip C.	C1660CH1H102TA	
G66	CU3969	Clip C.	C1660F1E102TA	
G68	CU2011	Clip C.	C1660FH1H102TA	
G69	CU3969	Clip C.	C1660FH1H102TA	
G70	CU3969	Clip Panel	TACMAG100NT	
E71	CU2113	Clip Panel	TACMAG100NT	
G72	CU3966	Clip Panel	TACMAG100NT	
G73	CU2005	Clip C.	C1660FH1H102TA	
G74	CU2017	Clip C.	C1660FH1H102TA	
G75	CU2023	Clip C.	C1660FH1H102TA	
G76	CU2113	Clip Panel	TACMAG100NT	
G77	CU3924	Clip C.	C1660FH1H102TA	
G78	CU2012	Clip C.	C1660FH1H102TA	
G79	CU2023	Clip C.	C1660FH1H102TA	
G80	CU3928	Clip C.	C1660FH1H102TA	
G81	CST	Clip C.	C1660FH1H102TA	
G89	CU3946	Clip C.	C2012IC104KTA	
C91	CS0366	Clip Panel	TACMAG100NT	
C92	CU2005	Clip C.	C1660FH1H102TA	
(93)	CU3961	Clip C.	C1660FH1H102TA	
C93	CU3938	Clip C.	C1660FH1H102TA	
C95	CU3916	Clip C.	C1660FH1H102TA	
C96	CU3906	Clip C.	C1660FH1H102TA	
C97	CU3906	Clip C.	C1660FH1H102TA	
C98	CU3905	Clip C.	C1660FH1H102TA	
C99	CU2015	Clip C.	C1660FH1H102TA	
CN1	UF0290	Connector	92101B-1-0202045-T	
CN3	UF0215	Connector	ANXN090C100P	
D1	XD0290	Diode	MA111-TX	
D2	XD0272	Diode	ISS3356-TW11	
(3)	XD0141	Diode	IS19231-T225R	
D1	XD0272	Diode	ISS3356-TW11	
EL1	XF0013	23.650MHz/15.83		
F12	XG0016	Ceramic Filter	CFPM410Z	
(1)	XA0352		ME4076GP	
(2)	XM0404		TA1128INTEL	
(2)	QC39103		QNT114N34	

Ref. No.	Parts No.	Description	Parts Name	Ver.
RF Unit				
C1	C0005	Clip C.	Clip&BH100CTA	
C2	C0305	Clip C.	Clip&BH102CTA	
C3	C1305	Clip C.	Clip&BH103CTA	
C4	C0205	Clip C.	Clip&BH104CTA	
C5	C1305	Clip C.	Clip&BH105CTA	
C6	C1305	Clip C.	Clip&BH106CTA	
C7	C1305	Clip C.	Clip&BH107CTA	
C8	C1305	Clip C.	Clip&BH108CTA	
C9	C1305	Clip C.	Clip&BH109CTA	
C10	C12035	Clip C.	Clip&BH110CTA	
C11	C12035	Clip C.	Clip&BH111CTA	
C12	C12035	Clip C.	Clip&BH112CTA	
C13	C12035	Clip C.	Clip&BH113CTA	
C14	C12035	Clip C.	Clip&BH114CTA	
C15	C12035	Clip C.	Clip&BH115CTA	
C16	C12035	Clip C.	Clip&BH116CTA	
C17	C12035	Clip C.	Clip&BH117CTA	
C18	C12035	Clip C.	Clip&BH118CTA	
C19	C12035	Clip C.	Clip&BH119CTA	
C20	C12035	Clip C.	Clip&BH120CTA	
C21	C12035	Clip C.	Clip&BH121CTA	
C22	C12035	Clip C.	Clip&BH122CTA	
C23	C12035	Clip C.	Clip&BH123CTA	
C24	C12035	Clip C.	Clip&BH124CTA	
C25	C12011	Clip C.	Clip&BH125CTA	
C26	C12012	Clip C.	Clip&BH126CTA	
C27	C13035	Clip C.	Clip&BH127CTA	
C28	C13035	Clip C.	Clip&BH128CTA	
C29	C50256	Clip Tantal	TiCrAlN1500TR	
C30	C13035	Clip C.	Clip&BH129CTA	
C31	C13047	Clip C.	Clip&BH130CTA	
C32	C13031	Clip C.	Clip&BH131CTA	
C33	C13047	Clip C.	Clip&BH132CTA	
C34	C13035	Clip C.	Clip&BH133CTA	
C35	C13031	Clip C.	Clip&BH134CTA	
C36	C13035	Clip C.	Clip&BH135CTA	
C41	C13001	Clip C.	Clip&CH100CTA	
C42	C13014	Clip C.	Clip&CH101CTA	
C43	C13005	Clip C.	Clip&CH102CTA	
C46	C50459	Clip Tantal	P504596MB	
C47	C13011	Clip C.	Clip&CH103CTA	
C48	C13002	Clip C.	Clip&CH104CTA	
C53	C13019	Clip C.	Clip&CH105CTA	
C55	C13016	Clip C.	Clip&CH106CTA	
C56	C13047	Clip C.	Clip&CH107CTA	
C57	C13015	Clip C.	Clip&CH108CTA	

For DJ-S11T/E

Ref. No.	Parts No.	Description	Parts Name	Vor.
Q006	X107022	Transistor	UN5214 TX	
Q006	X107055	Transistor	SSC461 T16R	
Q007	X107065	Transistor	SSC461 T16R	
Q008	X107185	Transistor	SSC421A-T28L	
Q009	X107052	Transistor	UN5214 TX	
Q009	X107046	Transistor	XN111W TX	
Q010	X107045	Transistor	XN111W TX	
C011	X107046	Transistor	SSC461 T16R	
C012	X107055	Transistor	SSC461 T16R	
K0201	RK3058	Clip R.	ERJ055SY1473V	E
P002	RK3051	Clip R.	ERJ055SY1473V	
P003	RK3058	Clip R.	ERJ055SY1622V	
P004	RK3070	Clip R.	ERJ055Y1473V	
P005	RK3042	Clip R.	ERJ055Y1622V	
P006	RK3070	Clip R.	ERJ055Y1473V	
P007	RK3058	Clip R.	ERJ055Y1622V	
P008	RK3058	Clip R.	ERJ055Y1473V	
R009	RK3016	Clip R.	ERJ055Y1473V	
I010	RK3058	Clip R.	ERJ055Y1473V	
P011	RK3050	Clip R.	ERJ055Y1622V	
I012	RK3059	Clip R.	ERJ055Y1473V	
P013	RK3054	Clip R.	ERJ055Y1622V	
N015	RK3054	Clip R.	ERJ055Y1473V	
P016	RK3070	Clip R.	ERJ055Y1622V	
P017	RK3058	Clip R.	ERJ055Y1473V	
P018	RK3058	Clip R.	ERJ055Y1473V	
P019	RK3049	Clip R.	ERJ055Y1622V	
P020	RK3058	Clip R.	ERJ055Y1473V	
P021	RK3065	Clip R.	ERJ055Y1622V	
P022	RK3062	Clip R.	ERJ055Y1473V	
P023	RK3052	Clip R.	ERJ055Y1622V	
P024	RK3049	Clip R.	ERJ055Y1622V	
P025	RK3091	Clip R.	ERJ055Y1622V	
P026	RK3038	Clip R.	ERJ055Y1473V	
P027	RK3058	Clip R.	ERJ055Y1473V	
P028	RK3042	Clip R.	ERJ055Y1622V	
P029	RK3058	Clip R.	ERJ055Y1622V	
P030	RK3001	Clip R.	ERJ055Y1622V	
P031	RK3056	Clip R.	ERJ055Y1473V	
P032	RK3063	Clip R.	ERJ055Y1622V	
P033	RK3050	Clip R.	ERJ055Y1622V	
P034	RK3050	Clip R.	ERJ055Y1622V	
P035	RK3050	Clip R.	ERJ055Y1622V	
P036	RK3017	Clip R.	ERJ055Y1622V	
P037	RK3014	Clip R.	ERJ055Y1622V	
P038	RK3014	Clip R.	ERJ055Y1622V	

RF Unit / CPU Unit			
Ref. No.	Parts No.	Description	Parts Name & Ver.
C341	CL3947	Chip C.	C1603B/U1103KTA
C342	CL3951	Chip C.	C1603B/U1222KTA
C343	CL3919	Chip C.	C1603C/U1303KTA
C344	CL3917	Chip C.	C1603C/U1343KTA
C345	CL3907	Clip Tantal	TMC4030XNTR
C346	CL3905	Clip C.	CL3905B/U1010KTA
C347	CS0063	Clip Tantal	TMC3A1030NTR
C348	CL3947	Clip C.	CL3905B/U1030KTA
C349	CL3947	Clip C.	CL3905B/U1030KTA
C350	CS0013	Clip Tantal	TMC3A1030NTR
C351	CS0049	Clip Tantal	TMC3A1030NTR
C352	CL3947	Clip C.	CL3905B/U1030KTA
C353	CL3927	Clip C.	CL3905C/U1030KTA
C354	CL3927	Clip C.	CL3905C/U1030KTA
C355	CL3924	Clip C.	CL3905C/U1030KTA
C356	CL3924	Clip C.	CL3905C/U1030KTA
C357	CL3923	Clip C.	CL3905C/U1030KTA
C358	CL3944	Clip C.	CL3905C/U1030KTA
C359	CS0061	Clip Tantal	TMC3A1030NTR
C360	CS0033	Clip C.	CL3905C/U1030KTA
C361	CL3935	Clip C.	CL3905C/U1030KTA
C362	CL3935	Clip C.	CL3905C/U1030KTA
C363	CL3944	Clip C.	CL3905C/U1030KTA
C364	CL3944	Clip C.	CL3905C/U1030KTA
Do1	XD0290	Diode	MA111-TV
Do2	XD0293	Diode	UIGWJ44 TE2K
Do3	XD0293	Diode	UIGWJ44 TE2K
Do4	XL0297	Diode	SML-10047746
Do5	XL0008	Diode	SML-10077786
Do6	XT0025	Diode	UIGWJ44 TE2K
EL301	EL000442	LED	LCD
IC301	XA0209	IC	NAM1700M TI
IC302	XA0210	IC	NAM1700A TI
IC303	XA0013	IC	MOS8253 M-415PP
IC304	XA0209	IC	AN77100M E1
IC305	XA0364	IC	AT24C02N J031-27
IC306	XJ3036	IC	RH5V125A-A1
J301	U00062	MIC Jack	HSJ1102 91-540
J302	U00048	SP Jack	HSJ1045 01-150
J303	U00066	DC Jack	HPC1004-01/03/0
L301	QC0279	Clip L.	NT2220 STR18J
MC301	EV0012	MIC	EM-12ST
Q301	XT004	Transistor	3SA1576A TU06R
Q302	XT0166	Transistor	UN611H-TX
Q303	XT0165	Transistor	3SC213A-TB551
Q304	XT0167	Transistor	UN2122-TX

Ref. No.	Parts No.	Description	Parts Name	Var.
W/L	MPA025GQ	Wire Chassis	MPA025GQ	
	ASU007	Silicon Dumper		
	UF0034C	PCB	CPU Unit	
(C301)	C50012	Chip Total	P500227MC	
C302	C50063	Chip Total	TWSA101NT	
C303	C50049	Chip Total	TWSA101NT	
C304	C13003	Chip C.	C600CH101NTA	
(C305)	C13047	Chip C.	C600CH101NTA	
C306	C50056	Chip Total	TWSA101NT	
C307	C13047	Chip C.	C600BH101NTA	
C308	C50049	Chip Total	TWSA101NT	
C309	C13005	Chip C.	C600BH101NTA	
(C310)	C13021	Chip C.	C600CH101NTA	
(C311)	C50051	Chip C.	C600BH101NTA	
(C312)	C13001	Chip C.	C600BH101NTA	
C313	C50049	Chip Total	TWSA101NT	
C314	C50049	Chip Total	TWSA101NT	
C315	C50049	Chip Total	TWSA101NT	
C316	C50048	Chip C.	C600BH101NTA	
C317	C50038	Chip C.	C600BH101NTA	
C318	Q50011	Chip C.	C600CH101NTA	
C319	Q50061	Chip C.	C600BH101NTA	
C320	C50049	Chip Total	TWSA101NT	
C321	Q50038	Electric C.	6.3V 100S	
C322	C50047	Chip C.	C600BH101NTA	
C323	C50061	Chip C.	C600PIE1042TA	
C324	C13009	Chip C.	C600PIE1042TA	
C325	C50047	Chip Total	TWSA101NT	
C326	C50047	Chip C.	C600BH101NTA	
C327	C50061	Chip C.	C600BH101NTA	
C328	C13009	Chip C.	C600BH101NTA	
C329	C50049	Chip Total	TWSA101NT	
C330	C50047	Chip C.	C600BH101NTA	
C331	C50061	Chip C.	C600BH101NTA	
C332	C13009	Chip C.	C600BH101NTA	
C333	C50049	Chip C.	C600PE1042TA	
C334	C50061	Chip C.	C600BH101NTA	
C335	C50069	Chip C.	C600PE1042TA	
C336	C50069	Chip C.	C600BH101NTA	
C337	C50061	Chip C.	C600PE1042TA	
C338	C50069	Chip C.	C600BH101NTA	
C339	C50061	Chip C.	C600BH101NTA	
C340	C50069	Chip C.	C600BH101NTA	

For DJ-S11T/E

Mechanical Parts / Packing			
Ref. No.	Parts No.	Description	Parts Name
			Vor.

Ref. No.	Parts No.	Description	Parts Name	Ver.
	TW0008		Cover Rubber	T
	TW0009		Battery Rubber	E
	TD0059		Insulation Sheet	T
	TD0073		Insulation Sheet	E
		Packing		
	DN0087		Spec. Sheet	T
	DN0088		Spec. Sheet	E
	HK000A		Fixture	
	HK0420		Item Carton	
	HM0133B		Item Carton Inside	
	HR0026		Protection Bag	T
	PH001A		Registration Card	T
	PR0237		FCC Part 15 Seal	T
	PR0238		CE Label	E
	PS0251		Instruction Manual	
	PT004A		LA Number Seal	
	PT015		Bolt Clip	
	AE0006		Bolt Clip Screw	
	AD0029		WG Washer	
	BB0007		Hand Strip	

CPU Unit / VCO Unit / Mechanical Parts					
Ref.	Parts No.	Description	Parts Name	Ver.	
R107	RK3030	Clip R.	ER-05030JUNV		
R108	RK3032	Clip R.	ER-05032JUNV		
R109	RK3034	Clip R.	ER-05034JUNV		
R111	RK3036	Clip R.	ER-05036JUNV		
R112	RK3034	Clip R.	ER-05034JUNV		
R115	RK3001	Clip R.	ER-05034JUNV		
	TS0117	VCO Case			
Mechanical Parts					
	A0006	Screw	3x4.5x16(A)		
	AN0007	Nut	M4x1.75x11		
	AN0012	Nut	Bal Nut		
	AN0034	Screw	2-6P-B6C		
	DP0107		LCD Panel		
	RA0024	Antenna	Antenna		
	SSP041A2	Speaker	05M10014		
	FG0077		Battery Cushion		
	FG0116		SP Cushion		
	FG0116		Battery Rubber		
	FG0132		Battery Rubber L.		
	FG0161		ON AIR Light		
	FG0162		SCAN Rubber Key		
	FG0168		MIC Sheet		
	FG0221		UD Rubber Key		
	FG0225		LAMP Rubber Key		
	FG0234		VIN Rubber Key		
	FG0366		Hinge Pin		
	FM0150		Antenna Ground		
	FP0104		Lock Lever		
	KB0063		Rear Cabinet		
	KG0032		Battery Cover		
	KZ0059		Front Cabinet		
	KS0067		LCD Panel		
	MB104QG	Wire	#0 Black H1-040-11		
	MB104QA	Wire	#0 Black 2-05-2		
	MR012AA	Wire	60 Red 2-05-2		
	NK0053		VOL Knob		
	SD0027A		Battery Terminal B		
	SD0028		Battery Terminal C		
	SD0041		Plus Spring		
	SD0042		Minus Spring		
	SD0043B		Charge Spring		
	SD0044		Charge Terminal A		
	ST0052		Speaker Plate		
	TW0007B		Jack Rubber Key		

ADJUSTMENT

For DJ-S11T/E

1) Required Test Equipment

1. Digital Multimeter

2. Regulated Power Supply

Supply voltage: 5.5VDC
Current: 1A or more

3. Oscilloscope

Measurable frequency: Audio Frequency

4. Spectrum Analyzer

Measuring range: Up to 2GHz or more

5. Power Meter

Measurable frequency: Up to 500MHz
Impedance: 50Ω
Power: 1W or more

6. Speaker

Impedance: 8Ω

7. SSG

Output frequency: Up to 1GHz
Output level: -20dB/0.1μV to 120dB/1V
Modulation: FM

8. Transceiver Tester

Up to 500MHz

a. Frequency Counter

b. Power Meter

Impedance: 50Ω
Measuring range: 1W or more

c. Audio Voltmeter

Measurable frequency: 50Hz ~ 10kHz
Sensitivity: 1mV ~ 10V

d. Distortion Meter

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

e. Audio Generator

Output frequency: 1kHz ~ 10kHz
Output impedance: 600Ω

f. Linear Detector

Note:

1. 5.5V of power voltage is supplied from DC jack.
2. The transmitter system should be adjusted or inspected in high power.

2) Adjustment For DJ-S11T/E

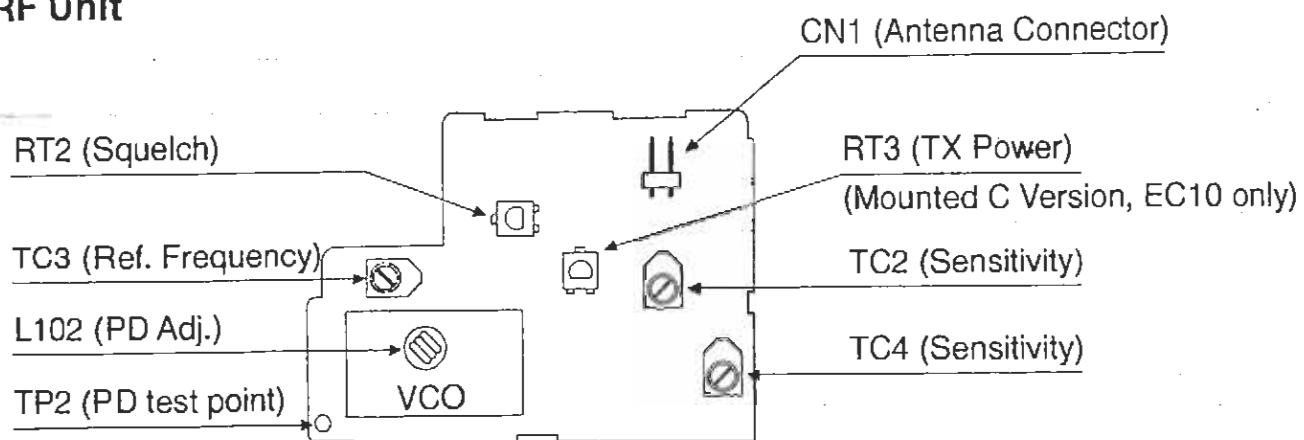
Item	Condition	Measurement			Adjustment			Specifications
		Equipment	Unit	Terminal	Unit	Parts	Method	
PLL VCO	f=146.00 RX	Digital Multimeter	RF	PD	VCO	See *1		0.9 ~ 1.1V
	f=145.95 TX					Check		3.0V or below
Reference Frequency	f=145.00 TX	Freq. Counter			RF	TC5	f=145.00	±100Hz
TX Power Hi	f=145.00 TX DC=5.5V	Power Meter	RF	ANT		Check		340mW or more
TX Power Low	See *2.					Check		150mW or below
Deviation	f=145.00 TX AG: 1kHz 50mV(-30dBm)	Linear Det. Oscilloscope Power Meter AG	RF	ANT	CPU	RT301	4.5±0.1kHz	4.5±0.1kHz
Tone	f=145.00 TX						Check	0.4 ~ 1.3kHz
Sensitivity	f=145.05 RX	SSG Distortion Meter Oscilloscope Level Meter	RF	ANT	RF	TC2,4	12dB SINAD max.	-8dB μ (EMF) or below
Squelch	f=145.05 RX Output:-12dB μ Mod: ON				RF	RT2	SQ Open	-15dB μ > Close -9dB μ < Open
S meter	f=145.05 RX Output:+12dB μ Mod: ON				CPU	RT302	All digits are lit up.	

*1:Extend the coil L102 so that the P.D. voltage becomes 1.0±0.1V

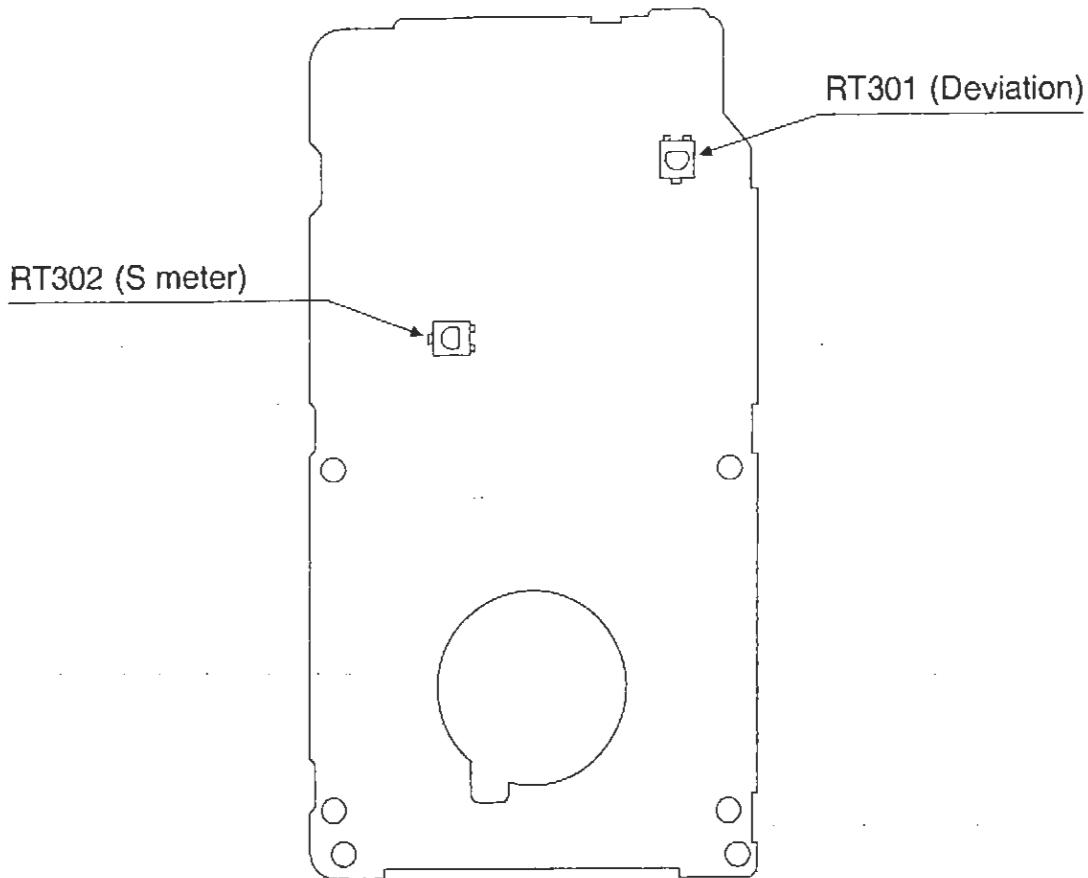
*2:Switching to Low power

3) Adjustment Points **For DJ-S11T/E**

RF Unit



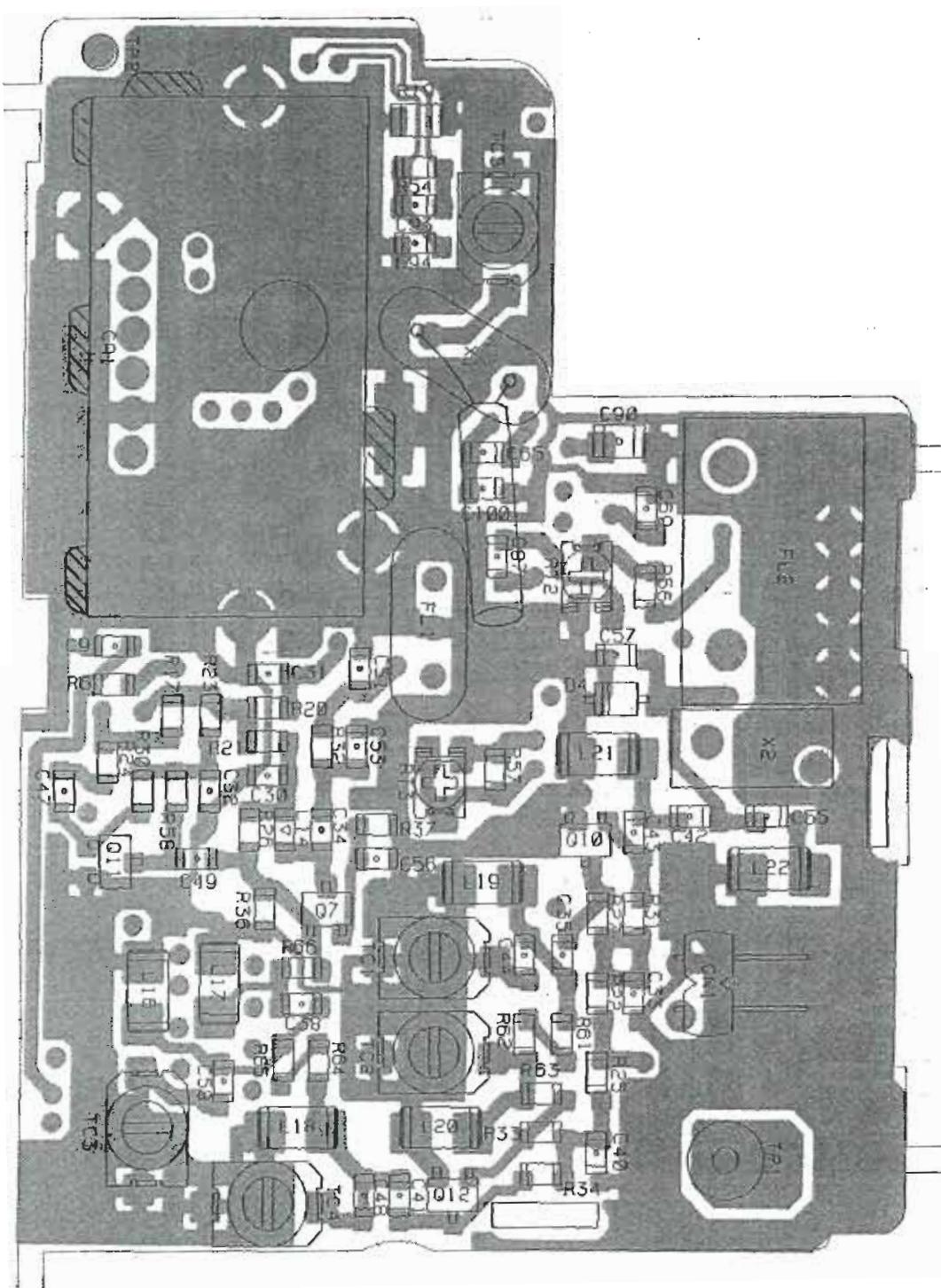
CPU Unit



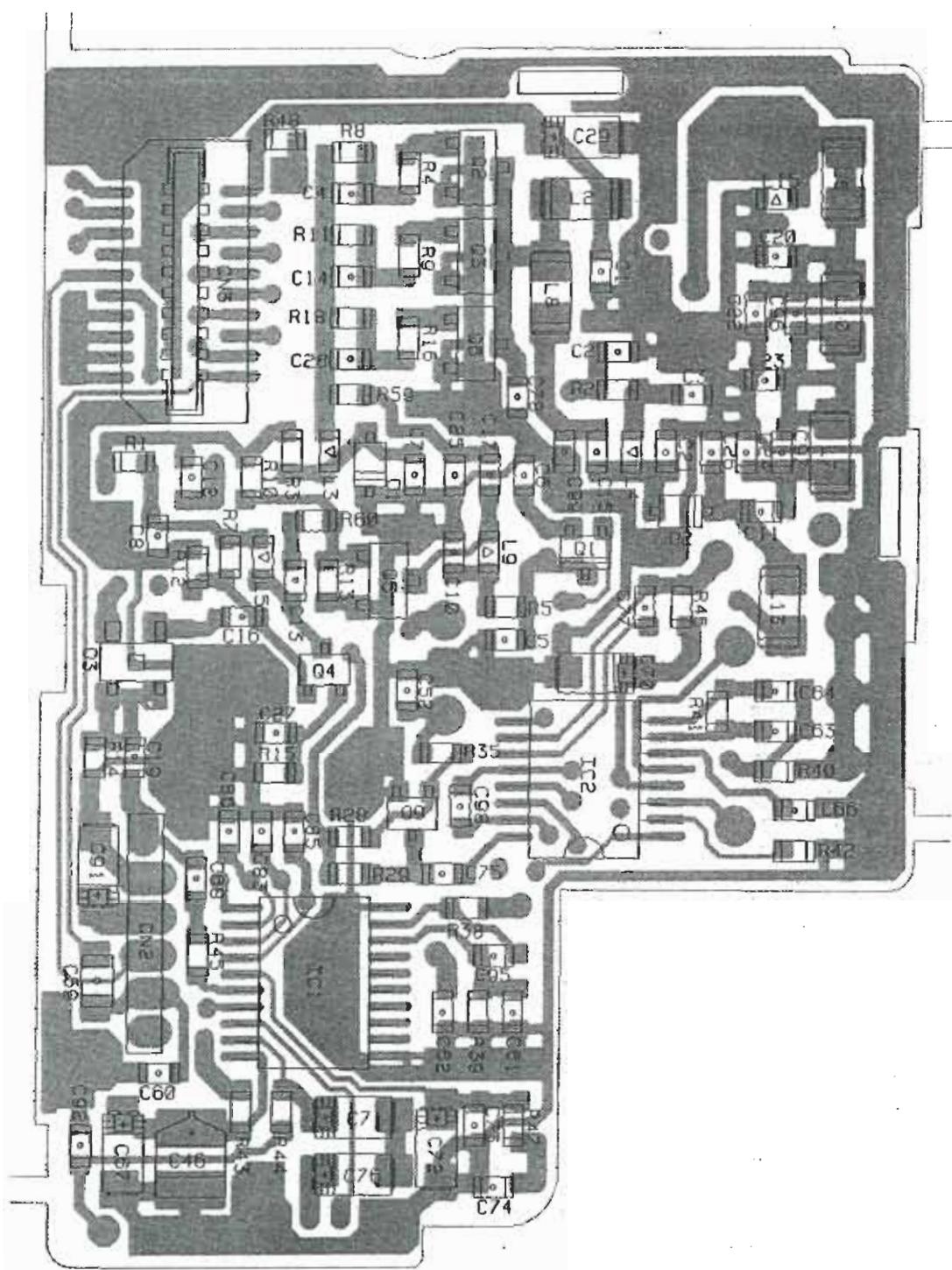
PC BOARD VIEW

1) RF Unit

Component side For DJ-S11T/E



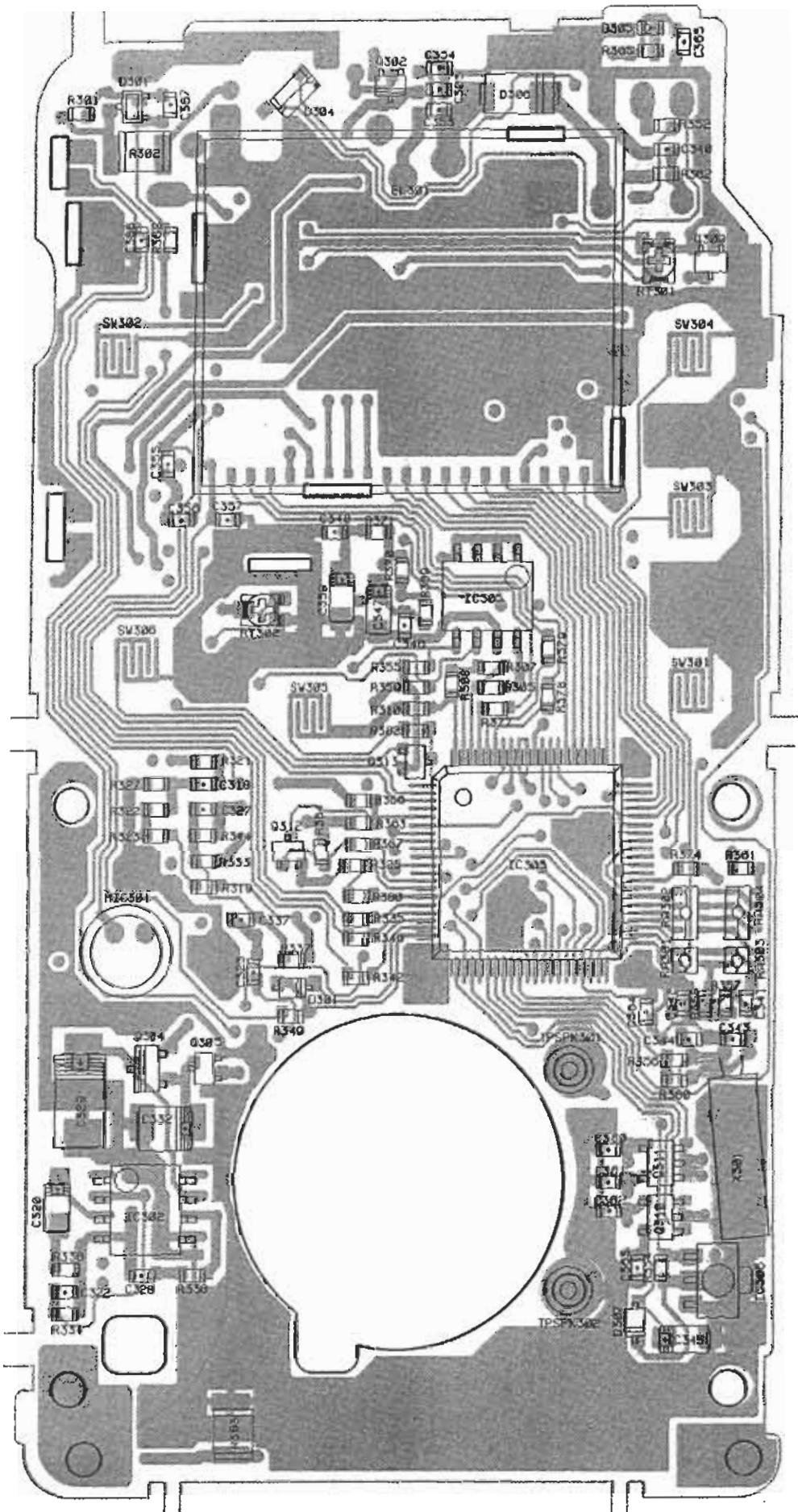
Solder side **For DJ-S11T/E**



2) CPU UNIT

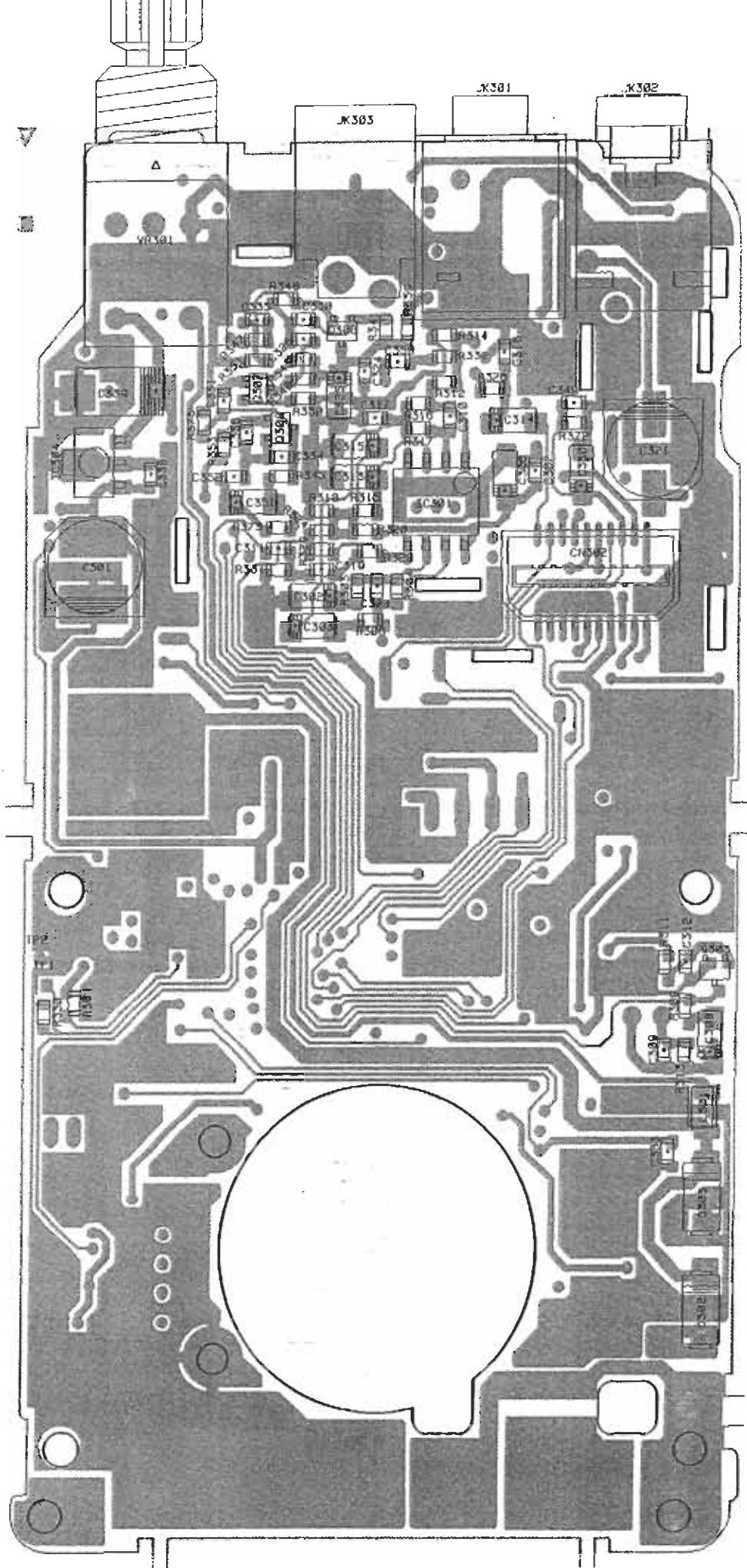
Component side

For DJ-S11T/E



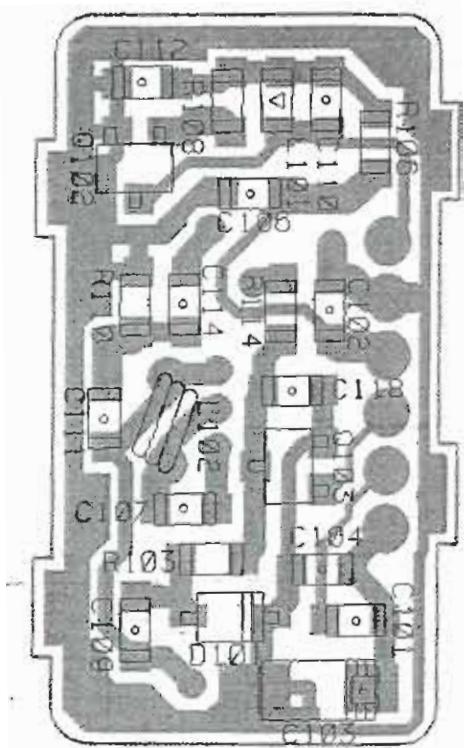
Solder side

For DJ-S11T/E

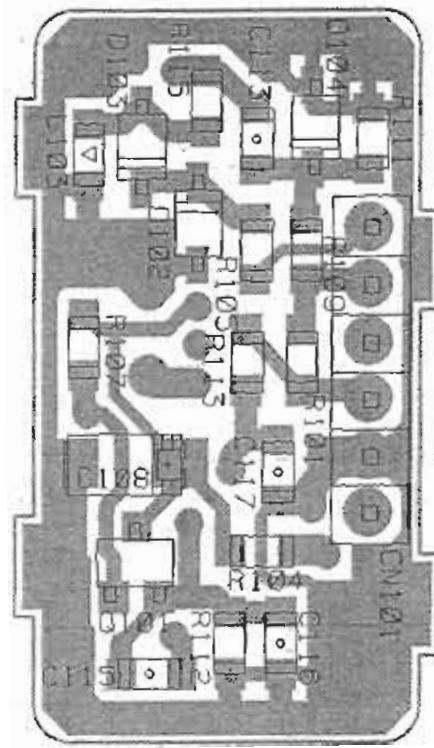


3) VCO Unit For DJ-S11T/E

Component side

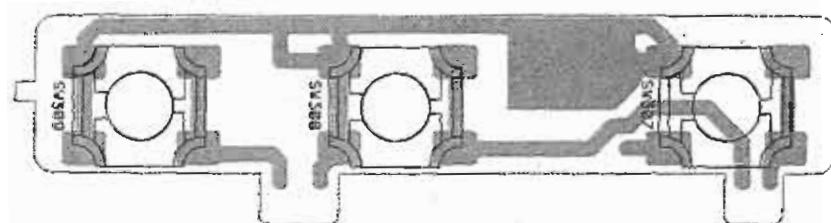


Solder side



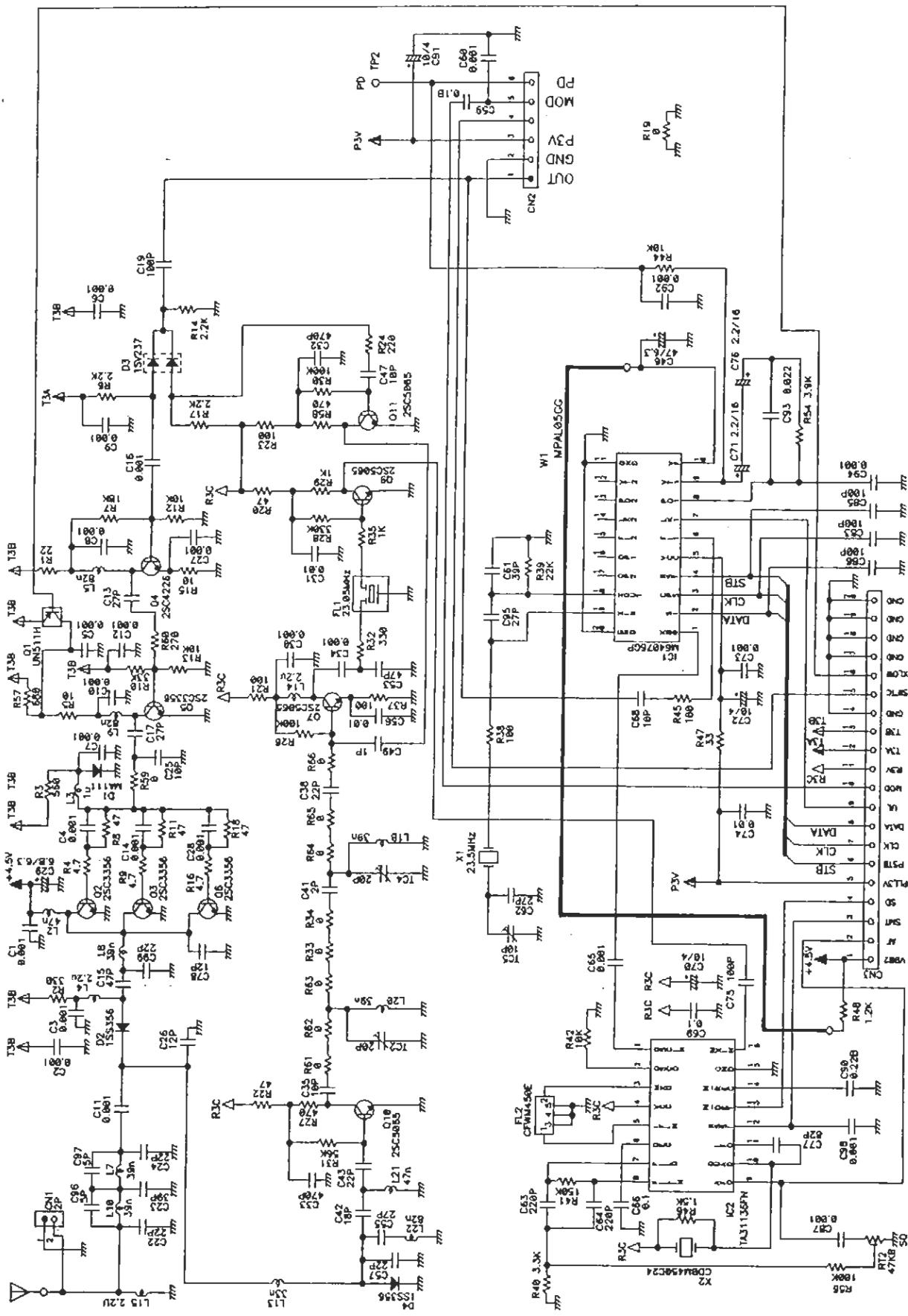
4) SW Unit For DJ-S11T/E

Component side

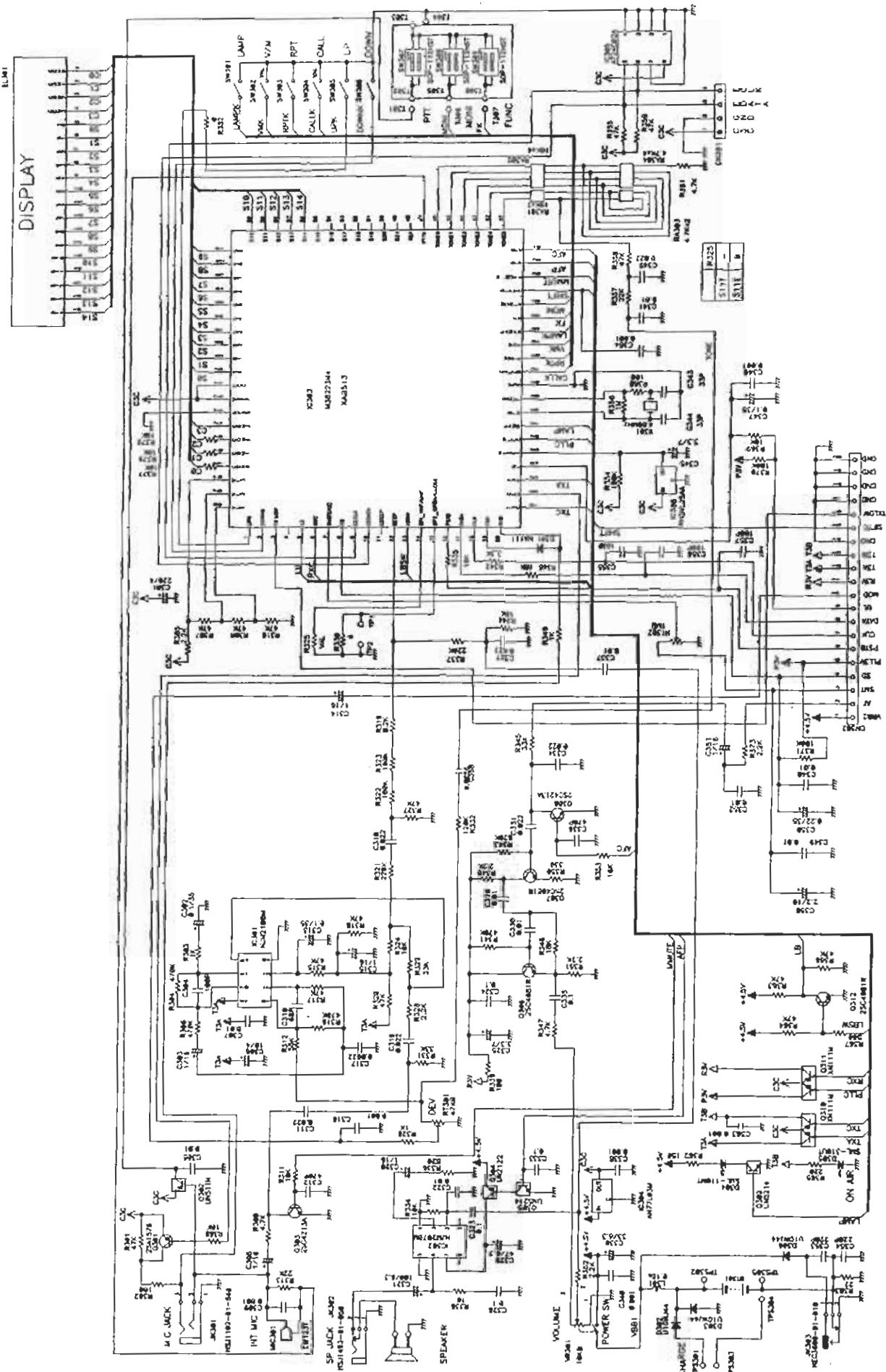


CURCUIT DIAGRAM

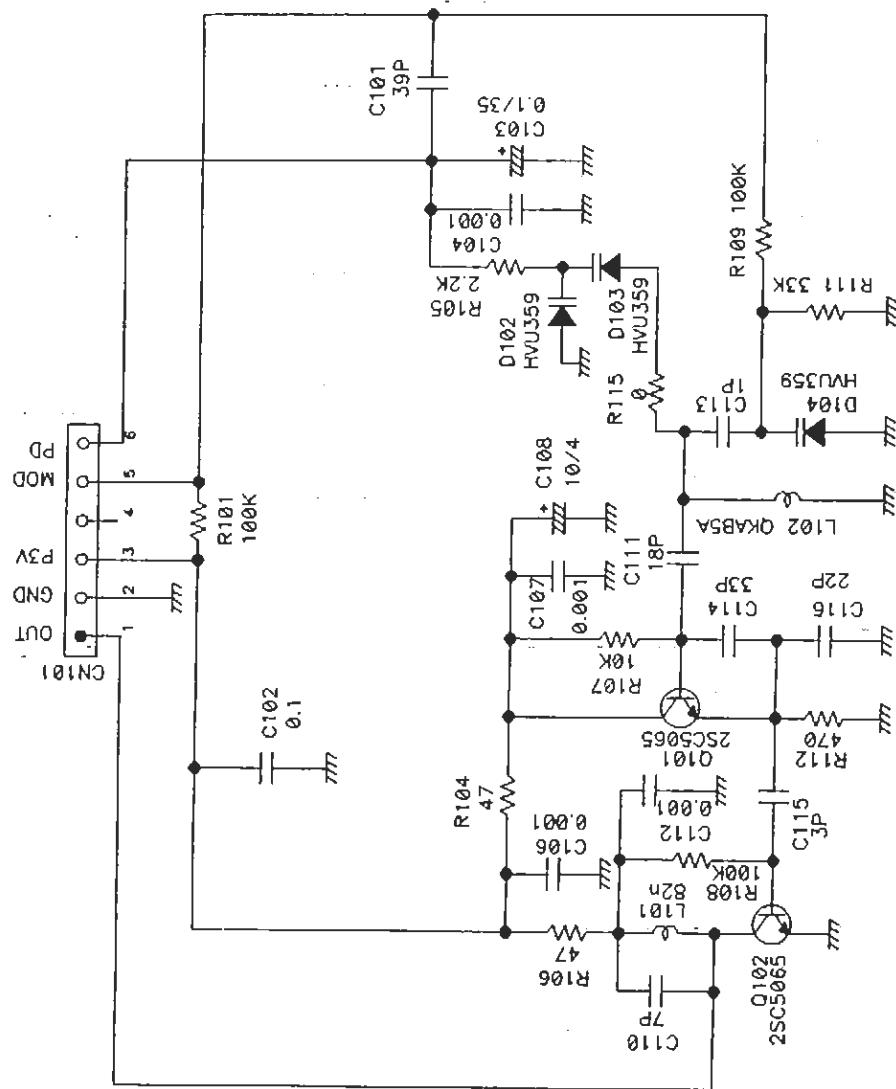
1) RF Unit For DJ-S11T/E



2) CPU UNIT For DJ-S11T/E

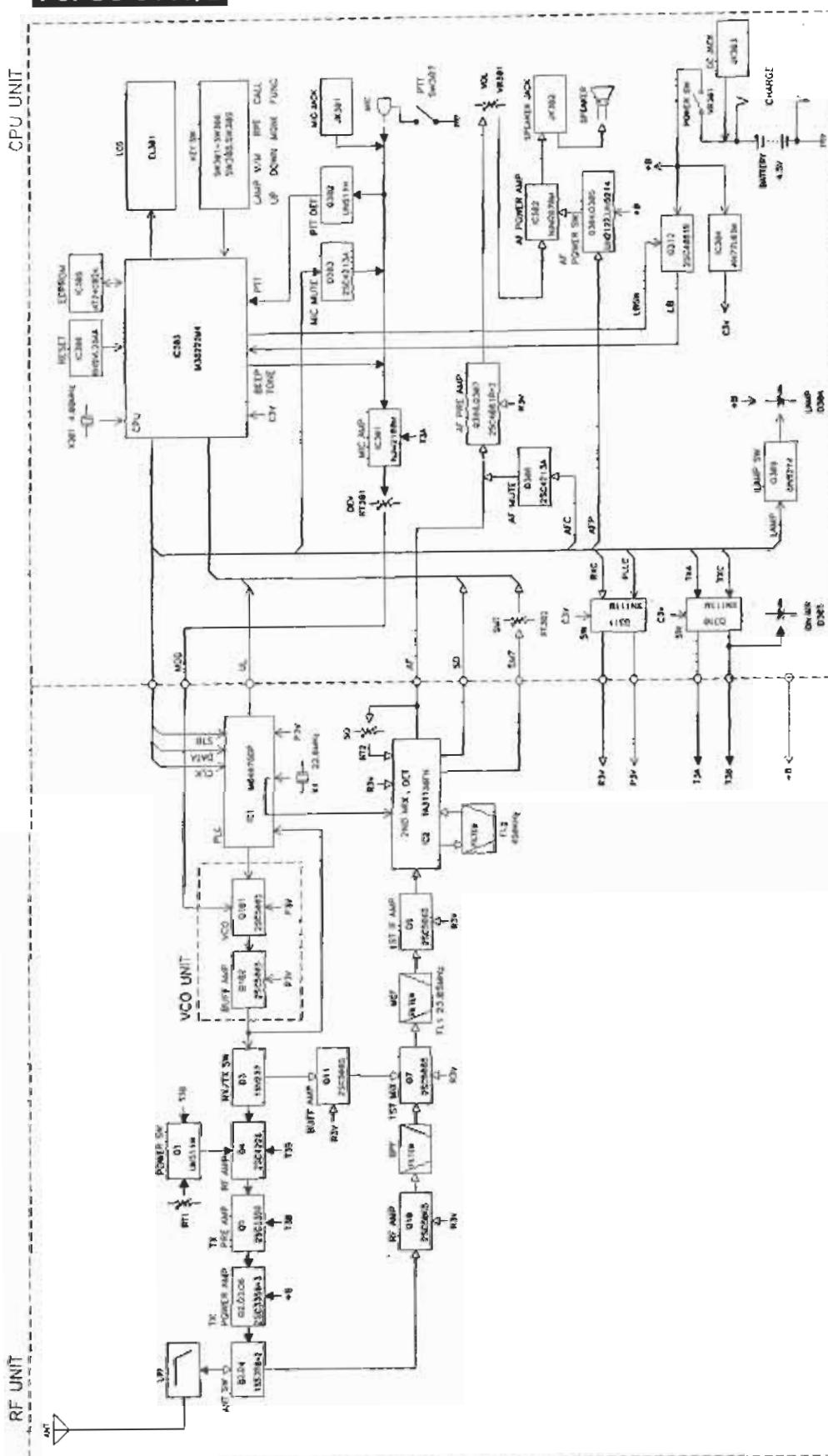


3) VCO Unit For DJ-S11T/E



BLOCK DIAGRAM

For DJ-S11T/E



→ Tx/Rx

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