

# DJ-V27

## Service Manual

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PC Board View

Schematic Diagram

Block Diagram

***ALINCO, INC.***

## SPECIFICATIONS DJ-V27T

### <GENERAL>

Frequency range	TX 222 ~ 224.995MHz RX 216 ~ 249.995MHz
Mode	F3E (FM)
Channel steps	5, 10, 12.5, 20, 25 & 30KHz
Memory channels	200 channels + 1 CALL channel
Antenna connector	SMA (50 ohm unbalanced)
Frequency stability	+/- 2.5ppm
Microphone impedance	2k ohm nominal
Power supply	7.2V (battery) 7 ~ 13.8V (external DC IN)
Usable temperature range	-10 ~ 60°C (14-140°F)

### <TRANSMITTER>

Output power	approx. 5W (with battery) approx. 5W (external DC IN)
Modulation system	Variable reactance frequency modulation
Max. frequency deviation	+/- 5KHz
Spurious emission	Less than -60dB

### <RECEIVER>

Receive system	Double conversion superheterodyne
Intermediate frequencies	1st: 38.85MHz / 2nd: 450KHz
Sensitivity (12dB SINAD)	-14dB $\mu$ or less (center range)
Selectivity	-6dB: 12KHz or more / -60dB: 26KHz or less
Audio output power	500mW (at 8ohm, MAX)

## CIRCUIT DESCRIPTION DJ-V27T

### 1) Receiver System

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

#### 1. Front End

The received signal at frequency in the 216.000- to 249.995MHz range is passed through the low-pass filter ( L101, L102, L103, L113, C108, C120, C121, C124, C125, C126, C127, and C176 ) and tuning circuit ( C192, C193 , C215 , C216, D115, D116, L125, and L126 ) and amplified by the RF amplifier ( Q114 ). The signal from Q114 is then passed through the tuning circuit ( C200, C201, C219, C220, D117, D118, L128, and L129 ) and converted into 38.85MHz by the mixer ( Q116 ).

The tuning circuit, which consists of L125, L126, varicaps D115 and D116, L128, L129, varicaps D117 and D118, is controlled by the tracking voltage from the CPU so that it is optimized for the reception frequency . The local signal from the VCO is passed through the buffer ( Q113 ), and supplied to the source of the mixer ( Q116 ). The radio uses the lower side of the superheterodyne system.

#### 2. IF Circuit

The mixer mixes the received signal with the local signal to obtain the sum of and difference between them. The crystal filter ( FL101 ) selects 38.85MHz frequency from the results and eliminates the signal of the unwanted frequencies. The first IF amplifier ( Q119 ) then amplifies the signal of the selected frequency.

#### 3. Demodulator Circuit

After the signal is amplified by the first IF amplifier ( Q119 ), it is input to pin 16 of the demodulator IC ( IC103 ). Oscillation ( X102 ) is then passed through the tripler circuit ( L123 , C202 , C191 , L122 , Q115 ) and converted into 38.4MHz. The second local signal of 38.4MHz, which is oscillated by the internal oscillation circuit in IC103 and output of tripler circuit ( L123 , C202 , C191 , L122 , Q115 ). Then, these two signals are mixed by the internal mixer in

IC103 and the result is converted into the second IF signal with a frequency of 450kHz. The second IF signal is output from pin 3 of IC103 to the ceramic filter ( FL103 ) , where the unwanted frequency band of that signal is eliminated, and the resulting signal is sent back to the IC103 through pins 5.

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

#### 4. Audio Circuit

The audio signal from pin 9 of IC103 is compensated to the audio frequency characteristics in the de-emphasis circuit ( R223, R224, C241, C1242 ) and amplified by the AF amplifier ( Q296 ). The signal is then input to pin 1 of the electronic volume ( IC107 ) for volume adjustment, and output from pin 2. The adjusted signal is sent to the audio power amplifier ( IC106 ) through pin 2 to drive the speaker.

#### 5. Squelch Circuit

The signal except for the noise component in AF signal of IC103 is cut by the active filter inside IC. The noise component is amplified and rectified, then converted to the DC voltage to output from pin 14 of IC103. The voltage is led to pin 2 of CPU and compared with the setting voltage. The squelch will open if the input voltage is lower than the setting voltage.

### 2) Transmitter System

#### 1. Modulator Circuit

The audio signal is converted to an electric signal in either the internal or external microphone, and input to the microphone amplifier (IC102). IC102 consists of two operational amplifiers; one amplifier ( pins 12, 13, and 14 ) is composed of pre-emphasis and IDC circuits and the other ( pins 5, 6, 7, 8, 9, and 10 ) is composed of a splatter filter. The maximum frequency deviation is obtained by VR104 and input to the cathode of the varicap of the VCO, to change the electric capacity in the oscillation circuit. This produces the frequency modulation.

## 2. Power Amplifier Circuit

The transmitted signal is oscillated by the VCO, amplified by the pre-drive amplifier ( Q104 , Q105 ) and drive amplifier ( Q103 ), and input to the final amplifier ( Q102 ). The signal is then amplified by the final amplifier ( Q102 ) and led to the antenna switch ( D101, D103 ) and low-pass filter ( L104, L103, L102, L101, C107, C108, C109, C110, C120, C121, C124, C125, C126, and C127 ), where un-wanted high harmonic waves are reduced as needed, and the resulting signal is supplied to the antenna.

## 3. APC Circuit

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

## 3) PLL Synthesizer System

### 1. PLL

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

### 2. Reference Frequency Circuit

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

### 3. Phase Comparator Circuit

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

### 4. PLL Loop Filter Circuit

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

### 5. VCO Circuit

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

## 4) CPU and Peripheral Circuits

### 1. LCD Display Circuit

The CPU turns ON the LCD via segment and common terminals with 1/4 the duty and 1/3 the bias, at the frame frequency is 112.5Hz.

### 2. Display Lamp Circuit

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

### 3. Reset and Backup

When the power from the DC jack or external battery increases from Circuits 0V to 2.5 or more, " H " level reset signal is output from the reset IC ( IC104 ) to pin33 of the CPU ( IC109 ), causing the CPU to reset. The reset signal, however, waits at 100, and does not enter the CPU until the CPU clock ( X104 ) has stabilized.

#### 4. S( Signal ) Meter Circuit

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

#### 5. TONE Encoder

The CPU ( IC109 ) is equipped with an internal tone encoder. The tone signal (67.0 to 250.3Hz ) is output from pin 9 of the CPU to the 12.8MHz reference oscillation ( X102 ) of the PLL reference oscillator.

#### 8. CTCSS

The voice band of the AF output signal from pin 9 of IC103 is cut by sharp active filter IC108 and amplified, then led to pin 4 of CPU. The input signal is compared with the programmed tone frequency code in the CPU. The squelch will open when they match.

#### 9. Clock Shift

In the unlikely event that CPU clock noise is present on a particular operating frequency programmed into the radio, you can shift the CPU clock frequency to avoid the CPU clock-noise. The output signal from pin 31 of the CPU turns on Q124. Then the oscillation frequency of X104 will be shifted about 200 ppm.

Parts List DJ-V27T  
 MAIN Unit

Ref. No.	Parts No.	Parts Name
C101	CU3035	C1608JB1H102KT-AS
C102	CU3035	C1608JB1H102KT-AS
C103	CU3023	C1608CH1H101JT-AS
C104	CU3512	GRP1552C1H120JZ01E
C105	CU3513	GRP1552C1H150JZ01E
C106	CU3503	GRP1554C1H2R0CZ01E
C107	CU3011	C1608CH1H100DT-AS
C108	CU3013	C1608CH1H150JT-AS
C109	CU3014	C1608CH1H180JT-AS
C110	CU3017	C1608CH1H330JT-AS
C111	CU3016	C1608CH1H270JT-AS
C112	CU3013	C1608CH1H150JT-AS
C113	CU3013	C1608CH1H150JT-AS
C114	CU3020	C1608CH1H560JT-AS
C115	CU3516	GRP1552C1H270JZ01E
C116	CU3535	GRP155B11H102KA01E
C117	NC	
C118	CU3502	GRP1554C1H1R0CZ01E
C119	CU3502	GRP1554C1H1R0CZ01E
C120	CU3007	C1608CH1H060DT-A
C121	NC	
C122	CU3547	GRP155B11C103KA01E
C123	NC	
C124	CU3007	C1608CH1H060DT-A
C125	CU3007	C1608CH1H060DT-A
C126	CU3011	C1608CH1H100DT-AS
C127	CU3011	C1608CH1H100DT-AS
C128	CU3554	GRP155B11A104KA01E
C129	CU3535	GRP155B11H102KA01E
C130	CU3535	GRP155B11H102KA01E
C131	NC	
C132	CU3547	GRP155B11C103KA01E
C133	CU3535	GRP155B11H102KA01E
C134	CU3547	GRP155B11C103KA01E
C135	CU3535	GRP155B11H102KA01E
C136	CU3535	GRP155B11H102KA01E
C137	CU3511	GRP1552C1H100JZ01E
C138	NC	
C139	CU3501	GRP1554C1HR50CZ01E
C140	CU3501	GRP1554C1HR50CZ01E
C141	CU3516	GRP1552C1H270JZ01E
C142	CS0441	TMCMA0J226MTRF
C143	CU3535	GRP155B11H102KA01E
C144	CU3535	GRP155B11H102KA01E
C145	CU3535	GRP155B11H102KA01E
C146	CU3535	GRP155B11H102KA01E
C147	NC	
C148	CU3507	GRP1552C1H6R0DZ01E
C149	CU3535	GRP155B11H102KA01E
C150	NC	
C151	CU3502	GRP1554C1H1R0CZ01E
C152	NC	
C153	CU3511	GRP1552C1H100JZ01E
C154	CU3523	GRP1552C1H101JD01E
C155	CU3559	GRM155B30J105KE18D
C156	CU3515	GRP1552C1H220JZ01E
C157	CU3502	GRP1554C1H1R0CZ01E
C158	NC	
C159	CU3531	GRP155B11H471KD01E
C160	CU3511	GRP1552C1H100JZ01E
C161	CU3514	GRP1552C1H180JZ01E
C162	CU3529	GRP155B11H331KD01E
C163	CS0426	F931A106MAA



Ref. No.	Parts No.	Parts Name
C164	CS0426	F931A106MAA
C165	CU3554	GRP155B11A104KA01E
C166	CU3535	GRP155B11H102KA01E
C167	CU3547	GRP155B11C103KA01E
C168	CU3535	GRP155B11H102KA01E
C169	CU3535	GRP155B11H102KA01E
C170	NC	
C171	CU3535	GRP155B11H102KA01E
C172	NC	
C173	CU3535	GRP155B11H102KA01E
C174	CS0396	TMCP1D104MTR
C176	CU3508	GRP1552C1H7R0DZ01E
C177	CU3506	GRP1552C1H5R0CZ01E
C178	CU3503	GRP1554C1H2R0CZ01E
C179	CU3133	TMK107BJ105KA-T
C180	CU3535	GRP155B11H102KA01E
C181	CU3535	GRP155B11H102KA01E
C182	CU3133	TMK107BJ105KA-T
C183	CS0398	TMCP0J225MTR
C184	NC	
C185	CU3535	GRP155B11H102KA01E
C186	CU3554	GRP155B11A104KA01E
C187	CU3535	GRP155B11H102KA01E
C188	CU3535	GRP155B11H102KA01E
C189	CU3535	GRP155B11H102KA01E
C190	CU3535	GRP155B11H102KA01E
C191	CU3505	GRP1552C1H4R0CZ01E
C192	CU3503	GRP1554C1H2R0CZ01E
C193	CU3503	GRP1554C1H2R0CZ01E
C194	CU3535	GRP155B11H102KA01E
C195	CU3506	GRP1552C1H5R0CZ01E
C196	CU3559	GRM155B30J105KE18D
C197	CU3520	GRP1552C1H560JD01E
C198	CU3503	GRP1554C1H2R0CZ01E
C199	CU3535	GRP155B11H102KA01E
C200	CU3502	GRP1554C1H1R0CZ01E
C201	CU3502	GRP1554C1H1R0CZ01E
C202	CU3524	GRP1552C1H121JD01E
C204	CU3535	GRP155B11H102KA01E
C205	CU3535	GRP155B11H102KA01E
C206	CU3535	GRP155B11H102KA01E
C207	CU3547	GRP155B11C103KA01E
C208	CU3523	GRP1552C1H101JD01E
C209	CU3515	GRP1552C1H220JZ01E
C210	CU3547	GRP155B11C103KA01E
C211	CU3547	GRP155B11C103KA01E
C212	NC	
C213	CU3535	GRP155B11H102KA01E
C214	CU3535	GRP155B11H102KA01E
C215	CU3515	GRP1552C1H220JZ01E
C216	CU3518	GRP1552C1H390JZ01E
C217	CU3535	GRP155B11H102KA01E
C218	CU3547	GRP155B11C103KA01E
C219	CU3517	GRP1552C1H330JZ01E
C220	CU3517	GRP1552C1H330JZ01E
C221	NC	
C222	CU3506	GRP1552C1H5R0CZ01E
C223	NC	
C224	CU3551	GRP155B11C223KD01E
C225	CU3535	GRP155B11H102KA01E
C226	CU3133	TMK107BJ105KA-T
C227	CU3537	GRP155B11H152KA01E
C228	CU3547	GRP155B11C103KA01E
C229	CU3547	GRP155B11C103KA01E
C230	CU3554	GRP155B11A104KA01E

Ref. No.	Parts No.	Parts Name
C231	CU3554	GRP155B11A104KA01E
C232	CU3522	GRP1552C1H820JD01E
C233	CU3535	GRP155B11H102KA01E
C234	CU3554	GRP155B11A104KA01E
C235	CU3554	GRP155B11A104KA01E
C236	CU3523	GRP1552C1H101JD01E
C237	CU3554	GRP155B11A104KA01E
C238	CU3543	GRP155B11E472KD01E
C239	CU3535	GRP155B11H102KA01E
C240	NC	
C241	CU3554	GRP155B11A104KA01E
C242	CU3547	GRP155B11C103KA01E
C243	CU3535	GRP155B11H102KA01E
C244	CU3554	GRP155B11A104KA01E
C245	CS0441	TMCA0J226MTRF
C246	CU3559	GRM155B30J105KE18D
C247	CU3535	GRP155B11H102KA01E
C248	CU3535	GRP155B11H102KA01E
C249	CU3547	GRP155B11C103KA01E
C250	CU3535	GRP155B11H102KA01E
C251	CU3547	GRP155B11C103KA01E
C252	CU3523	GRP1552C1H101JD01E
C253	CU3535	GRP155B11H102KA01E
C254	CU3535	GRP155B11H102KA01E
C255	CU3554	GRP155B11A104KA01E
C256	CU3554	GRP155B11A104KA01E
C257	CS0441	TMCA0J226MTRF
C258	CU3554	GRP155B11A104KA01E
C259	CU3535	GRP155B11H102KA01E
C260	CU3527	GRP1552C1E221JD01E
C261	CU3519	GRP1552C1H470JZ01E
C262	CU3554	GRP155B11A104KA01E
C263	CU3535	GRP155B11H102KA01E
C264	CU3554	GRP155B11A104KA01E
C265	CU3537	GRP155B11H152KA01E
C266	CU3554	GRP155B11A104KA01E
C267	CU3527	GRP1552C1E221JD01E
C268	CU3535	GRP155B11H102KA01E
C269	CU3547	GRP155B11C103KA01E
C270	CU3535	GRP155B11H102KA01E
C271	CU3535	GRP155B11H102KA01E
C272	CU3559	GRM155B30J105KE18D
C273	CU3513	GRP1552C1H150JZ01E
C274	CU3514	GRP1552C1H180JZ01E
C275	CU3543	GRP155B11E472KD01E
C276	CU3535	GRP155B11H102KA01E
C277	CU3133	TMK107BJ105KA-T
C278	CU3535	GRP155B11H102KA01E
C279	CS0439	TMCA0J476MTRF
C280	CU3554	GRP155B11A104KA01E
C281	CE0437	10CE150BSS
C282	CU3554	GRP155B11A104KA01E
C283	CU3551	GRP155B11C223KD01E
C284	CU3551	GRP155B11C223KD01E
C285	CU3535	GRP155B11H102KA01E
C286	CU3535	GRP155B11H102KA01E
C287	CU3554	GRP155B11A104KA01E
C288	CU3559	GRM155B30J105KE18D
C289	CS0441	TMCA0J226MTRF
C290	CS0397	TMCP1C105MTR
C291	CU3535	GRP155B11H102KA01E
C292	CS0440	TMCMB1C476MTRF
C293	CU3559	GRM155B30J105KE18D
C294	CU3554	GRP155B11A104KA01E
C295	CU3535	GRP155B11H102KA01E

Ref. No.	Parts No.	Parts Name
C296	CU3554	GRP155B11A104KA01E
C297	CU3553	GRP155B11A473KA01E
C298	CU3535	GRP155B11H102KA01E
C299	CU3535	GRP155B11H102KA01E
C300	NC	
C301	NC	
C302	CU3535	GRP155B11H102KA01E
C303	CU3551	GRP155B11C223KD01E
C304	CU3552	GRP155B11A333KA01E
C305	CU3554	GRP155B11A104KA01E
C306	CU3535	GRP155B11H102KA01E
C307	CS0439	TMCA0J476MTRF
C308	CU3535	GRP155B11H102KA01E
C309	CU3535	GRP155B11H102KA01E
C310	CU3535	GRP155B11H102KA01E
C311	CU3535	GRP155B11H102KA01E
C312	CS0426	F931A106MAA
C313	CU3535	GRP155B11H102KA01E
C314	CU3547	GRP155B11C103KA01E
C315	CU3547	GRP155B11C103KA01E
C316	CU3535	GRP155B11H102KA01E
C317	CU3535	GRP155B11H102KA01E
C318	CU3535	GRP155B11H102KA01E
C319	CU3535	GRP155B11H102KA01E
C320	CU3554	GRP155B11A104KA01E
C321	CS0439	TMCA0J476MTRF
C322	CU3554	GRP155B11A104KA01E
C323	CU3547	GRP155B11C103KA01E
C324	CU3547	GRP155B11C103KA01E
C325	CU3535	GRP155B11H102KA01E
C326	CE0436	16CE47BSS
C327	CU3133	TMK107BJ105KA-T
C328	CU3535	GRP155B11H102KA01E
C331	CU3535	GRP155B11H102KA01E
C332	CU3554	GRP155B11A104KA01E
C334	NC	
C336	CS0396	TMCP1D104MTR
C347	CU3535	GRP155B11H102KA01E
C349	CU3559	GRM155B30J105KE18D
C350	CU3559	GRM155B30J105KE18D
C351	CU3133	TMK107BJ105KA-T
C352	CU3535	GRP155B11H102KA01E
C353	CU3535	GRP155B11H102KA01E
C354	CU3535	GRP155B11H102KA01E
C355	CS0398	TMCP0J225MTR
C356	CU3547	GRP155B11C103KA01E
C357	NC	
C358	NC	
C360	CU3535	GRP155B11H102KA01E
C362	CU3535	GRP155B11H102KA01E
C363	CU3535	GRP155B11H102KA01E
C372	CU3535	GRP155B11H102KA01E
CN101	NC	
CN102	NC	
CN103	UE0506	AXK520135P
D101	XD0339	1SV308(TPH3)
D102	XD0419	1SS400TE61
D103	XD0339	1SV308(TPH3)
D104	NC	
D105	XD0453	RB717F
D106	NC	
D107	XD0421	1SV323(TPH3,H)
D108	XD0422	HSC277TRF-E
D109	XD0421	1SV323(TPH3,H)
D110	NC	

Ref. No.	Parts No.	Parts Name
D111	NC	
D112	XD0339	1SV308(TPH3)
D113	XD0339	1SV308(TPH3)
D114	XD0339	1SV308(TPH3)
D115	XD0454	1SV305
D116	XD0454	1SV305
D117	XD0454	1SV305
D118	XD0454	1SV305
D119	XL0097	SML-521MUWT86
D120	XD0338	1SS362(TE85L)
D121	XD0419	1SS400TE61
D122	XD0424	S3JB-T
D123	XD0420	FA3J3STP
D124	XD0338	1SS362(TE85L)
D125	XD0420	FA3J3STP
D126	XL0036	SML-310MTT86
D127	XL0036	SML-310MTT86
D128	XL0036	SML-310MTT86
D129	XL0036	SML-310MTT86
D130	XD0416	1SS423(TE85L,F)
D131	XL0036	SML-310MTT86
D132	XL0036	SML-310MTT86
D133	XD0418	RB521S-30TE61
D134	XD0418	RB521S-30TE61
D135	XD0451	015AZ3.0-X(TPL3,F)
FL101	XF0073	38M15B5F 38.85MHZ
FL103	XC0060	ALFYM450F=K
IC101	XA1107	MB15E07SR
IC102	XA1106	LM2902PWR
IC103	XA0404	TA31136FN(EL)
IC104	XA1120	S80845CLNB-B66-T2G
IC105	XA1117	S24CS64A01-J8T1G
IC106	XA0210	NJM2070M T1
IC107	XA1118	M62429FP/CF0J
IC108	XA1106	LM2902PWR
IC109	XA1121	M38268MCA-076GP#UO
IC110	XA1119	XC6202P502MR
JK101	UJ0060	HSJ1594-010150
JK102	UJ0061	LD-0208-1.3
L101	QS401405	0.40-1.4-5TL
L102	QS351607	E2-0.35-1.6-7TL
L103	QS351607	E2-0.35-1.6-7TL
L104	QS401205	E2-0.4-1.2-5TR
L105	QS501402	0.50-1.4-2TL
L106	QC0752	1608CB8N2J
L107	QC0806	MLG1005S33NJT
L108	QS30200D	0.30-2.0-13TL
L109	QC0807	MLG1005S39NJT
L110	QC0765	C1608CBR10J
L111	QC0807	MLG1005S39NJT
L112	QC0773	C1608CBR47J
L113	QS351607	E2-0.35-1.6-7TL
L114	QB0057	MPZ1608S101AT
L115	QB0057	MPZ1608S101AT
L116	QC0812	MLG1005SR10JT
L117	QC0870	C2012H33NH
L118	QB0057	MPZ1608S101AT
L120	QC0816	MLG1005SR22JT
L121	QC0810	MLG1005S68NJT
L122	QC0817	MLG1005SR27JT
L123	QC0766	C1608CBR12J
L124	QC0787	C1608H-47NJ
L125	QC0787	C1608H-47NJ
L126	QC0786	C1608H-39NJ
L127	QC0768	C1608CBR18J

Ref. No.	Parts No.	Parts Name
L129	QC0786	C1608H-39NJ
L130	QC0820	LB2518T151K
L131	QC0842	LB2518T221K
L138	QC0736	LK10052R2K-B
LCD101	EL0059	LCD DJ170
MIC101	EY0027	EM142
Q101	XT0210	2SC6026MFV-GR
Q102	XE0071	2SK3476(TE12L,Q)
Q103	XE0070	2SK3475(TE12L,F)
Q104	XT0180	2SC5066FT-Y (TE85L)
Q105	XT0180	2SC5066FT-Y (TE85L)
Q106	NC	
Q107	XT0213	2SC5659T2L
Q108	XT0180	2SC5066FT-Y (TE85L)
Q109	NC	
Q110	XT0180	2SC5066FT-Y (TE85L)
Q111	XT0214	HN2C01FE-GR(T5L,F)
Q112	XU0210	RN1107MFV(TPL3)
Q113	XT0180	2SC5066FT-Y (TE85L)
Q114	XE0053	3SK293 TE85L
Q115	XT0213	2SC5659T2L
Q116	XE0053	3SK293 TE85L
Q117	XU0210	RN1107MFV(TPL3)
Q118	XT0219	15GN03F-TL-E
Q119	XT0213	2SC5659T2L
Q120	XT0210	2SC6026MFV-GR
Q121	XU0212	RN2115MFV(TPL3)
Q122	XU0210	RN1107MFV(TPL3)
Q123	NC	
Q124	XU0220	RN2111MFV(TPL3)
Q125	XU0210	RN1107MFV(TPL3)
Q126	XU0210	RN1107MFV(TPL3)
Q127	XU0220	RN2111MFV(TPL3)
Q128	XT0210	2SC6026MFV-GR
Q129	XT0210	2SC6026MFV-GR
Q130	XT0223	2SA2070(TE12L,F)
Q131	XT0210	2SC6026MFV-GR
Q132	XT0223	2SA2070(TE12L,F)
Q133	XE0069	SSM3K15FV(TPL3,Z)
Q134	XU0210	RN1107MFV(TPL3)
Q135	XT0214	HN2C01FE-GR(T5L,F)
Q136	XT0223	2SA2070(TE12L,F)
Q137	XT0212	2SA1955FV-A(TPL3)
Q138	XT0212	2SA1955FV-A(TPL3)
Q139	XT0214	HN2C01FE-GR(T5L,F)
Q140	XT0212	2SA1955FV-A(TPL3)
Q141	XT0210	2SC6026MFV-GR
Q142	XU0213	RN1111MFV(TPL3),F
Q143	XU0213	RN1111MFV(TPL3),F
Q144	XU0210	RN1107MFV(TPL3)
Q145	XU0211	RN2107MFV(TPL3)
Q146	XU0213	RN1111MFV(TPL3),F
Q147	XE0069	SSM3K15FV(TPL3,Z)
Q148	XE0069	SSM3K15FV(TPL3,Z)
Q149	XT0210	2SC6026MFV-GR
Q152	XU0211	RN2107MFV(TPL3)
Q153	XU0211	RN2107MFV(TPL3)
R101	RK3534	ERJ2GEJ471X
R102	RK3545	ERJ2GEJ392X
R103	RK3550	ERJ2GEJ103X
R104	RK3501	ERJ2GE0R00X
R105	NC	
R106	NC	
R107	RK3526	ERJ2GEJ101X
R108	RK3534	ERJ2GEJ471X

Ref. No.	Parts No.	Parts Name
R109	RK3030	MCR03EZHJ221
R111	RK3542	ERJ2GEJ222X
R112	RK3556	ERJ2GEJ333X
R113	RK3550	ERJ2GEJ103X
R114	NC	
R115	NC	
R116	RK3022	MCR03EZHJ470
R117	RK3530	ERJ2GEJ221X
R118	RK3526	ERJ2GEJ101X
R119	RK3566	ERJ2GEJ224X
R120	NC	
R121	RK3538	ERJ2GEJ102X
R122	RK3542	ERJ2GEJ222X
R123	RK3522	ERJ2GEJ470X
R124	RK3526	ERJ2GEJ101X
R125	NC	
R126	RK3562	ERJ2GEJ104X
R127	RK3562	ERJ2GEJ104X
R128	RK3550	ERJ2GEJ103X
R129	RK3574	ERJ2GEJ105X
R130	NC	
R131	RK3550	ERJ2GEJ103X
R132	RK3530	ERJ2GEJ221X
R133	RK3550	ERJ2GEJ103X
R134	RK3554	ERJ2GEJ223X
R135	RK3553	ERJ2GEJ183X
R136	RK3538	ERJ2GEJ102X
R137	RK3554	ERJ2GEJ223X
R138	RK3562	ERJ2GEJ104X
R139	RK3550	ERJ2GEJ103X
R140	RK3501	ERJ2GE0R00X
R141	RK3558	ERJ2GEJ473X
R142	RK3550	ERJ2GEJ103X
R143	RK3546	ERJ2GEJ472X
R144	RK3501	ERJ2GE0R00X
R145	RK3550	ERJ2GEJ103X
R146	RK3537	ERJ2GEJ821X
R147	RK3526	ERJ2GEJ101X
R149	RK3532	ERJ2GEJ331X
R150	RK3562	ERJ2GEJ104X
R151	RK3550	ERJ2GEJ103X
R152	RK3548	ERJ2GEJ682X
R154	RK3570	ERJ2GEJ474X
R155	RK3546	ERJ2GEJ472X
R156	RK3542	ERJ2GEJ222X
R157	RK3550	ERJ2GEJ103X
R159	RK3539	ERJ2GEJ122X
R161	RK3538	ERJ2GEJ102X
R162	RK3564	ERJ2GEJ154X
R163	RK3522	ERJ2GEJ470X
R164	RK3550	ERJ2GEJ103X
R165	RK3544	ERJ2GEJ332X
R166	RK3530	ERJ2GEJ221X
R167	RK3542	ERJ2GEJ222X
R168	NC	
R169	RK3550	ERJ2GEJ103X
R170	RK3530	ERJ2GEJ221X
R171	RK3526	ERJ2GEJ101X
R172	RK3501	ERJ2GE0R00X
R173	RK3564	ERJ2GEJ154X
R174	RK3530	ERJ2GEJ221X
R175	RK3550	ERJ2GEJ103X
R176	RK3570	ERJ2GEJ474X
R177	RK3550	ERJ2GEJ103X
R178	RK3550	ERJ2GEJ103X

Ref. No.	Parts No.	Parts Name
R179	RK3538	ERJ2GEJ102X
R180	RK3501	ERJ2GE0R00X
R181	RK3550	ERJ2GEJ103X
R182	RK3566	ERJ2GEJ224X
R183	NC	
R184	RK3558	ERJ2GEJ473X
R185	RK3562	ERJ2GEJ104X
R186	RK3550	ERJ2GEJ103X
R187	RK3526	ERJ2GEJ101X
R188	RK3538	ERJ2GEJ102X
R189	RK3538	ERJ2GEJ102X
R190	RK3530	ERJ2GEJ221X
R191	RK3550	ERJ2GEJ103X
R192	RK3558	ERJ2GEJ473X
R193	RK3562	ERJ2GEJ104X
R194	RK3522	ERJ2GEJ470X
R195	RK3558	ERJ2GEJ473X
R196	RK3558	ERJ2GEJ473X
R197	RK3574	ERJ2GEJ105X
R198	RK3574	ERJ2GEJ105X
R199	RK3553	ERJ2GEJ183X
R200	RK3560	ERJ2GEJ683X
R201	RK3522	ERJ2GEJ470X
R202	RK3538	ERJ2GEJ102X
R203	RK3566	ERJ2GEJ224X
R204	RK3574	ERJ2GEJ105X
R205	RK3574	ERJ2GEJ105X
R206	RK3558	ERJ2GEJ473X
R207	RK3556	ERJ2GEJ333X
R208	NC	
R209	RK3574	ERJ2GEJ105X
R210	RK3522	ERJ2GEJ470X
R211	RK3558	ERJ2GEJ473X
R212	RK3550	ERJ2GEJ103X
R213	RK3564	ERJ2GEJ154X
R214	RK3564	ERJ2GEJ154X
R215	RK3562	ERJ2GEJ104X
R216	RK3538	ERJ2GEJ102X
R218	RK3558	ERJ2GEJ473X
R219	RK3564	ERJ2GEJ154X
R220	RK3556	ERJ2GEJ333X
R221	RK3550	ERJ2GEJ103X
R222	RK3558	ERJ2GEJ473X
R223	RK3550	ERJ2GEJ103X
R224	RK3550	ERJ2GEJ103X
R225	RK3554	ERJ2GEJ223X
R226	RK3554	ERJ2GEJ223X
R227	RK3559	ERJ2GEJ563X
R228	RK3550	ERJ2GEJ103X
R229	RK3550	ERJ2GEJ103X
R230	RK3567	ERJ2GEJ274X
R231	RK3538	ERJ2GEJ102X
R232	RK3566	ERJ2GEJ224X
R234	RK3550	ERJ2GEJ103X
R235	RK3562	ERJ2GEJ104X
R236	RK3562	ERJ2GEJ104X
R237	RK3522	ERJ2GEJ470X
R238	RK3550	ERJ2GEJ103X
R239	RK3563	ERJ2GEJ124X
R240	RK3562	ERJ2GEJ104X
R242	RK3501	ERJ2GE0R00X
R243	RK3550	ERJ2GEJ103X
R244	RK3564	ERJ2GEJ154X
R245	RK3544	ERJ2GEJ332X
R246	RK3562	ERJ2GEJ104X

Ref. No.	Parts No.	Parts Name
R247	RK3564	ERJ2GEJ154X
R248	RK3538	ERJ2GEJ102X
R249	RK3559	ERJ2GEJ563X
R250	RK3550	ERJ2GEJ103X
R251	RK3561	ERJ2GEJ823X
R252	RK3556	ERJ2GEJ333X
R253	RK3566	ERJ2GEJ224X
R254	RK3550	ERJ2GEJ103X
R255	RK3562	ERJ2GEJ104X
R256	RK3562	ERJ2GEJ104X
R257	RK3538	ERJ2GEJ102X
R258	RK3574	ERJ2GEJ105X
R259	RK3566	ERJ2GEJ224X
R260	RK3553	ERJ2GEJ183X
R261	RK3574	ERJ2GEJ105X
R262	RK3562	ERJ2GEJ104X
R263	RK3562	ERJ2GEJ104X
R264	RK3558	ERJ2GEJ473X
R265	RK3536	ERJ2GEJ681X
R266	RK3518	ERJ2GEJ220X
R267	NC	
R269	RK3532	ERJ2GEJ331X
R270	RK3560	ERJ2GEJ683X
R272	RK3556	ERJ2GEJ333X
R273	RK3566	ERJ2GEJ224X
R274	RK3544	ERJ2GEJ332X
R275	RK3566	ERJ2GEJ224X
R276	RK3560	ERJ2GEJ683X
R277	RK3552	ERJ2GEJ153X
R278	RK3562	ERJ2GEJ104X
R279	RK3558	ERJ2GEJ473X
R280	RK3556	ERJ2GEJ333X
R281	RK3017	MCR03EZHJ180
R282	RK3514	ERJ2GEJ100X
R283	RK3554	ERJ2GEJ223X
R284	RK3561	ERJ2GEJ823X
R285	RK3550	ERJ2GEJ103X
R286	RK3570	ERJ2GEJ474X
R287	RK3550	ERJ2GEJ103X
R288	RK3550	ERJ2GEJ103X
R289	RK3565	ERJ2GEJ184X
R290	RK3017	MCR03EZHJ180
R291	RK3551	ERJ2GEJ123X
R292	RK3569	ERJ2GEJ394X
R293	RK3532	ERJ2GEJ331X
R294	RK3562	ERJ2GEJ104X
R295	RK3546	ERJ2GEJ472X
R296	RK3532	ERJ2GEJ331X
R297	RK3546	ERJ2GEJ472X
R298	RK3552	ERJ2GEJ153X
R299	RK3550	ERJ2GEJ103X
R300	RK3538	ERJ2GEJ102X
R301	RK3501	ERJ2GE0R00X
R302	RK3538	ERJ2GEJ102X
R303	RK3550	ERJ2GEJ103X
R304	RK3546	ERJ2GEJ472X
R305	RK3550	ERJ2GEJ103X
R306	RK3550	ERJ2GEJ103X
R308	RK3574	ERJ2GEJ105X
R309	RK3574	ERJ2GEJ105X
R310	RK3550	ERJ2GEJ103X
R311	RK3550	ERJ2GEJ103X
R312	RK3570	ERJ2GEJ474X
R313	RK3550	ERJ2GEJ103X
R314	RK3554	ERJ2GEJ223X



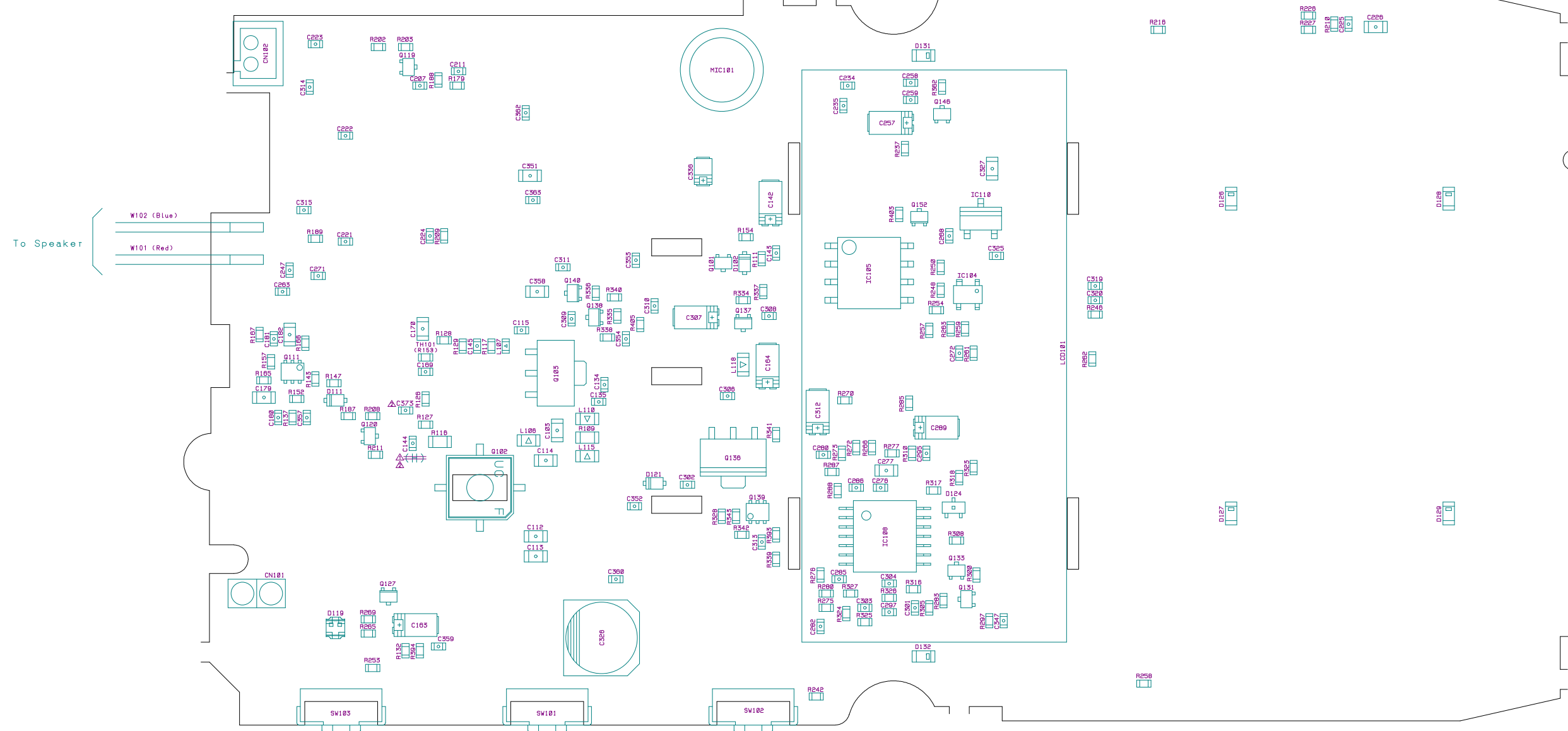
Ref. No.	Parts No.	Parts Name
R315	RK3542	ERJ2GEJ222X
R316	RK3550	ERJ2GEJ103X
R317	RK3570	ERJ2GEJ474X
R318	RK3550	ERJ2GEJ103X
R319	RK3554	ERJ2GEJ223X
R320	RK3574	ERJ2GEJ105X
R321	RK3550	ERJ2GEJ103X
R322	RK3568	ERJ2GEJ334X
R323	RK3550	ERJ2GEJ103X
R324	RK3548	ERJ2GEJ682X
R325	RK3559	ERJ2GEJ563X
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R327	RK3550	ERJ2GEJ103X
R328	RK3550	ERJ2GEJ103X
R330	RK3546	ERJ2GEJ472X
R331	RK3546	ERJ2GEJ472X
R332	RK3546	ERJ2GEJ472X
R333	RK3546	ERJ2GEJ472X
R334	RK3562	ERJ2GEJ104X
R335	RK3562	ERJ2GEJ104X
R336	RK3562	ERJ2GEJ104X
R337	RK3550	ERJ2GEJ103X
R338	RK3542	ERJ2GEJ222X
R339	RK3550	ERJ2GEJ103X
R340	RK3550	ERJ2GEJ103X
R341	RK3550	ERJ2GEJ103X
R342	RK3538	ERJ2GEJ102X
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R344	RK3537	ERJ2GEJ821X
R345	RK3558	ERJ2GEJ473X
R346	RK3537	ERJ2GEJ821X
R347	NC	
R348	RK3552	ERJ2GEJ153X
R349	NC	
R350	RK3562	ERJ2GEJ104X
R351	RK3550	ERJ2GEJ103X
R352	NC	
R353	RK3546	ERJ2GEJ472X
R354	RK3550	ERJ2GEJ103X
R355	RK3550	ERJ2GEJ103X
R357	RK3501	ERJ2GE0R00X
R358	NC	
R359	NC	
R360	NC	
R361	NC	
R362	RK3536	ERJ2GEJ681X
R363	RK3558	ERJ2GEJ473X
R364	RK1018	ERJ8GEYJ101V
R365	RK3546	ERJ2GEJ472X
R366	RK3566	ERJ2GEJ224X
R367	RK3558	ERJ2GEJ473X
R368	RK3548	ERJ2GEJ682X
R369	RK3538	ERJ2GEJ102X
R370	RK3501	ERJ2GE0R00X
R371	RK3546	ERJ2GEJ472X
R372	RK3550	ERJ2GEJ103X
R373	RK3546	ERJ2GEJ472X
R374	RK3562	ERJ2GEJ104X
R375	RK3550	ERJ2GEJ103X
R376	RK3562	ERJ2GEJ104X
R377	RK3562	ERJ2GEJ104X
R378	RK3566	ERJ2GEJ224X
R379	RK3562	ERJ2GEJ104X
R380	RK3566	ERJ2GEJ224X
R381	RK3554	ERJ2GEJ223X

Ref. No.	Parts No.	Parts Name
R382	NC	
R384	RK3067	MCR03EZHJ274
R385	NC	
R386	NC	
R387	NC	
R388	RK3550	ERJ2GEJ103X
R392	RK3550	ERJ2GEJ103X
R393	RK3534	ERJ2GEJ471X
R394	RK3530	ERJ2GEJ221X
R395	RK3556	ERJ2GEJ333X
R396	RK3556	ERJ2GEJ333X
R398	RK3562	ERJ2GEJ104X
R401	RK3501	ERJ2GE0R00X
R402	RK3501	ERJ2GE0R00X
R403	RK3570	ERJ2GEJ474X
R404	RK3550	ERJ2GEJ103X
R405	RK3542	ERJ2GEJ222X
R406	RK3546	ERJ2GEJ472X
R407	RK3562	ERJ2GEJ104X
R408	RK3526	ERJ2GEJ101X
R409	RK3534	ERJ2GEJ471X
R411	RK3062	MCR03EZHJ104
SW101	UU0041	EVQP4203M
SW102	UU0041	EVQP4203M
SW103	UU0041	EVQP4203M
TC101	NC	
TH101	XS0052	NTCG104LH104JT1
VR101	RH0233	RH02B1C15X
VR102	RH0233	RH02B1C15X
VR103	RH0225	RH02B1CS3X
VR104	RH0225	RH02B1CS3X
VR105	NC	
W101	MPCL07AA	#30P02-070-02
W102	MACL07AA	#30A02-070-02
W103	MACLH2GG	#30AH1-025-H1
X101	NC	
X102	XQ0194	NT3225SA12.8M
X103	XK0004	CDBLB450KCAY24-B0
X104	XQ0184	AT49 3.6864M
	DG0046	LCD LIGHT
	TS0183	VCO CASE
	FG0418	LCD RUB CONE
	UP0541	DJ170 INTEGRATED
	ST0089	LCD HOLDER
	TL0033	REFLECTIVE SHEET
	FM0265A	HEAT SINK DJ170
	TZ0049	SILICON DUMPER

#### Mechanical Unit

Ref. No.	Parts No.	Parts Name
	FM0263	ANT EARTH
	ES0034	40-8BB-17
	UR0027	ROTARY ENCODER
	YX0039	LCD TAPE DJS45
	YA0001	RTV GASKET(RED) 500G
	SP0013	LECTRA #7800
	FG0416	BASE RUBBER
	AF0018	XQN2+C4FZ
	AN0034	M6 NUT
	AP0039	ナベP2+20テツBC
	FG0417	DC CAP
	AF0003	XQN2+C3FN
	FP0254	REAR COVER

Ref. No.	Parts No.	Parts Name
	SS0103	CHASSIS DJ170
	UE0502	SMA CONNECTOR
	SD0111	B TERMINAL
	NK0081	VOL KNOB
	FP0264	BLIND SEAL
	DP0191	LCD PANEL V27
	AN0012Z	RND N7X0.75 BR/B.ZN
	FG0392	WATERPROOF
	FP0255	ROCK LEVER
	UP0535	BATT PANEL BOARD
	FM0264	JACK BASE
	FG0427	ON AIR RUBBER
	FG0426	MIC RUBBER
	FG0424	O RING (R COVER)
	FG0423	JACK CAP DJ170
	FG0422	16 KEY
	FG0421	PTT RUBBER
	FG0420A	POWER KEY V17
	FG0419	WATERPROOF RUBBER
	KZ0187	FRONT CASE ASSY
	FP0265	WATERPROOF TAPE
	AN0033	BASE NUT
	AX0004Z	PT 3P 2X8 BBC AX0004
	AF0030	XQN2+A6FN(58364-0001
	FP0266	INSULATION SHEET

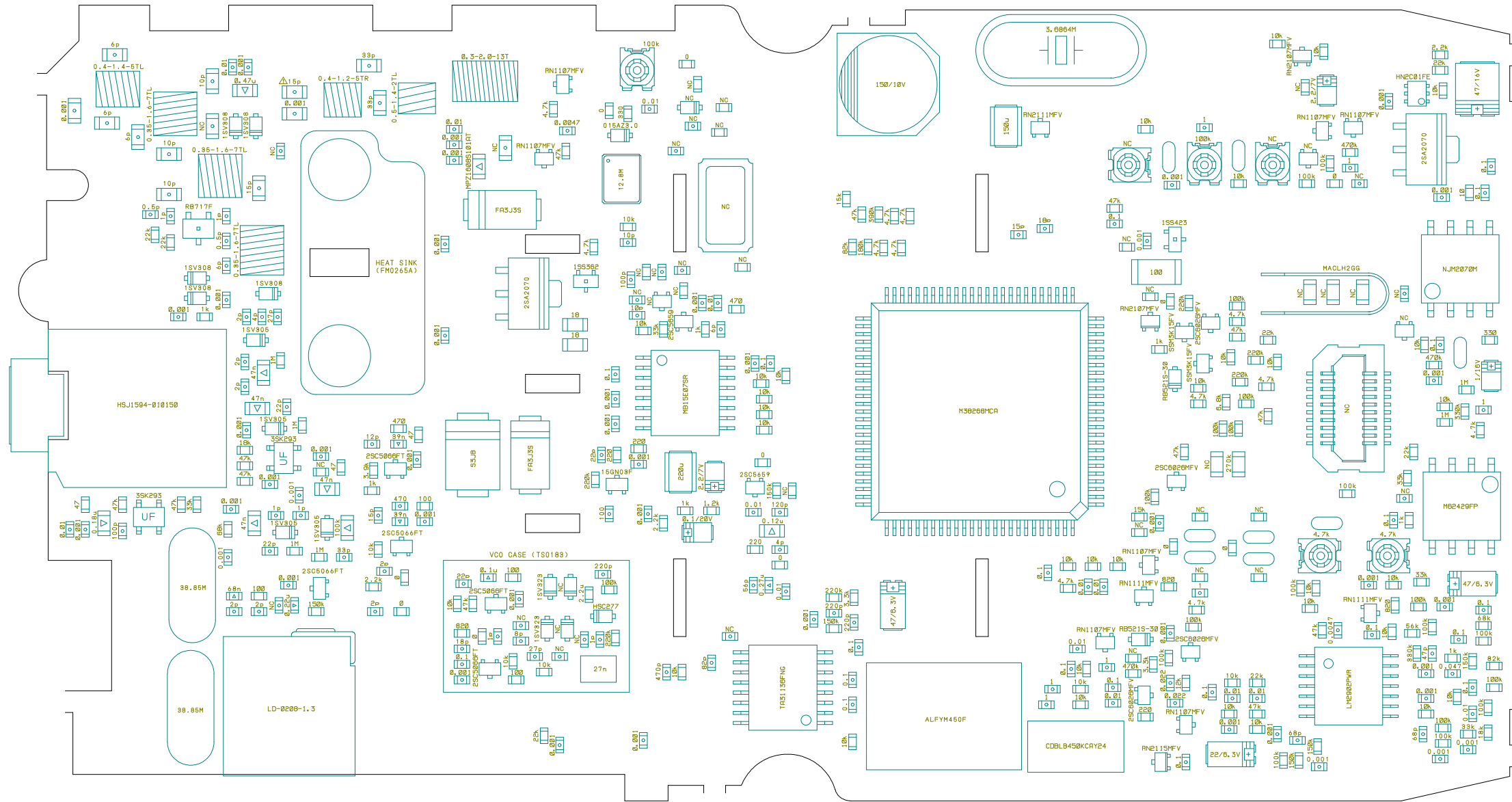


PCB: UP0541A

Mark	Date	Revision No.	Sig.	Mark	Date	Revision No.	Sig.	Approved	Checked	Drawn	Designed	Model	Title	
												DJV27 T	Component Diagram, MAIN - side A (Reference No.)	
<b>ALINCO, INC.</b>												Number	Scale 3/1	

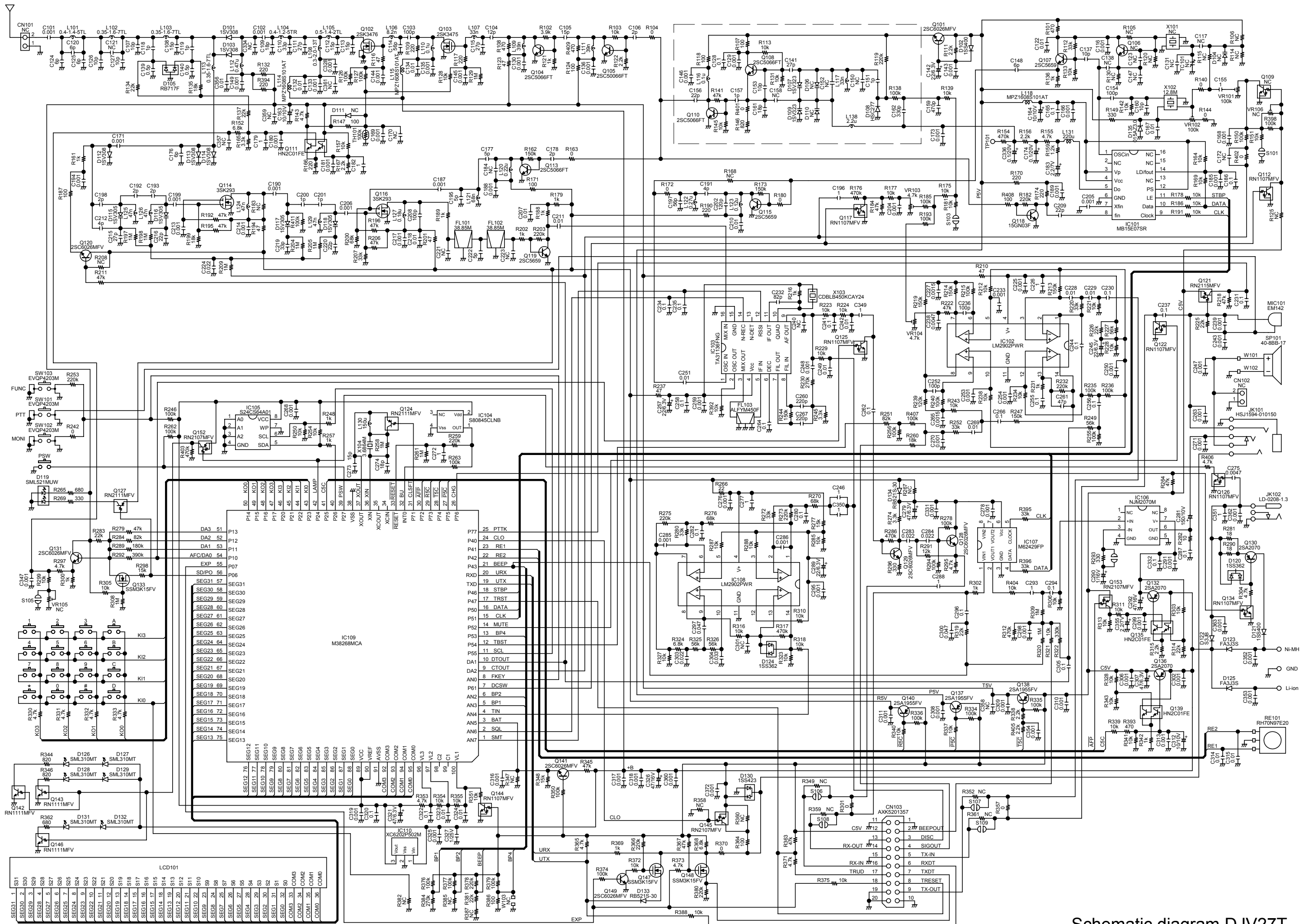






PCB: UP0541A

Mark	Date	Revision No.	Sig.	Mark	Date	Revision No.	Sig.	Approved	Checked	Drawn	Designed	Model	Title	
												DJV27 T	Component Diagram, MAIN - side B (Value)	
<b>ALINCO, INC.</b>												Number	Scale 3/1	



SEG31 1

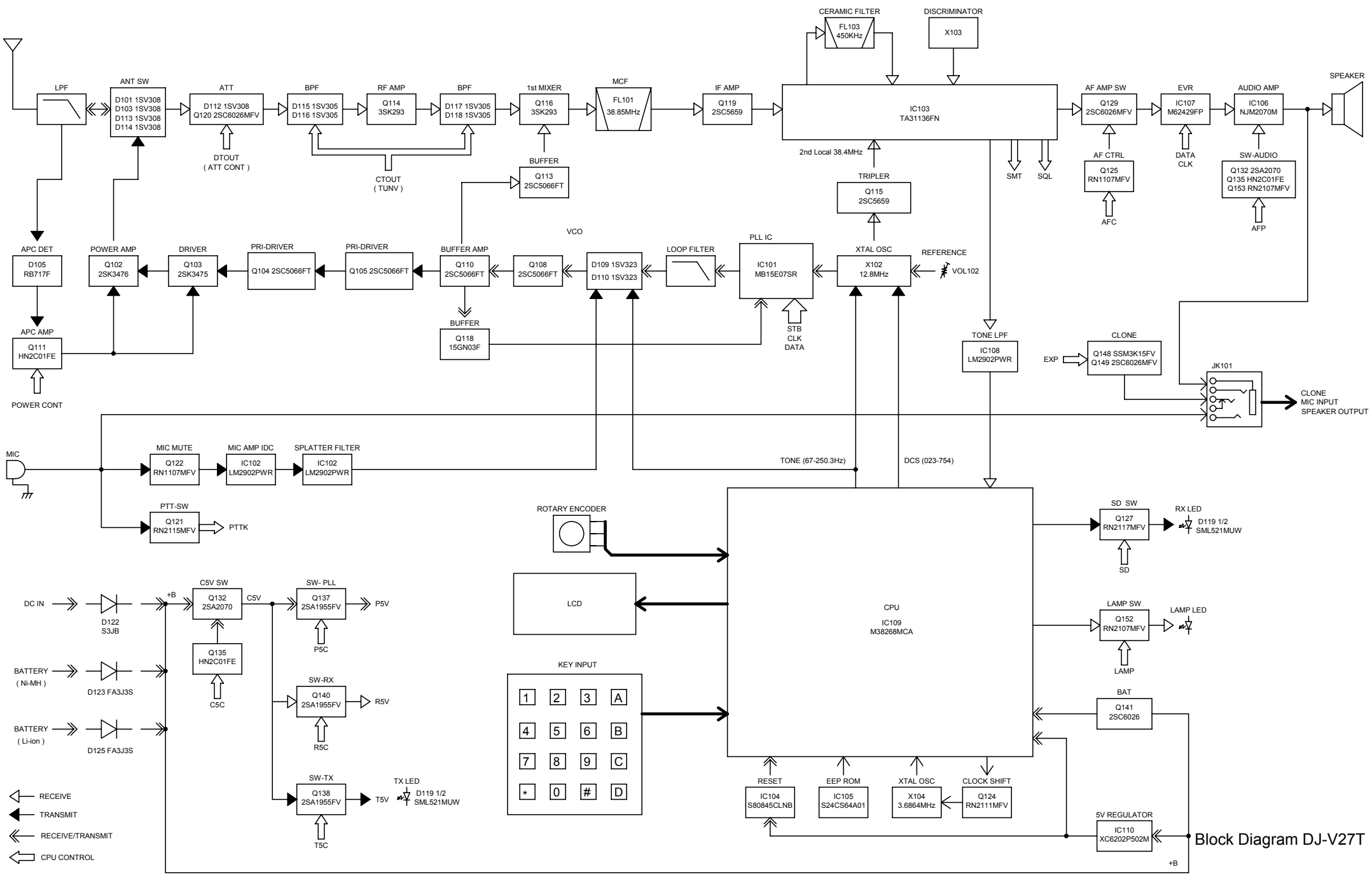
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SEG28 4	S28
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SEG25 7	S25
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SEG23 9	S23
SEG22 10	S22
SEG21 11	S21
SEG20 12	S20
SEG19 13	S19
SEG18 14	S18
SEG17 15	S17
SEG16 16	S16
SEG15 17	S15
SEG14 18	S14
SEG13 19	S13
SEG12 20	S12
SEG11 21	S11
SEG10 22	S10
SEG9 23	S9
SEG8 24	S8
SEG7 25	S7
SEG6 26	S6
SEG5 27	S5
SEG4 28	S4
SEG3 29	S3
SEG2 30	S2
SEG1 31	S1
COM3 32	COM3
COM2 33	COM2
COM1 34	COM1
COM0 35	COM0
COM0 36	COM0

LCD101

1	Vcc
2	Vcc
3	Vcc
4	Vcc
5	Vcc
6	Vcc
7	Vcc
8	Vcc
9	Vcc
10	Vcc
11	Vcc
12	Vcc
13	Vcc
14	Vcc
15	Vcc
16	Vcc
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36	Vcc
37	Vcc
38	Vcc
39	Vcc
40	Vcc
41	Vcc
42	Vcc
43	Vcc
44	Vcc
45	Vcc
46	Vcc
47	Vcc
48	Vcc
49	Vcc
50	Vcc

Schematic diagram DJV27T





Block Diagram DJ-V27T