DJ-S40T / E

Service Manual

CONTENTS

ALINCO, INC.

SPECIFICATIONS

1) GENERAL

Frequency coverage	T : TX 430 ~ 449.995MHz RX 410 ~ 470MHz
	E : TX 430 ~ 439.995MHz RX 430 ~ 439.995MHz
	TA : TX 410 ~ 470MHz RX 410 ~ 470MHz
Mode	F3E (FM)
Channel steps	5, 10, 12.5, 15, 20, 25, 30 & 50kHz
Memory channels	99 channels+1 CALL channel
Antenna connector	SMA (50Ω unbalanced)
Frequency stability	±5 ppm
Microphone impedance	2kΩ nominal
Power supply	4.5 ~ 16.0V DC (EXT.termonai)
	3.6 ~ 16.0V DC (BATT terminal)
Current	600mA (typical) Transmit high at 1W
	150mA (typical) Receive at 280mW
	40mA (typical) standby
	15mA (typical) Battery save on
Usable temperature range	-10 ~ +60° C (14 ~ 140°F)
Dimensions	56 (W) × 102 (H) × 30 (D) mm (with EDH-31)
	2.2"(W) × 4.0"(H) × 1.18"(D) inches (with EDH-31)
	(Projections not included)
Weight	Approx. 160g (5.6oz) (with EBP-53N)
	Approx. 95g (3.3oz) (without Battery)

Sub audible Tone(CTCSS) encoder/decoder installed (38tones)

2) TRANSMITTER

Output power	Approx. 1.0W EBP-53N installed
	Approx. 1.0W 13.8V DC
	Approx. 0.6W EDH-31 installed
	Approx. 0.2W (LOW)
Modulation system	Variable reactance frequency modulation
Spurious emissions	-60dB or less
Max. frequency deviation	±5kHz

3) RECEIVER

Receive system	Double conversion superheterodyne
Intermediate frequencies	1st 21.7MHz / 2nd 450kHz
Sensitivity(12dB SINAD)	-14.0μdB (0.2uV) or less [430 ~ 450MHz]
Selectivity	-6dB : 12kHz or more
	-60dB : 28kHz or less
Audio output power	280mW or higher(8Ω load)
	200mW (8Ω10% THD)

CIRCUIT DESCRIPTION

1) Receiver System

The receiver system is a double superheterodyne system with a 21.7MHz first IF and a 450kHz second IF.

1. Front End

   The signal from the anntena is pssed through low-pass filter and input to RF coil L24 and L17(band pass filter).
   The signal from L24 and L17 is amplified by Q9,Q10 and led to the band pass filter, and let to the first mixer base of Q11.

2. First Mixer

   The amplified signal (f0) by Q9,Q10 is mixed eith the first local oscillator signal(f0-21.7MHz) from the PLL circuit by the first stage mixer Q11 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 FL3,and led to IF amplifier Q8.

3. IF Circuit

   The first IF signal is amplified by Q8, and input to pin 16 of IC3, where it is mixed withthe second local oscillator signal(21.25MHz)and so is converted into the second IF signal(450kHz).
   The second IF signal is output from pin3 of IC3, 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 IC3

4. Audio Circuit

   The demodulated signal in IF IC3 contains the audio signal and CTCSS signal .
   CTCSS signal is passed through the low-pass filter of IC5 and led to TIN port of CPU to be decoded. The audio signal is input to the main volume VR3 passing through de-emphasis circuit and high-pass filter circuit of Q19.The signal of which level is adjusted at the main volume VR3 is input to IC6 of AF amp, then it is amplified to the level that can drive the speaker.

5. Squelch Circuit

   The noise in the audio signal from IC3 is passed through the noise-filter and input to pin8 of IC3.
   IC3 includes filter amplifier,high-pass filter and rectifier.
   The rectified voltage level from pin14 of IC3 is deliverd to the comparator of the CPU.
   The voltage is led to pin1 of CPU and compared with the setting voltage.The squelch will open if the input voltage is lower than the setting voltage.
   During open squelch ,pin11(AFS)of CPU becomes"H"level and pin9(AFP)of CPU becomes"L"level, AF control signal is being controlled and sounds is outputted from the speaker.

2)Transmitter System

1.Microphone Amplifier

The input signal from built-in or external microphone is led to the microphone mute
circuit Q15,pre-emphasis circuit ,IDC circuit IC4,the signal is input to the maximum
deviation adjustment volume VR2.Then mixed at the add VR2 with the CTCSS tone
signal which is generated by CPU,Then it is input to VCO as the modulation signal.

2.Power Amplifier

The signal from VCO is amplified by IC1 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.

3)PLL,VCO Circuit

Output frequency of PLL circuit is set by the serial data from microprocessor.
PLL circuit consists of VCO Q2,buffer amplifier Q6.
The pulse wave output of chage pump is converted to DC voltage by PLL loop filter
circuit,snd supplied to D2,D15 of varicap diode in VCO unit.
The frequency modulation is executed when audio signal voltage is supplied to the
varicap D3.
When PLL is unlocked,pin10 of IC2 goes to "High".

4) M38224M6M

CPU

Terminal Connection
(TOP VIEW)

Top pins (60–41): SEG10, SEG11, P34/SEG12, P35/SEG13, P36/SEG14, P37/SEG15, P00/SEG16, P01/SEG17, P02/SEG18, P03/SEG19, P04/SEG20, P05/SEG21, P06/SEG22, P07/SEG23, P10/SEG24, P11/SEG25, P12/SEG26, P13/SEG27, P14/SEG28, P15/SEG29

Left pins (61–80): SEG9, SEG8, SEG7, SEG6, SEG5, SEG4, SEG3, SEG2, SEG1, SEG0, Vcc, VREF, AVss, COM3, COM2, COM1, COM0, VL3, VL2, VL1

Right pins (40–21): P16/SEG30, P17/SEG31, P20, P21, P22, P23, P24, P25, P26, P27, Vss, Xout, Xin, P70/Xcout, P71/Xcin, RESET, P40, P41/φ, P42/INT0, P43/INT1

Bottom pins (1–20): P67/AN7, P66/AN6, P65/AN5, P64/AN4, P63/AN3, P62/AN2, P61/AN1, P60/AN0, P57/ADT, P56/Tout, P55/CNTR1, P54/CNTR0, P53/RTP1, P52/RTP0, P51/INT3, P50/INT2, P47/SRDY, P46/SCLK, P45/TxD, P44/RxD

5

Terminal function of CPU

No.	Pin Name	Function	I/O	Logic	Description	No.	Pin Name	Function	I/O	Logic	Description
1	P67	SQL	I	A/D	Noise level input for squelch	41	P115	TON3	O	Activ high	Tone output 3
2	P66	KEY	I	A/D	Key input (▲,▼,V/M)	42	P14	TON2	O	Activ high	Tone output 2
3	P65	VOX	O	Activ high	Power cont.	43	P13	TON1	O	Activ high	Tone output 1
4	P64	EXTDC	I	A/D	Ext voltage input	44	SEG26	SEG22	O		LCD SEG 22
5	P63	BP1	I	A/D	Band plan 1	45	P115	SHIFT	O	Activ high	VCO shift output TX=H
6	P62	TIN	I	A/D	CTCSS tone input	46	P10	LAMPC	O	Activ high	Lamp ON/OFF output
7	P61	SMT	I	A/D	S-meter input	47	SEG23	SEG21	O		LCD SEG 21
8	P60	BATT	I	A/D	Batt voltage input	48	SEG22	SEG20	O		SEG 20
9	P57	AFP	O	Activ low	Audio Amp ON/OFF	49	SEG21	SEG19	O		SEG 19
10	P56	BEEP	I/O	Pulse	Beep sound out	50	SEG20	SEG18	O		SEG 18
11	P55	AFS	O	Activ high	Audio signal ON/OFF	51	SEG19	SEG17	O		SEG 17
12	CNTR0	TBST	I/O	Pulse	Art tone output	52	SEG18	SEG16	O		SEG 16
13	P53	BP3	I		Band plan 3	53	P01	CHG	O	Activ high	Battery charge control
14	P52	MONI	I	Activ low	Monitor key input	54	P00	MICC	O	Activ low	TX mic amp power supply outout
15	P51	PSW	I	Activ low	Power switch input	55	SEG15	SEG15	O		SEG 15
16	P50	STB	O	Pulse	Strobe for PLL	56	SEG14	SEG14	O		SEG 14
17	P47	DATA	I/O	Pulse	Data for PLL	57	SEG13	SEG13	O		SEG 13
18	P46	CLK	O	Pulse	Clock for PLL	58	SEG12	SEG12	O		SEG 12
19	TxD	CTX	O	Pulse	UART data transmission output	59	SEG11	SEG11	O		SEG 11
20	RxD	CRX	I	Pulse	UART data reception input	60	SEG10	SEG10	O		SEG 10
21	P43	SCR	I	Activ high	Alarm signal input	61	SEG9	SEG9	O		SEG 9
22	INTO	BU	I	Activ low	Back up signal detection input	62	SEG8	SEG8	O		SEG 8
23	P41	PTTK	I	Activ high	PTT signal input	63	SEG7	SEG7	O		SEG 7
24	P40	BP4	I	Activ high	Band plan 4	64	SEG6	SEG6	O		SEG 6
25	RESET	RESET	I	Activ low	Reset input	65	SEG5	SEG5	O		SEG 5
26	P71	SCL	O	Pulse	Serial clock for EEPRPM	66	SEG4	SEG4	O		SEG 4
27	P70	SDA	I/O	Pulse	Serial data for EEPRPM	67	SEG3	SEG3	O		SEG 3
28	Xin	XIN	I			68	SEG2	SEG2	O		SEG 2
29	Xout	XOUT	O			69	SEG1	SEG1	O		SEG 1
30	Vss	GND			CPU GND	70	SEG0	SEG0	O		SEG 0
31	P27	MMUTE	O	Activ high	Microphone mute output	71	Vcc	VDD			
32	P26	H/L	O	Activ high	Power control high=H	72	Vref	VDD			
33	P25	EXP	O	Activ low	EXP terminal control	73	Avss	GND			
34	P24	FUNC	I	Activ low	Func key input	74	COM3	COM3	O		LCD COM 3
35	P23	PTTC	O	Activ high	Beep sound level control	75	COM2	COM2	O		LCD COM 2
36	P22	P3C	O	Activ low	Power supply control for VCO output	76	COM1	COM1	O		LCD COM 1
37	P21	C3C	O	Activ high	Power supply control	77	COM0	COM0	O		LCD COM 0
38	P20	R3C	O	Activ low	Power supply control for RX	78	VL3	VL3	I		LCD power supply
39	P17	T3C	O	Activ low	Power supply control for TX	79	VL2	VL2	I		LCD power supply
40	P16	TON4	O	Activ high	Tone output 4	80	VL1	VL1	I		LCD power supply

SEMICONDUCTOR DATA

1) M64082AGP (XA0543)

DUAL PLL FREQUENCY SYNTHESIZER

XBo	1	16	Xin
SI	2	15	Xout
$\overline{CPS}$	3	14	GND
RST	4	13	CONT
Vcc	5	12	Vc1
Fin1	6	11	Fin2
Vss	7	10	$\overline{Lock}$
PD1	8	9	PD2

M64082AGP
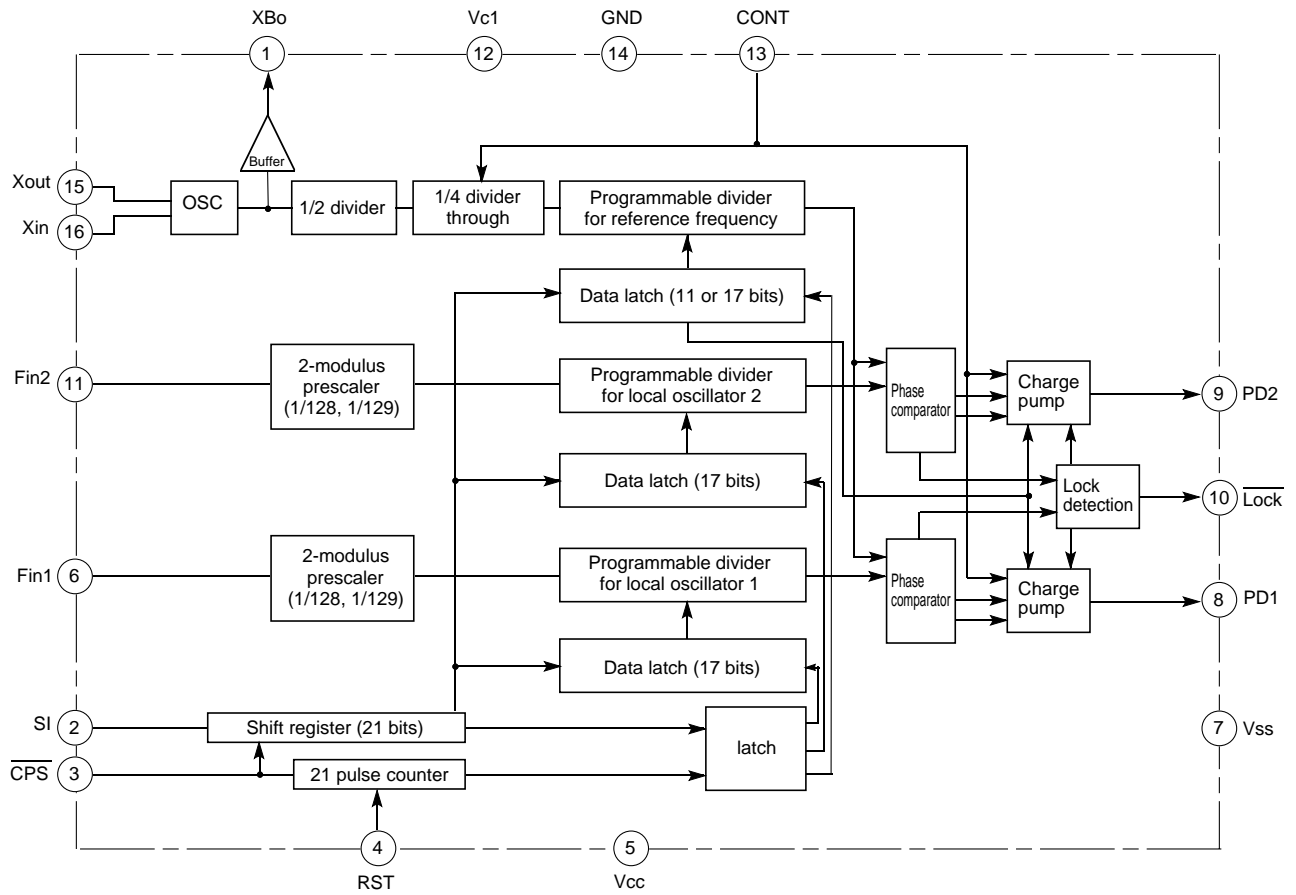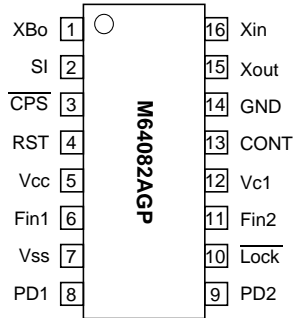
2) NJM2070MT1 (XA210)

Low Voltage Power Amplifier
Equivalent Circuit

NC	1	8	NC
+INPUT	2	7	V+
-INPUT	3	6	OUTPUT
GND	4	5	POWER GND

BIAS 300Ω 50kΩ 100kΩ
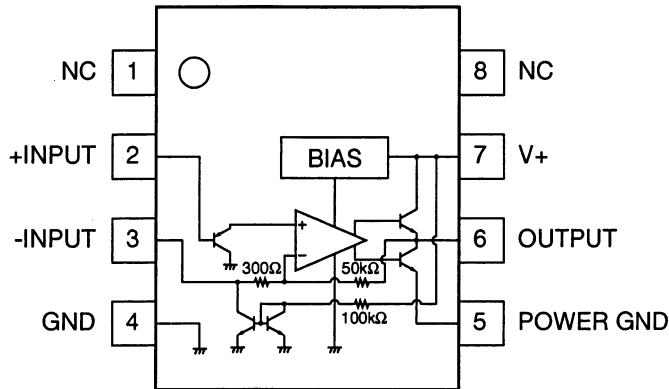
V+=6V, Ta=25±2℃

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=100μF		SVR	24	30	-	dB
Power gain band width (- 3dB)	RL=8 , Po=250mW		P.B	-	200	-	kHz

3) NJM2904V-TE1 (XA0573)

(Top View)

A OUTPUT	1	8	V+
A – INPUT	2	7	B OUTPUT
A + INPUT	3	6	B – INPUT
GND	4	5	B + INPUT

8
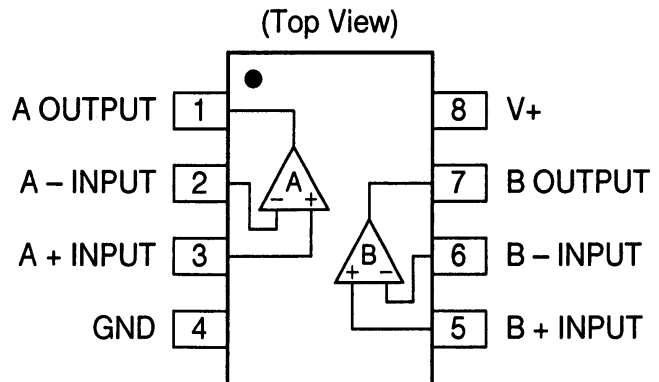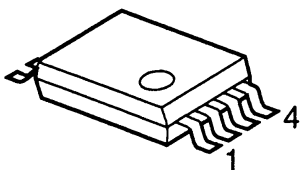
4) NJM2902V-TE1 (XA0596)

Quad Single Supply Operational Amplifier

(Top View)

Pin	Signal		Pin	Signal
1	A OUTPUT		14	D OUTPUT
2	A – INPUT		13	D – INPUT
3	A + INPUT		12	D + INPUT
4	V+		11	GND
5	B + INPUT		10	C + INPUT
6	B – INPUT		9	C – INPUT
7	B OUTPUT		8	C OUTPUT
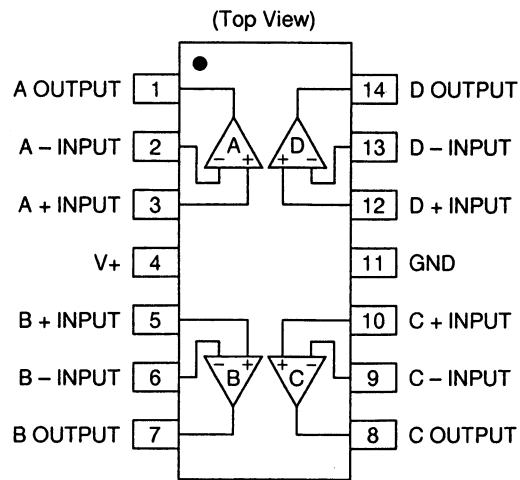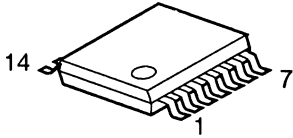
5) TA31136FN (XA0404)

Low Power FM IF
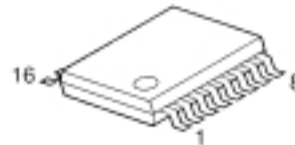
Block Diagram
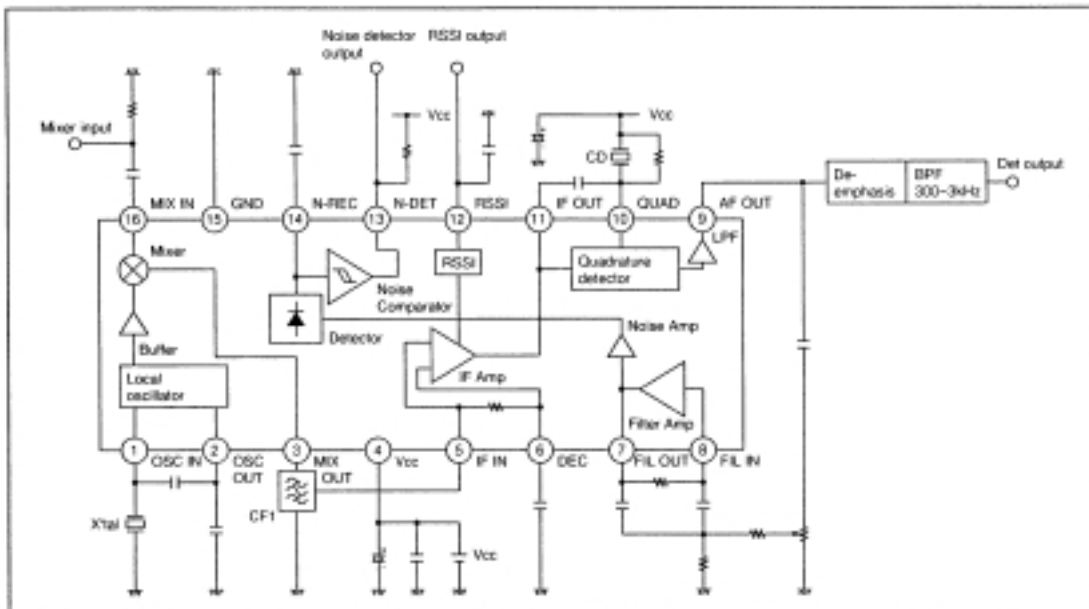
6) UPC2771T(XA0545)

Terminal Connection

(Top View)

1: INPUT
2: GND
3: GND
4: OUTPUT
5: GND
6: Vcc
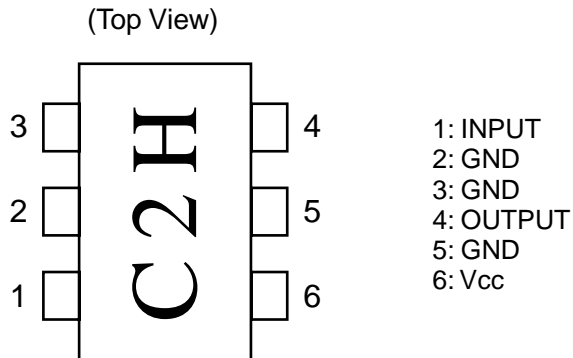
7) CAT24WC16JITE13 (XA0855)

PDIP
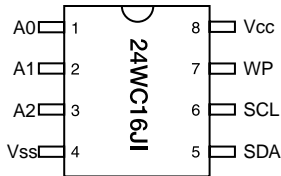
Name	Function
A0..A2	User Configurable Chip Selects
Vss	Ground
SDA	Serial Address/Data I/O
SCL	Serial Clock
WP	Write Protect Input
Vcc	+2.5V~6.0V Power Supply

8) S-816A30AMC (XA0848)

SOT-23-5
Top view
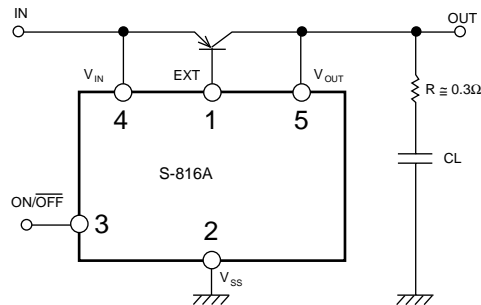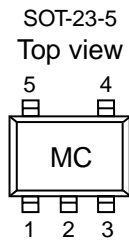
9) S-80827ALNP (XA0857)

Pin Assignment

Top view

```
      4          3

1  OUT
2  V_DD
3  NC
4  V_SS

      1          2
```

Block Diagram

V_DD

V_REF

V_CC

OUT

+

−

10) MRF9745T1 (XE0034)

PAKEGE DIMENSIONS

```
         1

  4            3

         2
```

STYLE 1 :
  PIN 1. DRAIN
       2. GATE
       3. SOURCE
       4. SOURCE
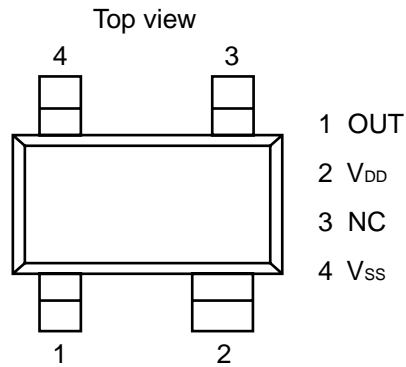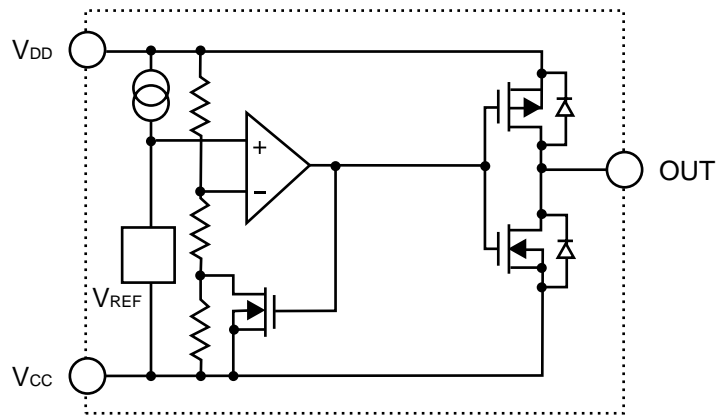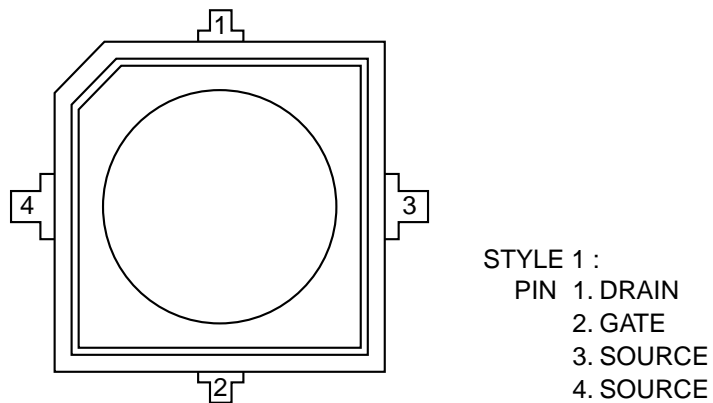
11) Transistor, Diode and LED Outline Drawings

1SV307(TPH3) XD0326	2SA1036K T146Q XT110	2SA1576A XT0094	2SB766A-TX XT0170	2SC4081 T106R XT0095	2SC4618TLP XT0172	2SC4808-TX. AR XT0171
TX	Q	FR	B	B R	A P	3 M
2SC5066-O(TE85L) XT0138	**2SD2216R-TX XT0135**	**2SK3074 XE0044**	**DA204U XD0130**	**HSU277TRF XD331**	**ISV311(TPL3) XD0344**	**M1FE 40400V1A XD0368**
M	Y	WA	K	3	V1	
MA2S728-TX XD0315	**MA741WA TX XD0251**	**MA729-TX XD0291**	**MRF9745T1 XE0034**	**RN1107 TE85L XU0193**	**RN2107 TE85L XU0192**	**SML-310MTT86 XL0036**
B	M2P	2B	9745	X H	Y H	
XP1114 (TX) XU0161	**XP1501-TX XU0172**	**UMC5N TR XU0152**				
7 Q	5 R	C5				

12

12) LCD connection
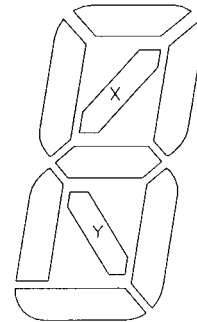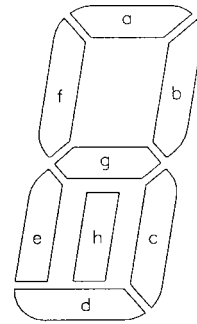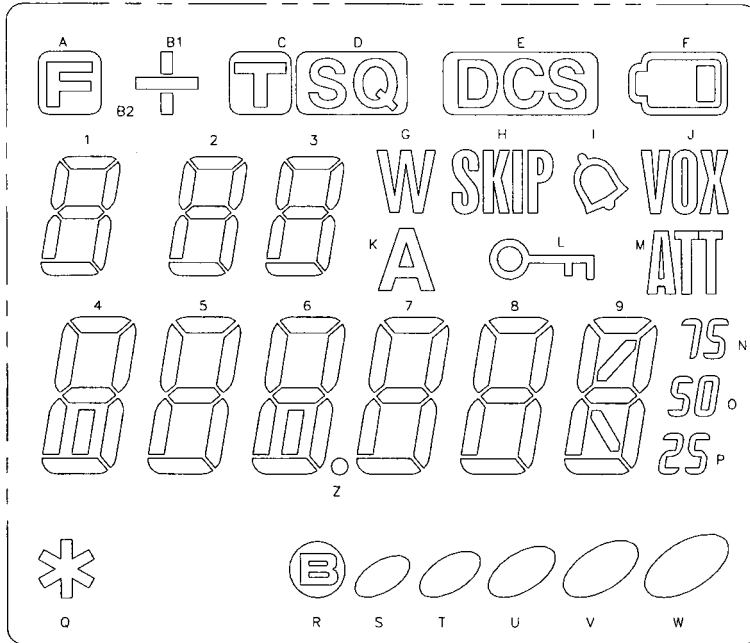
Pin No	COM0	COM1	COM2	COM3
1	COM0	-	-	-
2	-	COM1	-	-
3	-	-	COM2	-
4	-	-	-	COM3
5	D	E	F	C
6	H	I	J	G
7	L	M	N	K
8	P	O	V	W
9	R	S	U	T
10	9c	9b	9a	Y
11	9e	9g	9f	9d
12	8c	8b	8a	X
13	8e	8g	8f	8d
14	7c	7b	7a	Z
15	7e	7g	7f	7d
16	6c	6b	6a	6h
17	6e	6g	6f	6d
18	5c	5b	5a	Q
19	5e	5g	5f	5d
20	4c	4b	4a	4h
21	4e	4g	4f	4d
22	3c	3b	3a	B2
23	3e	3g	3f	3d
24	2c	2b	2a	B1
25	2e	2g	2f	2d
26	1c	1b	1a	A
27	1e	1g	1f	1d

13

EXPLODED VIEW

1) Front View

TN0014

UR0023

TZ0088

UP0433

TL0027

DG0040

TL0026

EL0053

ST0069

FG0330

KZ0134

YX0032

DP0139

2) Bottom View

AF0025

AF0031

FG0336

FG0345

UP0433

RED(MRCL04AA)

BLUE(MACL04AA)

ES0025

FP0182

TS0165

AN0027

FG0329

FG0331

FG0333

SD0092

SD0093

NK0077

SP0013

AN0012

FG0346

RD0108

FM0201

DC IN

FG0337

UE0338

FG0332

AX0008

FG0334

AX0005
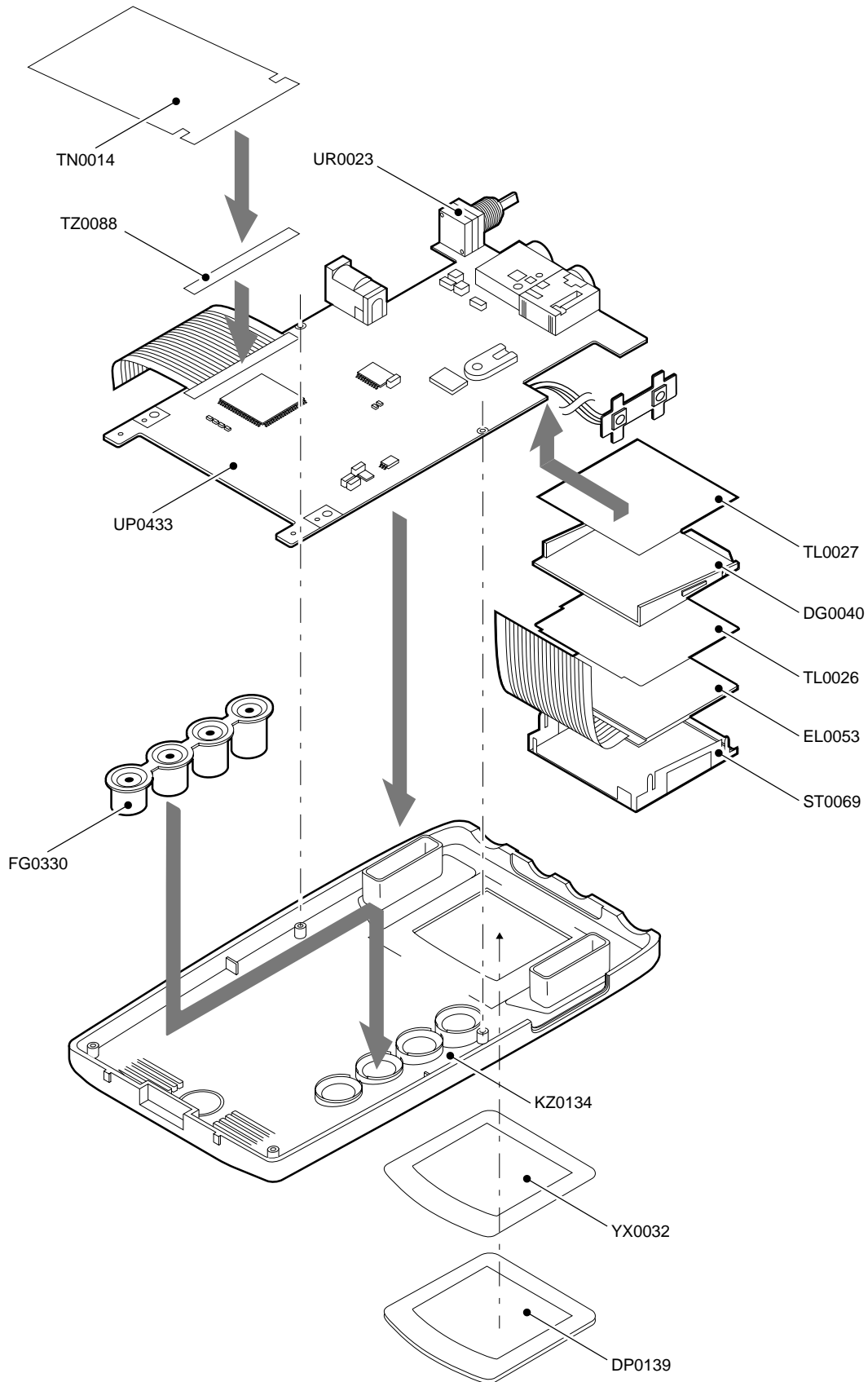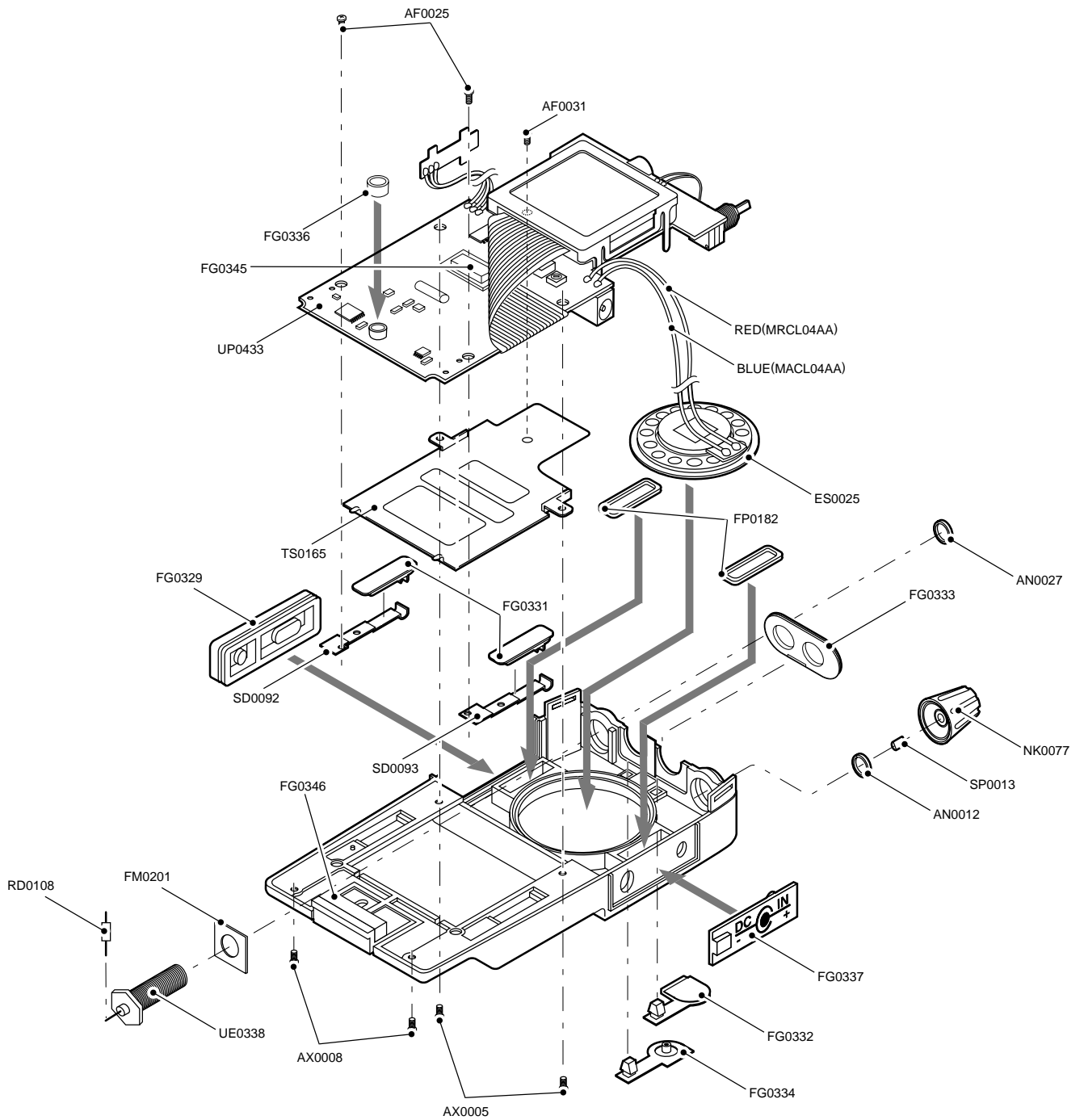
PARTS LIST

MAIN Unit

Ref. No.	Parts No.	Description	Parts Name	Version T	E	TA
	UP0433	PC Board	DJS40 INTEGRATED	0.5	0.5	0.5
C1	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C2	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C3	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C4	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C5	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C6	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C7	CS0408	Chip tantalum	6MCM156MATER	1	1	1
C8	CU3511	Chip C.	GRM36CH100D50PT	1	1	1
C10	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C11	CU3008	Chip C.	C1608CH1H070CT-A	1	1	1
C12	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C14	CS0411	Chip tantalum	4MCM226MATER	1	1	1
C15	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C16	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C17	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C18	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C19	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C20	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C21	CU3008	Chip C.	C1608CH1H070CT-A	1	1	1
C22	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C23	CU3507	Chip C.	GRM36CH060D50PT	1	1	1
C24	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C25	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C26	CU3505	Chip C.	GRM36CH040C50PT	1	1	1
C27	CU3510	Chip C.	GRM36CH090D50PT	1	1	1
C28	CU3508	Chip C.	GRM36CH070D50PT	1	1	1
C29	CU3511	Chip C.	GRM36CH100D50PT	1	1	1
C30	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C32	CU3502	Chip C.	GRM36CK010C50PT	1	1	1
C34	CU3501	Chip C.	GRM36CK0R5C50PT	1	1	1
C35	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C36	CU3515	Chip C.	GRM36CH220J50PT	1	1	1
C37	CU3514	Chip C.	GRM36CH180J50PT	1	1	1
C38	CU3509	Chip C.	GRM36CH080D50PT	1	1	1
C39	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C40	CU3502	Chip C.	GRM36CK010C50PT	1	1	1
C41	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C42	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C44	CU3501	Chip C.	GRM36CK0R5C50PT	1	1	1
C46	CU3101	Chip C.	C1608JB1C473KT-NS	1	1	1
C47	CS0406	Chip tantalum	35MCM105MATER	1	1	1
C48	CU3505	Chip C.	GRM36CH040C50PT	1	1	1
C50	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C51	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C52	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C53	CU0108	Chip C.	LMK212BJ105KG	1	1	1
C54	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C55	CU3523	Chip C.	GRM36CH101J50PT	1	1	1
C56	CU3520	Chip C.	GRM36CH560J50PT	1	1	1
C57	CU3516	Chip C.	GRM36CH270J50PT	1	1	1
C58	CU3511	Chip C.	GRM36CH100D50PT	1	1	1
C59	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C60	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C61	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C62	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C63	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C64	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C65	CS0367	Chip tantalum	TMCMA0J106MTR	1	1	1
C66	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C67	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C68	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C69	CU3527	Chip C.	GRM36CH221J25PT	1	1	1
C70	CU3505	Chip C.	GRM36CH040C50PT	0	1	0
C70	CU3504	Chip C.	GRM36CJ030C50PT	1	0	1
C71	CU3504	Chip C.	GRM36CJ030C50PT	1	1	1
C72	CU3504	Chip C.	GRM36CJ030C50PT	1	1	1
C73	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C74	CU3502	Chip C.	GRM36CK010C50PT	1	1	1
C75	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C76	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C77	CU3502	Chip C.	GRM36CK010C50PT	1	1	1
C79	CU3510	Chip C.	GRM36CH090D50PT	1	1	1
C80	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C81	CU3508	Chip C.	GRM36CH070D50PT	1	1	1
C82	CU3527	Chip C.	GRM36CH221J25PT	1	1	1
C83	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C84	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C85	CU3515	Chip C.	GRM36CH220J50PT	1	1	1
C86	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C87	CU3510	Chip C.	GRM36CH090D50PT	1	1	1
C90	CU3507	Chip C.	GRM36CH060D50PT	1	1	1
C92	CU3502	Chip C.	GRM36CK010C50PT	1	1	1
C93	CU3523	Chip C.	GRM36CH101J50PT	1	1	1
C95	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C96	CU3522	Chip C.	GRM36CH820J50PT	1	1	1
C97	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C98	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C100	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C101	CU3551	Chip C.	GRM36B223K16PT	1	1	1
C102	CU3539	Chip C.	GRM36B222K50PT	1	1	1
C103	CU3539	Chip C.	GRM36B222K50PT	1	1	1
C104	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C105	CU0108	Chip C.	LMK212BJ105KG	1	1	1
C106	CU3551	Chip C.	GRM36B223K16PT	1	1	1
C107	CU3101	Chip C.	C1608JB1C473KT-NS	1	1	1
C108	CU3524	Chip C.	GRM36CH121J50PT	1	1	1
C109	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C110	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C111	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C112	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C113	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C114	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C115	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C116	CU3541	Chip C.	GRM36B332K50PT	1	1	1
C117	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C118	CS0408	Chip tantalum	6MCM156MATER	1	1	1
C119	CU0108	Chip C.	LMK212BJ105KG	1	1	1
C120	CU3538	Chip C.	GRM36B182K50PT	1	1	1
C121	CU3101	Chip C.	C1608JB1C473KT-NS	1	1	1
C122	CU3523	Chip C.	GRM36CH101J50PT	1	1	1
C123	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C124	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C125	CU3549	Chip C.	GRM36B153K16PT	1	1	1
C126	CU0108	Chip C.	LMK212BJ105KG	1	1	1
C127	CU3547	Chip C.	GRM36B103K16PT	1	1	1

Ref. No.	Parts No.	Description	Parts Name	T	E	TA
C128	CU3551	Chip C.	GRM36B223K16PT	1	1	1
C129	CS0367	Chip tantalum	TMCMA0J106MTR	1	1	1
C130	CS0414	Chip tantalum	6MCM476MB2TER	1	1	1
C131	CS0408	Chip tantalum	6MCM156MATER	1	1	1
C132	CU3544	Chip C.	GRM36B562K25PT	1	1	1
C133	CU3540	Chip C.	GRM36B272K50PT	1	1	1
C134	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C135	CU3545	Chip C.	GRM36B682K25PT	1	1	1
C137	CU3543	Chip C.	GRM36B472K25PT	1	1	1
C138	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C139	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C140	CU0108	Chip C.	LMK212BJ105KG	1	1	1
C141	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C142	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C143	CU3547	Chip C.	GRM36B103K16PT	1	1	1
C144	CS0408	Chip tantalum	6MCM156MATER	1	1	1
C145	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C146	CS0408	Chip tantalum	6MCM156MATER	1	1	1
C147	CS0422	Chip tantalum	TMCMB1A476MTR	1	1	1
C148	CU0108	Chip C.	LMK212BJ105KG	1	1	1
C149	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C150	CU3551	Chip C.	GRM36B223K16PT	1	1	1
C151	CU3551	Chip C.	GRM36B223K16PT	1	1	1
C152	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C157	CE0411	Electrolytic C.	16MV10UWA3	1	1	1
C158	CS0414	Chip tantalum	6MCM476MB2TER	1	1	1
C159	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C160	CU0108	Chip C.	LMK212BJ105KG	1	1	1
C161	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C162	CU3517	Chip C.	GRM36CH330J50PT	1	1	1
C163	CU3517	Chip C.	GRM36CH330J50PT	1	1	1
C165	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C166	CS0414	Chip tantalum	6MCM476MB2TER	1	1	1
C167	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C168	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C169	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C170	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C171	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C172	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C173	CE0411	Electrolytic C.	16MV10UWA3	1	1	1
C174	CS0367	Chip tantalum	TMCMA0J106MTR	1	1	1
C175	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C178	CU3519	Chip C.	GRM36CH470J50PT	1	1	1
C179	CU3519	Chip C.	GRM36CH470J50PT	1	1	1
C180	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C181	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C182	CU3519	Chip C.	GRM36CH470J50PT	1	1	1
C184	CU3510	Chip C.	GRM36CH090D50PT	1	0	1
C184	CU3511	Chip C.	GRM36CH100D50PT	0	1	0
C185	CU3503	Chip C.	GRM36CK020C50PT	1	1	1
C186	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C187	CU3111	Chip C.	C1608JB1C104KT-N	1	1	1
C188	CU3509	Chip C.	GRM36CH080D50PT	1	1	1
C209	CU3535	Chip C.	GRM36B102K50PT	1	1	1
C210	CU3531	Chip C.	GRM36B471K50PT	1	1	1
C212	CU0108	Chip C.	LMK212BJ105KG	1	1	1
C213	CU3004	Chip C.	C1608CH1H030CT-AS	1	1	1
D1	XD0326	Chip Diode	1SV307(TPH3)	1	1	1
D2	XD0344	Chip Diode	1SV311 (TPL3)	1	1	1
D3	XD0331	Chip Diode	HSU277TRF	1	1	1
D4	XD0251	Chip Diode	MA741WA TX	1	1	1
D5	XD0331	Chip Diode	HSU277TRF	1	1	1
D6	XD0291	Chip Diode	MA729-TX	1	1	1
D7	XD0368	Chip Diode	M1FE40-4063	1	1	1

Ref. No.	Parts No.	Description	Parts Name	T	E	TA
D8	XL0036	Chip Diode	SML-310MTT86	1	1	1
D10	XL0036	Chip Diode	SML-310MTT86	1	1	1
D11	XD0331	Chip Diode	HSU277TRF	1	1	1
D13	XD0130	Chip Diode	DA204U T106	1	1	1
D15	XD0344	Chip Diode	1SV311 (TPL3)	1	1	1
D16	XD0291	Chip Diode	MA729-TX	1	1	1
D17	XD0315	Chip Diode	MA2S728-TX	1	1	1
EL1	EL0053	LCD	WD-S2304I-7TNNAA	1	1	1
FL2	XC0075	Ceramic Filter	CFUCG450E-TC	1	1	1
FL3	XF0034	Crystal Filter	DSF753S 21.700MHZ	1	1	1
IC1	XA0545	IC	UPC2771T	1	1	1
IC2	XA0543	IC	M64082AGP	1	1	1
IC3	XA0404	IC	TA31136FN(EL)	1	1	1
IC4	XA0573	IC	NJM2904V-TE1	1	1	1
IC5	XA0596	IC	NJM2902V-TE1	1	1	1
IC6	XA0210	IC	NJM2070M T1	1	1	1
IC7	XA0903	IC	M38224M6M233HP DJS40	1	1	1
IC9	XA0817	IC	S-24C16AFJX-TB-01	1	1	1
IC10	XA0848	IC	S-816A30AMC-BAF-T2	1	1	1
IC11	XA0857	IC	S-80827ALNP	1	1	1
JK1	UJ0022	Jack	HSJ1102-01-540	1	1	1
JK2	UJ0019	Jack	HSJ1493-01-010	1	1	1
JK3	UJ0015	Jack	HEC2781 010020	1	1	1
L1	QC0215	Chip Inductor	MLF2012A1R0K-T	1	1	1
L2	QC0533	Chip Inductor	LQN21A39NJ04	1	1	1
L3	QC0507	Chip Inductor	LK16081R0K-T	1	1	1
L4	QC0623	Chip Inductor	LL1608-FS47NJ	1	1	1
L5	QC0627	Chip Inductor	LL1608-FSR10J	1	1	1
L6	QKA45A	Coil	MR1.5 4.5T 0.4	1	1	1
L7	QKA45A	Coil	MR1.5 4.5T 0.4	1	1	1
L8	QKA25A	Coil	MR1.5 2.5T 0.4	1	1	1
L9	QC0619	Chip Inductor	LL1608-FS22NJ	1	1	1
L10	QC0616	Chip Inductor	LL1608-FS12NJ	1	1	1
L11	QC0616	Chip Inductor	LL1608-FS12NJ	1	1	1
L12	QC0527	Chip Inductor	LQN21A12NJ04	1	1	1
L13	QC0507	Chip Inductor	LK16081R0K-T	1	1	1
L14	QC0527	Chip Inductor	LQN21A12NJ04	1	1	1
L15	QC0528	Chip Inductor	LQN21A15NJ04	1	1	1
L16	QC0507	Chip Inductor	LK16081R0K-T	1	1	1
L17	QC0618	Chip Inductor	LL1608-FS18NJ	1	1	1
L18	QC0526	Chip Inductor	LQN21A10NJ04	1	1	1
L19	QC0526	Chip Inductor	LQN21A10NJ04	1	1	1
L20	QC0527	Chip Inductor	LQN21A12NJ04	1	1	1
L21	QC0527	Chip Inductor	LQN21A12NJ04	1	1	1
L22	QC0507	Chip Inductor	LK16081R0K-T	1	1	1
L23	QC0623	Chip Inductor	LL1608-FS47NJ	1	1	1
L24	QC0534	Chip Inductor	LQN21A47NJ04	1	1	1
L25	QC0616	Chip Inductor	LL1608-FS12NJ	1	1	1
MIC1	EY0017	Mic	OB-27P44	1	1	1
Q1	XU0193	Chip Transistor	RN1107 TE85L	1	1	1
Q2	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1	1
Q3	XE0034	FET	MRF9745T1	1	1	1
Q4	XE0044	FET	2SK3074 TE12L	1	1	1
Q5	XU0172	Chip Transistor	XP1501-TX	1	1	1
Q6	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1	1
Q7	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1	1
Q8	XT0172	Chip Transistor	2SC4618TLP	1	1	1
Q9	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1	1
Q10	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1	1
Q11	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1	1
Q12	XT0171	Chip Transistor	2SC4808-TX.AR	1	1	1
Q13	XU0092	Chip Transistor	UN911H-TX	1	1	1
Q15	XT0095	Chip Transistor	2SC4081 T106R	1	1	1
Q16	XU0193	Chip Transistor	RN1107 TE85L	1	1	1

Ref. No.	Parts No.	Description	Parts Name	Version T	E	TA
Q17	XT0170	Chip Transistor	2SB766A-TX	1	1	1
Q19	XT0095	Chip Transistor	2SC4081 T106R	1	1	1
Q20	XT0135	Chip Transistor	2SD2216R-TX	1	1	1
Q21	XT0110	Chip Transistor	2SA1036K T146Q	1	1	1
Q22	XU0161	Chip Transistor	XP1114(TX)	1	1	1
Q23	XT0135	Chip Transistor	2SD2216R-TX	1	1	1
Q24	XU0193	Chip Transistor	RN1107 TE85L	1	1	1
Q26	XU0172	Chip Transistor	XP1501-TX	1	1	1
Q27	XT0170	Chip Transistor	2SB766A-TX	1	1	1
Q28	XU0152	Chip Transistor	UMC5NTR	1	1	1
Q29	XU0192	Chip Transistor	RN2107 TE85L	1	1	1
Q30	XU0172	Chip Transistor	XP1501-TX	1	1	1
Q31	XT0094	Chip Transistor	2SA1576A T106R	1	1	1
Q32	XT0170	Chip Transistor	2SB766A-TX	1	1	1
Q35	XU0192	Chip Transistor	RN2107 TE85L	1	1	1
Q36	XU0193	Chip Transistor	RN1107 TE85L	1	1	1
Q39	XT0110	Chip Transistor	2SA1036K T146Q	1	1	1
Q40	XT0135	Chip Transistor	2SD2216R-TX	1	1	1
R4	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R5	RK3526	Chip R.	ERJ2GEJ101X	1	1	1
R6	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R8	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R9	RK3522	Chip R.	ERJ2GEJ470X	1	1	1
R11	RK3522	Chip R.	ERJ2GEJ470X	1	1	1
R12	RK3572	Chip R.	ERJ2GEJ684X	1	1	1
R13	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R14	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R15	RK3522	Chip R.	ERJ2GEJ470X	1	1	1
R16	RK3526	Chip R.	ERJ2GEJ101X	1	1	1
R17	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R18	RK3522	Chip R.	ERJ2GEJ470X	1	1	1
R19	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R20	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R21	RK3545	Chip R.	ERJ2GEJ392X	1	1	1
R22	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R23	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R24	RK3544	Chip R.	ERJ2GEJ332X	1	1	1
R25	RK3566	Chip R.	ERJ2GEJ224X	1	1	1
R26	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R28	RK3534	Chip R.	ERJ2GEJ471X	1	1	1
R29	RK3530	Chip R.	ERJ2GEJ221X	1	1	1
R31	RK3544	Chip R.	ERJ2GEJ332X	1	1	1
R32	RK3556	Chip R.	ERJ2GEJ333X	1	1	1
R33	RK3530	Chip R.	ERJ2GEJ221X	1	1	1
R34	RK3544	Chip R.	ERJ2GEJ332X	1	1	1
R35	RK3518	Chip R.	ERJ2GEJ220X	1	1	1
R36	RK3554	Chip R.	ERJ2GEJ223X	1	1	1
R37	RK3518	Chip R.	ERJ2GEJ220X	1	1	1
R38	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R39	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R40	RK3526	Chip R.	ERJ2GEJ101X	1	1	1
R41	RK3526	Chip R.	ERJ2GEJ101X	1	1	1
R42	RK3526	Chip R.	ERJ2GEJ101X	1	1	1
R43	RK3518	Chip R.	ERJ2GEJ220X	1	1	1
R44	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R45	RK3544	Chip R.	ERJ2GEJ332X	1	1	1
R46	RK3530	Chip R.	ERJ2GEJ221X	1	1	1
R47	RK3530	Chip R.	ERJ2GEJ221X	1	1	1
R48	RK3566	Chip R.	ERJ2GEJ224X	1	1	1
R49	RK3559	Chip R.	ERJ2GEJ563X	1	1	1
R50	RK3559	Chip R.	ERJ2GEJ563X	1	1	1
R51	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R52	RK3539	Chip R.	ERJ2GEJ122X	1	1	1
R53	RK3539	Chip R.	ERJ2GEJ122X	1	1	1

Ref. No.	Parts No.	Description	Parts Name	Version T	E	TA
R54	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R55	RK3564	Chip R.	ERJ2GEJ154X	1	1	1
R56	RK3526	Chip R.	ERJ2GEJ101X	1	1	1
R59	RK3540	Chip R.	ERJ2GEJ152X	1	1	1
R61	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R62	RK1018	Chip R.	ERJ8GEYJ101V	1	1	1
R63	RK3554	Chip R.	ERJ2GEJ223X	1	1	1
R64	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R66	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R67	RK3501	Chip R.	ERJ2GE0R00X	1	1	1
R68	RK3552	Chip R.	ERJ2GEJ153X	1	1	1
R69	RK3548	Chip R.	ERJ2GEJ682X	1	1	1
R70	RK3555	Chip R.	ERJ2GEJ273X	1	1	1
R71	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R72	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R73	RK3556	Chip R.	ERJ2GEJ333X	1	1	1
R75	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R76	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R77	RK3572	Chip R.	ERJ2GEJ684X	1	1	1
R78	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R79	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R80	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R81	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R82	RK3522	Chip R.	ERJ2GEJ470X	1	1	1
R83	RK3557	Chip R.	ERJ2GEJ393X	1	1	1
R84	RK3554	Chip R.	ERJ2GEJ223X	1	1	1
R85	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R86	RK3548	Chip R.	ERJ2GEJ682X	1	1	1
R87	RK3559	Chip R.	ERJ2GEJ563X	1	1	1
R88	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R89	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R90	RK3567	Chip R.	ERJ2GEJ274X	1	1	1
R91	RK3545	Chip R.	ERJ2GEJ392X	1	1	1
R92	RK3563	Chip R.	ERJ2GEJ124X	1	1	1
R93	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R94	RK3561	Chip R.	ERJ2GEJ823X	1	1	1
R95	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R96	RK3543	Chip R.	ERJ2GEJ272X	1	1	1
R97	RK3542	Chip R.	ERJ2GEJ222X	1	1	1
R98	RK3545	Chip R.	ERJ2GEJ392X	1	1	1
R99	RK3560	Chip R.	ERJ2GEJ683X	1	1	1
R100	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R101	RK3563	Chip R.	ERJ2GEJ124X	1	1	1
R102	RK3552	Chip R.	ERJ2GEJ153X	1	1	1
R103	RK3559	Chip R.	ERJ2GEJ563X	1	1	1
R104	RK3563	Chip R.	ERJ2GEJ124X	1	1	1
R105	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R106	RK3540	Chip R.	ERJ2GEJ152X	1	1	1
R107	RK3514	Chip R.	ERJ2GEJ100X	1	1	1
R108	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R109	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R111	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R112	RK3572	Chip R.	ERJ2GEJ684X	1	1	1
R113	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R114	RK3567	Chip R.	ERJ2GEJ274X	1	1	1
R115	RK3560	Chip R.	ERJ2GEJ683X	1	1	1
R116	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R117	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R118	RK3526	Chip R.	ERJ2GEJ101X	1	1	1
R119	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R120	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R121	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R122	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R123	RK3546	Chip R.	ERJ2GEJ472X	1	1	1

Ref. No.	Parts No.	Description	Parts Name	Version T	E	TA
R124	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R125	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R126	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R127	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R128	RK3542	Chip R.	ERJ2GEJ222X	1	1	1
R129	RK3541	Chip R.	ERJ2GEJ182X	1	1	1
R130	RK3564	Chip R.	ERJ2GEJ154X	1	1	1
R131	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R132	RK3566	Chip R.	ERJ2GEJ224X	1	1	1
R133	RK3542	Chip R.	ERJ2GEJ222X	1	1	1
R134	RK3542	Chip R.	ERJ2GEJ222X	1	1	1
R135	RK3551	Chip R.	ERJ2GEJ123X	1	1	1
R136	RK3522	Chip R.	ERJ2GEJ470X	1	1	1
R137	RK3532	Chip R.	ERJ2GEJ331X	1	1	1
R138	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R139	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R140	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R141	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R142	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R143	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R144	RK3574	Chip R.	ERJ2GEJ105X	1	1	1
R145	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R146	RK3529	Chip R.	ERJ2GEJ181X	1	1	1
R147	RK3552	Chip R.	ERJ2GEJ153X	1	1	1
R148	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R149	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R150	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R151	RK3574	Chip R.	ERJ2GEJ105X	1	1	1
R153	RK3538	Chip R.	ERJ2GEJ102X	1	0	1
R156	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R157	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R159	RK3542	Chip R.	ERJ2GEJ222X	1	1	1
R160	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R161	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R162	RK3551	Chip R.	ERJ2GEJ123X	1	1	1
R163	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R164	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R165	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R167	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R168	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R169	RK0003	Chip R.	ERJ6GEYJ150V	1	1	1
R170	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R173	RK3501	Chip R.	ERJ2GE0R00X	1	1	1
R174	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R175	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R176	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R177	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R178	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R180	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R182	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R183	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
R190	RK3542	Chip R.	ERJ2GEJ222X	1	1	1
R191	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R192	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R193	RK3552	Chip R.	ERJ2GEJ153X	1	1	1
R194	RK3547	Chip R.	ERJ2GEJ562X	1	1	1
R195	RK3501	Chip R.	ERJ2GE0R00X	1	1	1
R196	RK3550	Chip R.	ERJ2GEJ103X	1	1	1
R197	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R198	RK3546	Chip R.	ERJ2GEJ472X	1	1	1
R199	RK3529	Chip R.	ERJ2GEJ181X	1	1	1
R200	RK3542	Chip R.	ERJ2GEJ222X	1	1	1
R201	RK3574	Chip R.	ERJ2GEJ105X	1	1	1
R202	RK3562	Chip R.	ERJ2GEJ104X	0	0	0

Ref. No.	Parts No.	Description	Parts Name	Version T	E	TA
R203	RK3558	Chip R.	ERJ2GEJ473X	1	1	1
R204	RK3542	Chip R.	ERJ2GEJ222X	1	1	1
R205	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R206	RK3501	Chip R.	ERJ2GE0R00X	1	1	1
R208	RK3548	Chip R.	ERJ2GEJ682X	1	1	1
R209	RK3501	Chip R.	ERJ2GE0R00X	1	1	1
R210	RK3501	Chip R.	ERJ2GE0R00X	0	0	0
R211	RK3562	Chip R.	ERJ2GEJ104X	1	1	1
R212	RK3554	Chip R.	ERJ2GEJ223X	1	1	1
R213	RK3522	Chip R.	ERJ2GEJ470X	1	1	1
R214	RK3538	Chip R.	ERJ2GEJ102X	1	1	1
TC1	CT0046	Trimmer	TC03C100A-TP02	1	1	1
TC2	CT0046	Trimmer	TC03C100A-TP02	1	1	1
TC3	CT0046	Trimmer	TC03C100A-TP02	1	1	1
VR1	RH0140	Trimmer R.	MVR22HXBRN472	1	1	1
VR2	RH0140	Trimmer R.	MVR22HXBRN472	1	1	1
VR3	RV0046	Volume	TP76N00A135FB103	1	1	1
W6	MACLH2GG	Wire	#30AH1-025-H1	1	1	0
W7	UX1277	Wore	WIRE DJS40 W7	1	1	1
X1	XQ0103	Crystal	TOP-B 21.250MHZ	1	1	1
X2	XK0005	Discriminator	CDBC450CX24-TC	1	1	1
X3	XQ0131	Crystal	CSA310 3.686400MHZ	1	1	1
	FM0196		RADIATE SHEET	1	1	1
	DG0040		LCD LIGHT DJS40	1	1	1
	ST0069		LCD HOLDER	1	1	1
	TL0027		REFLECTION SHEET	1	1	1
	TS0142		VCO case XH655	1	1	1
	TS0148		VCO Shield DJP85	1	1	1
	TL0026		DIFFUSION SHEET	1	1	1

PTT Unit

Ref. No.	Parts No.	Description	Parts Name	Version T	E	TA
SW1	UU0027	Switch	SKQGAA	1	1	1
SW7	UU0027	Switch	SKQGAA	1	1	1

Mechanical Parts

Ref. No.	Parts No.	Description	Parts Name	Version T	E	TA
W1	MBCL02AA	Wire	#30B02-20-02	1	1	1
W2	MRCL02AA	Wire	#30R02-20-02	1	1	1
W3	MRCL02AA	Wire	#30R02-20-02	1	1	1
	AF0025	Screw	0PH M2+2.5 FE/N1	2	2	2
	AF0031	Screw	0PH 2+5 FE/N3	1	1	1
	AN0012	Nut	RND N7X0.75 BR/B.ZN	1	1	1
	AN0027	Nut	ANTENNA NUT XH720	1	1	1
	AX0005	Screw	OP 1.7+5.5 Fe NI3	2	2	2
	AX0008	Screw	OPH P1.7+4 FE/B.ZN3	2	2	2
	DP0139		LCD panel	1	1	1
	ES0025	Spesker	32-8BB-06	1	1	1
	FG0329		PTT RUBBER	1	1	1
	FG0330		SILICON KEY RUBBER	1	1	1
	FG0331		TERMINAL RUBBER	2	2	2
	FG0332		MIC CAP RUBBER	1	1	1
	FG0333		JACK CAP RUBBER	1	1	1
	FG0334		SP CAP RUBBER	1	1	1
	FG0336		MIC RUBBER	1	1	1
	FG0337		DC CAP RUBBER	1	1	1
	FG0345		FLEXIBLE CUSHION S40	1	1	1
	FG0346		CUSHION A DJS40	1	1	1
	FM0201		ANTENNA GROUND DJS40	1	1	1
	FP0179		REAR PANEL	1	1	1
	FP0182		SP CUSHION	2	2	2
	KZ0134A		FRONT CASE ASSY DJS40	1	1	1
	KZ0135A		REAR CASE ASSY S40	1	1	1
W5	MACL04AA	Wire	#30A02-040-02	1	1	1
W4	MRCL04AA	Wire	#30 RED 02-040-02	1	1	1
	NK0077		VOL KNOB DJS40	1	1	1
	RD0108		J1/6Z	1	1	1
	SD0092		TERMINAL L	1	1	1
	SD0093		TERMINAL R	1	1	1
	SP0013		LECTRA #7800	1	1	1
	TN0014		FLEX. SHIELD	1	1	1
	TN0014		FLEX. SHIELD	1	1	1
	TS0165		RF SHIELD	1	1	1
	TZ0088		INSULATOR DJS40J	1	1	1
	UE0338		SMA 19-16-3TGG	1	1	1
	YX0032		LCD TAPE DJS40	1	1	1

Packing

Ref. No.	Parts No.	Description	Parts Name	Version T	E	TA
	EBP-53N		Ni-Cd Bttery Pack	1	1	0
	EDC-93		AC Aadaptor(120V)	1	0	0
	EDC-94		AC Aadaptor(230V)	0	1	0
	EA0070AC		Anntena	1	1	1
	PH0013		Warranty	1	0	0
	DS0446		Serial No. sheet	1	1	1
	PK0087		Schematic	1	1	1
	HK0520		Package	1	1	1
	HM0215		Carton	1	1	1
	HU0170		Carton Plate	1	1	1
	HP0006Z		Plastic Bag	1	1	1
	PR0452		FCC Home use seal	1	0	0
	PR0447		FCC Warnig	1	0	0
	PS0405A		Instruction	1	1	1
	EDH-31		Battery Case	1	1	1
	EBC-18		Belt Clip Strap	1	1	1

ADJUSTMENT

1. Enter the frequency in memory. (M1 ~ M17) * Refer to Memory Channel's Frequency List

2. Press FUNC > MONI (Key Lock) > FUNC > ▲ > ▼ 2 times > V/M > MONI 2 times

   (It becomes in "Adjustment Mode" and "A" appears on the display)

3. Adjust the Set 1. (Refer to Adjustment Manual)

4. Press FUNC > MONI (Key Lock) > FUNC > ▲

   (It becomes in "Nomal Mode" and "A" disappears on the display)

 Remark1.# The frequency in each Memory Channel can be changed within ±500KHz.

POWER SW
/ VOLUME

ANT

SP   MIC
JACK JACK

PTT

TC2

MON I

TC3   VR1   DC JACK

FUNC

△

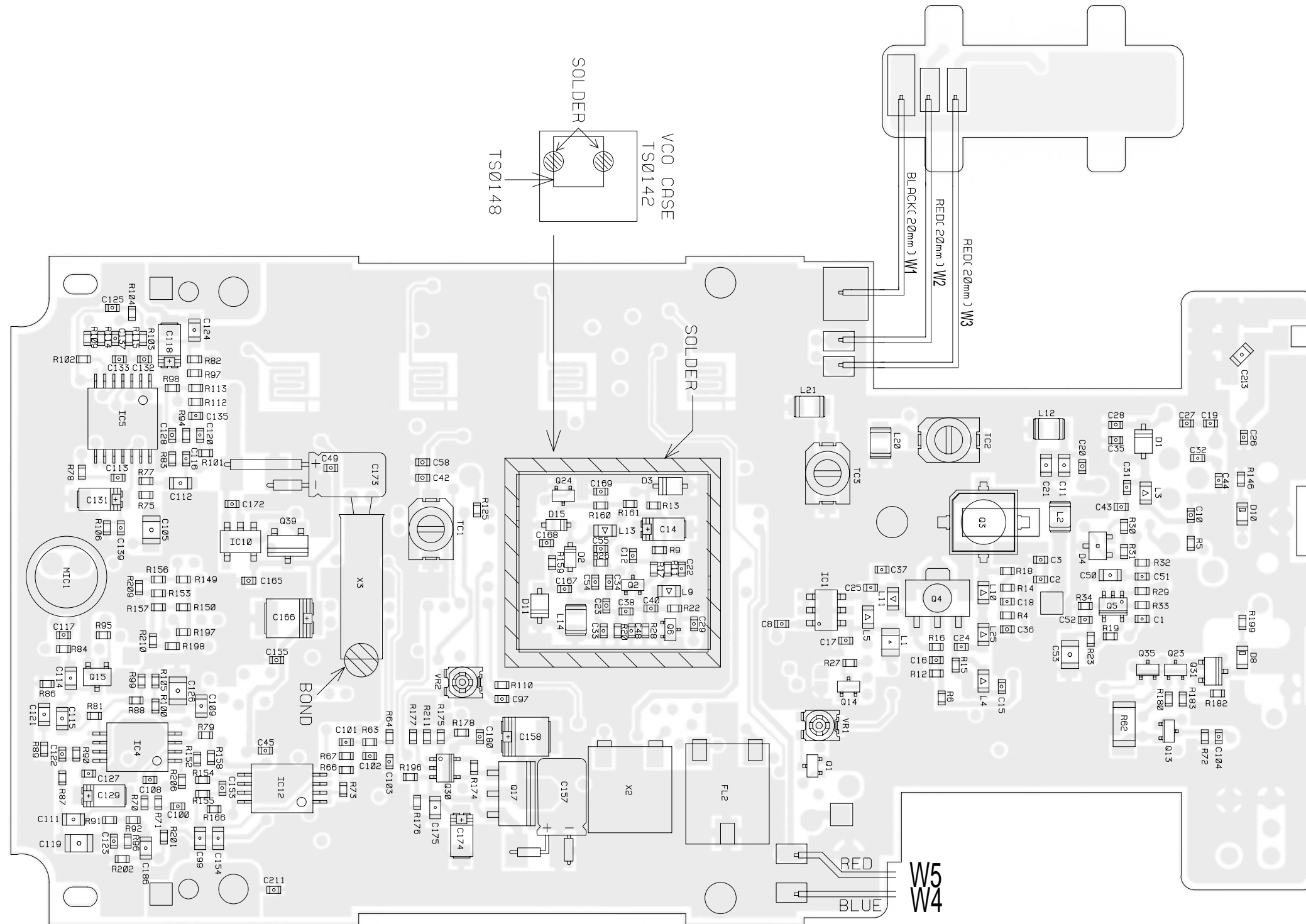▽   TP2   VR2

TC1

V/M

FRONT VIEW
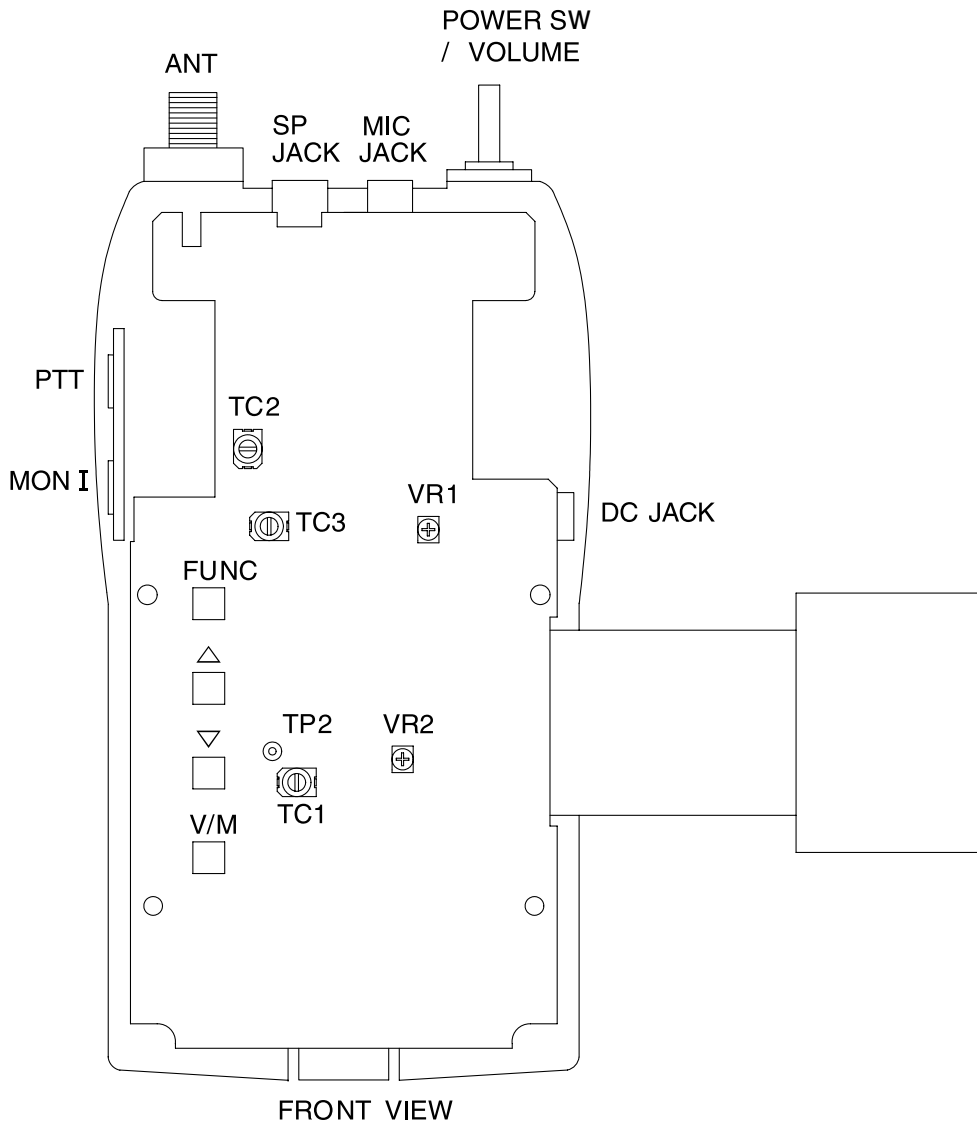
Standard Measuring Condition
 DC IN : 7.0V
 Modulation Frequency: 1KHz
 Deviation : 3.5KHz
 Audio output power : 50mW (8Ω)

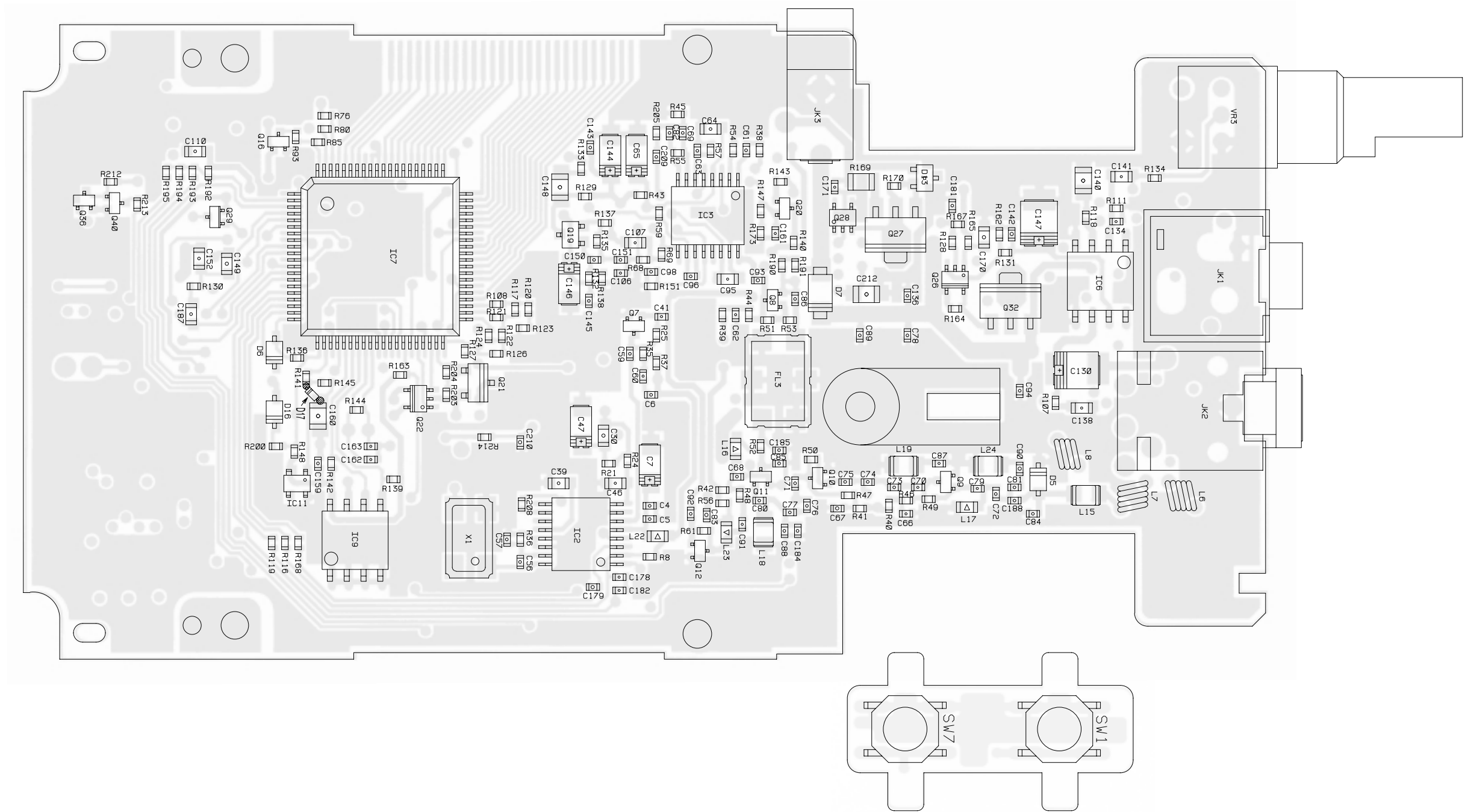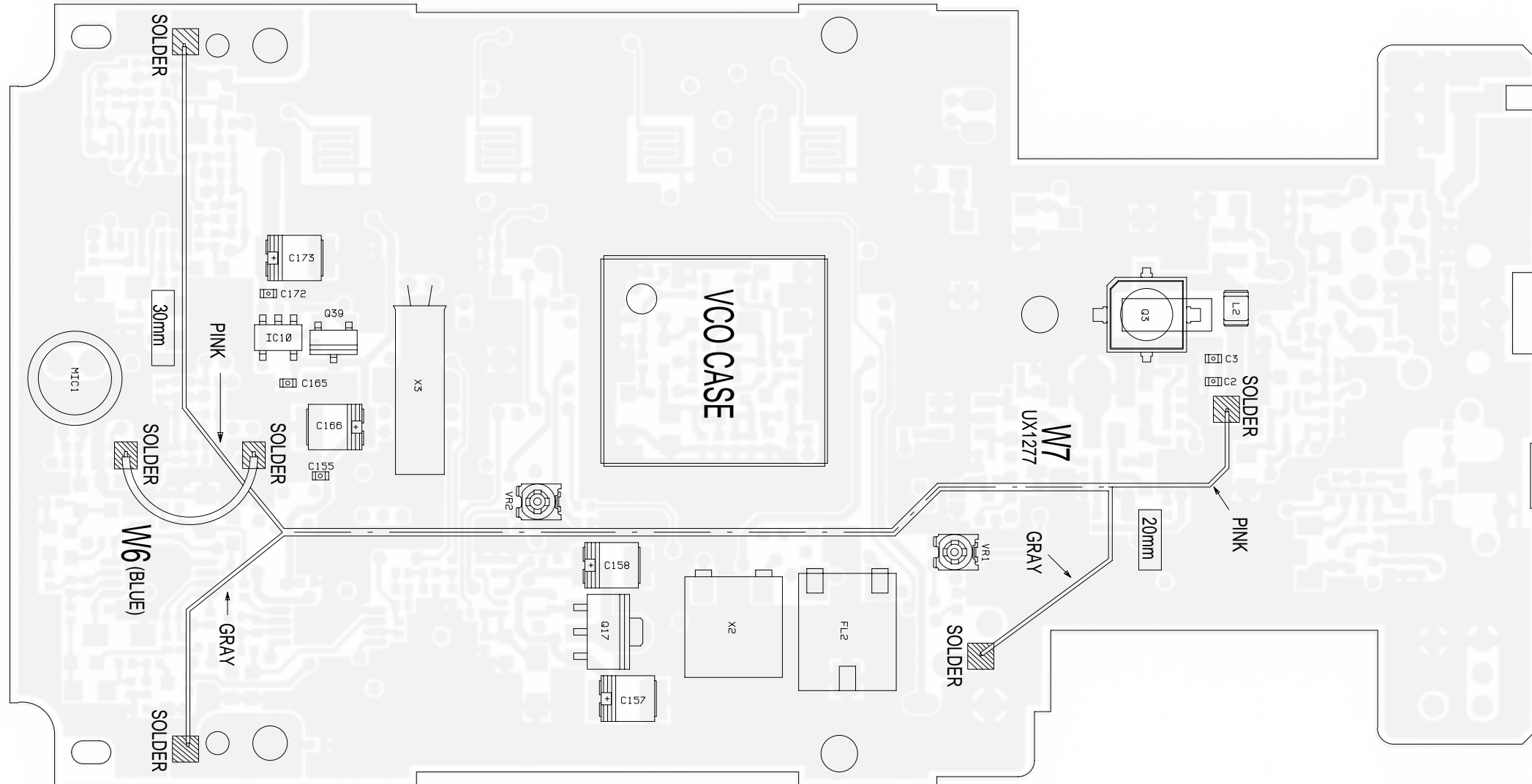| Item	Ch	Frequency (MHz)	Sta-tus	Adj. or Check	Ter-minal	Adj. Point	Adj.Range	Condition
1. PD Voltage	1	E :435.05 T :435.05 TA :435.05	Rx and Tx	Check	TP2	--	Rx : 0.8 ~ 1.2V Tx : 1.0 ~ 1.4V	
2. Reference Frecuency	1	E :435.05 T :435.05 TA :435.05	Tx	Adj.	ANT	TC1	±100Hz	
3. High Power output.	2	E :435.05 T :445.05 TA :445.05	Tx	Adj.	ANT	VR1	1.0 ±0.05W	
4. High Power current	2	E :435.05 T :445.05 TA :445.05	Tx	Check	DC Jack	--	less than 0.6A	
5. Low Power output	3	E :435.05 T :445.05 TA :445.05	Tx	Check	ANT	--	0.1 ~ 0.25W	
6. Sensitivity	5	E :435.05 T :445.05 TA :445.05	Rx	Adj.	SP Jack	TC2 and TC3	less than -7.0dB	The sensitivity must be adjusted to the best.
7. S-meter (1)	7	E :435.05 T :445.05 TA :445.05	Rx	Adj.	--	FUNC Key	--	RF sig. level : 0dBu
8. S-meter (5)	8	E :435.05 T :445.05 TA :445.05	Rx	Adj.	--	FUNC Key	--	RF sig. level : 20dBu
9. Mic Deviation	9	E :435.05 T :445.05 TA :445.05	Tx	Adj.	ANT	VR2	4.5 ±0.1KHz	AF sig. : 1KHz / 50mVrms AF Filter : OFF-20KHz (at MT2605)
10. Tone Deviation	13	E :435.05 T :445.05 TA :445.05	Tx	Check	ANT	--	0.6 ~ 1.2KHz	AF Filter : OFF-3KHz (at MT2605)
16. Tone burst Deviation	16	E :435.05 T :445.05 TA :445.05	Tx	Check	ANT	--	2.2 ~ 3.0KHz	AF Filter : OFF-20KHz (at MT2605)
17. Aging test	17	E :435.50 T :445.50 TA :445.50	Tx and Rx					Using the aging test tool.

PC BOARD VIEW
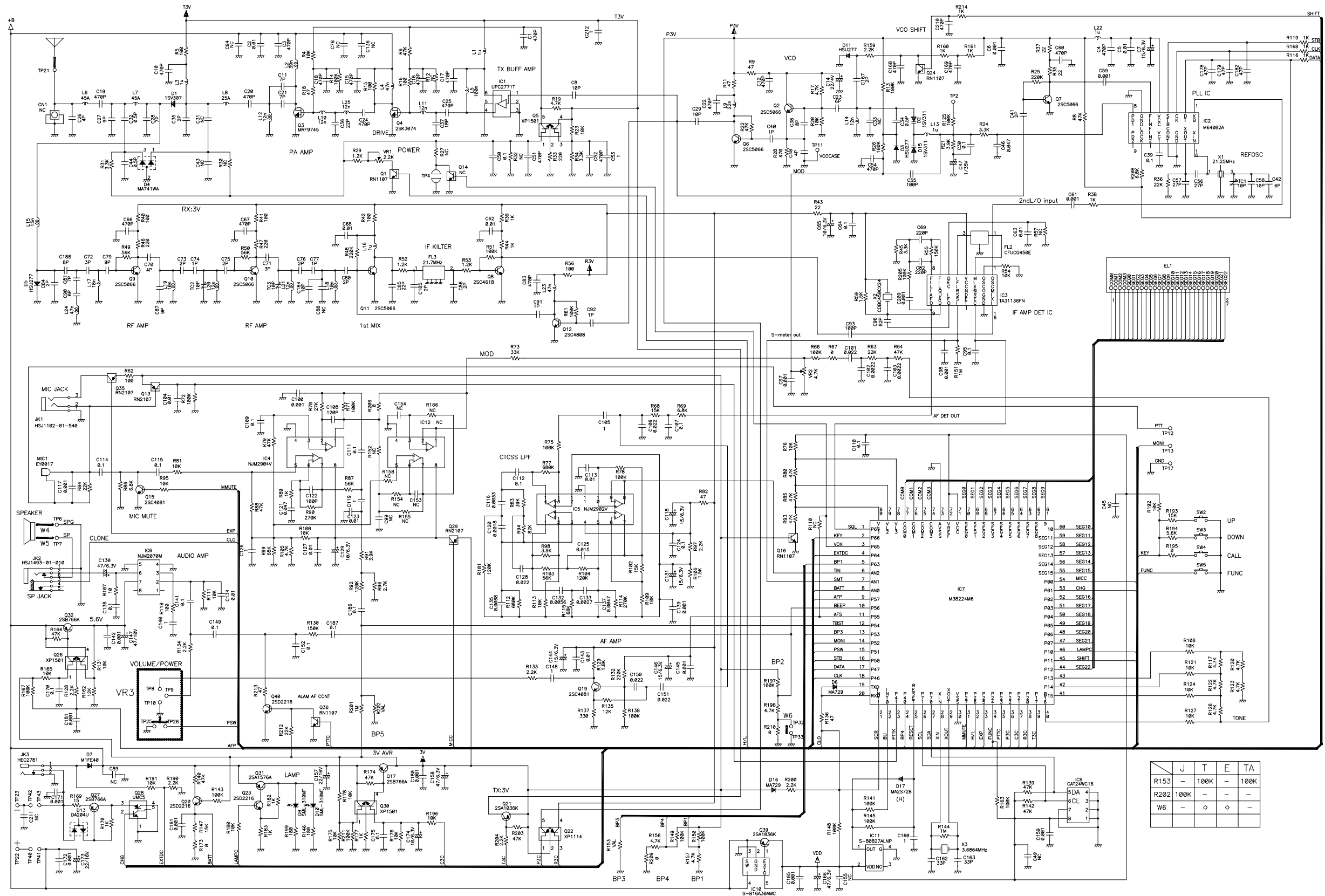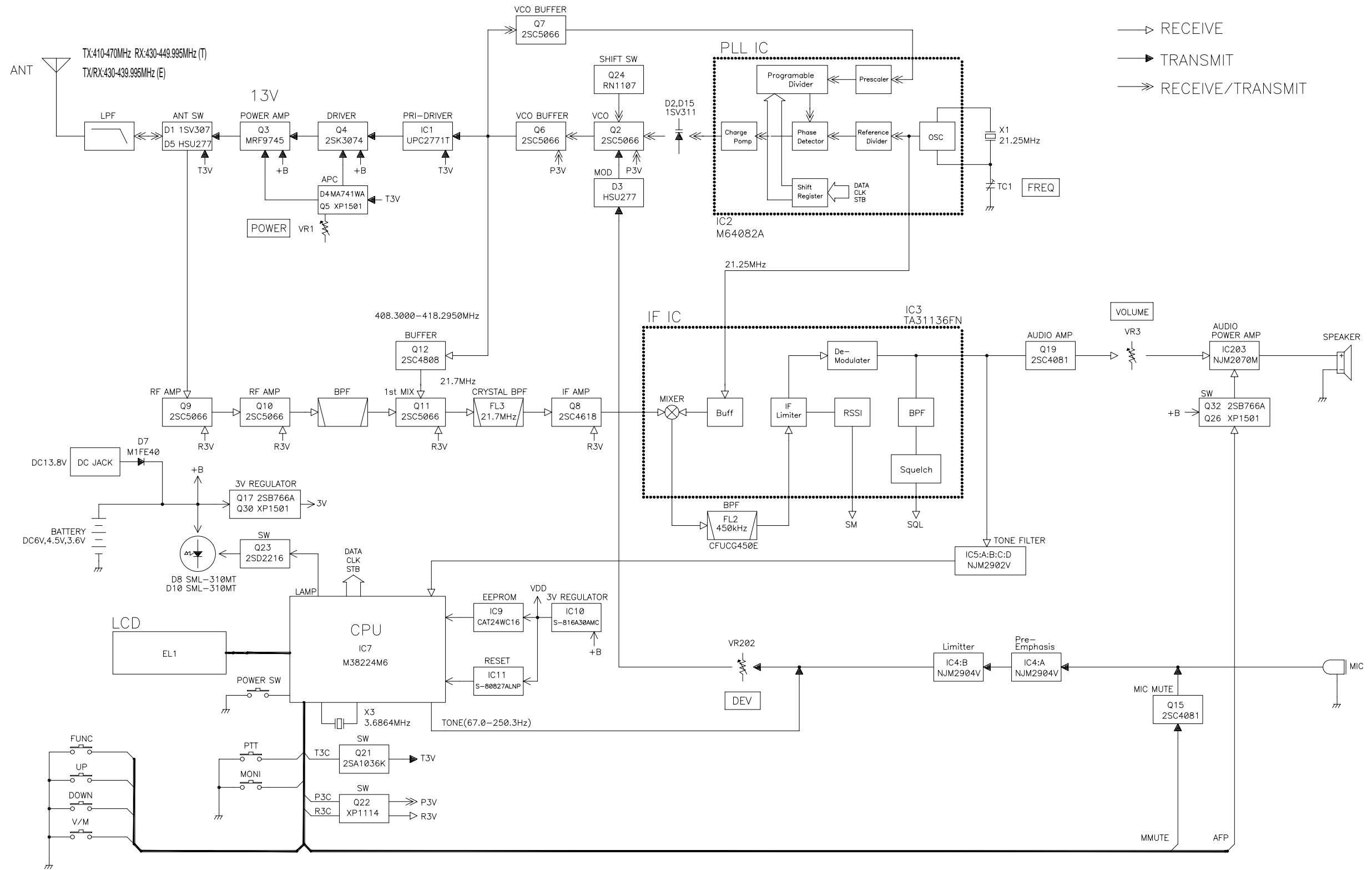
1) UP0433(1/2) Side A

2) UP0433(1/2) Side B

3) PTT Unit WIRING

SCHEMATIC DIAGRAM

BLOCK DIAGRAM

RECEIVE
TRANSMIT
RECEIVE/TRANSMIT

ANT
TX:410-470MHz RX:430-449.995MHz (T)
TX/RX:430-439.995MHz (E)

13V

LPF

ANT SW
D1 1SV307
D5 HSU277

POWER AMP
Q3
MRF9745
T3V

DRIVER
Q4
2SK3074
+B

PRI-DRIVER
IC1
UPC2771T
+B
T3V

APC
D4 MA741WA
Q5 XP1501
T3V

POWER VR1

VCO BUFFER
Q6
2SC5066
P3V

VCO
Q2
2SC5066
MOD
P3V

D3
HSU277

D2,D15
1SV311

VCO BUFFER
Q7
2SC5066

SHIFT SW
Q24
RN1107

PLL IC

Programable Divider
Prescaler
Phase Detector
Reference Divider
OSC
Charge Pomp
Shift Register
DATA CLK STB
X1 21.25MHz
TC1 FREQ

IC2
M64082A

21.25MHz

408.3000-418.2950MHz

BUFFER
Q12
2SC4808

21.7MHz

RF AMP
Q9
2SC5066
R3V

RF AMP
Q10
2SC5066
R3V

BPF

1st MIX
Q11
2SC5066
R3V

CRYSTAL BPF
FL3
21.7MHz

IF AMP
Q8
2SC4618
R3V

IF IC
IC3
TA31136FN

MIXER
Buff
De-Modulater
IF Limitter
RSSI
BPF
Squelch

BPF
FL2
450kHz
CFUCG450E

SM
SQL

AUDIO AMP
Q19
2SC4081

VOLUME
VR3

AUDIO POWER AMP
IC203
NJM2070M
SPEAKER

SW
Q32 2SB766A
Q26 XP1501
+B

DC13.8V
DC JACK
D7
M1FE40
+B

3V REGULATOR
Q17 2SB766A
Q30 XP1501
3V

BATTERY
DC6V,4.5V,3.6V

SW
Q23
2SD2216

D8 SML-310MT
D10 SML-310MT

LAMP

LCD
EL1

CPU
IC7
M38224M6

POWER SW

X3
3.6864MHz

DATA CLK STB

EEPROM
IC9
CAT24WC16

VDD
3V REGULATOR
IC10
S-816A30AMC
+B

RESET
IC11
S-80827ALNP

TONE FILTER
IC5:A:B:C:D
NJM2902V

VR202
DEV

TONE(67.0-250.3Hz)

Limitter
IC4:B
NJM2904V

Pre-Emphasis
IC4:A
NJM2904V

MIC MUTE
Q15
2SC4081
MIC

FUNC
UP
DOWN
V/M

PTT
MONI

T3C
SW
Q21
2SA1036K
T3V

P3C
R3C
SW
Q22
XP1114
P3V
R3V

MMUTE
AFP

ALINCO, INC.

Head Office : Shin-Dai Building 9th Floor
2-6, 1-Chome, Dojimahama, Kita-ku, Osaka 530-0004, Japan
Phone: +81-6-4797-2136 Fax: +81-6-4797-2157
E-mail:export@alinco.co.jp

Dealer/Distributor