

# DR-635

## Service Manual

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ALINCO, INC.

# SPECIFICATIONS

## 1) GENERAL

Frequency coverage	87.500 - 107.995MHz (WFM RX)
DR-635T (U.S amateur)	108.000 - 135.995MHz (AM RX)
	136.000 - 173.995MHz (RX)
	144.000 - 147.995MHz (TX)
	335.000 - 479.995MHz (RX)
	430.000 - 449.995MHz (TX)
DR-635E (European amateur)	87.500 - 107.995MHz (WFM)
	144.000 - 145.995MHz (RX, TX)
	430.000 - 439.995MHz (RX, TX)
Operating mode	16K0F3E (Wide mode) 8K50F3E (Narrow mode)
Frequency resolution	5, 8.33, 10, 12.5, 15, 20, 25, 30, 50, 100kHz
Number of memory channels	200
Antenna impedance	50Ω unbalanced
Power requirement	13.8V DC±15% (11.7 to 15.8V)
Ground method	Negative ground
Current drain	Receive 0.6A (Max.) 0.4A (Squelched)
	Transmit 11.0A
Operating temperature	- 10 to 60°C
Frequency stability	±2.5ppm
Dimensions	142 (w) × 40 (h) × 174 (d) mm (w/o knobs)
Weight	Approx. 1.0kg

## 2) TRANSMITTER

Output power	High : 50W (VHF) 35 W(UHF)
	Mid : 20W
	Low : 5W
Modulation system	Variable reactance frequency modulation
Maximum frequency deviation	±5kHz (Wide mode) ±2.5kHz (Narrow mode)
Spurious emission	-60dB
Adjacent channel power	-60dB
Modulation Distortion	Less than 3%
Microphone impedance	2kΩ

### 3) RECEIVER

Sensitivity	-16dBu for 12dB SINAD
Receiver circuitry	Double conversion superheterodyne
Intermediate frequency	1 <sup>st</sup> 21.7MHz    2 <sup>nd</sup> 450kHz (VHF)
	1 <sup>st</sup> 45.1MHz    2 <sup>nd</sup> 455kHz (UHF)
Squelch sensitivity	-18dBu
Selectivity (-6dB / -60dB)	12kHz / 24kHz
Spurious and image rejection ratio	70dB
Audio output power	2.0W (8 $\Omega$ , 10% THD)

! Note : All specifications are subject to change without notice or obligation.

# CIRCUIT DESCRIPTION

## 1) VHF Reception

Incoming VHF signals are passed through a low-pass filter network, antenna switching diodes D15 (UM9401F) and D26 (DAN235E), and a high-pass filter network, and on to the RF amplifier Q19 (3SK293).

The amplified RF signal is passed through another RF amplifier Q18 (2SC5226) and band-pass filtered again by varactor tuned resonators L46, L49, L51 and D28, D29, D30 (all 1SV215), then applied to the 1st mixer Q21 (3SK293) along with the first local signal from the PLL circuit.

The first local signal is generated between 122.3MHz and 126.3MHz by the VHF VCO, which consists of Q9 (2SK508) and varactor diodes D10 and D11 (both 1SV282), according to the receiving frequency.

The 21.7 MHz first IF signal is applied to monolithic crystal filters XF1 and XF2 (both UM5-3P 21.7M) which strip away unwanted mixer products, and the IF signal is applied to the first IF amplifier Q20 (2SC4215). The amplified first IF signal is then delivered to the FM IF subsystem IC IC3 (TK10931V), which contains the second mixer, limiter amplifier, noise amplifier, and FM detector.

The second local signal is generated by 21.25MHz TCXO, producing the 450kHz second IF signal when mixed with the first IF signal within IC3.

The 450kHz second IF signal is applied to the ceramic filter FL1 (ALFYM450E) which strips away all but the desired signal, and then passes through the limiter amplifier within IC3 to the discriminator coil L101, which removes any amplitude variations in the 450kHz IF signal before detection of speech.

The detected audio then signal is amplified by IC9 (NJM2902V-B) passes through the de-emphasis network, a high-pass filter consisting of IC9 (NJM2902V-A) and associated circuitry, and a low-pass filter consisting and associated circuitry. The filtered audio signal is switched by IC12 (BU4052), and then passes through the audio volume control IC IC13 (M511312FP), which adjusts the audio sensitivity to compensate for audio level variations.

The audio signal is amplified by IC8 (LA4425A), and then applied to the internal loudspeaker.

## 2) UHF Reception

Incoming UHF signals are passed through a low-pass filter network, a high-pass filter network, antenna switching diodes D14 (UM9401F), and on to the band-pass filter network consisting of varactor diode D49 (HVU359) and L79.

The filtered UHF signal is amplified by RF amplifier Q41 (3SK293) and fed to another band-pass filter consisting of varactor diode D50 (HVU359) and L80, and then is passed through another RF amplifier Q43 (2SC5226) to another band-pass filter consisting of varactor diodes D51 and D52 (both HVU359) and L81 and L82.

The amplified and filtered UHF signal is applied to the 1st mixer Q42 (3SK293) along with the first local signal from the PLL circuit.

The first local signal is generated between 384.9MHz and 404.9MHz by the UHF VCO, which consists of Q29 (2SK508) and varactor diodes D38 and D40 (both 1SV278), according to the receiving frequency.

The 45.1MHz first IF signal is applied to monolithic crystal filters XF3A and XF3B (UM5-3P 45.1M) which strip away unwanted mixer products, and the IF signal is applied to the first IF amplifier Q44 (2SC4618).

The amplified first IF signal is then delivered to the FM IF subsystem IC IC5 (TA31136FN), which contains the second mixer, limiter amplifier, noise amplifier, and FM detector.

The second local signal is generated by 45.555MHz crystal X4, producing the 455kHz second IF signal within IC5.

The 455kHz second IF signal is applied to the ceramic filter FL4 (ALFYM455E) which strips away all but the desired signal, and then passes through the limiter amplifier within IC5 to the discriminator coil L102, which removes any amplitude variations in the 455kHz IF signal before detection of speech.

The detected audio then signal is amplified by IC9 (NJM2902V-C) passes through the de-emphasis network, a high-pass filter consisting of IC9 (NJM2902V-D) and associated circuitry, and a low-pass filter consisting and associated circuitry. The filtered audio signal is switched by IC12 (BU4052), and then passes through the audio volume control IC IC13 (M511312FP), which adjusts the audio sensitivity to compensate for audio level variations.

The audio signal is amplified by IC8 (LA4425A) then applied to the internal loudspeaker.

### **3) FM Reception**

Incoming FM signals are passed through a low-pass filter network, antenna switching diodes D15 (UM9401F) and D26 (DAN235E), and a high-pass filter network, and on the RF amplifier Q36 (2SC5066).

The amplified RF signal is passed through band-pass filtered L, C, then applied to the 1st mixer Q33 (2SC5066) along with the first local signal from the circuit.

The first local signal is generated between 86.7MHz and 118.7MHz by the FM VCO, which consists of Q14 (2SC4808) and varactor diodes D23 and D25 (both 1SV282), according to the receiving frequency. The 10.7MHz first IF signal is applied to ceramic filters FL3 and FL6 (both SFT10.7MAS) which strip away unwanted mixer products, and the IF signal is applied to the first IF amplifier Q37 (2SC4618).

The amplified first IF signal is then delivered to the FM IF subsystem IC IC3 (TK10931V), limiter amplifier, noise amplifier, and FM detector.

The 10.7MHz first IF signal is applied to the discriminator coil L53, which removes any amplitude variations in the 10.7MHz IF signal before detection of speech.

### **4) V/V (VHF-VHF) Dual Reception**

During V & V operation, the incoming VHF "sub" band signal is passed through a low-pass filter network, antenna switching diode D15 (UM9401F) and a high-pass filter network to the RF amplifier Q19 (3SK293).

The amplified RF signal is passed through a high-pass filter network, VHF "sub" RF amplifier Q31 (2SC5066), and a low-pass filter network, then is applied to the VHF "sub" first mixer Q32 (2SC5066) along with the 45.1MHz VHF "sub" first local signal from the VHF "sub" VCO circuit.

The VHF "sub" first local signal is generated between 189.1MHz and 193.1MHz by the VHF "sub" VCO Q38 (2SC4080).

The 45.1MHz VHF "sub" second IF signal is applied to the UHF receiving circuit.

The VHF "sub" signal is amplified, filtered, and demodulated, etc., by the UHF "main" receiving circuit, described previously.

### **5) U/U (UHF-UHF) Dual Reception**

During U & U operation, the incoming UHF "sub" band signal is passed through a high-pass and a low-pass filter networks, antenna switching diode D14 (UM9401F), and another high-pass filter network to the RF amplifier Q51 (2SC5066).

The amplified RF signal is passed through a low-pass filter network, UHF "sub" RF amplifier Q49 (2SC5066), and a low-pass filter network, then is applied to the UHF "sub" first mixer Q52 (2SC5066) along with the 21.7MHz UHF "sub" first local signal from the UHF "sub" VCO.

The UHF "sub" first local signal is generated between 408.3MHz and 428.3MHz by the UHF "sub" VCO Q13 (2SC5066).

The 21.7MHz UHF "sub" second IF signal is applied to the VHF receiving circuit.

The UHF "sub" signal is amplified, filtered, and demodulated, etc., by the VHF "main" receiving circuit, described previously.

## **6) VHF Squelch Control**

When no VHF carrier is being received, noise at the output of the detector stage in IC3 is amplified and band-pass filtered by the noise amp section of IC3, then passes through the noise adjust VR (VR8) to CPU. The resulting DC voltage is applied to pin 88 of main CPU IC19 (M30624FGPGP), which compares the squelch threshold level to that which set by the front panel VHF SQL knob.

While no carrier is received, pin 55 of IC19 remains "high" turning on the squelch switch Q108 (DTC363EK) to disable audio output from the speaker.

## **7) UHF Squelch Control**

When no UHF carrier is being received, noise at the output of the detector stage in IC5 is amplified and band-pass filtered by the noise amp section of IC5, then passes through the noise adjust VR (VR9) to CPU.

The resulting DC voltage is applied to pin 90 of main CPU IC19, which compares the squelch threshold level to that which set by the front panel UHF SQL knob.

While no carrier is received, pin 56 of IC19 remains "high" turning on the squelch switch Q109 (DTC363EK) to disable audio output from the speaker.

## **8) Transmit Signal Path**

The speech signal from the microphone passes through the MIC jack CN601 to AF amplifier IC601 (M5218FP) on the FRONT UNIT.

The amplified speech signal is subjected to amplitude limiting by IC601 (M5218FP), then passes through the front interface jacks CN602 and CN2 to MAIN UNIT.

On the MAIN UNIT, the speech signal passes through the audio mute switch IC7 (TC4066F), MIC gain control VR5 and buffer amplifier IC1 (NJM2902V-B) and a low-pass filter network at IC1 (NJM2902V-A) to deviation control VR3 (for VHF TX audio) or VR4 (for UHF TX audio).

## **9) VHF Transmit Signal Path**

The adjusted speech signal from VR3 is delivered to VHF VCO Q9, which frequency modulates the transmitting VCO D6 (1SV278).

The modulated transmit signal passes through buffer amplifier Q7 (2SC5066), a low-pass filter network, and another buffer amplifier Q3 (2SC5226) to another low-pass filter network.

The filtered transmit signal is applied to the Pre-Drive amplifier Q2 (2SK3074) and Drive amplifier Q1 (2SK2975), then finally is amplified by Power amplifier Q4 (RD70HV1) up to 50 Watts.

This three-stage power amplifier's gain is controlled by the APC circuit.

The 50 Watts RF signal passes through a low-pass filter network, antenna switch D1 and D71 (both UM9401F), and another low-pass filter network, and then is delivered to the ANT jack.

## 10) UHF Transmit Signal Path

The adjusted speech signal from VR4 is delivered to UHF VCO Q29, which frequency modulates the transmitting VCO D35 (1SV278).

The modulated transmit signal passes through buffer amplifier Q28 (2SC5066) to a high-pass filter network.

The filtered transmit signal is applied to the Pre-Drive amplifier Q2 (2SK3074) and Drive amplifier Q1 (2SK2975), then finally is amplified by Power amplifier Q4 (RD70HV1) up to 35 Watts.

This three-stage power amplifier's gain is controlled by the APC circuit.

The 35 Watts RF signal passes through a high-pass filter network, antenna switch D12 and D13 (both UM9401F), a low-pass filter and a high-pass filter networks, and then is delivered to the ANT jack.

## 11) VHF Tx APC Circuit

A portion of the power amplifier output is rectified by D8 (MA4S713), D9 (MA4S713) and Q12 (2SC4081), and then delivered to APC IC1 (NJM2902V-D) as a DC voltage, which is proportional to the output level of the power amplifier.

The APC IC1 compares the rectified DC voltage from the power amplifier and the reference voltage from the main CPU IC19, producing a control voltage for the Automatic Power Controller Q8 (RN2107) and Q11 (RN1107) which regulates supply voltage to the Pre-Drive amplifier Q2, Drive amplifier Q1, and Power amplifier Q4, so as to maintain stable output power under varying antenna loading conditions.

## 12) UHF Tx APC Circuit

A portion of the power amplifier output is rectified by D9 (M4S713), D22 (MA4S713) and Q12 (2SC4081), and then delivered to APC IC1 (NJM2902V-D) as a DC voltage, which is proportional to the output level of the power amplifier.

The APC IC1 compares the rectified DC voltage from the power amplifier and the reference voltage from the main CPU IC19, producing a control voltage for the Automatic Power Controller Q8 (RN2107) and Q11 (RN1107) which regulates supply voltage to the Pre-Drive amplifier Q2, Drive amplifier Q1, and Power amplifier Q4, so as to maintain stable output power under varying antenna loading conditions.

## 13) VHF PTT circuit

When the PTT switch is pressed, pin 4 of front CPU IC604 (M38503M) goes "low" which sends the "PTT" command to the main CPU IC19.

When it receives the "PTT" command, pin71 of IC19 goes "high" to control local switch D5 (1SV306), filter switches D2 and D3, Tx switch D17 (DAN235E), and APC switches Q8 and Q11, which activates the VHF Tx circuit.

Meanwhile, pin 69 of IC19 goes "low" which disables the VHF Rx circuit.



#### **14) UHF PTT circuit**

When the PTT switch is pressed, pin 4 of front CPU IC604 (M38503M) goes "low" which sends the "PTT" command to the main CPU IC19.

When it receives the "PTT" command, pin72 of IC19 goes "high" to control local switch D76 (1SV306), filter switches D74 and D75, Tx switch D17 (DAN235E) and APC switches Q8 and Q11, which activates the UHF Tx circuit.

Meanwhile, pin 70 of IC19 goes "low" which disables the UHF Rx circuit.

#### **15) VHF PLL**

A portion of the output from the VHF VCO Q9 (2SK508) passes through buffer amplifiers Q7 (2SC5066) and Q5 (2SC5066) to the programmable divider section of the PLL IC IC2 (M64076AGP), which divides the frequency according to the frequency dividing data from the main CPU IC19.

It is then sent to the phase comparator.

The 21.25MHz frequency of the reference oscillator circuit, made up of TCXO X1, is divided by the reference frequency divider section of IC2 into 4250 or 3400 parts to become 5kHz or 6.25kHz comparative reference frequencies, which are utilized by the phase comparator.

The phase comparator section of IC2 compares the phase between the frequency-divided oscillations frequency of the VCO circuit and comparative frequency, and its output is a pulse corresponding to the phase difference.

This pulse is integrated by the charge pump and loop filter of IC2 into a control voltage (VCV) to control the oscillation frequency of the VHF VCO Q9.

#### **16) UHF PLL**

A portion of the output from the UHF VCO Q29 (2SK508) passes through buffer amplifier Q28 (2SC5066) and Q39 (2SC5066) to the programmable divider section of the PLL IC IC2 (M64076AGP), which divides the frequency according to the frequency dividing data from the main CPU IC19.

It is then sent to the phase comparator.

The 21.25MHz frequency of the reference oscillator circuit, made up of TCXO X1, is divided by the reference frequency divider section of IC2 into 4250 or 3400 parts to become 5kHz or 6.25kHz comparative reference frequencies, which are utilized by the phase comparator.

The phase comparator section of IC2 compares the phase between the frequency-divided oscillations frequency of the VCO circuit and comparative frequency, and its output is a pulse corresponding to the phase difference.

This pulse is integrated by the charge pump and loop filter of IC2 into a control voltage (VCV) to control the oscillation frequency of the UHF VCO Q29.

#### **17) Power-on Circuit**

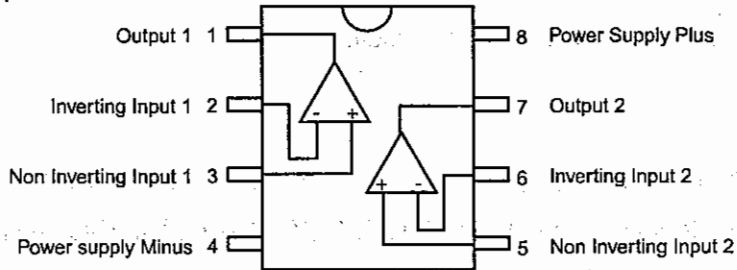
When the POWER switch is turned on, pin 18 of main CPU IC19 goes "low".

When pin 18 of IC19 goes "low", pin 79 of IC19 goes "high" to activate the power switches Q63 (2SB1386) and Q74 (2SC4081), which supply the DC power to the radio.

# SEMICONDUCTOR DATA

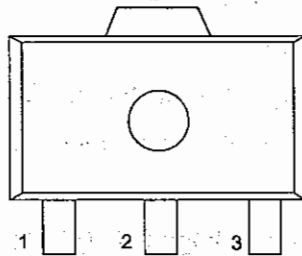
## 1) M5218FP (XA0068)

Dual Low Noise  
Operational Amplifiers



## 2) NJM78L05UA (XA0098)

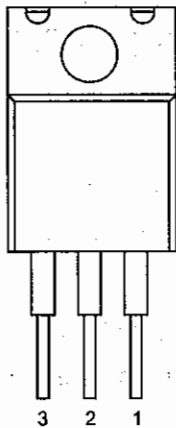
5V Voltage Regulator



- 1. OUTPUT
- 2. COMMON
- 3. INPUT

## 3) NJM7808FA (XA0102)

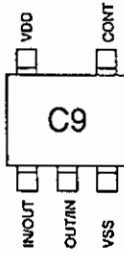
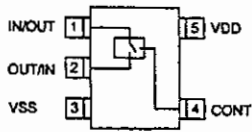
8V Voltage Ragulator  
Pin Assignment



- 1. OUTPUT
- 2. COMMON
- 3. INPUT

#### 4) TC4S66F (XA0115)

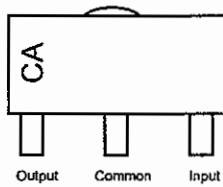
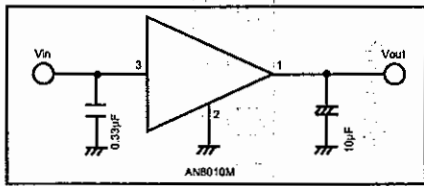
Bilateral Switch



#### 5) AN8010M (XA0119)

10V Voltage Regulator

Test Circuit

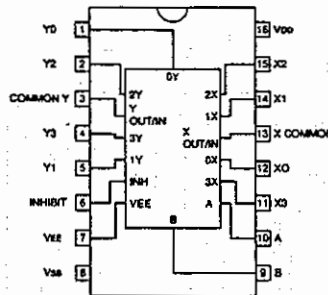
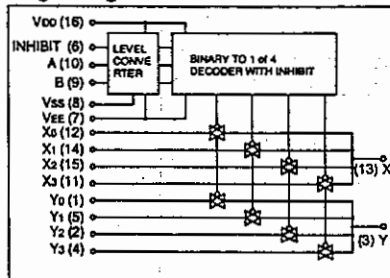


AN8010M

#### 6) BU4052BF (XA0236)

Analog Multiplexer/Demultiplexer

Logic Diagram



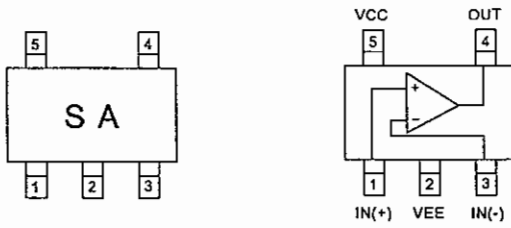
Truth Table

INHIBIT	A	B	ON SWITCH
L	L	L	X0 Y0
L	H	L	X1 Y1
L	L	H	X2 Y2
L	H	H	X3 Y3
H	X	X	NONE

X: Don't Care

7) TA75S01F (XA0332)

Operational Amplifiers



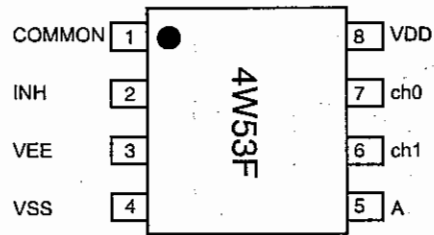
8) TC4W53FU (XA0348)

Multiplexer/Demultiplexer

Function Table

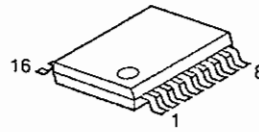
Control input		ON channel
INH	A	
L	L	ch0
L	H	ch1
H	*	NONE

\* Don't Care

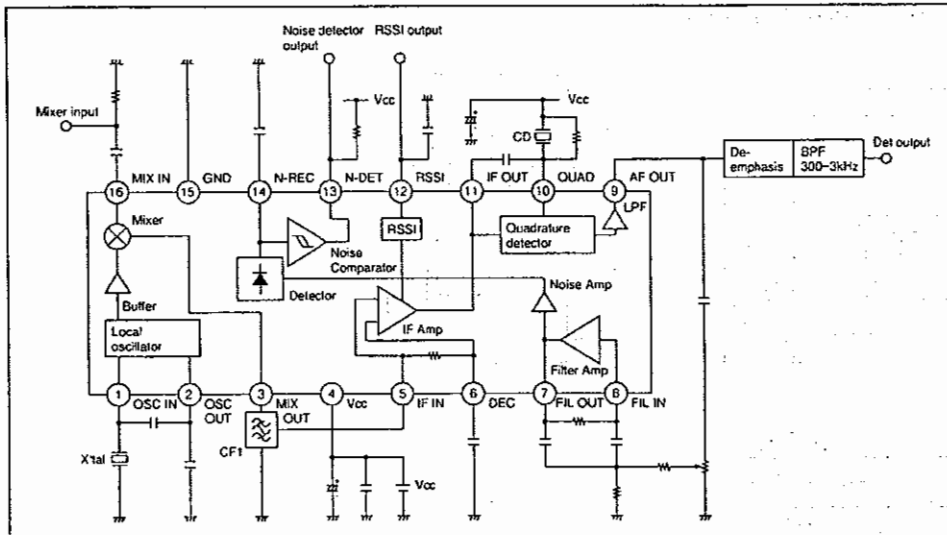


9) TA31136FN (XA0404)

Low Power FM IF



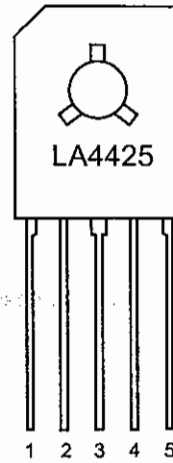
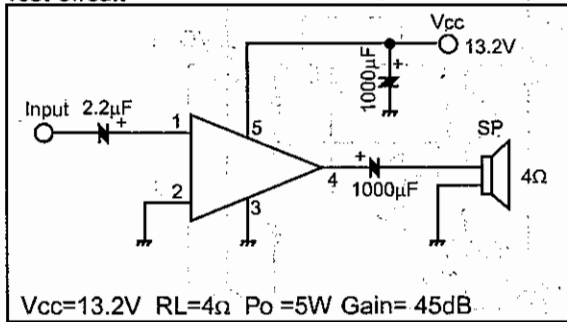
Block Diagram



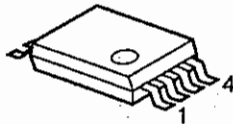
**10) LA4425A (XA0410)**

5W Audio Power Amplifiers

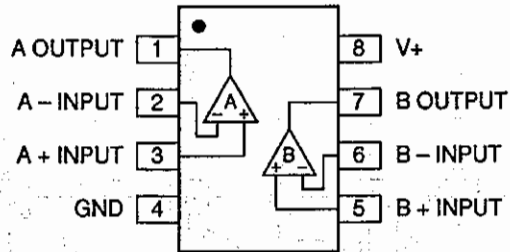
Test Circuit



**11) NJM2904V (XA0573)**

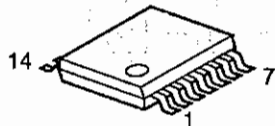


(Top View)

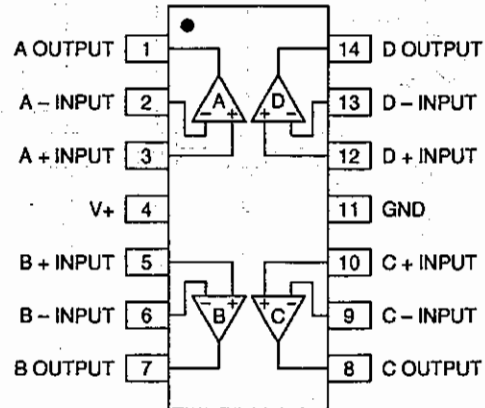


**12) NJM2902V-TE1 (XA0596)**

Quad Single Supply Operational Amplifier



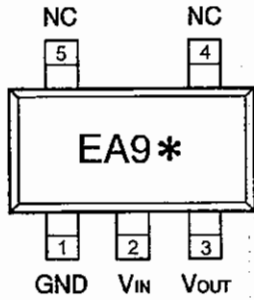
(Top View)



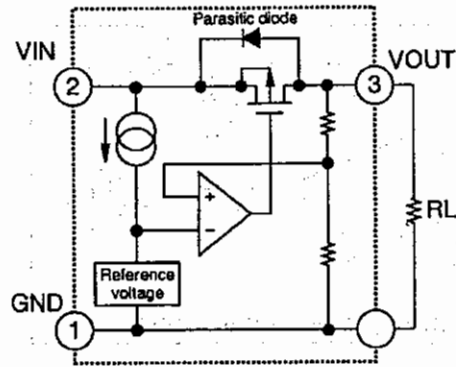
**13) S-80845ALMP-EA9-T2 (XA0620)**

Voltage Detector

V<sub>in</sub>=18V  
I<sub>out</sub>=100mA

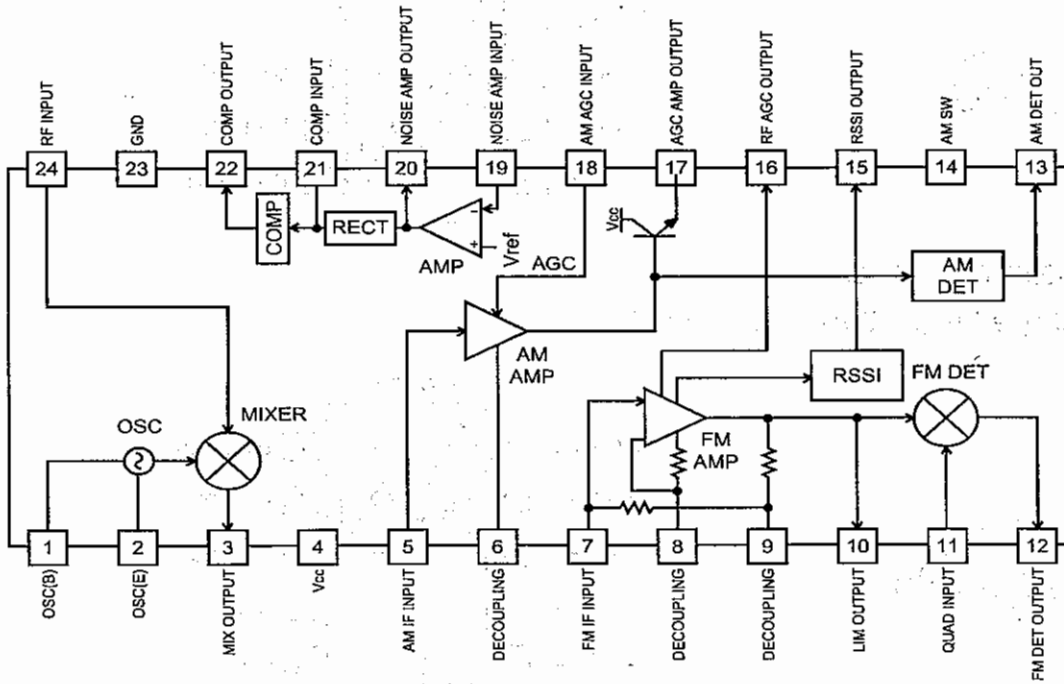


\* Lot number



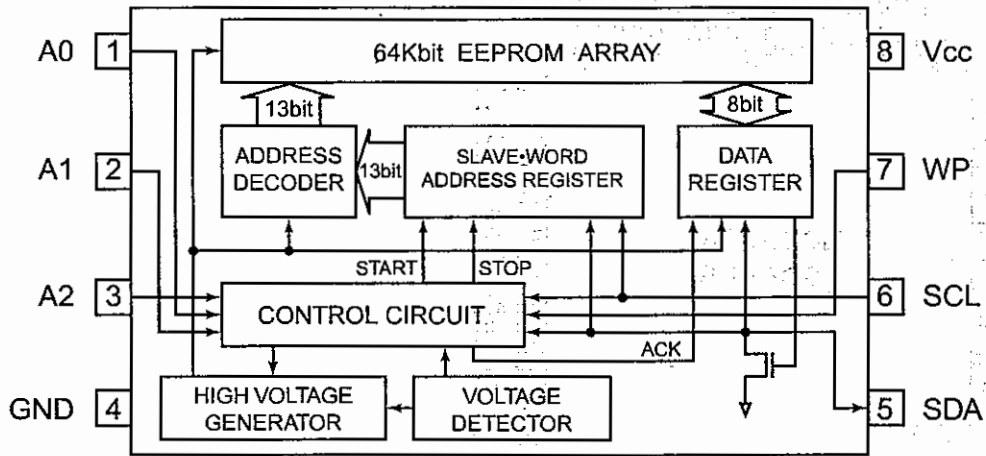
**14) TK10931V (XA0666)**

Pin Assignment / BLOCK Diagram (Top View)

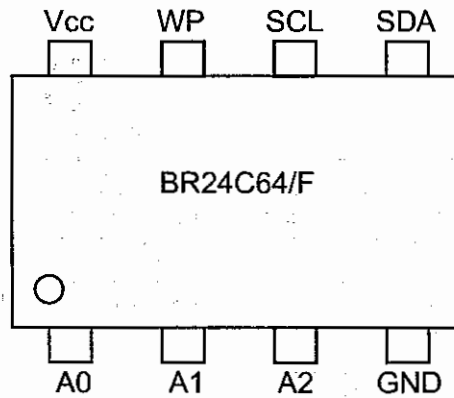


15) BR24C64F-E2 (XA0669)

EE-P ROM  
Block Diagram

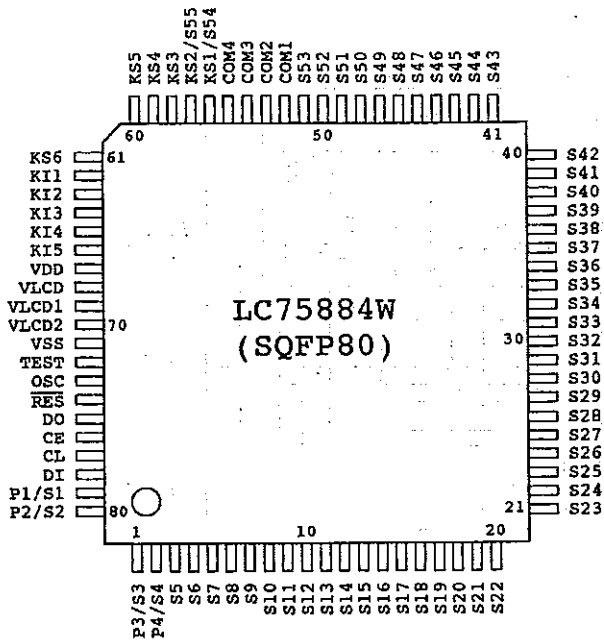


Pin Assignment

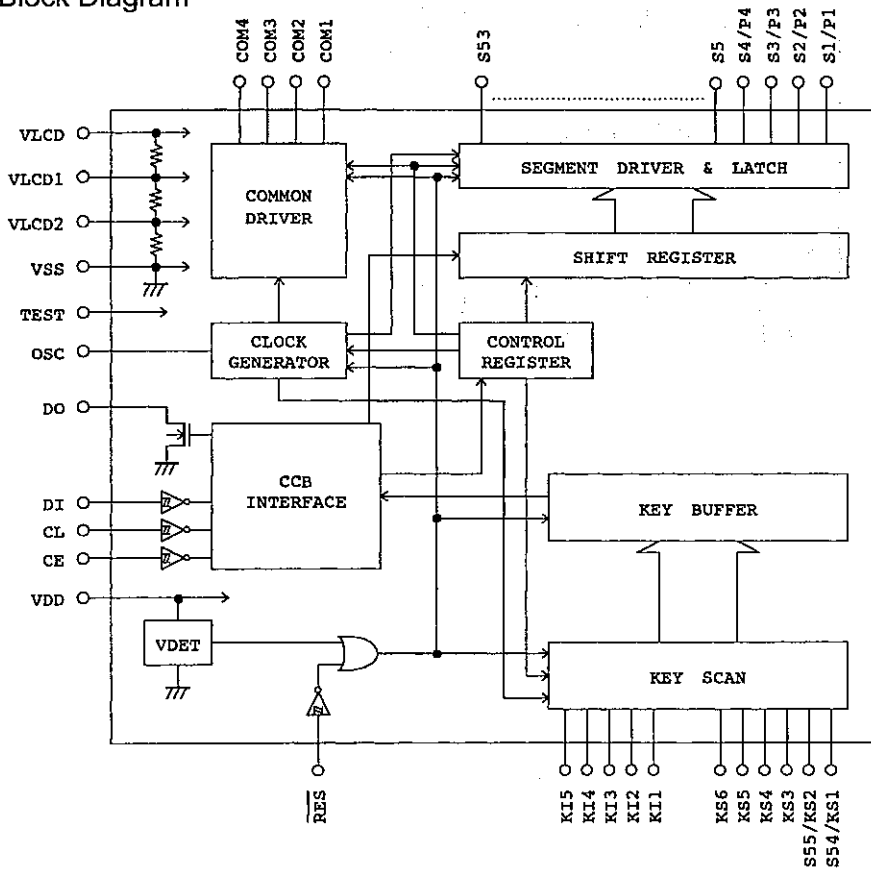


# 16) LC75884W (XA0899)

## LCD Driver



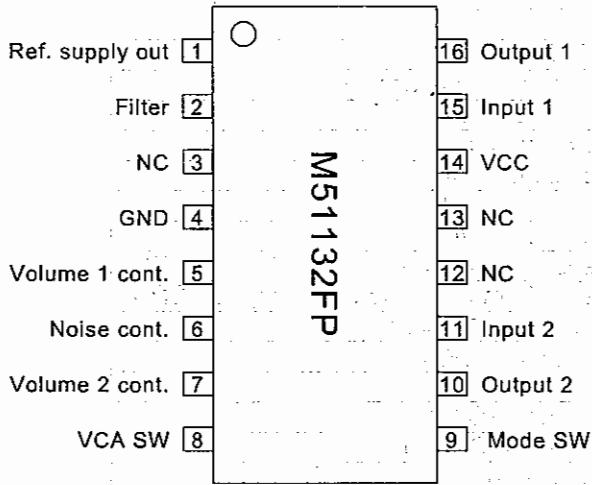
## Block Diagram





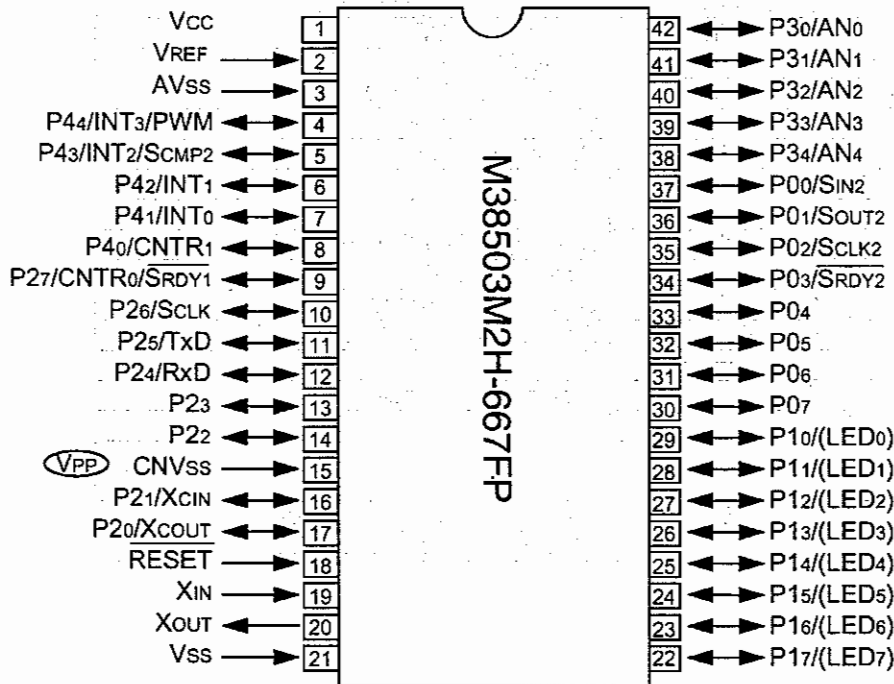
**17) M51132FP (XA0900)**

2ch Electronic Volume



**18) M38503M2H667FP (XA0914)**

Front CPU

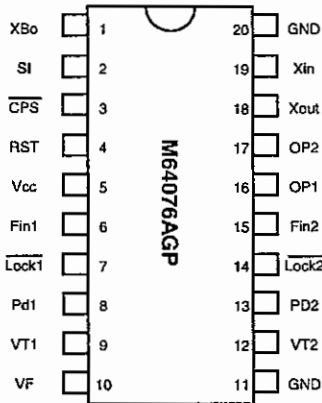


## Terminal Function of Front CPU

No.	Pin Name	Function	I/O	Logic	Description
1	Vcc	VCC			
2	Vref	VREF			
3	Avss	AVSS			
4	P44	PTT	I	Activ low	PTT key input
5	P43	RE1	I	Pulse	Dial (rotary encoder) input
6	P42	UP	I	Activ low	Key input (UP)
7	P41	DOWN	I	Activ low	Key input (DOWN)
8	P40	FUNC	I	Activ low	Key input (FUNC)
9	P27	SQL	I	Activ low	Key input (SQL)
10	P26	H/L	I	Activ low	Key input (H/L)
11	P25/TxD	RXD1	I	Pulse	Serial Communication port for Main CPU
12	P24/RxD	TXD1	O	Pulse	Serial Communication port for Main CPU
13	P23	TS/DCS	I	Activ low	Key input (TS/DCS)
14	P22	MHz	I	Activ low	Key input (MHz)
15	CNVss	CNVSS			
16	P21	CALL	I	Activ low	Key input (CALL)
17	P20	BAND	I	Activ low	Key input (BAND)
18	RESET	RESET	I	Activ low	Reset input
19	Xin	XIN	I	Pulse	CPU clock input
20	Xout	XOUT	O		CPU clock output
21	Vss	GND			
22	P17	V/M	I	Activ low	Key input (UP)
23	P16	RED	O	Activ high	Lighting color ON/OFF (RED)
24	P15	GREEN	O	Activ high	Lighting color ON/OFF (YELLOW)
25	P14	TXLED	O	Activ high	TX LED ON/OFF
26	P13	MRLED	O	Activ high	MAIN RX LED ON/OFF
27	P12	SRLED	O	Activ high	SUB RX LED ON/OFF
28	P11	DIM1	O	Activ high	Dommer control 1
29	P10	DIM2	O	Activ high	Dimmer control 2
30	P07				
31	P06				
32	P05	DO	I	Pulse	Data input for LCD driver IC
33	P04	CE	O	Activ high	Strobe for LCD driver IC
34	P03	CL	O	Pulse	Clock output for LCD driver IC
35	P02	DI	O	Pulse	Data output for LCD driver IC
36	P01	MUTE	O	Activ high	-
37	P00	RE2	I		Dial (rotary encoder) input
38	P34/AN4				
39	P33/AN3				
40	P32/AN2				
41	P31/AN1	MVR	I	A/D	MAIN volume voltage input
42	P30/AN0	SVR	I	A/D	SUB volume voltage inpput

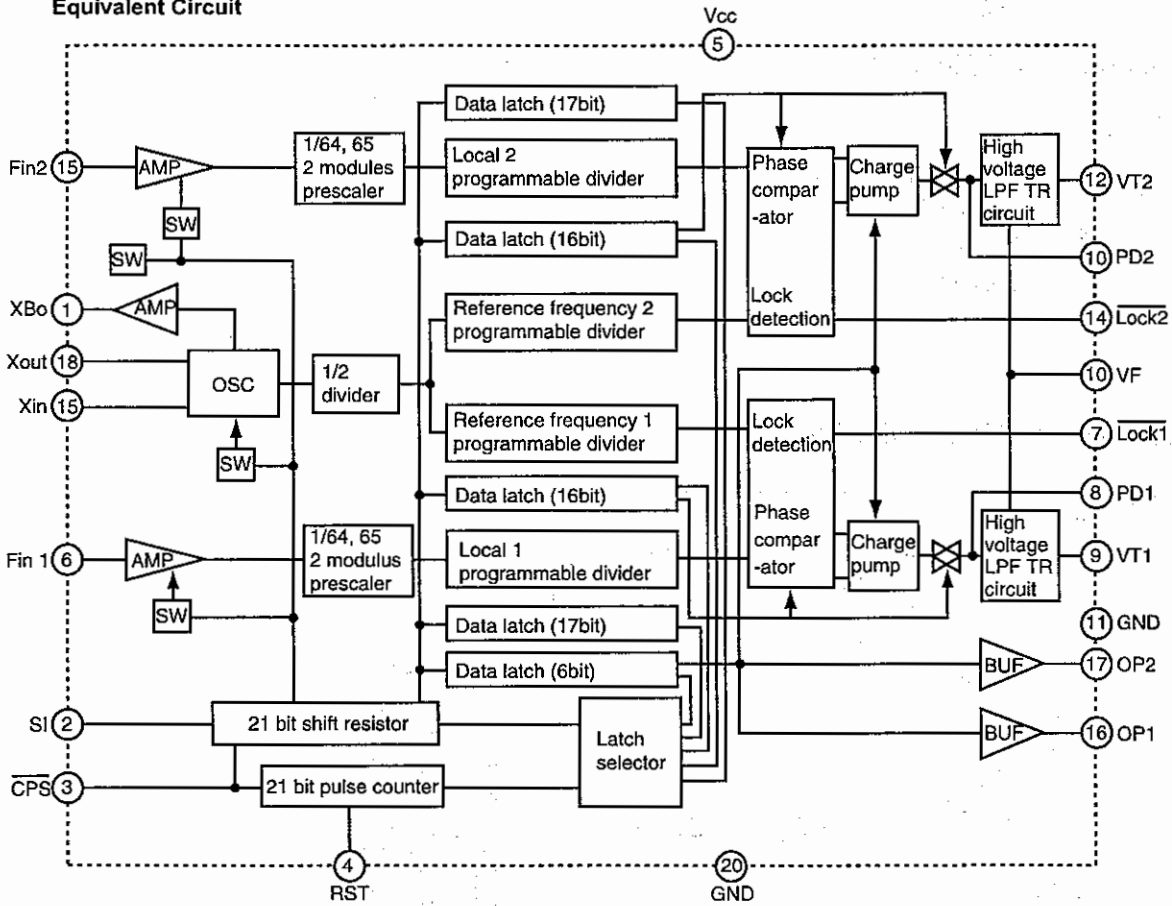
# 19) M64076AGP (XA0915)

## 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	-20	-	-4	dBm
Local oscillator input frequency	Fin	Vin=-20~-4dBm 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

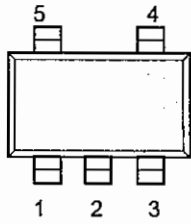
### Equivalent Circuit



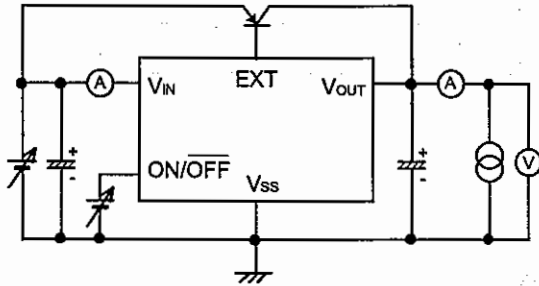
## 20) S-816A50AMC (XA0925)

### Voltage Regulator

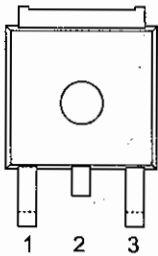
Top View



No.	Terminal
1	EXT
2	VSS
3	ON/OFF
4	VIN
5	VOUT



## 21) NJM78M05DL1A (XA0947)

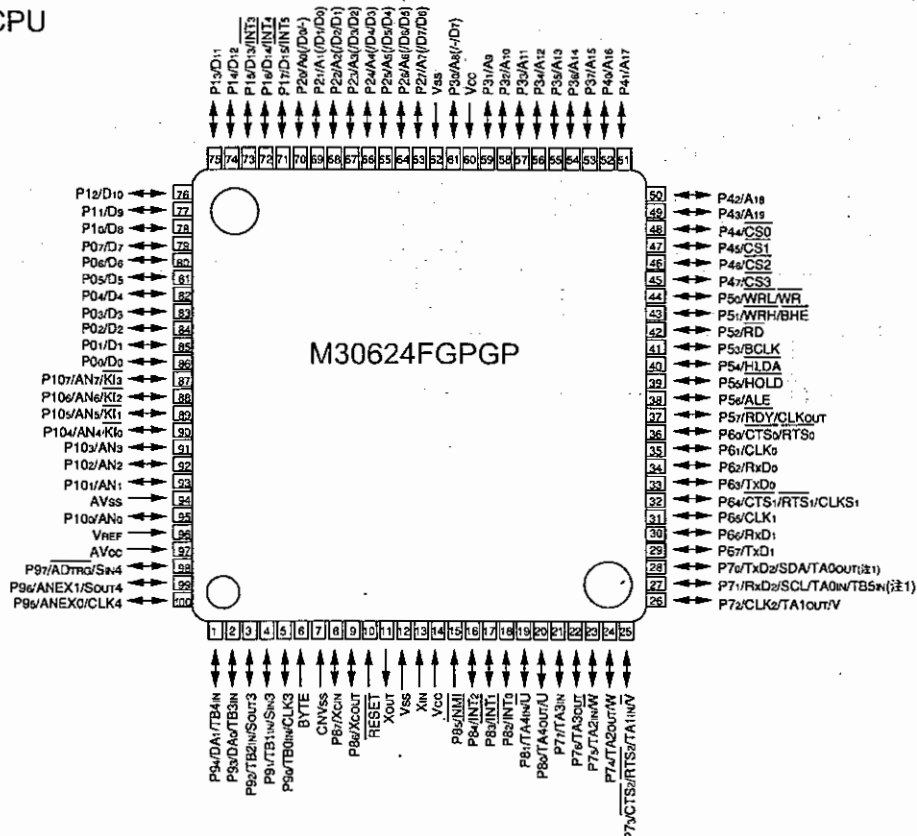


### Voltage Regulator

- 1.INPUT
- 2.GND
- 3.OUTPUT

## 22) M30624FGPGP (XA1081/XA1082)

### Main CPU















































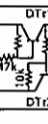


## Terminal Function of Main CPU

No.	Pin Name	Function	I/O	Logic	up	Description
1	P94/DA1	TONE	O	D/A		CTCSS tone output/DCS output
2	P93/DA0	APC	O	D/A		Power output control
3	P92	DATA	O	Pulse		Serial data output for PLL IC
4	P91	STB	O	Pulse		Strobe for PLL IC
5	P90	CLK	O	Pulse		Serial clock output for PLL IC
6	BYTE	BYTE	I			GND
7	CNVss	CNVss	I	H		Witer control
8	P87	-	O			-
9	P86	-	O			-
10	RESET	RESET	I	L		Reset input
11	Xout	XOUT	O			Main clock output
12	Vss	VSS	-			GND
13	Xin	XIN	I			Main clock input
14	Vcc	VCC	-			CPU power terminal
15	P85	NMI	I	Activ high		Interruption
16	P84	BU	I	L		Backup signal detection input
17	P83	SEC	I	Activ high		Aleam(SCR) sinal input
18	P82	PSW	I	L		Power switch input
19	P81	CLKS	O	Activ high		CPU clock-shift output
20	P80	MVRC	O	Pulse		Main volume control
21	P77	LAMP	I	L	up	Lighting color selection (H:2color)
22	P76	SVRC	O	Pulse		Sub volume control
23	P75	-	O			
24	P74	TUV	O	Pulse		144MHz Tuning-voltage control
25	P73	-	O			
26	P72	TUU	O	Pulse		430MHz Tuning-voltage control
27	P71	RXD2	I	Pulse		Serial Communication port for Clone
28	P70	TXD2	O	Pulse		Serial Communication port for Clone
29	P67	TXD1	O	Pulse		Serial Communication port for TNC
30	P66	RXD1	I	Pulse		Serial Communication port for TNC
31	P65	SCLK	O	Pulse		Witer control
32	P64	BUSY	O	Pulse		Witer control
33	P63	TXD	O	Pulse		Serial Communication port for Front CPU
34	P62	RXD	I	Pulse		Serial Communication port for Front CPU
35	P61	SCL	O	Pulse		Serial clock output for EEPROM
36	P60	SDA	I/O	Pulse		Serial dara output for EEPROM
37	P57	DUD	I	Activ low	up	Digital unit detect
38	P56	SCR	I	Activ low	up	Ready sigunal for digital unit
39	P55	EPM	I	Activ low	up	Witer control
40	P54	PTTM	I	Activ low	up	PTT input for TNC
41	P53	T5	O	Activ low		TX power output ON/OFF
42	P52	SQC	O	Activ low		Squelch control for TNC
43	P51	STBD	O	Pulse		Strobe for Digital unit
44	P50	DSQ	I	Activ high		Squelch signal input for Digital unit
45	P47	TNCB	O	Activ high		Power switch ON/OFF for TNC
46	P46	VVCS	O	Activ high		VHF Main VCO ON/OFF
47	P45	UVCS	O	Activ high		UHF Main VCO ON/OFF
48	P44	DCSW	O	Activ high		DCS switch
49	P43	C/S	O	Activ low		Digital/TNC mode ON/OFF
50	P42	VAD	O	Activ high		VHF digital ON/OFF
51	P41	UAD	O	Activ high		UHF digital ON/OFF
52	P40	M/S	O	Activ high		MAIN/SUB band select
53	P37	WIDE	O	Activ low		Wide mode select
54	P36	NAR	O	Activ low		Narrow mode select
55	P35	MUTV	O	Activ low		VHF AF mute signal output
56	P34	MUTU	O	Activ low		VHF AF mute signal output

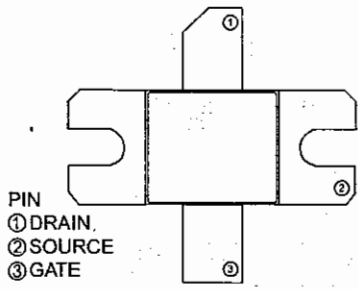
57	P33	XBR	O	Activ high	XBR mute signal
58	P32	DCSV	O	Activ high	VHF DCS switch
59	P31	DCSU	O	Activ high	UHF DCS switch
60	Vcc	VCC	-		CPU power terminal
61	P30	SCRB	O	Activ low	Power output for Aleam.
62	Vss	VSS	-		GND
63	P27	VMMT	O	Activ high	VHF mod mute output
64	P26	UMMT	O	Activ high	UHF mod mute output
65	P25	MMUT	O	Activ low	Mic mute output
66	P24	ULV	I	Activ high	VHF unlock input
67	P23	ULU	I	Activ high	UHF unlock input
68	P22	AM	O	Activ high	AM mode ON/OFF
69	P21	5RV	O	Activ high	VHF RX power ON/OFF
70	P20	5RU	O	Activ high	UHF RX power ON/OFF
71	P17	5TV	O	Activ high	VHF TX power ON/OFF
72	P16	5TU	O	Activ high	UHF TX power ON/OFF
73	P15	14RS	O	Activ high	MAIN 144MHz power ON/OFF
74	P14	S43RS	O	Activ high	SUB 430MHz power ON/OFF
75	P13	FMS	O	Activ high	FM power ON/OFF
76	P12	43RS	O	Activ high	MAIN 430MHz power ON/OFF
77	P11	S14RS	O	Activ high	SUB 144MHz power ON/OFF
78	P10	87RS	O	Activ high	Ext band power ON/OFF
79	P07	5VS	O	Activ high	5V power ON/OFF
80	P06	C5S	O	Activ high	5V power ON/OFF
81	P05	ALAM	O	Activ low	AF mute for Aleam
82	P04	TB	O	Pulse	ART/Toneburst signal output
83	P03	BEP1	O	Pulse	Beep sound 1 output
84	P02	BEP2	O	Pulse	Beep sound 2 output
85	P01		O		
86	P00	FAN	O	Activ high	Air FAN power ON/OFF
87	P107/AN7	SMTV	I	A/D	VHF S-meter signal input
88	P106/AN6	SQLV	I	A/D	VHF noise input for squelch
89	P105/AN5	SMTU	I	A/D	UHF S-meter signal input
90	P104/AN4	SQLU	I	A/D	UHF noise input for squelch
91	P103/AN3	TINV	I	A/D	VHF CTCSS/DCS tone input
92	P102/AN2	TINU	I	A/D	UHF CTCSS/DCS tone input
93	P101/AN1	BAT	I	A/D	Power-supply voltage input
94	Avss	AVSS	-		AD converter Gnd
95	P100/AN0	BP1	I	A/D	Band plan
96	Vref	VREF	-		AD converter ref. power
97	Avcc	AVCC	-		AD converter power
98	P97	BP2	I		Ext.Band plan
99	P96/ANEX1	BP3	I		CH Band plan (L:CH)
100	P95/ANEX0	THC	I	A/D	PA Temperature detection

### 23) Transistor, Diode, and LED Outline Drawings

XB15A407AGB XD0013 	UDZ5.1B XD 0165 	MA742 XD0250 M1U 	1SS355 XD0254 	DSA3A1 XD0274 	HVU359TRF XD0314 	MA2S728-TX XD0315 
MA2S077-TX XD0319 	DAN235E-TL XD0320 M 	MA2S111-TX XD0323 V 	1SS362 TE85L XD0338 C3 	1SV308 XD0339 	1SS390 TE61 XD0342 X 	UM9401F XD0373 
1SV278 XD0374 	MA4S713-TX XD0375 MIN 	1SV282 XD0376 TD 	MAZS270HL XD0377 2A 	2SK508 XE0010 G KS2 S D 	3SK131V12 XE0028 G1 G2 V12 D S 	2SK2975-T11-A XE0038A K2975 S 
2SK3074 XE0044 WA G S D 	3SK293TE85L XE0053 G2 G1 UF D S 	VRPG3312X XL0051 GR RED K 	FA1111C XL0069 	FA1111C XL0077 	FA1111C XL0091 	MPG3385 XL0092 A 
SML512BC4T XL0108 	2SB1132 XT0061 C BA C B C E 	2SC4081 XT0095 C BR B E 	2SA1736 XT0099 C LD B C E 	2SA1036K XT0110 C HQ B E 	2SC4215 XT0124 C QY B E 	2SC5066-O XT0138 C M B E 
2SC5226 XT0146 C LN4 B E 	2SC4808-TX, AR XT0171 C 3M B E 	2SC4618TLP XT0172 C AP B E 	2SB1386 XT0190 C BHQ B C E 	2SA1721 XT0206 C 4O B E 	DTC363EK XU0160 C H27 B E 	DTD114EK XU0173 C F24 B E 
RN2107 TE85L XU0192 C YM B E 	RN1107 TE85L XU0193 C XH B E 	RN1111 XU0197 C XM B E 	XP03383-TX XU0202 5 4 DV 1 2 3   1 2 3 DTH1 DT12 			

# RD70VHF1 (XE0047)

Nch MOS FET



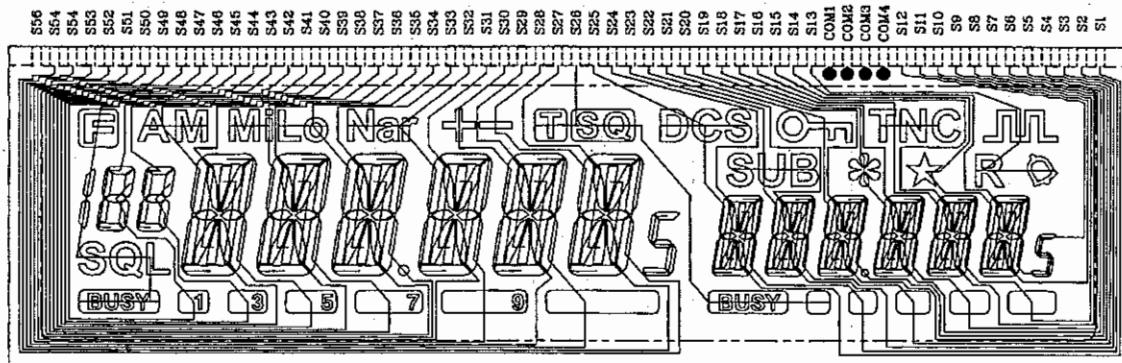
## ABSOLUTE MAXIMUM RATING

Symbol	Test conditions	Rating	Unit
Pch	Tc=25°C	150	W
VDSS	Vgs=0V	30	V
VGSS	Vds=0V	±20	V
Tj		+175	°C
Tstg		-40 ~ +125	°C

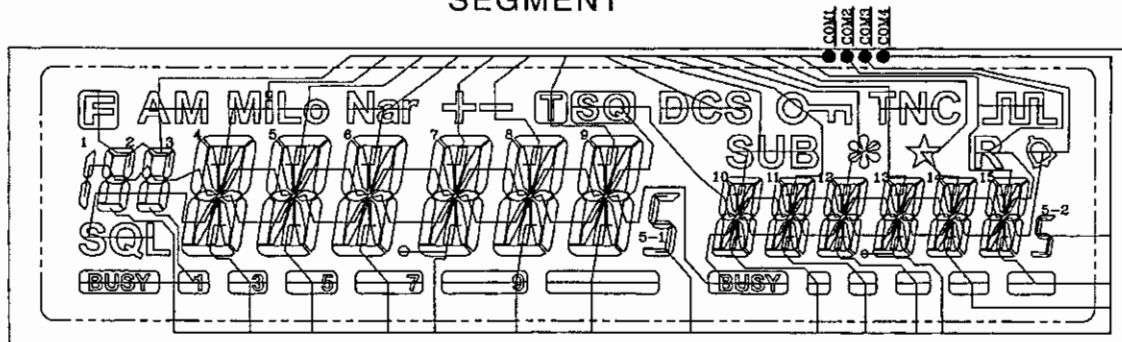
## ELECTRICAL CHARACTERISTIC(Ta=25°C)

Parameter	Symbol	Test conditions	Limits		Unit
			Min	Max	
Saturated drain current	IDSS	Vds=17V, Vgs=0V		300	µA
Gate to source leakage current	IGSS	Vds=10V, Vgs=0V		5	µA
Threshold voltage	Vth	Vds=12V, Ids=1ma	1.3	2.3	V
Output power 1	Po1	f=175MHz, Pin=6W	70		W
Drain efficiency 1	ηD1	Vds=12.5V Ids(idle)=2.0A	55		%
Output power 2	Po2	f=520MHz, Pin=10W	50		W
Drain efficiency 2	ηD2	Vds=12.5V Ids(idle)=2.0A	50		%

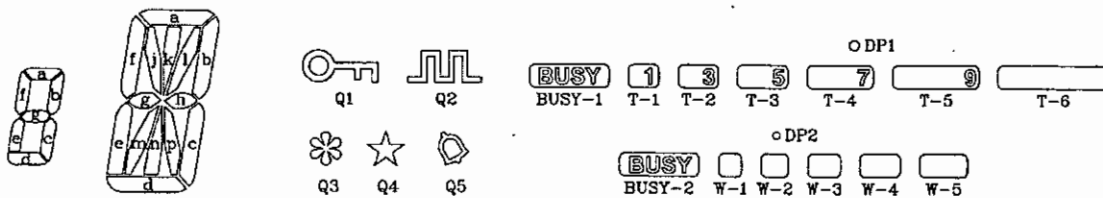
## 24) LCD Connection



SEGMENT



COMMON

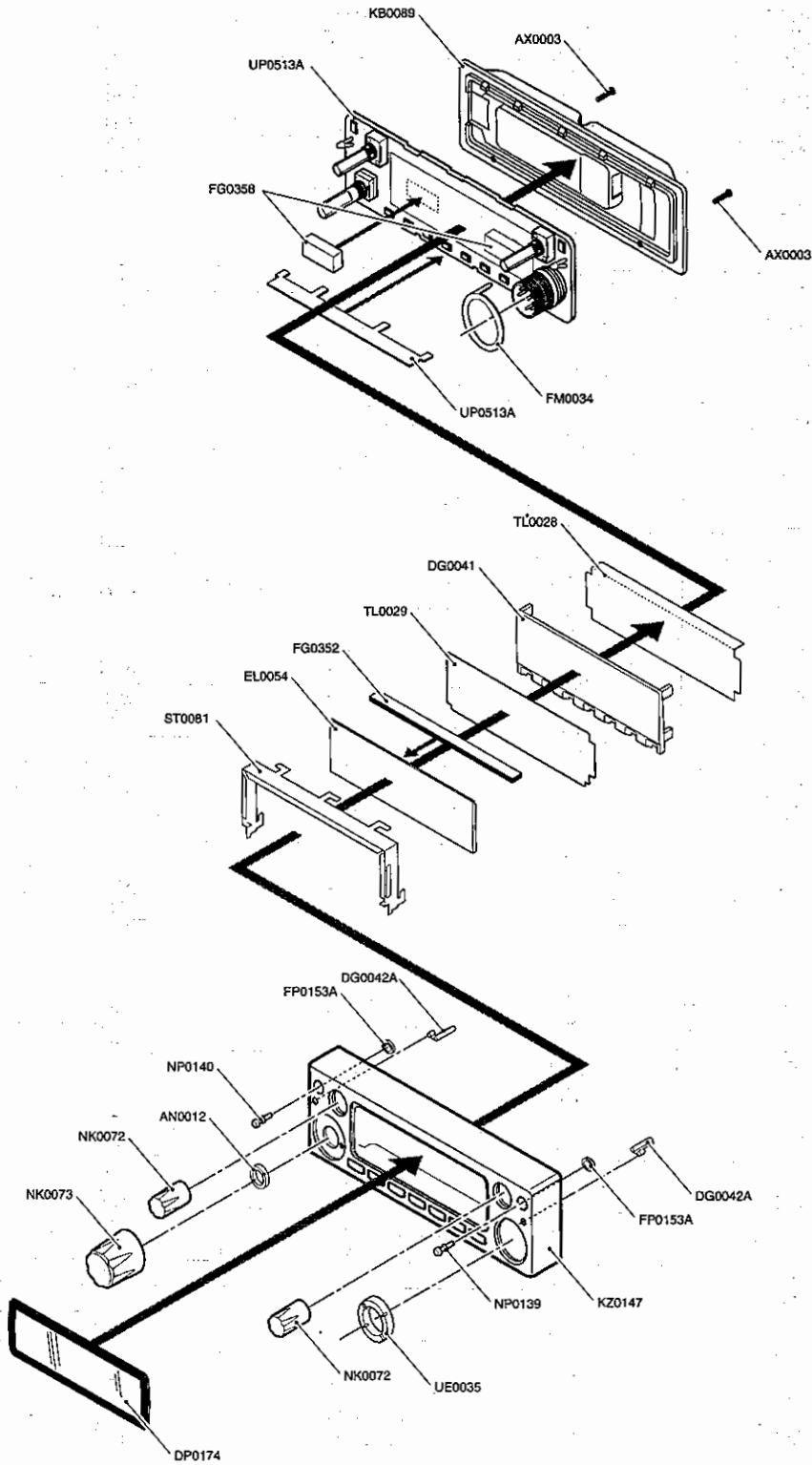




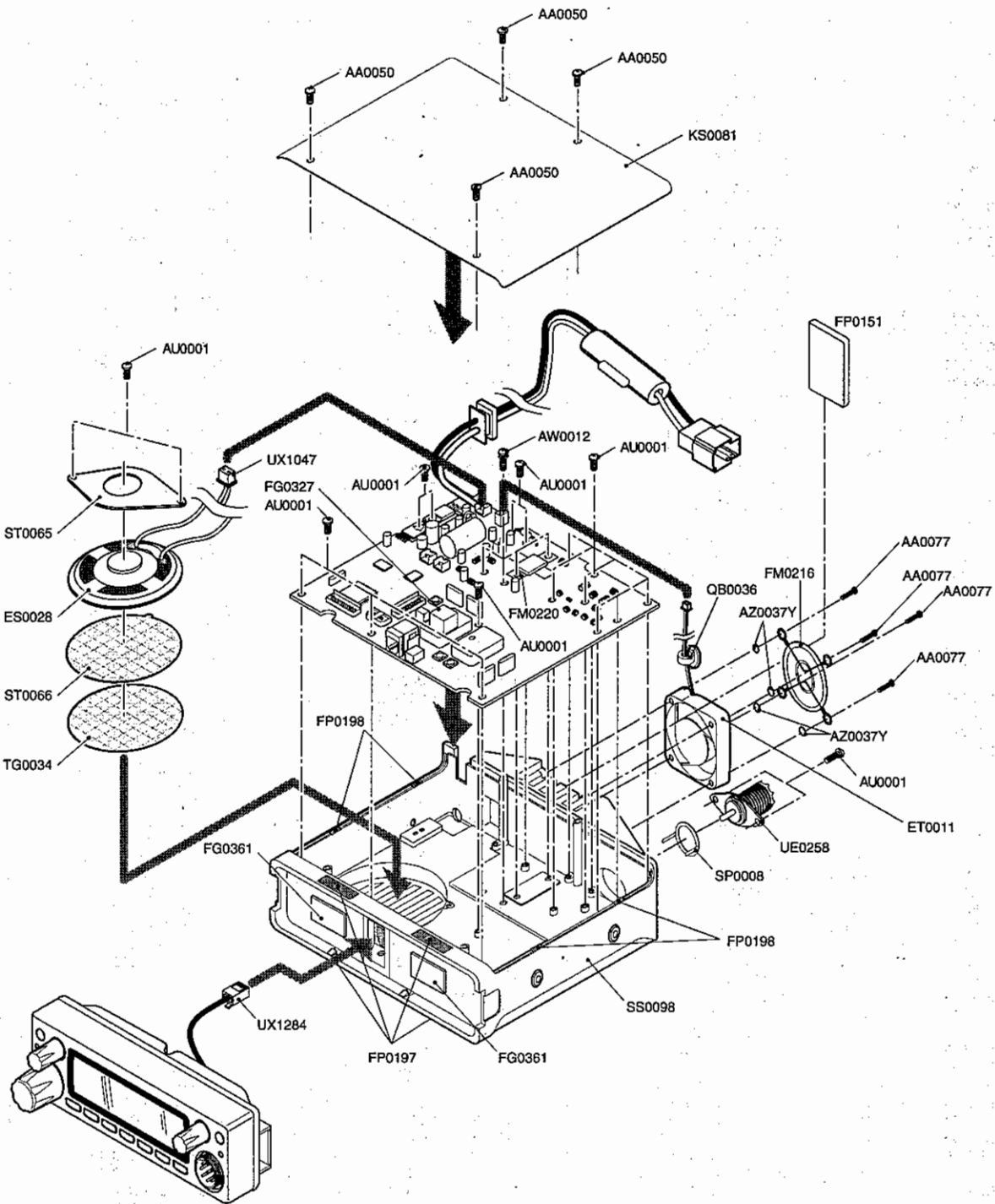
	COM1	COM2	COM3	COM4
S1	10k	10l	10h	10p
S2	10a	10b	10c	W-2
S3	111k	11l	11h	11p
S4	11a	11b	11c	W-3
S5	12k	12l	12h	12p
S6	12a	12b	12c	DP2
S7	13k	13l	13h	13p
S8	13a	13b	13c	W-4
S9	14k	14l	14h	14p
S10	14a	14b	14c	W-5
S11	15k	15l	15h	15p
S12	15a	15b	15c	5-2
COM4	-	-	-	COM4
COM3	-	-	COM3	-
COM2	-	COM2	-	-
COM1	COM1	-	-	-
S13	Q2	R	Q5	-
S14	15j	15g	15m	15n
S15	Q4	15f	15e	15d
S16	14j	14g	14m	14n
S17	TNC	14f	14e	14d
S18	13j	13g	13m	13n
S19	Q3	13f	13e	13d
S20	12j	12g	12m	12n
S21	Q1	12f	12e	12d
S22	11j	11g	11m	11n
S23	SUB	11f	11e	11d
S24	10j	10g	10m	10n
S25	DCS	10f	10e	10d
S26	T	SQ	BUSY-2	W-1
S27	9j	9g	9m	9n
S28	minus(-)	9f	9r	9r
S29	8j	8g	8m	8n
S30	plus(+)	8f	8e	8e
S31	7j	7g	7m	7n
S32	Nar	7f	7e	7e
S33	6j	6g	6m	6n
S34	Lo	6f	6e	6e
S35	5j	5g	5m	5n
S36	Mj	5f	5e	5e
S37	4j	4g	4m	4n
S38	AM	4f	4e	4d
S39	3a	3f	3e	3d
S40	2a	2f	2e	2d
S41	F	1b,c	SQL	BUSY-1
S42	2b	2g	2c	T-1
S43	3b	3g	3c	T-2
S44	4k	4l	4h	4p
S45	4a	4b	4c	T-3
S46	5k	5l	5h	5p
S47	5a	5b	5c	T-4
S48	6k	6l	6h	6p
S49	6a	6b	6c	DP1
S50	7k	7l	7h	7p
S51	7a	7b	7c	T-5
S52	8k	8l	8h	8p
S53	8a	8b	8c	T-6
S54	9k	9l	9h	9p
S55	9a	9b	9c	5-1
S56	N.C.	-	-	-

# EXPLODED VIEW

## 1) Front View



## 2) Bottom View





Ref. No.	Part No.	Description	Parts Name	Qty		Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)					(T)	(E)
C10	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C105	CU3512	Chip C.	GRM36CH120J50PT	1	1
C11	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C106	CU4008	Chip C.	GRM42-6CH070D500PT	1	1
C12	CU3057	Chip C.	1608 CH 50V 13PF	1	1	C107	CU3551	Chip C.	GRM36B223K16PT	1	1
C13	CU3057	Chip C.	1608 CH 50V 13PF	1	1	C108	CU3035	Chip C.	1608 B 50V 0.001UF	1	1
C14	CU4023	Chip C.	GRM42-6CH101J500PT	1	1	C109	CU3535	Chip C.	GRM36B102K50PT	1	1
C15	CU7052	Chip C.	3225 F 500V 82PF	1	1	C110	CU3547	Chip C.	GRM36B103K16PT	1	1
C16	CU3507	Chip C.	GRM36CH060D50PT	1	1	C111	CU0002	Chip C.	2012 CH 50V 1.0PF C	1	1
C17	CU7054	Chip C.	2012 J 100V 22PF	1	1	C112	CU4006	Chip C.	GRM42-6CH050C500PT	1	1
C18	CU3535	Chip C.	GRM36B102K50PT	1	1	C113	CU3502	Chip C.	GRM36CK010C50PT	1	1
C19	CU3517	Chip C.	GRM36CH330J50PT	1	1	C114	CS0063	Chip Tantalum	35V 0.1UF	1	1
C20	CU4023	Chip C.	GRM42-6CH101J500PT	1	1	C115	CU3005	Chip C.	1608 CH 50V 4PF C	1	1
C21	CU3535	Chip C.	GRM36B102K50PT	1	1	C116	CU4010	Chip C.	GRM42-6CH090D500PT	1	1
C22	CU3511	Chip C.	GRM36CH100D50PT	1	1	C117	CU4007	Chip C.	GRM42-6CH060D500PT	1	1
C23	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C118	CU3547	Chip C.	GRM36B103K16PT	1	1
C26	CU3535	Chip C.	GRM36B102K50PT	1	1	C119	CE0420	Electrolytic C.	16MV22SZ	1	1
C27	CU3515	Chip C.	GRM36CH220J50PT	1	1	C120	CU3535	Chip C.	GRM36B102K50PT	1	1
C29	CU3515	Chip C.	GRM36CH220J50PT	1	1	C121	CU3535	Chip C.	GRM36B102K50PT	1	1
C30	CU3535	Chip C.	GRM36B102K50PT	1	1	C122	CU3523	Chip C.	GRM36CH101J50PT	1	1
C31	CU3535	Chip C.	GRM36B102K50PT	1	1	C123	CU3035	Chip C.	1608 B 50V 0.001UF	1	1
C32	CU3024	Chip C.	1608 CH 50V 120PF J	1	1	C124	CU4006	Chip C.	GRM42-6CH050C500PT	1	1
C33	CU3024	Chip C.	1608 CH 50V 120PF J	1	1	C125	CU4001	Chip C.	GRM42-6CK010C500PT	1	1
C35	CU4016	Chip C.	GRM42-6CH270J500PT	1	1	C126	CU4007	Chip C.	GRM42-6CH060D500PT	1	1
C36	CU4015	Chip C.	GRM42-6CH220J500PT	1	1	C127	CU4016	Chip C.	GRM42-6CH270J500PT	1	1
C38	CU4016	Chip C.	GRM42-6CH270J500PT	1	1	C128	CU3511	Chip C.	GRM36CH100D50PT	1	1
C39	CU4014	Chip C.	GRM42-6CH180J500PT	1	1	C129	CU3001	Chip C.	1608 CH 50V .5PF C	1	1
C40	CU7050	Chip C.	3225 F 500V 56PF	1	1	C130	CU3001	Chip C.	1608 CH 50V .5PF C	1	1
C42	CU3513	Chip C.	GRM36CH150J50PT	1	1	C131	CU4019	Chip C.	GRM42-6CH470J500PT	1	1
C43	CU3518	Chip C.	GRM36CH390J50PT	1	1	C132	CU3535	Chip C.	GRM36B102K50PT	1	1
C44	CU3515	Chip C.	GRM36CH220J50PT	1	1	C133	CU3035	Chip C.	1608 B 50V 0.001UF	1	1
C45	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C134	CU3035	Chip C.	1608 B 50V 0.001UF	1	1
C46	CU3001	Chip C.	1608 CH 50V .5PF C	1	1	C135	CS0063	Chip Tantalum	35V 0.1UF	1	1
C48	CU3001	Chip C.	1608 CH 50V .5PF C	1	1	C136	CU3531	Chip C.	GRM36B471K50PT	1	1
C49	CU4013	Chip C.	GRM42-6CH150J500PT	1	1	C137	CU3535	Chip C.	GRM36B102K50PT	1	1
C51	CU3511	Chip C.	GRM36CH100D50PT	1	1	C138	CU3523	Chip C.	GRM36CH101J50PT	1	1
C52	CU0108	Chip C.	2012 B 10V 1UF	1	1	C139	CU3035	Chip C.	1608 B 50V 0.001UF	1	1
C53	CU0108	Chip C.	2012 B 10V 1UF	1	1	C141	CU3035	Chip C.	1608 B 50V 0.001UF	1	1
C54	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C142	CU3523	Chip C.	GRM36CH101J50PT	1	1
C55	CU3515	Chip C.	GRM36CH220J50PT	1	1	C143	CU3035	Chip C.	1608 B 50V 0.001UF	1	1
C56	CU3511	Chip C.	GRM36CH100D50PT	1	1	C144	CU3035	Chip C.	1608 B 50V 0.001UF	1	1
C57	CU4012	Chip C.	GRM42-6CH120J500PT	1	1	C145	CU3535	Chip C.	GRM36B102K50PT	1	1
C58	CU3509	Chip C.	GRM36CH080D50PT	1	1	C146	CU3535	Chip C.	GRM36B102K50PT	1	1
C59	CU3510	Chip C.	1005 CH 50V 9PF D	1	1	C147	CU3523	Chip C.	GRM36CH101J50PT	1	1
C60	CU3514	Chip C.	GRM36CH180J50PT	1	1	C148	CU3547	Chip C.	GRM36B103K16PT	1	1
C61	CU3514	Chip C.	GRM36CH180J50PT	1	1	C149	CU3535	Chip C.	GRM36B102K50PT	1	1
C62	CE0339	Electrolytic C.	16V 10UF	1	1	C150	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C63	CU4015	Chip C.	GRM42-6CH220J500PT	1	1	C151	CU3523	Chip C.	GRM36CH101J50PT	1	1
C64	CU3535	Chip C.	GRM36B102K50PT	1	1	C152	CU3547	Chip C.	GRM36B103K16PT	1	1
C65	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1	C153	CU3512	Chip C.	GRM36CH120J50PT	1	1
C66	CU3503	Chip C.	GRM36CK020C50PT	1	1	C154	CU3007	Chip C.	1608 CH 50V 6PF C	1	1
C67	CU3535	Chip C.	GRM36B102K50PT	1	1	C155	CU3535	Chip C.	GRM36B102K50PT	1	1
C68	CU3019	Chip C.	1608 CH 50V 47PF J	1	1	C156	CU3023	Chip C.	1608 CH 50V 100PF J	1	1
C69	CU3530	Chip C.	GRM36B391K50PT	1	1	C157	CU3006	Chip C.	1608 CH 50V 5PF C	1	1
C70	CE0420	Electrolytic C.	16MV22SZ	1	1	C159	CU3506	Chip C.	GRM36CH050C50PT	1	1
C71	CU3011	Chip C.	1608 CH 50V 10PF C	1	1	C160	CU3007	Chip C.	1608 CH 50V 6PF C	1	1
C72	CU3012	Chip C.	1608 CH 50V 12PF J	1	1	C161	CU3035	Chip C.	1608 B 50V 0.001UF	1	1
C73	CU3015	Chip C.	1608 CH 50V 22PF J	1	1	C162	CU3508	Chip C.	1005 CH 50V 7PF D	1	1
C74	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C163	CU3504	Chip C.	GRM36CJ030C50PT	1	1
C75	CU3514	Chip C.	GRM36CH180J50PT	1	1	C164	CU3547	Chip C.	GRM36B103K16PT	1	1
C76	CU3514	Chip C.	GRM36CH180J50PT	1	1	C165	CU3503	Chip C.	GRM36CK020C50PT	1	1
C78	CU3531	Chip C.	GRM36B471K50PT	1	1	C166	CU3535	Chip C.	GRM36B102K50PT	1	1
C79	CU3535	Chip C.	GRM36B102K50PT	1	1	C167	CU3535	Chip C.	GRM36B102K50PT	1	1
C80	CU3535	Chip C.	GRM36B102K50PT	1	1	C168	CU3535	Chip C.	GRM36B102K50PT	1	1
C81	CU3511	Chip C.	GRM36CH100D50PT	1	1	C169	CU3547	Chip C.	GRM36B103K16PT	1	1
C82	CU3547	Chip C.	GRM36B103K16PT	1	1	C170	CU3513	Chip C.	GRM36CH150J50PT	1	1
C83	CU3535	Chip C.	GRM36B102K50PT	1	1	C171	CU3547	Chip C.	GRM36B103K16PT	1	1
C84	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C173	CU3515	Chip C.	GRM36CH220J50PT	1	1
C85	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C174	CU3511	Chip C.	GRM36CH100D50PT	1	1
C86	CU3535	Chip C.	GRM36B102K50PT	1	1	C175	CU3511	Chip C.	GRM36CH100D50PT	1	1
C87	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C176	CU0108	Chip C.	2012 B 10V 1UF	1	1
C88	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C177	CU3503	Chip C.	GRM36CK020C50PT	1	1
C89	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C178	CU3515	Chip C.	GRM36CH220J50PT	1	1
C91	CU3502	Chip C.	GRM36CK010C50PT	1	1	C179	CU3503	Chip C.	GRM36CK020C50PT	1	1
C92	CU3547	Chip C.	GRM36B103K16PT	1	1	C180	CU3502	Chip C.	GRM36CK010C50PT	1	1
C93	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C181	CU3502	Chip C.	GRM36CK010C50PT	1	1
C94	CU3511	Chip C.	GRM36CH100D50PT	1	1	C182	CU3512	Chip C.	GRM36CH120J50PT	1	1
C95	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C183	CU3535	Chip C.	GRM36B102K50PT	1	1
C96	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C184	CU3529	Chip C.	GRM36B331K50PT	1	1
C97	CU3535	Chip C.	GRM36B102K50PT	1	1	C185	CU3527	Chip C.	GRM36CH221J25PT	1	1
C98	CS0220	Chip Tantalum	16V 2.2UF	1	1	C186	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C99	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C187	CU3535	Chip C.	GRM36B102K50PT	1	1
C100	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C188	CU3513	Chip C.	GRM36CH150J50PT	1	1
C101	CU3535	Chip C.	GRM36B102K50PT	1	1	C189	CU3516	Chip C.	GRM36CH270J50PT	1	1
C102	CU3506	Chip C.	GRM36CH050C50PT	1	1	C190	CU3535	Chip C.	GRM36B102K50PT	1	1
C103	CU4019	Chip C.	GRM42-6CH470J500PT	1	1	C191	CU3504	Chip C.	GRM36CJ030C50PT	1	1
C104	CS0220	Chip Tantalum	16V 2.2UF	1	1	C192	CU3535	Chip C.	GRM36B102K50PT	1	1

Ref. No.	Part No.	Description	Parts Name	Qty		Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)					(T)	(E)
C196	CS0049	Chip Tantalum	16V 1UF	1	1	C286	CU3511	Chip C.	GRM36CH100D50PT	1	1
C197	CS0063	Chip Tantalum	35V 0.1UF	1	1	C287	CU3547	Chip C.	GRM36B103K16PT	1	1
C198	CU3535	Chip C.	GRM36B102K50PT	1	1	C288	CU3547	Chip C.	GRM36B103K16PT	1	1
C199	CU3515	Chip C.	GRM36CH220J50PT	1	1	C289	CU3535	Chip C.	GRM36B102K50PT	1	1
C200	CU3517	Chip C.	GRM36CH330J50PT	1	1	C290	CU3518	Chip C.	GRM36CH390J50PT	1	1
C201	CU3519	Chip C.	GRM36CH470J50PT	1	1	C291	CU3535	Chip C.	GRM36B102K50PT	1	1
C202	CU3507	Chip C.	GRM36CH060D50PT	1	1	C292	CU3518	Chip C.	GRM36CH390J50PT	1	1
C203	CU3547	Chip C.	GRM36B103K16PT	1	1	C294	CU3514	Chip C.	GRM36CH180J50PT	1	1
C205	CU3513	Chip C.	GRM36CH150J50PT	1	1	C295	CU3547	Chip C.	GRM36B103K16PT	1	1
C206	CU3547	Chip C.	GRM36B103K16PT	1	1	C296	CU3547	Chip C.	GRM36B103K16PT	1	1
C207	CU3535	Chip C.	GRM36B102K50PT	1	1	C298	CU3547	Chip C.	GRM36B103K16PT	1	1
C208	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C300	CU3512	Chip C.	GRM36CH120J50PT	1	1
C209	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C301	CU3535	Chip C.	GRM36B102K50PT	1	1
C210	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C302	CU3535	Chip C.	GRM36B102K50PT	1	1
C211	CU3547	Chip C.	GRM36B103K16PT	1	1	C303	CU3535	Chip C.	GRM36B102K50PT	1	1
C213	CU3535	Chip C.	GRM36B102K50PT	1	1	C305	CU3511	Chip C.	GRM36CH100D50PT	1	1
C214	CU3535	Chip C.	GRM36B102K50PT	1	1	C306	CU3547	Chip C.	GRM36B103K16PT	1	1
C215	CU3535	Chip C.	GRM36B102K50PT	1	1	C308	CU3535	Chip C.	GRM36B102K50PT	1	1
C216	CU3522	Chip C.	GRM36CH820J50PT	1	1	C309	CU3535	Chip C.	GRM36B102K50PT	1	1
C218	CU3522	Chip C.	GRM36CH820J50PT	1	1	C310	CU3547	Chip C.	GRM36B103K16PT	1	1
C219	CU3522	Chip C.	GRM36CH820J50PT	1	1	C311	CU3535	Chip C.	GRM36B102K50PT	1	1
C220	CU3535	Chip C.	GRM36B102K50PT	1	1	C312	CU3511	Chip C.	GRM36CH100D50PT	1	1
C221	CU3547	Chip C.	GRM36B103K16PT	1	1	C313	CU3502	Chip C.	GRM36CK010C50PT	1	1
C222	CU3535	Chip C.	GRM36B102K50PT	1	1	C314	CU3535	Chip C.	GRM36B102K50PT	1	1
C223	CU3535	Chip C.	GRM36B102K50PT	1	1	C315	CU3503	Chip C.	GRM36CK020C50PT	1	1
C224	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C316	CU0108	Chip C.	2012 B 10V 1UF	1	1
C225	CU3535	Chip C.	GRM36B102K50PT	1	1	C317	CU3535	Chip C.	GRM36B102K50PT	1	1
C226	CU3515	Chip C.	GRM36CH220J50PT	1	1	C318	CS0063	Chip Tantalum	35V 0.1UF	1	1
C227	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C319	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C228	CU3511	Chip C.	GRM36CH100D50PT	1	1	C320	CU3501	Chip C.	GRM36CK0R5C50PT	1	1
C229	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C321	CU3547	Chip C.	GRM36B103K16PT	1	1
C230	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C322	CU3547	Chip C.	GRM36B103K16PT	1	1
C231	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C323	CU3511	Chip C.	GRM36CH100D50PT	1	1
C232	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C324	CU0108	Chip C.	2012 B 10V 1UF	1	1
C233	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C325	CU3535	Chip C.	GRM36B102K50PT	1	1
C234	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C326	CU3504	Chip C.	GRM36CJ030C50PT	1	1
C235	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C327	CU3503	Chip C.	GRM36CK020C50PT	1	1
C236	CU0108	Chip C.	2012 B 10V 1UF	1	1	C328	CU3508	Chip C.	1005 CH 50V 7PF D	1	1
C237	CU3535	Chip C.	GRM36B102K50PT	1	1	C329	CU3512	Chip C.	GRM36CH120J50PT	1	1
C238	CU3551	Chip C.	GRM36B223K16PT	1	1	C330	CU3505	Chip C.	GRM36CH040C50PT	1	1
C239	CU3535	Chip C.	GRM36B102K50PT	1	1	C331	CU3515	Chip C.	GRM36CH220J50PT	1	1
C240	CU3531	Chip C.	GRM36B471K50PT	1	1	C332	CU3535	Chip C.	GRM36B102K50PT	1	1
C242	CU3523	Chip C.	GRM36CH101J50PT	1	1	C333	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C243	CU3503	Chip C.	GRM36CK020C50PT	1	1	C334	CU3505	Chip C.	GRM36CH040C50PT	1	1
C244	CU3535	Chip C.	GRM36B102K50PT	1	1	C335	CU3511	Chip C.	GRM36CH100D50PT	1	1
C245	CS0424	Chip Tantalum	TMCA1C106MTR	1	1	C337	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C246	CU3535	Chip C.	GRM36B102K50PT	1	1	C338	CU3512	Chip C.	GRM36CH120J50PT	1	1
C247	CU3506	Chip C.	GRM36H050C50PT	1	1	C339	CS0237	Chip Tantalum	10V 4.7UF	1	1
C248	CU3547	Chip C.	GRM36B103K16PT	1	1	C340	CU3508	Chip C.	1005 CH 50V 7PF D	1	1
C249	CU3511	Chip C.	GRM36CH100D50PT	1	1	C342	CU3547	Chip C.	GRM36B103K16PT	1	1
C250	CU3531	Chip C.	GRM36B471K50PT	1	1	C344	CU3505	Chip C.	GRM36CH040C50PT	1	1
C251	CU3502	Chip C.	GRM36CK010C50PT	1	1	C345	CU3535	Chip C.	GRM36B102K50PT	1	1
C252	CU3519	Chip C.	GRM36CH470J50PT	1	1	C346	CU3535	Chip C.	GRM36B102K50PT	1	1
C253	CS0424	Chip Tantalum	TMCA1C106MTR	1	1	C347	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C254	CU3547	Chip C.	GRM36B103K16PT	1	1	C348	CU3535	Chip C.	GRM36B102K50PT	1	1
C255	CS0220	Chip Tantalum	16V 2.2UF	1	1	C349	CU3523	Chip C.	GRM36CH101J50PT	1	1
C256	CU3547	Chip C.	GRM36B103K16PT	1	1	C350	CU3535	Chip C.	GRM36B102K50PT	1	1
C257	CS0220	Chip Tantalum	16V 2.2UF	1	1	C353	CU3504	Chip C.	GRM36CJ030C50PT	1	1
C258	CU3504	Chip C.	GRM36CJ030C50PT	1	1	C354	CU3547	Chip C.	GRM36B103K16PT	1	1
C259	CU3515	Chip C.	GRM36CH220J50PT	1	1	C355	CU3535	Chip C.	GRM36B102K50PT	1	1
C260	CU3514	Chip C.	GRM36CH180J50PT	1	1	C356	CU3547	Chip C.	GRM36B103K16PT	1	1
C261	CU3535	Chip C.	GRM36B102K50PT	1	1	C357	CU3547	Chip C.	GRM36B103K16PT	1	1
C262	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C358	CU3535	Chip C.	GRM36B102K50PT	1	1
C263	CU3523	Chip C.	GRM36CH101J50PT	1	1	C359	CU3522	Chip C.	GRM36CH820J50PT	1	1
C264	CU3535	Chip C.	GRM36B102K50PT	1	1	C360	CU3551	Chip C.	GRM36B223K16PT	1	1
C265	CS0063	Chip Tantalum	35V 0.1UF	1	1	C361	CU3527	Chip C.	GRM36CH221J25PT	1	1
C266	CU3524	Chip C.	1005 CH 50V 120PF J	1	1	C362	CS0424	Chip Tantalum	TMCA1C106MTR	1	1
C267	CU3547	Chip C.	GRM36B103K16PT	1	1	C363	CU3535	Chip C.	GRM36B102K50PT	1	1
C268	CU3515	Chip C.	GRM36CH220J50PT	1	1	C364	CS0237	Chip Tantalum	10V 4.7UF	1	1
C269	CU3519	Chip C.	GRM36CH470J50PT	1	1	C365	CS0424	Chip Tantalum	TMCA1C106MTR	1	1
C270	CU3516	Chip C.	GRM36CH270J50PT	1	1	C366	CU3535	Chip C.	GRM36B102K50PT	1	1
C271	CU3535	Chip C.	GRM36B102K50PT	1	1	C367	CU3511	Chip C.	GRM36CH100D50PT	1	1
C272	CU3535	Chip C.	GRM36B102K50PT	1	1	C368	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C273	CU3504	Chip C.	GRM36CJ030C50PT	1	1	C369	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C274	CU3535	Chip C.	GRM36B102K50PT	1	1	C370	CU3535	Chip C.	GRM36B102K50PT	1	1
C275	CU3535	Chip C.	GRM36B102K50PT	1	1	C371	CU3543	Chip C.	GRM36B472K25PT	1	1
C276	CU3535	Chip C.	GRM36B102K50PT	1	1	C372	CU3527	Chip C.	GRM36CH221J25PT	1	1
C278	CU3513	Chip C.	GRM36CH150J50PT	1	1	C373	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C279	CU3535	Chip C.	GRM36B102K50PT	1	1	C374	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C280	CU3547	Chip C.	GRM36B103K16PT	1	1	C375	CU3547	Chip C.	GRM36B103K16PT	1	1
C281	CU3514	Chip C.	GRM36CH180J50PT	1	1	C376	CU3535	Chip C.	GRM36B102K50PT	1	1
C282	CU3518	Chip C.	GRM36CH390J50PT	1	1	C377	CU3547	Chip C.	GRM36B103K16PT	1	1
C283	CU3524	Chip C.	1005 CH 50V 120PF J	1	1	C378	CU3101	Chip C.	1608 B 50V 0.047UF K	1	1
C284	CU3504	Chip C.	GRM36CJ030C50PT	1	1	C379	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C285	CU3524	Chip C.	1005 CH 50V 120PF J	1	1	C380	CU3503	Chip C.	GRM36CK020C50PT	1	1

Ref. No.	Part No.	Description	Parts Name	Qty		Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)					(T)	(E)
C381	CU3503	Chip C.	GRM36CK020C50PT	1	1	C472	CE0339	Electrolytic C.	16V 10UF	1	1
C382	CU3505	Chip C.	GRM36CH040C50PT	1	1	C473	CE0364	Electrolytic C.	16V 47UF	1	1
C383	CU3523	Chip C.	GRM36CH101J50PT	1	1	C474	CU3535	Chip C.	GRM36B102K50PT	1	1
C384	CU3520	Chip C.	1005 CH 50V 56PF J	1	1	C475	CU3551	Chip C.	GRM36B223K16PT	1	1
C386	CU3526	Chip C.	GRM36CH181J25PT	1	1	C476	CU3549	Chip C.	1005 B 16V 0.015UF K	1	1
C387	CU3047	Chip C.	1608 B 50V 0.010UF	1	1	C477	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1
C389	CU3538	Chip C.	GRM36B182K50PT	1	1	C478	CU3547	Chip C.	GRM36B103K16PT	1	1
C390	CU3523	Chip C.	GRM36CH101J50PT	1	1	C479	CU3535	Chip C.	GRM36B102K50PT	1	1
C391	CU3503	Chip C.	GRM36CK020C50PT	1	1	C480	CE0364	Electrolytic C.	16V 47UF	1	1
C392	CU3512	Chip C.	GRM36CH120J50PT	1	1	C481	CS0049	Chip Tantalum	16V 1UF	1	1
C393	CU3506	Chip C.	GRM36CH050C50PT	1	1	C482	CU3047	Chip C.	1608 B 50V 0.010UF	1	1
C394	CU3507	Chip C.	GRM36CH060D50PT	1	1	C483	CU3541	Chip C.	GRM36B332K50PT	1	1
C395	CU3535	Chip C.	GRM36B102K50PT	1	1	C484	CU3538	Chip C.	GRM36B182K50PT	1	1
C396	CU3547	Chip C.	GRM36B103K16PT	1	1	C485	CU3544	Chip C.	GRM36B562K25PT	1	1
C397	CU3535	Chip C.	GRM36B102K50PT	1	1	C486	CU3540	Chip C.	GRM36B272K50PT	1	1
C398	CU3504	Chip C.	GRM36CJ030C50PT	1	1	C487	CU3535	Chip C.	GRM36B102K50PT	1	1
C399	CU3535	Chip C.	GRM36B102K50PT	1	1	C488	CS0049	Chip Tantalum	16V 1UF	1	1
C401	CU3505	Chip C.	GRM36CH040C50PT	1	1	C489	CU3551	Chip C.	GRM36B223K16PT	1	1
C402	CU3511	Chip C.	GRM36CH100D50PT	1	1	C490	CU3544	Chip C.	GRM36B562K25PT	1	1
C403	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C491	CU3542	Chip C.	GRM36B392K50PT	1	1
C404	CU3547	Chip C.	GRM36B103K16PT	1	1	C492	CU0108	Chip C.	2012 B 10V 1UF	1	1
C405	CU3505	Chip C.	GRM36CH040C50PT	1	1	C493	CU3551	Chip C.	GRM36B223K16PT	1	1
C406	CU3511	Chip C.	GRM36CH100D50PT	1	1	C494	CU3549	Chip C.	1005 B 16V 0.015UF K	1	1
C407	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1	C495	CS0049	Chip Tantalum	16V 1UF	1	1
C408	CU3102	Chip C.	1608 B 50V 0.033UF K	1	1	C496	CU3547	Chip C.	GRM36B103K16PT	1	1
C409	CU3549	Chip C.	1005 B 16V 0.015UF K	1	1	C497	CU3047	Chip C.	1608 B 50V 0.010UF	1	1
C410	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C498	CU3047	Chip C.	1608 B 50V 0.010UF	1	1
C411	CU3535	Chip C.	GRM36B102K50PT	1	1	C499	CU3531	Chip C.	GRM36B471K50PT	1	1
C412	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C500	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1
C413	CU3549	Chip C.	1005 B 16V 0.015UF K	1	1	C501	CU3551	Chip C.	GRM36B223K16PT	1	1
C414	CU3535	Chip C.	GRM36B102K50PT	1	1	C502	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C415	CU3523	Chip C.	GRM36CH101J50PT	1	1	C503	CU3535	Chip C.	GRM36B102K50PT	1	1
C416	CU3523	Chip C.	GRM36CH101J50PT	1	1	C504	CE0364	Electrolytic C.	16V 47UF	1	1
C417	CU0002	Chip C.	2012 CH 50V 1.0PF C	1	1	C505	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C418	CU3503	Chip C.	GRM36CK020C50PT	1	1	C506	CU3538	Chip C.	GRM36B182K50PT	1	1
C419	CU3504	Chip C.	GRM36CJ030C50PT	1	1	C507	CU3544	Chip C.	GRM36B562K25PT	1	1
C420	CU3506	Chip C.	GRM36CH050C50PT	1	1	C508	CU3540	Chip C.	GRM36B272K50PT	1	1
C421	CU3506	Chip C.	GRM36CH050C50PT	1	1	C509	CU3535	Chip C.	GRM36B102K50PT	1	1
C422	CU3506	Chip C.	GRM36CH050C50PT	1	1	C510	CU3541	Chip C.	GRM36B332K50PT	1	1
C423	CU3503	Chip C.	GRM36CK020C50PT	1	1	C511	CU3551	Chip C.	GRM36B223K16PT	1	1
C425	CU3506	Chip C.	GRM36CH050C50PT	1	1	C512	CU3551	Chip C.	GRM36B223K16PT	1	1
C426	CU3503	Chip C.	GRM36CK020C50PT	1	1	C513	CU3542	Chip C.	GRM36B392K50PT	1	1
C427	CU3535	Chip C.	GRM36B102K50PT	1	1	C514	CU3544	Chip C.	GRM36B562K25PT	1	1
C428	CU3512	Chip C.	GRM36CH120J50PT	1	1	C515	CU3523	Chip C.	GRM36CH101J50PT	1	1
C429	CU3502	Chip C.	GRM36CK010C50PT	1	1	C516	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C430	CU3535	Chip C.	GRM36B102K50PT	1	1	C517	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1
C431	CS0237	Chip Tantalum	10V 4.7UF	1	1	C518	CU3111	Chip C.	1608 B 25V 0.1UF	1	1
C432	CU3535	Chip C.	GRM36B102K50PT	1	1	C519	CU0108	Chip C.	2012 B 10V 1UF	1	1
C434	CU3503	Chip C.	GRM36CK020C50PT	1	1	C520	CU3511	Chip C.	GRM36CH100D50PT	1	1
C435	CS0237	Chip Tantalum	10V 4.7UF	1	1	C521	CU3535	Chip C.	GRM36B102K50PT	1	1
C436	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1	C522	CE0339	Electrolytic C.	16V 10UF	1	1
C437	CS0237	Chip Tantalum	10V 4.7UF	1	1	C523	CU3507	Chip C.	GRM36CH060D50PT	1	1
C438	CU3505	Chip C.	GRM36CH040C50PT	1	1	C524	CU3509	Chip C.	GRM36CH080D50PT	1	1
C439	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1	C525	CU3527	Chip C.	GRM36CH221J25PT	1	1
C440	CU0108	Chip C.	2012 B 10V 1UF	1	1	C527	CU3547	Chip C.	GRM36B103K16PT	1	1
C441	CU3535	Chip C.	GRM36B102K50PT	1	1	C530	CU3515	Chip C.	GRM36CH220J50PT	1	1
C442	CE0364	Electrolytic C.	16V 47UF	1	1	C531	CU3535	Chip C.	GRM36B102K50PT	1	1
C443	CU3551	Chip C.	GRM36B223K16PT	1	1	C532	CU3535	Chip C.	GRM36B102K50PT	1	1
C444	CU3551	Chip C.	GRM36B223K16PT	1	1	C533	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1
C445	CE0342	Electrolytic C.	16V 470UF	1	1	C534	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1
C446	CU0108	Chip C.	2012 B 10V 1UF	1	1	C536	CU3502	Chip C.	GRM36CK010C50PT	1	1
C447	CU3535	Chip C.	GRM36B102K50PT	1	1	C537	CU3515	Chip C.	GRM36CH220J50PT	1	1
C448	CU0108	Chip C.	2012 B 10V 1UF	1	1	C538	CU3535	Chip C.	GRM36B102K50PT	1	1
C449	CU3535	Chip C.	GRM36B102K50PT	1	1	C539	CU3506	Chip C.	GRM36CH050C50PT	1	1
C450	CU3547	Chip C.	GRM36B103K16PT	1	1	C540	CS0220	Chip Tantalum	16V 2.2UF	1	1
C451	CU3551	Chip C.	GRM36B223K16PT	1	1	C541	CS0230	Chip Tantalum	25V 1UF	1	1
C453	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1	C542	CS0049	Chip Tantalum	16V 1UF	1	1
C454	CS0424	Chip Tantalum	TMCMA1C106MTR	1	1	C543	CU3535	Chip C.	GRM36B102K50PT	1	1
C455	CU3547	Chip C.	GRM36B103K16PT	1	1	C545	CS0423	Chip Tantalum	TMCMB1C226MTR	1	1
C456	CU3535	Chip C.	GRM36B102K50PT	1	1	C546	CS0423	Chip Tantalum	TMCMB1C226MTR	1	1
C457	CU3535	Chip C.	GRM36B102K50PT	1	1	C547	CU3535	Chip C.	GRM36B102K50PT	1	1
C458	CE0339	Electrolytic C.	16V 10UF	1	1	C548	CU3506	Chip C.	GRM36CH050C50PT	1	1
C459	CS0423	Chip Tantalum	TMCMB1C226MTR	1	1	C549	CU0108	Chip C.	2012 B 10V 1UF	1	1
C460	CE0420	Electrolytic C.	16MV22SZ	1	1	C550	CU0108	Chip C.	2012 B 10V 1UF	1	1
C461	CU3551	Chip C.	GRM36B223K16PT	1	1	C551	CU3535	Chip C.	GRM36B102K50PT	1	1
C462	CU3551	Chip C.	GRM36B223K16PT	1	1	C552	CU3551	Chip C.	GRM36B223K16PT	1	1
C463	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C554	CU7054	Chip C.	2012 J 100V 22PF	1	1
C464	CU3547	Chip C.	GRM36B103K16PT	1	1	C555	CU7054	Chip C.	2012 J 100V 22PF	1	1
C465	CU3111	Chip C.	1608 B 25V 0.1UF	1	1	C556	CU3035	Chip C.	1608 B 50V 0.010UF	1	1
C466	CU3102	Chip C.	1608 B 50V 0.033UF K	1	1	C558	CU7047	Chip C.	3225 C 500V 33PF	1	1
C467	CU3535	Chip C.	GRM36B102K50PT	1	1	C559	CU4006	Chip C.	GRM42-8CH050C500PT	1	1
C468	CU3035	Chip C.	1608 B 50V 0.001UF	1	1	C560	CU4004	Chip C.	GRM42-8CJ030C500PT	1	1
C469	CU3027	Chip C.	1608 CH 50V 220PF J	1	1	C561	CU3031	Chip C.	1608 B 50V 470PF K	1	1
C470	CE0418	Electrolytic C.	16MV2200CA	1	1	C562	CE0341	Electrolytic C.	16V 100UF	1	1
C471	CU3535	Chip C.	GRM36B102K50PT	1	1	C565	CU7054	Chip C.	2012 J 100V 22PF	1	1



Ref. No.	Part No.	Description	Parts Name	Qty	(T)	(E)	Ref. No.	Part No.	Description	Parts Name	Qty	(T)	(E)
C567	CU3035	Chip C.	1608 B 50V 0.001UF	1	1		D60	XD0323	Chip Diode	MA2S111-(TX)	1	1	1
C568	CU3011	Chip C.	1608 CH 50V 10PF C	1	1		D61	XD0323	Chip Diode	MA2S111-(TX)	1	1	1
C569	CU3111	Chip C.	1608 B 25V 0.1UF	1	1		D62	XD0323	Chip Diode	MA2S111-(TX)	1	1	1
C570	CS0237	Chip Tantalum	10V 4.7UF	1	1		D63	XD0274	Diode	DSA3A1	1	1	1
C571	CS0237	Chip Tantalum	10V 4.7UF	1	1		D64	XD0315	Chip Diode	MA2S728-(TX)	1	1	1
C572	CU3111	Chip C.	1608 B 25V 0.1UF	1	1		D65	XD0165	Chip Diode	DTZ5.1B TT11	1	1	1
C575	CS0424	Chip Tantalum	TMOMA1C106MTR	1	1		D66	XD0315	Chip Diode	MA2S728-(TX)	1	1	1
C576	CU0111	Chip C.	G2012JB1C105KT-N	1	1		D67	XD0323	Chip Diode	MA2S111-(TX)	1	1	1
C577	CU3111	Chip C.	1608 B 25V 0.1UF	1	1		D68	XD0165	Chip Diode	DTZ5.1B TT11	1	1	1
C578	CU3547	Chip C.	GRM36B103K16PT	1	1		D69	XD0315	Chip Diode	MA2S728-(TX)	1	1	1
C580	CU0116	Chip C.	GRM21B2C2D221JY21L	1	1		D71	XD0373	Chip Diode	UM9401F	1	1	1
C581	CU3131	Chip C.	GRM188R72E102KW07D	1	1		D72	XD0373	Chip Diode	UM9401F	1	1	1
C582	CU3131	Chip C.	GRM188R72E102KW07D	1	1		D73	XD0373	Chip Diode	UM9401F	1	1	1
C583	CU3131	Chip C.	GRM188R72E102KW07D	1	1		D74	XD0339	Chip Diode	1SV308(TPH3)	1	1	1
C584	CU3131	Chip C.	GRM188R72E102KW07D	1	1		D75	XD0339	Chip Diode	1SV308(TPH3)	1	1	1
C586	CU3503	Chip C.	GRM36CK020C50PT	1	1		D76	XD0339	Chip Diode	1SV308(TPH3)	1	1	1
C587	CU3505	Chip C.	GRM36CH040C50PT	1	1		D77	XD0165	Chip Diode	DTZ5.1B TT11	1	1	1
C588	CU3523	Chip C.	GRM36CH101J50PT	1	1		F1	EF0028	Chip Fuses	TF16SN1.25TTD	1	1	1
C589	CU3511	Chip C.	GRM36CH100D50PT	1	1		FL1	XC0070	Ceramic Filter	ALFYM450E=K	1	1	1
C590	CU3504	Chip C.	GRM36CJ030C50PT	1	1		FL3	XC0078	Ceramic Filter	SFT10.7MA5-Z	1	1	1
C591	CU3111	Chip C.	1608 B 25V 0.1UF	1	1		FL4	XC0047	Ceramic Filter	ALFYM455E=K	1	1	1
C592	CU3111	Chip C.	1608 B 25V 0.1UF	1	1		FL6	XC0078	Ceramic Filter	SFT10.7MA5-Z	1	1	1
C593	CU3111	Chip C.	1608 B 25V 0.1UF	1	1		IC1	XA0596	IC	NJM2902V-TE1	1	1	1
C594	CU3111	Chip C.	1608 B 25V 0.1UF	1	1		IC2	XA0915	IC	M64076AGP	1	1	1
CN1	RD0108	Jumper	1/6W TYPE 0 OHM	1	1		IC3	XA0666	IC	TK10931V	1	1	1
CN2	UJ0051	Jack	HJC0212-010024	1	1		IC4	XA0573	IC	NJM2904V-TE1	1	1	1
CN3	UE0214	Connector	AXN420C530P	1	1		IC5	XA0404	IC	IC DETECTOR	1	1	1
CN4	UE0393	Connector	PI28A11M	1	1		IC6	XA0348	IC	TC4W53FU(TE12L)	1	1	1
CN5	UE0043	Connector	PI22A02M	1	1		IC7	XA0115	IC	IC TC4S66F	1	1	1
CN6	UE0043	Connector	PI22A02M	1	1		IC8	XA0410	IC	LA4425A	1	1	1
CN7	UA0037Y	Connector	R-B2.0X0.2M PLUG 15A	1	1		IC9	XA0596	IC	NJM2902V-TE1	1	1	1
CN8	UE0455	Connector	PI28A10M	1	1		IC10	XA0348	IC	TC4W53FU(TE12L)	1	1	1
CN9	UE0226	Connector	B2B-PH-K-S	1	1		IC12	XA0236	IC	IC BU4052BCF-E2	1	1	1
CN10	UE0043	Connector	PI22A02M	1	1		IC13	XA0900	IC	M51132FP	1	1	1
CN11	UE0043	Connector	PI22A02M	1	1		IC14	XA0119	IC	IC AN8010M	1	1	1
D1	XD0373	Chip Diode	UM9401F	1	1		IC15	XA0348	IC	TC4W53FU(TE12L)	1	1	1
D2	XD0339	Chip Diode	1SV308(TPH3)	1	1		IC16	XA0102	IC	NJM7808FA	1	1	1
D3	XD0339	Chip Diode	1SV308(TPH3)	1	1		IC18	XA0596	IC	NJM2902V-TE1	1	1	1
D5	XD0339	Chip Diode	1SV308(TPH3)	1	1		IC19	XA1081	IC	M30624FGPGP(E)	0	1	1
D6	XD0374	Chip Diode	1SV278 TPH2	1	1		IC19	XA1082	IC	M30624FGPGP(T)	1	1	0
D7	XD0342	Chip Diode	1SS390 TE61	1	1		IC20	XA0620	IC	S-80845ALMP-EA9-T2	1	1	1
D8	XD0375	Chip Diode	MA4S713-(TX)	1	1		IC21	XA0669	IC	BR24L64F-WE2	1	1	1
D9	XD0375	Chip Diode	MA4S713-(TX)	1	1		IC22	XA0098	IC	IC NJM78L05UA	1	1	1
D10	XD0376	Chip Diode	1SV282 TPH2	1	1		IC23	XA0348	IC	TC4W53FU(TE12L)	1	1	1
D11	XD0376	Chip Diode	1SV282 TPH2	1	1		IC24	XA0925	IC	S-816A50AMC-BAZ-T2	1	1	1
D12	XD0373	Chip Diode	UM9401F	1	1		IC25	XA0332	IC	TA75S01F(TE85L)	1	1	1
D13	XD0373	Chip Diode	UM9401F	1	1		IC26	XA0332	IC	TA75S01F(TE85L)	1	1	1
D14	XD0373	Chip Diode	UM9401F	1	1		JK1	UJ0053	Jack	HSJ1332-01-020	1	1	1
D15	XD0373	Chip Diode	UM9401F	1	1		JP3	MACL04GG	Wire	#30AH1-040-H1	1	1	1
D17	XD0320	Chip Diode	DAN235E-TL	1	1		JP4	UX1320	Wire	WIRE UX1320	1	1	1
D21	XD0374	Chip Diode	1SV278 TPH2	1	1		L1	QB0055	Inductor	FBA04HA900NA-00	1	1	1
D22	XD0375	Chip Diode	MA4S713-(TX)	1	1		L2	QKA15A	Coil	MR1.5 1.5T 0.4	1	1	1
D23	XD0376	Chip Diode	1SV282 TPH2	1	1		L3	QKA95D	Coil	MR3.0 9.5T 0.6	1	1	1
D24	XD0374	Chip Diode	1SV278 TPH2	1	1		L4	QKA55E	Coil	MR3.0 5.5T 0.8	1	1	1
D25	XD0376	Chip Diode	1SV282 TPH2	1	1		L5	QKA55E	Coil	MR3.0 5.5T 0.8	1	1	1
D26	XD0320	Chip Diode	DAN235E-TL	1	1		L6	QKA55E	Coil	MR3.0 5.5T 0.8	1	1	1
D27	XD0320	Chip Diode	DAN235E-TL	1	1		L7	QKA45E	Coil	MR3.0 4.5T 0.8	1	1	1
D28	XD0314	Chip Diode	HVU359TRF	1	1		L8	QKA65A	Coil	MR1.5 3.5T 0.4	1	1	1
D29	XD0314	Chip Diode	HVU359TRF	1	1		L9	QC0621	Chip Inductor	LL1608-FS33NJ	1	1	1
D30	XD0314	Chip Diode	HVU359TRF	1	1		L10	QKA15E	Coil	MR3.0 1.5T 0.8	1	1	1
D31	XD0377	Chip Diode	MAZS0270HL	1	1		L11	QK0115	Coil	AS120252-9R3N	1	1	1
D32	XD0338	Chip Diode	1SS362(TE85L)	1	1		L12	QC0442	Chip Inductor	1608 1.0 UH	1	1	1
D33	XD0320	Chip Diode	DAN235E-TL	1	1		L13	QC0534	Chip Inductor	LQN21A47NJ04	1	1	1
D34	XD0342	Chip Diode	1SS390 TE61	1	1		L14	QKA65A	Coil	MR1.5 3.5T 0.4	1	1	1
D35	XD0374	Chip Diode	1SV278 TPH2	1	1		L15	QC0534	Chip Inductor	LQN21A47NJ04	1	1	1
D37	XD0320	Chip Diode	DAN235E-TL	1	1		L16	QC0620	Chip Inductor	LL1608-FS27NJ	1	1	1
D38	XD0374	Chip Diode	1SV278 TPH2	1	1		L17	QC0570	Chip Inductor	LL1608FH56NJ 56NH	1	1	1
D39	XD0165	Chip Diode	DTZ5.1B TT11	1	1		L18	QKA75A	Coil	MR1.5 7.5T 0.4	1	1	1
D40	XD0374	Chip Diode	1SV278 TPH2	1	1		L19	QKA15A	Coil	MR1.5 1.5T 0.4	1	1	1
D41	XD0342	Chip Diode	1SS390 TE61	1	1		L20	QC0508	Chip Inductor	LK16082R2K-T	1	1	1
D42	XD0250	Chip Diode	MA742-(TX)	1	1		L21	QC0573	Chip Inductor	LL1608FHR10J 100NH	1	1	1
D43	XD0319	Chip Diode	MA2S077-(TX)	1	1		L22	QKA75A	Coil	MR1.5 7.5T 0.4	1	1	1
D45	XD0323	Chip Diode	MA2S111-(TX)	1	1		L23	QC0614	Chip Inductor	LL1608-FS8N2J	1	1	1
D46	XD0374	Chip Diode	1SV278 TPH2	1	1		L24	QKA45E	Coil	MR3.0 4.5T 0.8	1	1	1
D47	XD0374	Chip Diode	1SV278 TPH2	1	1		L25	QA0162	Chip Inductor	VCO QA0162 5CBM	1	1	1
D48	XD0320	Chip Diode	DAN235E-TL	1	1		L26	QC0530	Chip Inductor	LQN21A22NJ04	1	1	1
D49	XD0314	Chip Diode	HVU359TRF	1	1		L27	QC0442	Chip Inductor	1608 1.0 UH	1	1	1
D50	XD0314	Chip Diode	HVU359TRF	1	1		L28	QC0442	Chip Inductor	1608 1.0 UH	1	1	1
D51	XD0314	Chip Diode	HVU359TRF	1	1		L29	QKA15E	Coil	MR3.0 1.5T 0.8	1	1	1
D52	XD0314	Chip Diode	HVU359TRF	1	1		L30	QKA35E	Coil	MR3.0 3.5T 0.8	1	1	1
D53	XD0338	Chip Diode	1SS362(TE85L)	1	1		L31	QKA25E	Coil	MR3.0 2.5T 0.8	1	1	1
D54	XD0342	Chip Diode	1SS390 TE61	1	1		L32	QKA15E	Coil	MR3.0 1.5T 0.8	1	1	1
D57	XD0165	Chip Diode	DTZ5.1B TT11	1	1		L33	QKA85C	Coil	COIL MR2.5 8.5T 0.5	1	1	1
D58	XD0165	Chip Diode	DTZ5.1B TT11	1	1		L34	QKA25E	Coil	MR3.0 2.5T 0.8	1	1	1
D59	XD0165	Chip Diode	DTZ5.1B TT11	1	1		L35	QKA25E	Coil	MR3.0 2.5T 0.8	1	1	1



Ref. No.	Part No.	Description	Parts Name	Qty		Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)					(T)	(E)
L36	QC0821	Chip Inductor	LL1608-FS33NJ	1	1	Q13	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L37	QC0442	Chip Inductor	1608 1.0 UH	1	1	Q14	XT0171	Chip Transistor	2SC4808-TX.AR	1	1
L38	QC0573	Chip Inductor	LL1608FHR10J 100NH	1	1	Q15	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L39	QC0527	Chip Inductor	LQN21A12NJ04	1	1	Q16	XT0171	Chip Transistor	2SC4808-TX.AR	1	1
L40	QC0540	Chip Inductor	LQN21AR15J04	1	1	Q17	XU0193	Chip Transistor	RN1107 TE85L	1	1
L41	QC0572	Chip Inductor	LL1608FH82NJ 82NH	1	1	Q18	XT0146	Chip Transistor	2SC5226-4-TL	1	1
L42	QC0829	Chip Inductor	LL1608-FSR15J	1	1	Q19	XE0053	Chip FET	3SK293TE85L	1	1
L43	QC0542	Chip Inductor	LQN21AR22J04	1	1	Q20	XT0124	Chip Transistor	2SC4215-Y(TE85L)	1	1
L44	QC0542	Chip Inductor	LQN21AR22J04	1	1	Q21	XE0053	Chip FET	3SK293TE85L	1	1
L45	QC0518	Chip Inductor	LK16081R5K-T	1	1	Q23	XU0193	Chip Transistor	RN1107 TE85L	1	1
L46	QA0112	Chip Inductor	V666SHS-063DAQ	1	1	Q24	XT0095	Chip Transistor	2SC4081	1	1
L47	QC0540	Chip Inductor	LQN21AR15J04	1	1	Q25	XU0193	Chip Transistor	RN1107 TE85L	1	1
L48	QC0537	Chip Inductor	LQN21A82NJ04	1	1	Q26	XU0193	Chip Transistor	RN1107 TE85L	1	1
L49	QA0112	Chip Inductor	V666SHS-063DAQ	1	1	Q27	XU0193	Chip Transistor	RN1107 TE85L	1	1
L50	QC0561	Chip Inductor	LL1608FH10NJ 10NH	1	1	Q28	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L51	QA0112	Chip Inductor	V666SHS-063DAQ	1	1	Q29	XE0010	Chip FET	FET 2SK508K52	1	1
L52	QC0442	Chip Inductor	1608 1.0 UH	1	1	Q31	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L53	QA0160	Chip Inductor	K5-S2/33331 R12T739B	1	1	Q32	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L54	QC0740	Chip Inductor	KQ0805TTER82J	1	1	Q33	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L55	QC0527	Chip Inductor	LQN21A12NJ04	1	1	Q34	XU0197	Chip Transistor	RN1111 TE85L	1	1
L56	QC0621	Chip Inductor	LL1608-FS33NJ	1	1	Q35	XU0192	Chip Transistor	RN2107 TE85L	1	1
L57	QA0093	Chip Inductor	BOBBIN	1	1	Q36	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L58	QC0285	Chip Inductor	2520 0.56UH	1	1	Q37	XT0172	Chip Transistor	2SC4618TLP	1	1
L59	QC0740	Chip Inductor	KQ0805TTER82J	1	1	Q38	XT0171	Chip Transistor	2SC4808-TX.AR	1	1
L60	QC0518	Chip Inductor	LK16081R5K-T	1	1	Q39	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L62	QC0535	Chip Inductor	LQN21A56NJ04	1	1	Q40	XT0171	Chip Transistor	2SC4808-TX.AR	1	1
L63	QC0442	Chip Inductor	1608 1.0 UH	1	1	Q41	XE0053	Chip FET	3SK293TE85L	1	1
L64	QC0531	Chip Inductor	LQN21A27NJ04	1	1	Q42	XE0053	Chip FET	3SK293TE85L	1	1
L65	QC0573	Chip Inductor	LL1608FHR10J 100NH	1	1	Q43	XT0146	Chip Transistor	2SC5226-4-TL	1	1
L66	QC0739	Chip Inductor	KQ0805TTER33J	1	1	Q44	XT0172	Chip Transistor	2SC4618TLP	1	1
L67	QC0542	Chip Inductor	LQN21AR22J04	1	1	Q45	XU0193	Chip Transistor	RN1107 TE85L	1	1
L68	QC0542	Chip Inductor	LQN21AR22J04	1	1	Q46	XU0193	Chip Transistor	RN1107 TE85L	1	1
L69	QC0518	Chip Inductor	LK16081R5K-T	1	1	Q47	XT0190	Chip Transistor	2SB1386 T100Q	1	1
L70	QC0536	Chip Inductor	LQN21A68NJ04	1	1	Q48	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L71	QC0534	Chip Inductor	LQN21A47NJ04	1	1	Q50	XU0193	Chip Transistor	RN1107 TE85L	1	1
L72	QC0536	Chip Inductor	LQN21A68NJ04	1	1	Q51	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L73	QC0573	Chip Inductor	LL1608FHR10J 100NH	1	1	Q52	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1
L74	QC0536	Chip Inductor	LQN21A68NJ04	1	1	Q54	XU0193	Chip Transistor	RN1107 TE85L	1	1
L75	QC0535	Chip Inductor	LQN21A56NJ04	1	1	Q55	XU0193	Chip Transistor	RN1107 TE85L	1	1
L76	QC0442	Chip Inductor	1608 1.0 UH	1	1	Q56	XT0146	Chip Transistor	2SC5226-4-TL	1	1
L77	QC0534	Chip Inductor	LQN21A47NJ04	1	1	Q57	XT0146	Chip Transistor	2SC5226-4-TL	1	1
L78	QC0530	Chip Inductor	LQN21A22NJ04	1	1	Q58	XU0192	Chip Transistor	RN2107 TE85L	1	1
L79	QKA45A	Coil	MR1.5 4.5T 0.4	1	1	Q59	XU0202	Chip Transistor	XP03383-TX	1	1
L80	QC0620	Chip Inductor	LL1608-FS27NJ	1	1	Q61	XU0193	Chip Transistor	RN1107 TE85L	1	1
L81	QKA45A	Coil	MR1.5 4.5T 0.4	1	1	Q63	XT0190	Chip Transistor	2SB1386 T100Q	1	1
L82	QKA45A	Coil	MR1.5 4.5T 0.4	1	1	Q64	XT0110	Chip Transistor	2SA1036K	1	1
L83	QC0288	Chip Inductor	2520 1.0 UH	1	1	Q65	XU0192	Chip Transistor	RN2107 TE85L	1	1
L84	QC0526	Chip Inductor	LQN21A10NJ04	1	1	Q66	XT0110	Chip Transistor	2SA1036K	1	1
L85	QC0619	Chip Inductor	LL1608-FS22NJ	1	1	Q67	XU0192	Chip Transistor	RN2107 TE85L	1	1
L86	QC0526	Chip Inductor	LQN21A10NJ04	1	1	Q68	XT0061	Chip Transistor	2SB1132	1	1
L87	QC0530	Chip Inductor	LQN21A22NJ04	1	1	Q69	XU0193	Chip Transistor	RN1107 TE85L	1	1
L88	QC0518	Chip Inductor	LK16081R5K-T	1	1	Q70	XU0193	Chip Transistor	RN1107 TE85L	1	1
L89	QC0532	Chip Inductor	LQN21A33NJ04	1	1	Q71	XT0061	Chip Transistor	2SB1132	1	1
L90	QC0524	Chip Inductor	LQN21A68ND04	1	1	Q72	XU0193	Chip Transistor	RN1107 TE85L	1	1
L91	QC0442	Chip Inductor	1608 1.0 UH	1	1	Q73	XU0193	Chip Transistor	RN1107 TE85L	1	1
L92	QC0526	Chip Inductor	LQN21A10NJ04	1	1	Q74	XT0095	Chip Transistor	2SC4081	1	1
L93	QKA25A	Coil	MR1.5 2.5T 0.4	1	1	Q75	XU0192	Chip Transistor	RN2107 TE85L	1	1
L94	QC0611	Chip Inductor	LL1608-FS4N7S	1	1	Q76	XU0192	Chip Transistor	RN2107 TE85L	1	1
L95	QC0524	Chip Inductor	LQN21A68ND04	1	1	Q77	XU0193	Chip Transistor	RN1107 TE85L	1	1
L96	QC0075	Chip Inductor	3225 12 UH	1	1	Q78	XU0193	Chip Transistor	RN1107 TE85L	1	1
L97	QC0611	Chip Inductor	LL1608-FS4N7S	1	1	Q79	XU0193	Chip Transistor	RN1107 TE85L	1	1
L101	QA0159	Chip Inductor	DET COIL QA0159	1	1	Q80	XU0193	Chip Transistor	RN1107 TE85L	1	1
L102	QA0159	Chip Inductor	DET COIL QA0159	1	1	Q81	XU0193	Chip Transistor	RN1107 TE85L	1	1
L103	QC0570	Chip Inductor	LL1608FH56NJ 56NH	1	1	Q82	XT0061	Chip Transistor	2SB1132	1	1
L104	QC0621	Chip Inductor	LL1608-FS33NJ	1	1	Q83	XU0192	Chip Transistor	RN2107 TE85L	1	1
L105	QC0619	Chip Inductor	LL1608-FS22NJ	1	1	Q84	XU0192	Chip Transistor	RN2107 TE85L	1	1
L106	QC0570	Chip Inductor	LL1608FH56NJ 56NH	1	1	Q85	XT0095	Chip Transistor	2SC4081	1	1
L107	QC0621	Chip Inductor	LL1608-FS33NJ	1	1	Q86	XU0193	Chip Transistor	RN1107 TE85L	1	1
L108	QKB003	Coil	COIL QKB003	1	1	Q87	XU0193	Chip Transistor	RN1107 TE85L	1	1
L109	QKB003	Coil	COIL QKB003	1	1	Q88	XU0193	Chip Transistor	RN1107 TE85L	1	1
L110	QC0568	Chip Inductor	LL1608FH39NJ 39NH	1	1	Q89	XU0193	Chip Transistor	RN1107 TE85L	1	1
L111	QC0573	Chip Inductor	LL1608FHR10J 100NH	1	1	Q90	XU0193	Chip Transistor	RN1107 TE85L	1	1
L112	QC0559	Chip Inductor	LL1608FH68NJ 6.8NH	1	1	Q91	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q1	XE0038A	Chip FET	2SK2975-T31	1	1	Q92	XT0172	Chip Transistor	2SC4618TLP	1	1
Q2	XE0044	Chip FET	2SK3074 TE12L	1	1	Q93	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q3	XT0146	Chip Transistor	2SC5226-4-TL	1	1	Q94	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q4	XE0047	FET	MTH538A(RD70HVF1-01)	1	1	Q95	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q5	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1	Q96	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q6	XU0193	Chip Transistor	RN1107 TE85L	1	1	Q97	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q7	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1	Q98	XT0146	Chip Transistor	2SC5226-4-TL	1	1
Q8	XU0192	Chip Transistor	RN2107 TE85L	1	1	Q99	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q9	XE0010	Chip FET	FET 2SK508K52	1	1	Q100	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q10	XU0193	Chip Transistor	RN1107 TE85L	1	1	Q101	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q11	XU0193	Chip Transistor	RN1107 TE85L	1	1	Q102	XU0193	Chip Transistor	RN1107 TE85L	1	1
Q12	XT0095	Chip Transistor	2SC4081	1	1	Q103	XU0193	Chip Transistor	RN1107 TE85L	1	1

Ref. No.	Part No.	Description	Parts Name	Qty		Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)					(T)	(E)
Q105	XU0193	Chip Transistor	RN1107 TE85L	1	1	R73	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
Q106	XU0193	Chip Transistor	RN1107 TE85L	1	1	R74	RK3038	Chip R.	1608 1/10W 1.0KOHM J	1	1
Q107	XT0138	Chip Transistor	2SC5066-O(TE85L)	1	1	R75	RK3046	Chip R.	1608 1/10W 4.7KOHM J	1	1
Q108	XU0160	Chip Transistor	DTC363EKT146	1	1	R76	RK3038	Chip R.	1608 1/10W 1.0KOHM J	1	1
Q109	XU0160	Chip Transistor	DTC363EKT146	1	1	R77	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
Q110	XU0193	Chip Transistor	RN1107 TE85L	1	1	R78	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
Q111	XU0192	Chip Transistor	RN2107 TE85L	1	1	R79	RK3050	Chip R.	1608 1/10W 10K OHM J	1	1
Q112	XU0193	Chip Transistor	RN1107 TE85L	1	1	R80	RK3050	Chip R.	1608 1/10W 10K OHM J	1	1
Q114	XT0110	Chip Transistor	2SA1036K	1	1	R81	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
Q115	XU0193	Chip Transistor	RN1107 TE85L	1	1	R82	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
Q116	XT0206	Chip Transistor	2SA1721-O(TE85L.F)	1	1	R83	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
Q117	XT0110	Chip Transistor	2SA1036K	1	1	R84	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
Q118	XU0193	Chip Transistor	RN1107 TE85L	1	1	R85	RK3054	Chip R.	1608 1/10W 22K OHM J	1	1
Q119	XT0206	Chip Transistor	2SA1721-O(TE85L.F)	1	1	R86	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1
R1	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R87	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R2	RK6024	Chip R.	6432 1W 68 OHM J	1	1	R88	RK3050	Chip R.	1608 1/10W 10K OHM J	1	1
R3	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R89	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1
R4	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R90	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1
R5	RK3062	Chip R.	1608 1/10W 100KOHM J	1	1	R92	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R6	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1	R93	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R7	RK3038	Chip R.	1608 1/10W 1.0KOHM J	1	1	R94	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R8	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R95	RK3565	Chip R.	1005 1/16W 180K OHMJ	1	1
R9	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R96	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R10	RK0069	Chip R.	2125 1/8W 100KOHM J	1	1	R97	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1
R11	RK3524	Chip R.	1005 1/16W 68 OHM J	1	1	R98	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R12	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1	R99	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1
R13	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R100	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R14	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1	R101*	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1
R15	RK3018	Chip R.	1608 1/10W 22 OHM J	1	1	R102	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R16	RK3032	Chip R.	1608 1/10W 330 OHM J	1	1	R103	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R17	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1	R104	RK3555	Chip R.	1005 1/16W 27K OHM J	1	1
R18	RK3560	Chip R.	1005 1/16W 68K OHM J	1	1	R105	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R19	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R106	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1
R20	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1	R107	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R21	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1	R108	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R22	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R109	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R23	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1	R110	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R24	RK3049	Chip R.	1608 1/10W 8.2KOHM J	1	1	R111*	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1
R25	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1	R112	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1
R26	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1	R113	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R27	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R114	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R28	RK3025	Chip R.	1608 1/10W 82 OHM J	1	1	R115	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R29	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R116	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R30	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1	R118	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R31	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1	R119	RK3539	Chip R.	1005 1/16W 1.2K OHMJ	1	1
R32	RK3050	Chip R.	1608 1/10W 10K OHM J	1	1	R120	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R33	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R121	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R34	RK3046	Chip R.	1608 1/10W 4.7KOHM J	1	1	R122	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R35	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R123	RK3531	Chip R.	1005 1/16W 270 OHM J	1	1
R36	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R124	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R37	RK3518	Chip R.	1005 1/16W 22 OHM J	1	1	R125	RK3572	Chip R.	1005 1/16W 680K OHMJ	1	1
R38	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1	R126	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R39	RK3062	Chip R.	1608 1/10W 100KOHM J	1	1	R127	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1
R40	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R128	RK3532	Chip R.	1005 1/16W 330 OHM J	1	1
R41	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R129	RK3532	Chip R.	1005 1/16W 330 OHM J	1	1
R42	RK3050	Chip R.	1608 1/10W 10K OHM J	1	1	R130	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R43	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1	R131	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R44	RK3050	Chip R.	1608 1/10W 10K OHM J	1	1	R132	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R45	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R133	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1
R46	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R134	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R47	RK3050	Chip R.	1608 1/10W 10K OHM J	1	1	R135	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R48	RK3038	Chip R.	1608 1/10W 1.0KOHM J	1	1	R136	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R49	RK3547	Chip R.	1005 1/16W 5.6K OHMJ	1	1	R137	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1
R50	RK3518	Chip R.	1005 1/16W 22 OHM J	1	1	R138	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R51	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R139	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R53	RK3568	Chip R.	1005 1/16W 330K OHMJ	1	1	R140	RK3543	Chip R.	1005 1/16W 2.7K OHMJ	1	1
R54	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R141	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
R55	RK3043	Chip R.	1608 1/10W 2.7KOHM J	1	1	R142	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R56	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R143	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R57	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R144	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R58	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R145	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R59	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1	R146	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R60	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R147	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R61	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R148	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R62	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1	R149	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R63	RK3524	Chip R.	1005 1/16W 68 OHM J	1	1	R150	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R64	RK3556	Chip R.	1005 1/16W 33K OHM J	1	1	R151	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1
R65	RK3022	Chip R.	1608 1/10W 47 OHM J	1	1	R152	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R66	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R153	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R67	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R154	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R68	RK3001	Chip R.	1608 0 OHM	1	1	R155	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1
R69	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R157	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R70	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R158	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R71	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R159	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R72	RK6024	Chip R.	6432 1W 68 OHM J	1	1	R160	RK3560	Chip R.	1005 1/16W 68K OHM J	1	1

Ref. No.	Part No.	Description	Parts Name	Qty		Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)					(T)	(E)
R161	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1	R254	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R162	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1	R255	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R163	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R256	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1
R164	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R257	RK3535	Chip R.	1005 1/16W 560 OHM J	1	1
R165	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R258	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R166	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1	R259	RK3566	Chip R.	1005 1/16W 220K OHMJ	1	1
R168	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1	R260	RK3557	Chip R.	1005 1/16W 39K OHM J	1	1
R169	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1	R261	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R170	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1	R262	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R172	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R263	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
R173	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R264	RK3518	Chip R.	1005 1/16W 22 OHM J	1	1
R174	RK3547	Chip R.	1005 1/16W 5.6K OHMJ	1	1	R265	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R175	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R267	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R176	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R268	RK3532	Chip R.	1005 1/16W 330 OHM J	1	1
R177	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1	R269	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
R178	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R270	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R179	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R271	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
R180	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R272	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1
R181	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R273	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
R182	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R274	RK3551	Chip R.	1005 1/16W 12K OHM J	1	1
R183	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1	R275	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R184	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R276	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1
R185	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R277	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1
R186	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1	R278	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1
R187	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R279	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1
R188	RK3555	Chip R.	1005 1/16W 27K OHM J	1	1	R280	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R189	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R282	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R190	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R283	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R191	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R284	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R193	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1	R285	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R194	RK3574	Chip R.	1005 1/16W 1.0M OHMJ	1	1	R286	RK3568	Chip R.	1005 1/16W 330K OHMJ	1	1
R195	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R288	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R196	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1	R289	RK3570	Chip R.	1005 1/16W 470K OHMJ	1	1
R197	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R290	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R200	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R291	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1
R201	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1	R292	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R202	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1	R293	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R203	RK3561	Chip R.	1005 1/16W 82K OHM J	1	1	R294	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R204	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R295	RK3557	Chip R.	1005 1/16W 39K OHM J	1	1
R205	RK3544	Chip R.	1005 1/16W 3.3K OHMJ	1	1	R296	RK3557	Chip R.	1005 1/16W 39K OHM J	1	1
R206	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R297	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1
R208	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1	R298	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R209	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1	R299	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R210	RK3519	Chip R.	1005 1/16W 27 OHM J	1	1	R300	RK3568	Chip R.	1005 1/16W 47K OHM J	1	1
R211	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R301	RK3557	Chip R.	1005 1/16W 39K OHM J	1	1
R212	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1	R302	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R213	RK3561	Chip R.	1005 1/16W 82K OHM J	1	1	R303	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R214	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1	R304	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1
R215	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1	R306	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1
R216	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1	R307	RK3535	Chip R.	1005 1/16W 560 OHM J	1	1
R217	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1	R308	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1
R218	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1	R309	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R219	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R310	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R221	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1	R311	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R222	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1	R312	RK3529	Chip R.	1005 1/16W 180 OHM J	1	1
R223	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R313	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R224	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1	R314	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R225	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1	R316	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R226	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1	R318	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R227	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1	R319	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R228	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R320	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R229	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R321	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R230	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R322	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R231	RK3551	Chip R.	1005 1/16W 12K OHM J	1	1	R323	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R233	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R324	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R234	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R327	RK3560	Chip R.	1005 1/16W 88K OHM J	1	1
R235	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R328	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R236	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R331	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1
R237	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R333	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R238	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1	R334	RK3549	Chip R.	1005 1/16W 8.2K OHMJ	1	1
R239	RK3547	Chip R.	1005 1/16W 5.6K OHMJ	1	1	R335	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R240	RK3566	Chip R.	1005 1/16W 220K OHMJ	1	1	R336	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R241	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R337	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R242	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R338	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R243	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R339	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R244	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1	R340	RK3574	Chip R.	1005 1/16W 1.0M OHMJ	1	1
R245	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R341	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R246	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R342	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R247	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R343	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R248	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R344	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R249	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R346	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
R250	RK3555	Chip R.	1005 1/16W 27K OHM J	1	1	R347	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R251	RK3555	Chip R.	1005 1/16W 27K OHM J	1	1	R348	RK3570	Chip R.	1005 1/16W 470K OHMJ	1	1
R252	RK3566	Chip R.	1005 1/16W 220K OHMJ	1	1	R349	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1
R253	RK3567	Chip R.	1005 1/16W 270K OHMJ	1	1	R350	RK3514	Chip R.	1005 1/16W 10 OHM J	1	1

Ref. No.	Part No.	Description	Parts Name	Qty		Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)					(T)	(E)
R351	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R437	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R352	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R438	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1
R353	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R439	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R354	RK3549	Chip R.	1005 1/16W 8.2K OHMJ	1	1	R440	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R355	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R441	RK3541	Chip R.	1005 1/16W 1.8K OHMJ	1	1
R356	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R442	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1
R357	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1	R443	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R358	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1	R444	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R359	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R445	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R360	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R446	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R361	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R447	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R362	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R448	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R363	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R449	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R364	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1	R450	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R365	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R451	RK3557	Chip R.	1005 1/16W 39K OHM J	1	1
R366	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R452	RK3561	Chip R.	1005 1/16W 82K OHM J	1	1
R367	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R453	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1
R368	RK3574	Chip R.	1005 1/16W 1.0M OHMJ	1	1	R454	RK3563	Chip R.	1005 1/16W 120K OHMJ	1	1
R369	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1	R455	RK3545	Chip R.	1005 1/16W 3.9K OHMJ	1	1
R370	RK3561	Chip R.	1005 1/16W 82K OHM J	1	1	R456	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1
R371	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1	R457	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1
R372	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R458	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R373	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R459	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R374	RK3501	Chip R.	1005 1/16W 0 OHM J	0	1	R460	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R375	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1	R461	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R376	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R462	RK3001	Chip R.	1608 0 OHM	1	0
R377	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R463	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1
R378	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R464	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R379	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R467	RK3564	Chip R.	1005 1/16W 150K OHMJ	1	1
R380	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1	R468	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1
R381	RK3536	Chip R.	1005 1/16W 880 OHM J	1	1	R469	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R382	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R470	RK3001	Chip R.	1608 0 OHM	0	1
R383	RK3555	Chip R.	1005 1/16W 27K OHM J	1	1	R472	RK3574	Chip R.	1005 1/16W 1.0M OHMJ	1	1
R384	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R473	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R385	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R474	RK3567	Chip R.	1005 1/16W 270K OHMJ	1	1
R386	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R475	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R387	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1	R476	RK3572	Chip R.	1005 1/16W 680K OHMJ	1	1
R388	RK3561	Chip R.	1005 1/16W 82K OHM J	1	1	R477	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R389	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1	R478	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R390	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R479	RK2010	Chip R.	4532 1/2W 33 OHM J	1	1
R391	RK3574	Chip R.	1005 1/16W 1.0M OHMJ	1	1	R481	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R392	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R482	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R394	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R483	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R395	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R484	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R396	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1	R485	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1
R397	RK3092	Chip R.	1608 1/10W 75K OHM F	1	1	R486	RK3557	Chip R.	1005 1/16W 39K OHM J	1	1
R398	RK3549	Chip R.	1005 1/16W 8.2K OHMJ	1	1	R487	RK3557	Chip R.	1005 1/16W 39K OHM J	1	1
R399	RK3050	Chip R.	1608 1/10W 10K OHM J	1	1	R488	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R400	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R489	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R401	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1	R490	RK3564	Chip R.	1005 1/16W 150K OHMJ	1	1
R402	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R491	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R403	RK3541	Chip R.	1005 1/16W 1.8K OHMJ	1	1	R492	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R404	RK3091	Chip R.	1608 1/10W 39K OHM F	1	1	R493	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1
R405	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R494	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R406	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R495	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R407	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1	R496	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R408	RK2024	Chip R.	4532 1/2W 470 OHM J	1	1	R497	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R409	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R498	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
R410	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1	R500	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R411	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R501	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R412	RK3566	Chip R.	1005 1/16W 220K OHMJ	1	1	R502	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R413	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R503	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R414	RK3046	Chip R.	1608 1/10W 4.7KOHM J	1	1	R504	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R415	RK3091	Chip R.	1608 1/10W 39K OHM F	1	1	R505	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R416	RK3557	Chip R.	1005 1/16W 39K OHM J	1	1	R506	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1
R417	RK3561	Chip R.	1005 1/16W 82K OHM J	1	1	R508	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R418	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1	R509	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R419	RK3563	Chip R.	1005 1/16W 120K OHMJ	1	1	R511	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R420	RK3545	Chip R.	1005 1/16W 3.9K OHMJ	1	1	R513	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R421	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1	R514	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R422	RK0025	Chip R.	2125 1/8W 330 OHM J	1	1	R515	RK3552	Chip R.	1005 1/16W 15K OHM J	1	1
R423	RK3572	Chip R.	1005 1/16W 680K OHMJ	1	1	R516	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R424	RK3564	Chip R.	1005 1/16W 150K OHMJ	1	1	R517	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R425	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1	R519	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R426	RK3038	Chip R.	1608 1/10W 1.0KOHM J	1	1	R520	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R427	RK3534	Chip R.	1005 1/16W 470 OHM J	1	1	R521	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R428	RK3544	Chip R.	1005 1/16W 3.3K OHMJ	1	1	R522	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1
R429	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1	R523	RK3530	Chip R.	1005 1/16W 220 OHM J	1	1
R430	RK3564	Chip R.	1005 1/16W 150K OHMJ	1	1	R524	RK3542	Chip R.	1005 1/16W 2.2K OHMJ	1	1
R431	RK3572	Chip R.	1005 1/16W 680K OHMJ	1	1	R525	RK3522	Chip R.	1005 1/16W 47 OHM J	1	1
R432	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R526	RK3574	Chip R.	1005 1/16W 1.0M OHMJ	1	1
R433	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1	R527	RK3558	Chip R.	1005 1/16W 47K OHM J	1	1
R434	RK3567	Chip R.	1005 1/16W 270K OHMJ	1	1	R528	RK3546	Chip R.	1005 1/16W 4.7K OHMJ	1	1
R435	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1	R529	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1
R436	RK3560	Chip R.	1005 1/16W 68K OHM J	1	1	R530	RK3516	Chip R.	1005 1/16W 15 OHM J	1	1

Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)
R531	RK3548	Chip R.	1005 1/16W 6.8K OHMJ	1	1
R532	RK3501	Chip R.	1005 1/16W 0 OHM J	1	1
R533	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
R534	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R535	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R536	RK3561	Chip R.	1005 1/16W 82K OHM J	1	1
R537	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R538	RK3520	Chip R.	1005 1/16W 33 OHM J	1	1
R539	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R540	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R541	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R542	RK4091	Chip R.	4532 1/2W 100K OHM	1	1
R543	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R544	RK3559	Chip R.	1005 1/16W 56K OHM J	1	1
R545	RK3526	Chip R.	1005 1/16W 100 OHM J	1	1
R547	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R548	RK3554	Chip R.	1005 1/16W 22K OHM J	1	1
R549	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R550	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R551	RK3001	Chip R.	1608 0 OHM	1	1
R553	RK0028	Chip R.	2125 1/8W 470 OHM J	1	1
R554	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R555	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R556	RK0028	Chip R.	2125 1/8W 470 OHM J	1	1
R557	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R558	RK3550	Chip R.	1005 1/16W 10K OHM J	1	1
R559	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R560	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R561	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R562	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R563	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R564	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R565	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R566	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R567	RK3562	Chip R.	1005 1/16W 100K OHMJ	1	1
R568	RK3538	Chip R.	1005 1/16W 1.0K OHMJ	1	1
R571	RK3038	Chip R.	1608 1/10W 1.0KOHM J	1	1
SW1	US0012	Switch	SSSS212A NS L-2	1	1
TH1	XS0021	Thermistor	TBPS1R103K440H5Q	1	1
VR3	RH0142	Trimmer R.	2720 10K OHM	1	1
VR4	RH0142	Trimmer R.	2720 10K OHM	1	1
VR5	RH0146	Trimmer R.	2720 47K OHM	1	1
VR6	RH0154	Trimmer R.	2720 1.0M OHM	1	1
VR7	RH0148	Trimmer R.	2720 100K OHM	1	1
VR8	RH0152	Trimmer R.	2720 470K OHM	1	1
VR9	RH0148	Trimmer R.	2720 100K OHM	1	1
X1	XQ0170	Xtal OSC	GS46128 21.25MHZ	1	1
X4	XQ0176	Xtal OSC	SX-2112 45.555MHZ	1	1
X5	XQ0178	Xtal OSC	HC-49U/3.5 9.8304MHz	1	1
XF1	XF0041	Xtal Filter	UM5 21.7M 21R15A5	1	1
XF2	XF0041	Xtal Filter	UM5 21.7M 21R15A5	1	1
XF3	XF0037	Xtal Filter	45.100M UM5-3P	1	1
	FG0327		CUSHION DR135	1	1
	FM0214		RADIATIVE PLATE 620	1	1
	FM0220		GROUND PLATE DR620	2	2
	TS0172		VCO CASE DR620	2	2
	TS0181		SHIELD BOARD1	1	1
	TS0182		SHIELD BOARD2	1	1
	TZ0049		SILICON DUMPER	4	4
	TZ0056		SILICON DUMPER 49U	1	1
	UP0513A	P.C.B	DR635 INTEGRATED	1	1
	YZ0163		COPPER TAPE 15 x 20M	0.002	0.002
<b>Mechanical Parts</b>					
Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)
	AA0050	Screw	OH M2.6+6 FE/B.ZN	4	4
	AA0077	Screw	BH M3+16 FE/B.ZN	4	4
	AB0012	Screw	PH/S M2.6+5 FE/ZN	2	2
	AN0012	Screw	RND N7X0.75 BR/B.ZN	1	1
	AU0001	Screw	S PH B2.6+8 FE/NI	19	19
	AW0012	Screw	PH/D6 3+9 FE/N	4	4
	AX0003	Screw	OPH P2+16 FE/B.ZN3	2	2
	AZ0037Y	Screw	SPCW 3X8X0.5 BC	4	4
	DG0042A		LED LIGHT DR620	2	2
	DP0174		LCD PANEL DR635	1	1
	ES0028	Speaker	SPEAKER 57-8BC-32	1	1
	ET0011	Fan Motor	FAN FD1240107B-1N	1	1
	FG0361		CUSHION DR620	2	2
	FM0216		FAN COVER DR620	1	1
	FM0222		RADIATIVE PLATE2	1	1
	FP0151		REAR PANEL DR135	1	1
	FP0153A		CUSHION B	2	2
	FP0197		BLIND SHEET DR620	4	4
	FP0198		SPACER DR620	4	4

Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)
	KB0089		REAR CASE DR620	1	1
	KS0081		BOTTOM CASE DR620	1	1
	KZ0147		FRONT CASE DR620	1	1
	NK0072	Knob	VOL KNOB DR135	2	2
	NK0073	Knob	DIAL KNOB DR135	1	1
	NP0139		POWER BUTTON DR620	1	1
	NP0140		V/M BUTTON DR620	1	1
	QB0036	Ferrite bead	BP53RB120070060M	1	1
	SP0008		GND TERM XM601	1	1
	SS0098		CHASSIS DR620	1	1
	ST0065		SP HOLDER DR135	1	1
	ST0066		SP FITTING DR135	1	1
	TG0034		SP HIMERON DR135	1	1
	UE0258	Connector	FM-M.D.R-(4)	1	1
	UX1047	SP Wire	WIRE DR130	1	1
	UX1284	Cable	CABLE DR620	1	1
	YZ0131	Tape	Tape #9110 12X1mm	80	80
<b>Packing Parts</b>					
Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)
	DS0446		NITTO MODEL PLATE(S)	1	3.2
	EHM53B	Microphone	EMS53B	0	1
	EHM57D	Microphone	EMS57D	1	0
	FM0078Z	Bracket	BRACKET DR130	1	1
	HK0620	Package	PACKAGE DR635	1	1
	HM0215		OUTER CARTON 10PCS	0.2	0.2
	HP0006Z		POLY-BAG	1	1
	HP0035	Plastic bag	EBAG 5X290X250	1	1
	HU0170		INNER 10PCS DJX3	0.4	0.4
	HU0189		INNER DR620	1	1
	HU0192		INNER B DR620	1	1
	PF0104		ADD SHEET DR635T XBR	1	0
	PH0015		WARRANTY CEAT EXPOR	1	0
	PK0105		DIAGRAM DR635TV	1	1
	PR0288		SCREW STKR DX70	2	2
	PR0447		WARNING FCC (N)	1	0
	PR0452		FCC HOME USE	1	0
	PR0454Y		SECURITY STICKER T	2	2
	PR0478		SERIAL SEAL	0	1.2
	PR0514		EPSON 10X49 LABEL(W)	2	2
	PS0488	Manual	INSTRUCTION DR635TV	1	1
	UX1290A	Wire	WIRE UX1290A	1	1
<b>Accessories (Screw Set)</b>					
Ref. No.	Part No.	Description	Parts Name	Qty	
				(T)	(E)
	AA0013	Screw	M5+20 Fe/Zn	4	4
	AE0012	Screw	HEXH/D M4+8 Fe/B.Zn	4	4
	AJ0003	Screw	T5+20 Fe/Zn	4	4
	AJ0003	Nut	N5x0.8 Fe/Zn	4	4
	AZ0009	Washer	5x9.2x1.3 Fe/Zn	4	4
	AZ0010	Washer	5x12x0.8 Fe/Zn	4	4
	EF0005	Fuse	FGBO 125V 15A	2	2
	FM0079Z	Spanner	DR130	1	1
	HP0006	Plastic bag	5x90x170	1	1
	YZ0121	Tape	Tape 10mm	2	2

# ADJUSTMENT

## 1) Adjustment Spot

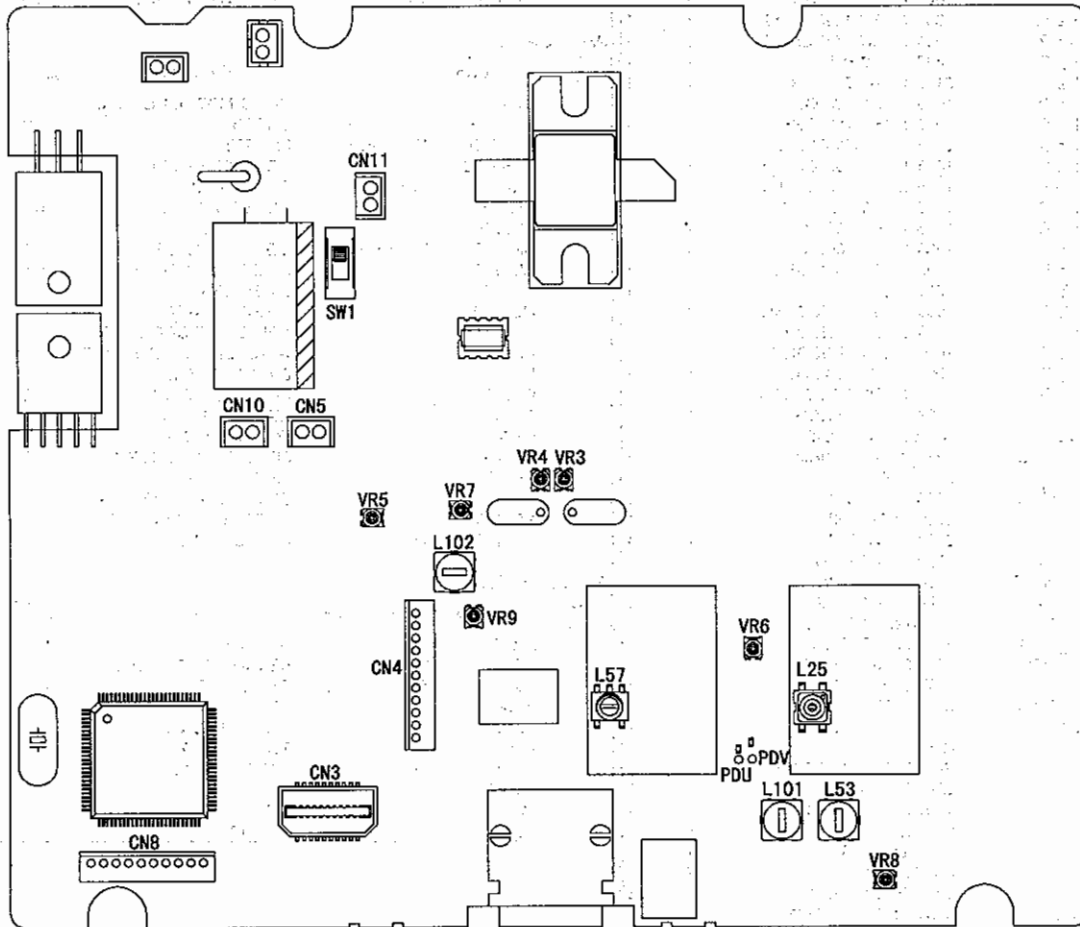
Power Supply Voltage 13.8 V

Output of SSG is all EMF indication

If without instruction, SSG output is MOD 1KHz 3.5KHz/DEV.

Standard Modulation is also based above.

Speaker load is  $8\Omega$  and Output is 50~100 mV.



Attention : Don't set the variable resistor into its open position.

## 2) Adjustment Mode

Adjustment memory table

Memory CH	VHF Frequency [MHz]	VHF Frequency [MHz]	Contents
CH1	146.000	440.000	PD Voltage
CH2	146.000	440.000	Ref Frequency
CH3	146.000 (145.000)	440.000 (435.000)	Hi Power
CH4	146.000 (145.000)	440.000 (435.000)	Mid Power
CH5	146.000 (145.000)	440.000 (435.000)	Low Power
CH6	146.050	440.050	RX Distortion
CH7	136.050	400.050	RX Sensitivity L
CH8	146.050	440.050	RX Sensitivity M
CH9	173.950	479.950	RX Sensitivity H
CH10	146.050	440.050	S Meter 1
CH11	146.050	440.050	S Meter FULL
CH12	146.050	440.050	Squelch
CH13	87.700		RX Distortion
CH14	87.700		S Meter 1
CH15	87.700		S Meter FULL
CH16	146.000 (145.000)	440.000 (435.000)	TX Deviation
CH17	146.000 (145.000)	440.000 (435.000)	TX Deviation NAR
CH18	146.000 (145.000)	440.000 (435.000)	Mic Gain
CH19	146.000 (145.000)	440.000 (435.000)	CTCSS 88.5Hz
CH20	146.000 (145.000)	440.000 (435.000)	DCS 255
CH21	146.000 (145.000)	440.000 (435.000)	Tone Burst 1750Hz
CH22	145.050	435.050	Aging

( ) = DR635E

After the above frequency is written in the memory, it is set on the adjustment mode by the following operation.

FUNC → TS/DCS (Key Lock)

BAND → CALL → MHz\*2 → TS/DCS → H/L\*2

Memory switching of VHF and UHF can be done with the BAND key.

Adjustment mode is canceled when a power switch is turned on with CALL key.

### [Cautions]

In RX Sensitivity adjustment (L, M and H), the following inequality must be realized.

CH7(L)<CH8(M)<CH9(H) [Example CH7=5A CH8=60 CH9=E0]



### 3) VHF Adjustment Specification

ITEM	CH No	CONDITION	UNIT	ADJ. POT	ADJUSTING METHOD
PD ADJ.	CH1	146.00MHz RX	MAIN	L25	Adjust so that PDV voltage becomes 2.7V
Frequency	CH2	440.00MHz TX	MAIN	VR6	Adjust so that Tx Frequency becomes within 440.00MHz±100Hz
HI POWER	CH3	146.00MHz HI	FRONT	RE601	Adjust to 50.0±1.0W
MID POWER	CH4	146.00MHz MID	FRONT	RE601	Adjust to 20.0±1.0W
LOW POWER	CH5	146.00MHz LOW	FRONT	RE601	Adjust to 5.0±0.5W
RX Distortion	CH6	146.05MHz SSG 60dBu	MAIN	L101	It is adjusted to become maximum volume when a position of Volume is done at 11 o'clock. Confirm : Less than 3%
Rx Signal Sensitivity	CH7	136.05MHz	FRONT	FUNC- ↓ RE601- ↓ FUNC	Adjust so that the Rx sensitivity becomes in maximum. Confirm:At -7dBu SINAD more than 12dB
Rx Signal Sensitivity	CH8	146.05MHz	FRONT	FUNC- ↓ RE601- ↓ FUNC	Adjust so that the Rx sensitivity becomes in maximum. Confirm:At -7dBu SINAD more than 12dB
Rx Signal Sensitivity	CH9	173.95MHz	FRONT	FUNC- ↓ RE601- ↓ FUNC	Adjust so that the Rx sensitivity becomes in maximum. Confirm:At +4dBu SINAD more than 12dB
S-Meter(1)	CH10	146.05MHz SSG -3dBu	FRONT	FUNC	It is confirmed by the FUNC key.
S-Meter (FULL)	CH11	146.05MHz SSG 15dBu	FRONT	FUNC	It is confirmed by the FUNC key.
Squelch	CH12	146.05MHz SSG OFF Indication 01	MAIN	VR8	Adjust so that the squelch stops at perfectly close location
RX Distortion	CH13	87.7MHz SG 60dBu 1KHz 22KHz/DEV WFM	MAIN	L53	It is adjusted to become maximum volume when a position of Volume is done at 11 o'clock. Confirm : Less than 3% SG OUT 20~80dBu : Less than 5%
S-Meter(1)	CH14	87.7MHz SSG 5dBu 1KHz 22KHz/DEV WFM	FRONT	FUNC	It is confirmed by the FUNC key.
S-Meter (FULL)	CH15	87.7MHz SSG 20dBu 1KHz 22KHz/DEV WFM	FRONT	FUNC	It is confirmed by the FUNC key.
Maximum Deviation	CH16	146.00MHz MOD 1KHz40mVemf	MAIN	VR3	4.5±0.1KHz/DEV
Maximum Deviation	CH17	146.00MHz MOD 1KHz40mVemf NARROW			2.2±0.3KHz/DEV
Mic Gain	CH18	146.00MHz MOD 1KHz4mVemf	MAIN	VR5	2.85±0.1KHz/DEV
CTCSS Modulation	CH19	146.00MHz 88.5Hz			800±400Hz/DEV 3KHz LPF ON
DCS Modulation	CH20	146.00MHz 255 Code	MAIN	VR7	800±50Hz/DEV 3KHz LPF ON
1750Hz Modulation	CH21	146.00MHz 1750Hz			3.0±0.5KHz/DEV



#### 4) UHF Adjustment Specification

ITEM	CH No	CONDITION	UNIT	ADJ.SPOT	ADJUSTING METHOD
PD ADJ.	CH1	440.00MHz RX	MAIN	L57	Adjust so that PDU voltage becomes 3.4V
HI POWER	CH3	440.00MHz HI POWER	FRONT	RE601	Adjust to $35.0 \pm 1.0W$
MID POWER	CH4	440.00MHz MID POWER	FRONT	RE601	Adjust to $20.0 \pm 1.0W$
LOW POWER	CH5	440.00MHz LOW POWER	FRONT	RE601	Adjust to $5.0 \pm 0.5W$
RX Distortion	CH6	440.05MHz SSG 60dBu	MAIN	L102	It is adjusted to become maximum volume when a position of Volume is done at 11 o'clock. Confirm : Less than 3%
Rx Signal Sensitivity	CH7	400.05MHz	FRONT	FUNC ↓ RE601 ↓ FUNC	Adjust so that the Rx sensitivity becomes in maximum. It stops with as big value as possible. Confirm: At -3dBu SINAD more than 12dB
Rx Signal Sensitivity	CH8	440.05MHz	FRONT	FUNC ↓ RE601 ↓ FUNC	Adjust so that the Rx sensitivity becomes in maximum. It stops with as big value as possible. Confirm: At -7dBu SINAD more than 12dB
Rx Signal Sensitivity	CH9	479.95MHz	FRONT	FUNC ↓ RE601 ↓ FUNC	Adjust so that the Rx sensitivity becomes in maximum. Confirm: At +6dBu SINAD more than 12dB
S-Meter(1)	CH10	440.05MHz SSG -3dBu	FRONT	FUNC	It is confirmed by the FUNC key.
S-Meter (FULL)	CH11	440.05MHz SSG 15dBu	FRONT	FUNC	It is confirmed by the FUNC key.
Squelch	CH12	440.05MHz SSG OFF Indication 01	MAIN	VR9	Adjust so that the squelch stops at perfectly close location
Maximum Deviation	CH16	440.00MHz MOD 1KHz 40mVemf	MAIN	VR4	$4.5 \pm 0.1KHz/DEV$
Maximum Deviation	CH17	440.00MHz MOD 1KHz 40mVemf NARROW			$2.2 \pm 0.3KHz/DEV$
Mic Gain	CH18	440.00MHz MOD 1KHz4mVemf			$3.0 \pm 0.5KHz/DEV$
CTCSS Modulation Level	CH19	440.00MHz 88.5Hz			$800 \pm 400Hz/DEV$ 3KHz LPF ON
DCS Modulation Level	CH20	440.00MHz 255 Code			$800 \pm 400Hz/DEV$ 3KHz LPF ON
1750Hz Modulation Level	CH21	440.00MHz 1750Hz			$3.0 \pm 0.5KHz/DEV$

## 5) VHF Test Specification

TEST ITEM	CONDITION	TEST STANDARD	NOTE
RX Sensitivity	136.05MHz	Less than -6dBu	12dB SINAD
	145.90MHz	Less than -6dBu	
	173.95MHz	Less than +5dBu	
	87.7MHz	Less than 15dBu	12dB SINAD 22KHz/DEV
	135.05MHz	Less than 6dBu	AM 10dB S/N
	146.05MHzSUB	Less than -4dBu	12dB SINAD
RX Distortion	146.05MHz	Less than 5%	SSG 出力 60dBu
	87.7MHz	Less than 5%	SSG 出力 60dBu 22KHz/DEV
RX S/N	146.05MHz	More than 38dB	SSG 出力 60dBu 0.3~3KHzBPF OFF
Squelch Sensitivity	146.05MHz	Squelch Open	SSG Output -10dBu
	Indication 02	Squelch Close	SSG Output OFF
S Meter	146.05MHz 1KHz 3.5KHz/DEV	All appears at 18dBu Disappear at -6dBu	Decrease SSG level and decrease S Meter level
S Meter	87.7MHz 1KHz 22KHz/DEV	All appears at 25dBu Disappear at 0dBu	Decrease SSG level and decrease S Meter level
AF Output	146.05MHz	More than 2W	SSG Output 60dBu MAX VR
AF Output NARROW	146.05MHz NARROW	More than Normal Mode.	SSG Output 60dBu MAX VR
AF Output	87.7MHz	More than 2W	SSG Output 60dBu 22KHz/DEV, MAX VR
Full Duplex Sensitivity	RX 146.05MHz TX 440.05MHz HI Power	Less than -4dBu	12dB SINAD

TEST ITEM	CONDITION	TEST STANDARD	NOTE
TX Output HI POWER	144.00MHz	50±5W	(T)
	146.00MHz	50±3W	
	148.00MHz	50±5W	
TX Output MID POWER	146.00MHz	20±2W	
TX Output LOW POWER	146.00MHz	5±1W	
Drain Current	146.00MHz	Less than 10A	
Spurious	144.00MHz	More than 55dB	M and L standard power is also the same as of H power level
	146.00MHz	More than 55dB	
	148.00MHz	More than 55dB	
Modulation Level	146.00MHz	2.85±0.2KHz/DEV 4.5±0.2KHz/DEV	MIC IN 4mVemf MIC IN 40mVemf
	146.00MHz NARROW	2.2±0.3KHz/DEV	MIC IN 40mVemf
CTCSS Modulation Level	146.00MHz	800±400Hz/DEV	88.5Hz 3KHz LPF ON
	NARROW 146.00MHz	450±200Hz/DEV	
DCS Modulation Level	146.00MHz	800±200Hz/DEV	Code 255 3KHz LPF ON
	NARROW 146.00MHz	450±200Hz/DEV	
1750Hz Modulation Level	146.00MHz	3.0±0.5KHz/DEV	
Modulation Distortion	146.00MHz	Less than 4%	
TX S/N	146.00MHz	More than 38dB	0.3~3KHz BPF ON
X BAND Repeater	146.00MHz	3.0±0.8KHz/DEV	RX - 440.00MHz DEV 1KHz 3.5KHz/DEV SSG Output 60dBu (T)

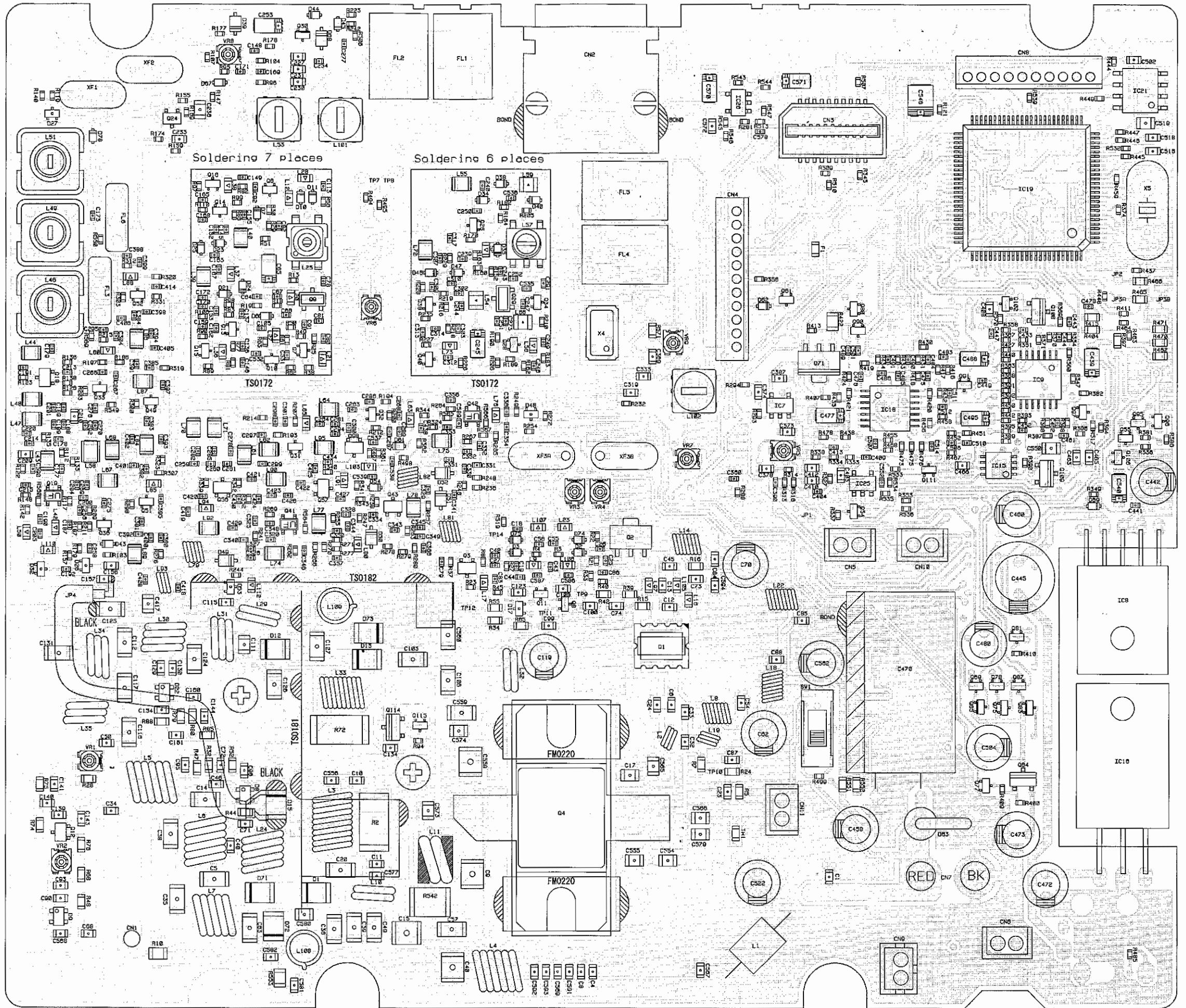
## 6) UHF Test Specification

TEST ITEM	CONDITION	TEST STANDARD	NOTE
RX Sensitivity	400.05MHz	Less than -2dBu	12dB SINAD
	439.90MHz	Less than -6dBu	
	479.95MHz	Less than +7dBu	
	850.05MHz	Less than 10dBu	12dB SINAD (E)
	380.05MHz	Less than +1dBu	12dB SINAD
	440.05MHzSUB	Less than -4dBu	
RX Distortion	440.05MHz	Less than 5%	SSG 出力 60dBu
RX S/N	440.05MHz	More than 38dB	SSG 出力 60dBu 0.3~3KHzBPF OFF
Squelch Sensitivity	440.05MHz Indication 02	Squelch Open	SSG Output -10dBu
		Squelch Close	SSG Output OFF
S Meter	440.05MHz 1KHz 3.5KHz/DEV	All appears at 18dBu Disappear at -6dBu	Decrease SSG level and decrease S Meter level
AF Output	440.05MHz	More than 2W	SSG Output 60dBu MAX VR
AF Output NARROW	440.05MHz NARROW	More than Normal Mode.	SSG Output 60dBu MAX VR
Full Duplex Sensitivity	RX 440.05MHz TX 146.05MHz HI Power	Less than -4dBu	12dB SINAD

TEST ITEM	CONDITION	TEST STANDARD	NOTE
TX Output HI POWER	430.00MHz	35±3W	(T)
	440.00MHz	35±3W	
	450.00MHz	35±3W	
TX Output MID POWER	440.00MHz	20±2W	
TX Output LOW POWER	440.00MHz	5±1W	
Drain Current	440.00MHz	Less than 10A	
Frequency Deviation	440.00MHz	Within±0.3KHz	
Spurious	430.00MHz	More than 60dB	M and L standard power is also the same as of H power level
	440.00MHz	More than 60dB	
	450.00MHz	More than 60dB	
Modulation Level	440.00MHz	3.0±0.5KHz/DEV 4.5±0.2KHz/DEV	MIC IN 4mVemf MIC IN 40mVemf
	440.00MHz NARROW	2.2±0.3KHz/DEV	MIC IN 40mVemf
CTCSS Modulation Level	440.00MHz	800±400Hz/DEV	88.5Hz 3KHz LPF ON
DCS Modulation Level	440.00MHz	800±200Hz/DEV	Code 255 3KHz LPF ON
1750Hz Modulation Level	440.00MHz	3.0±0.5 KHz/DEV	
Modulation Distortion	440.00MHz	Less than 4%	
TX S/N		More than 38dB	0.3~3KHz BPF ON
X BAND Repeater	440.00MHz	3.0±1.0 KHz/DEV	RX 146.00MHz DEV 1KHz 3.5KHz/DEV SSG Output 60dBu (T)

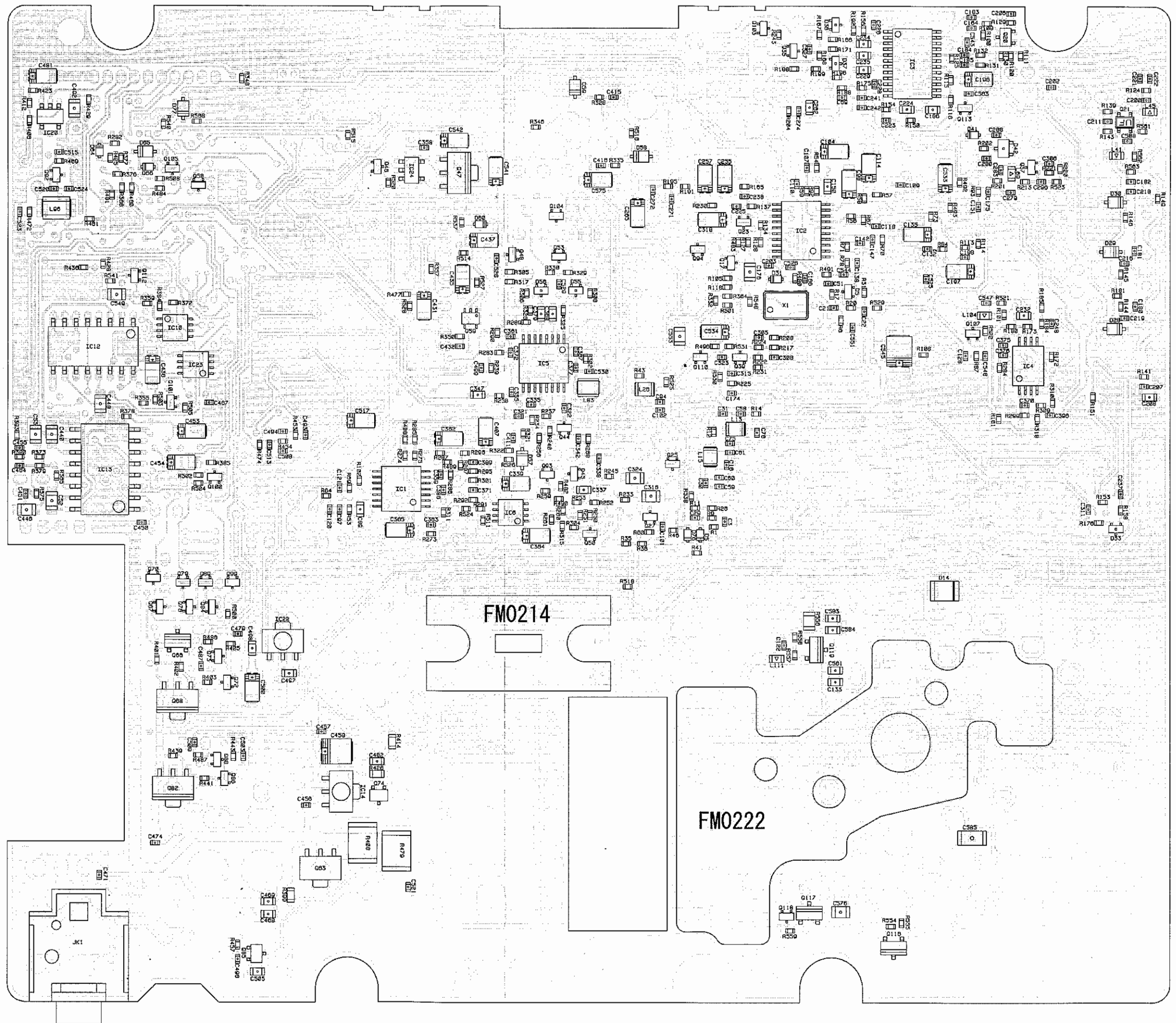


3) Main Side A

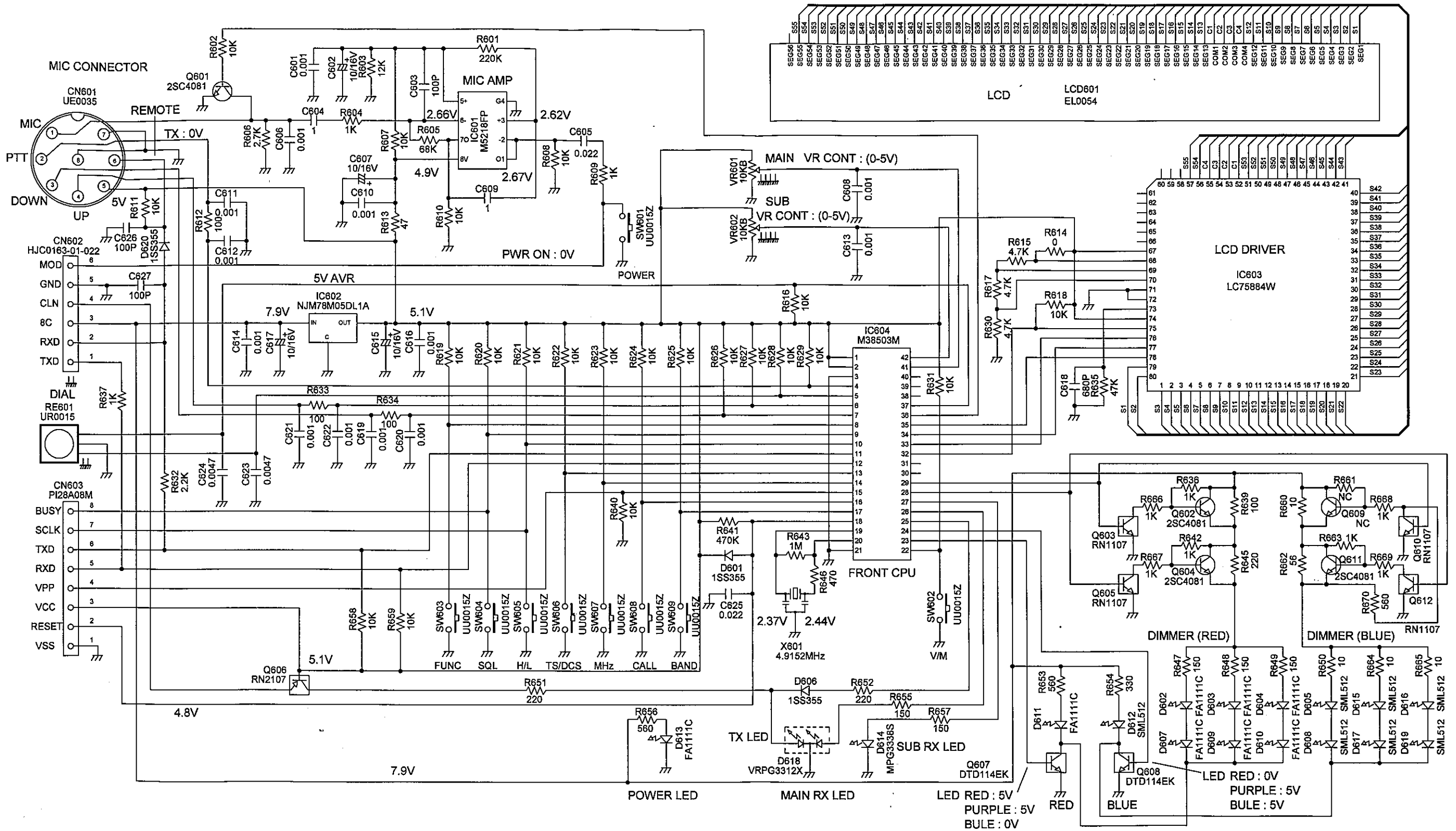




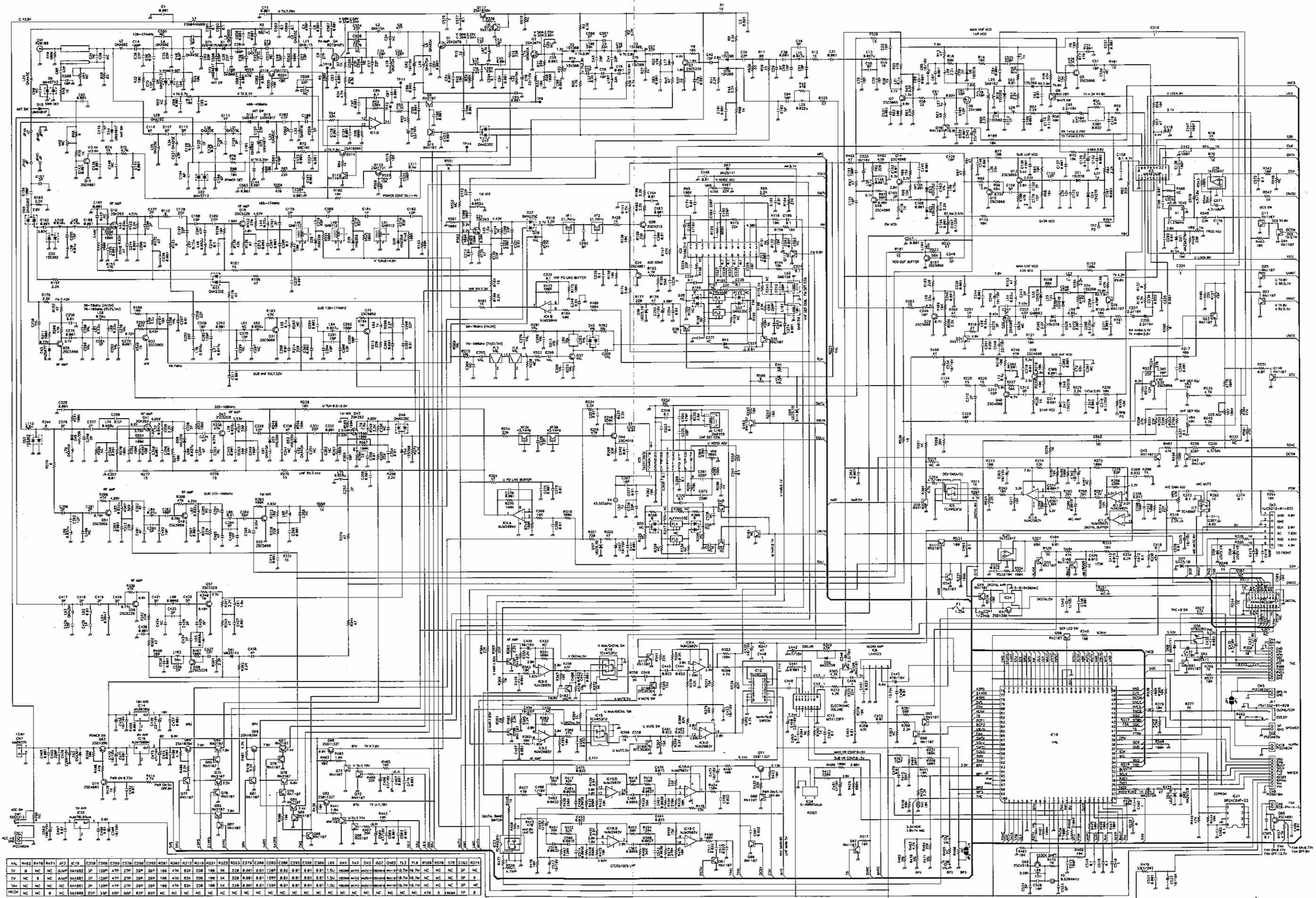
4) Main Side B



# FRONT SCHEMATIC DIAGRAM

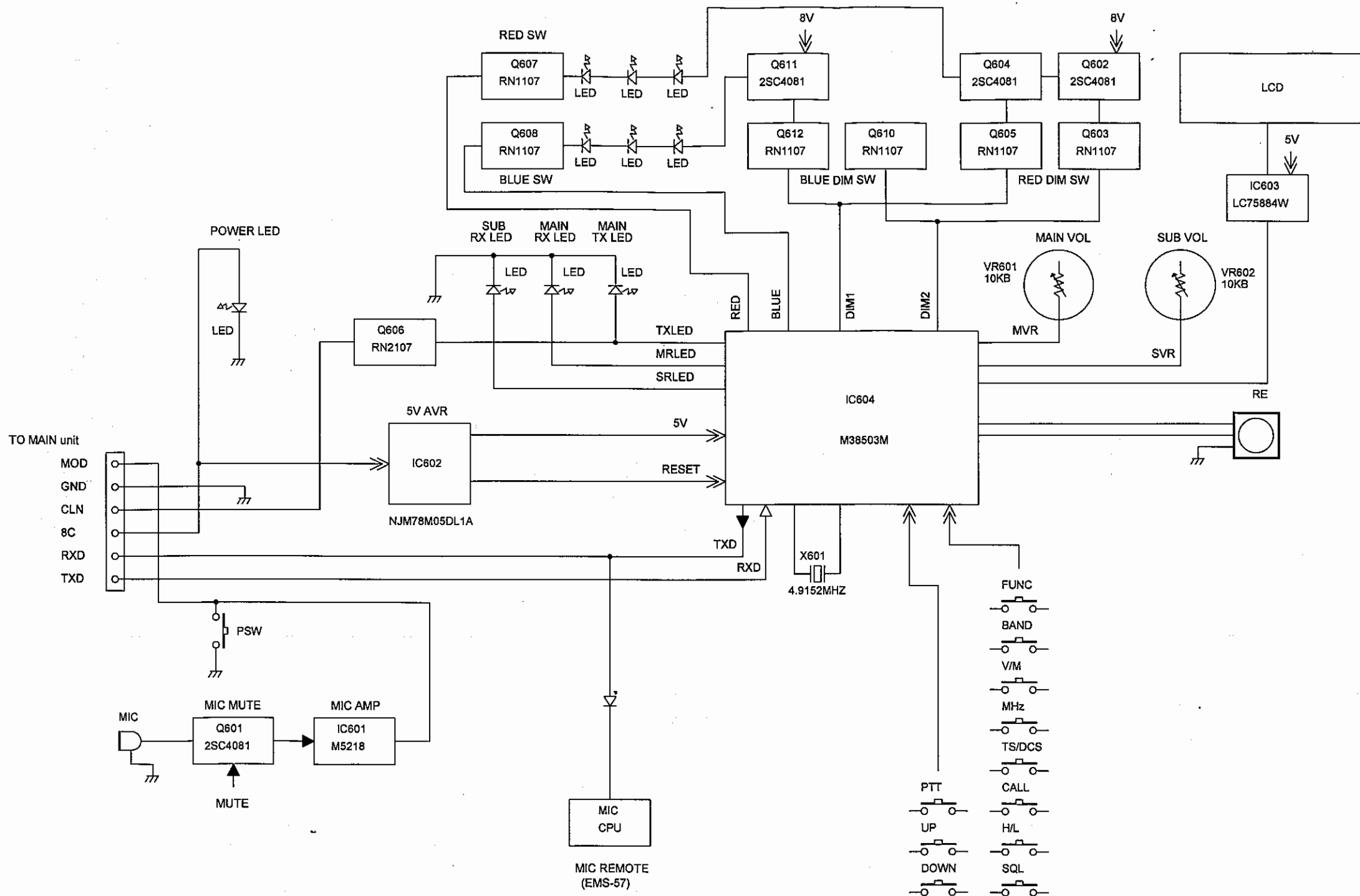


# MAIN SCHEMATIC DIAGRAM

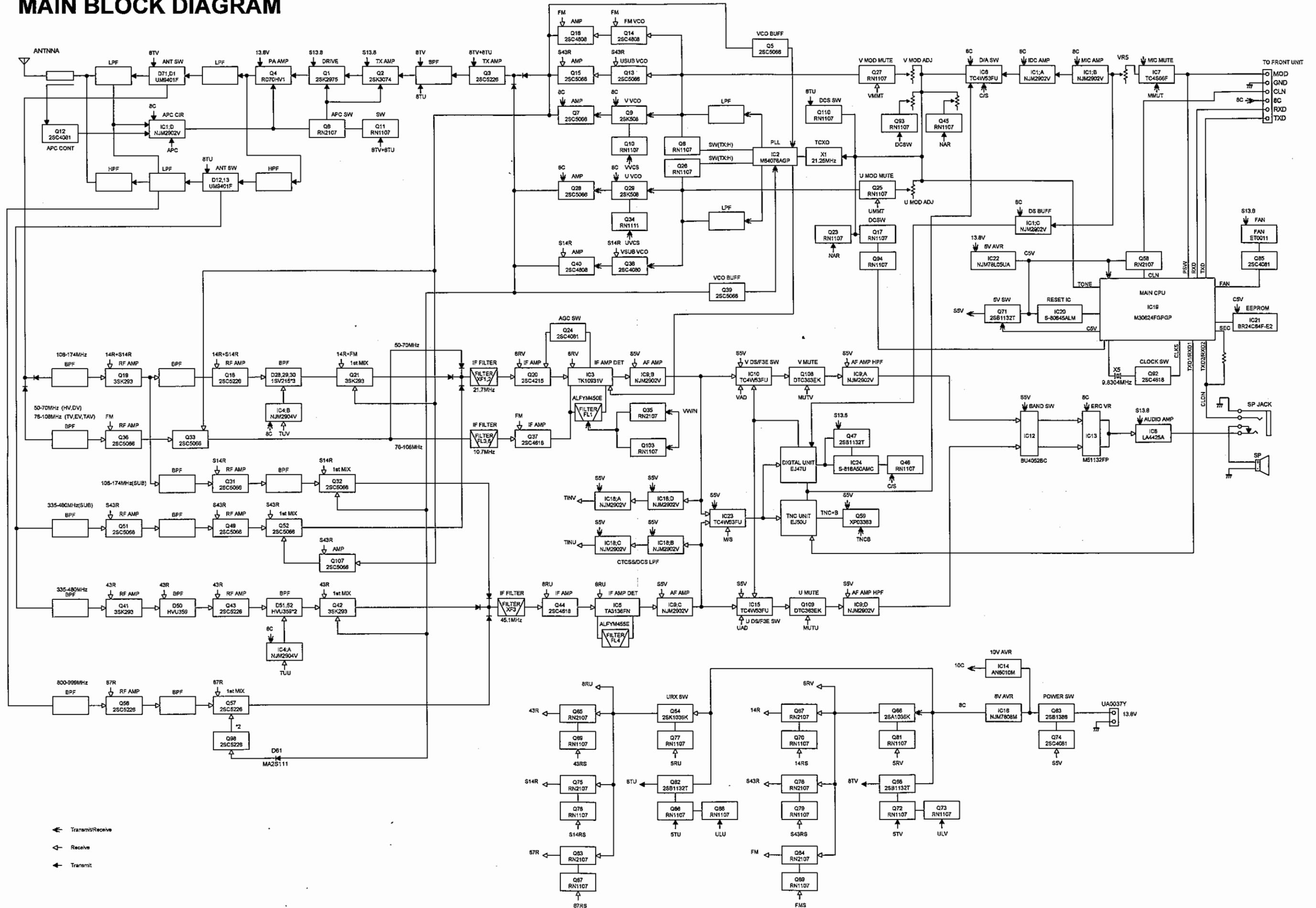




# FRONT BLOCK DIAGRAM



# MAIN BLOCK DIAGRAM



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