

# DR-620

## Service Manual

### CONTENTS

#### SPECIFICATIONS

|                      |   |
|----------------------|---|
| 1) GENERAL .....     | 2 |
| 2) TRANSMITTER ..... | 2 |
| 3) RECEIVER .....    | 3 |

#### CIRCUIT DESCRIPTION

|                                       |   |
|---------------------------------------|---|
| 1) VHF Reception .....                | 4 |
| 2) UHF Reception .....                | 5 |
| 3) FM Reception .....                 | 5 |
| 4) V/V (VHF-VHF) Dual Reception ..... | 6 |
| 5) U/U (UHF-UHF) Dual Reception ..... | 6 |
| 6) VHF Squelch Control .....          | 6 |
| 7) UHF Squelch Control .....          | 6 |
| 8) Transmit Signal Path .....         | 7 |
| 9) VHF Transmit Signal Path .....     | 7 |
| 10) UHF Transmit Signal Path .....    | 7 |
| 11) VHF Tx APC Circuit .....          | 7 |
| 12) UHF Tx APC Circuit .....          | 8 |
| 13) VHF PTT Circuit .....             | 8 |
| 14) UHF PTT Circuit .....             | 8 |
| 15) VHF PLL .....                     | 8 |
| 16) UHF PLL .....                     | 9 |
| 17) Power-on Circuit .....            | 9 |

#### SEMICONDUCTOR DATA

|                                       |    |
|---------------------------------------|----|
| 1) M5218FP (XA0068) .....             | 10 |
| 2) NJM78L05UA (XA0098) .....          | 10 |
| 3) NJM7808FA (XA0102) .....           | 10 |
| 4) TC4S66F (XA0115) .....             | 11 |
| 5) AN8010M (XA0119) .....             | 11 |
| 6) BU4052BF (XA0236) .....            | 11 |
| 7) TA75S01F (XA0332) .....            | 12 |
| 8) TC4W53FU (XA0348) .....            | 12 |
| 9) TA31136FN (XA0404) .....           | 12 |
| 10) LA4425A (XA0410) .....            | 13 |
| 11) NJM2904V (XA0573) .....           | 13 |
| 12) NJM2902V-TE1 (XA0596) .....       | 13 |
| 13) S-80845ALMP-EA9-T2 (XA0620) ..... | 14 |
| 14) TK10931V (XA0666) .....           | 14 |

|  |       |
|--|-------|
| 15) BR24C64F-E2 (XA0669) .....                       | 15    |
| 16) LC75884W (XA0899) .....                          | 16    |
| 17) M51132FP (XA0900) .....                          | 17    |
| 18) M30620FCAGP (XA0913/XA0949) .....                | 17~19 |
| 19) M38503M2H667FP (XA0914) .....                    | 20~21 |
| 20) M64076AGP (XA0915) .....                         | 22    |
| 21) S-816A50AMC (XA0925) .....                       | 23    |
| 22) NJM78M05DL1A (XA0947) .....                      | 23    |
| 23) Transistor, Diode, and LED Outline Drawings .... | 24~25 |
| 24) LCD Connection .....                             | 26~27 |

#### EXPLODED VIEW

|                      |    |
|----------------------|----|
| 1) Front View .....  | 28 |
| 2) Bottom View ..... | 29 |

#### PARTS LIST

|                               |       |
|-------------------------------|-------|
| Front Unit .....              | 30~31 |
| LED Unit .....                | 31    |
| Main Unit .....               | 31~42 |
| Mechanical Parts .....        | 42    |
| Packing Parts .....           | 42    |
| Accessories (Screw Set) ..... | 42    |

#### ADJUSTMENT

|                                       |    |
|---------------------------------------|----|
| 1) Adjustment Spot .....              | 43 |
| 2) Adjustment Mode .....              | 44 |
| 3) VHF Adjustment Specification ..... | 45 |
| 4) UHF Adjustment Specification ..... | 46 |
| 5) VHF Test Specification .....       | 47 |
| 6) UHF Test Specification .....       | 48 |

#### PC BOARD VIEW

|                       |    |
|-----------------------|----|
| 1) Front Side A ..... | 49 |
| 2) Front Side B ..... | 49 |
| 3) Main Side A .....  | 50 |
| 4) Main Side B .....  | 51 |

#### FRONT SCHEMATIC DIAGRAM .....

#### MAIN SCHEMATIC DIAGRAM .....

#### FRONT BLOCK DIAGRAM .....

#### MAIN BLOCK DIAGRAM .....

**ALINCO, INC.**

# SPECIFICATIONS

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## 1) GENERAL

|                            |   |
|----------------------------|---|
| Frequency coverage         | 87.500 - 107.995MHz (WFM RX)                  |
| DR-620T (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-620E (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<br>(w/o knobs)  |
| Weight                     | Approx. 1.0kg                                 |

## 2) TRANSMITTER

|                             |   |
|-----------------------------|---|
| Output power                | High : 50W (VHF)<br>35 W(UHF)           |
|                             | Mid : 10W                               |
|                             | 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 (8Ω, 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 D20 (1SV268), D19 (1SS355) and D26 (DAN235E), and a high-pass filter network, and on to the RF amplifier Q19 (3SK131). 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 HVU359), then applied to the 1st mixer Q21 (3SK240) along with the first local signal from the PLL circuit.

The first local signal is generated between 122.3 MHz and 126.3 MHz 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 XF and XF2 (both Q2175AD20) which strip away unwanted mixer products, and the IF signal is applied to the first IF amplifier Q20 (2SC4618). 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 450 kHz second IF signal when mixed with the first IF signal within IC3.

The 450 kHz 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 450 kHz 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 low-pass filter consisting and associated circuitry. The filtered audio signal is switched by IC12 (BU4052), 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.

## 2) UHF Reception

Incoming UHF signals are passed through a low-pass filter network, high-pass filter network, antenna switching diodes D16 (1SS355) and D18 (1SV268), 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 (3SK240) 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/L82.

The amplified and filtered UHF signal is applied to the 1<sup>st</sup> mixer Q42 (3SK240) along with the first local signal from the PLL circuit.

The first local signal is generated between 384.9 MHz and 404.9 (\*2) MHz by the UHF VCO, which consists of Q29 (2SK508) and varactor diodes D38 and D40 (both ISV278), according to the receiving frequency.

The 45.1MHz first IF signal is applied to monolithic crystal filters XF3A and XF3B (Q4511BD10) 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 2) 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 45.555 MHz crystal X4, producing the 455 kHz second IF signal within IC5.

The 455kHz second IF signal is applied to the ceramic filter FL4 (CFW455E) 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 455 kHz 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), 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 D19 (1SS355), D20 (1SV2685) 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 1<sup>st</sup> mixer Q33 (2SC5066) along with the first local signal from the circuit.

The first local signal is generated between 86.7 MH and 118.7 MHz by the FM VCO, which consists of Q14 (2SC4808) and varactor diodes D23, and D25, (both 1SV282) according to the receiving frequency.

The 10.7 MHz first IF signal is applied to ceramic filters FL3 (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 10.7 MHz first IF signal is applied to the discriminator coil L53, which removes any amplitude variations in the 10.7 MHz 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 D19 (1SS355), D20 (1SV268) and a high-pass filter network to the RF amplifier Q19 (3SK131). 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 45.1 MHz VHF “sub” first local signal from the VHF “sub” VCO circuit. The VHF “sub” first local signal is generated between 189.1 MHz and 193.1 MHz by the VHF “sub” VCO Q38.

The 45.1 MHz 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 high-pass and low-pass filter networks, antenna switching diodes D16 (1SS355) and D18 (1SV268), 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 low-pass filter network, then is applied to the UHF “sub” first mixer Q52 (2SC5066) along with the 21.7 MHz UHF “sub” first local signal from the UHF “sub” VCO.

The UHF “sub” first local signal is generated between 408.3 MHz and 428.3MHz by the UHF “sub” VCO Q13.

The 21.7 MHz UHF “sub” second IF signal applied to VHF receiving circuit. The UHF “sub” signal is amplified, filtered, and demodulated, etc., by the VHF 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 (M30624FGAGP), 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 VR8 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 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 UNT. 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-C) 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-Watt RF signal passes through a low-pass filter network, antenna switch D1 (XB15A407), 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 amplifiers Q28 (2SC5066) and Q7 (2SC5226) 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-Watt RF signal passes through a high-pass filter network, antenna switch D12 and D13 (UM9401F), low-pass filter and 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), 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 (M44S713), D22 (MA4S713) and Q12 (2SC4081), then delivered to APCD 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 Q19 goes "high" to control local switch D5 (DAN235E), filter switch D2, D3, TX switch D17 (DAN235E), and APC switch Q8/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 FICront CPU IC604 (M38503M) goes "LO" which sends the "PTT" command to the main CPU, IC19, When it receives the "PTT" command, pin72 of IC19 goes "high" to controls local switch D5, filter switch D2, D3, TX switch D17 and APC switch Q8/Q11, which activates the UHF Tx circuit. Meanwhile, pin 70 of Q19 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 21.25 MHz 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 5 kHz or 6.25 kHz comparative reference frequencies, which are utilized by the phase comparator.

The phase comparator section of IC2 compares the phase between the frequency-divided oscillation 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 PU IC2. It is then sent to the phase comparator.

The 21.25 MHz frequency of the reference oscillator circuit, made up of TCX0 X1, is divided by the reference frequency divider section of IC2 into 4250 or 3400 parts to become 5 kHz 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 oscillation 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.

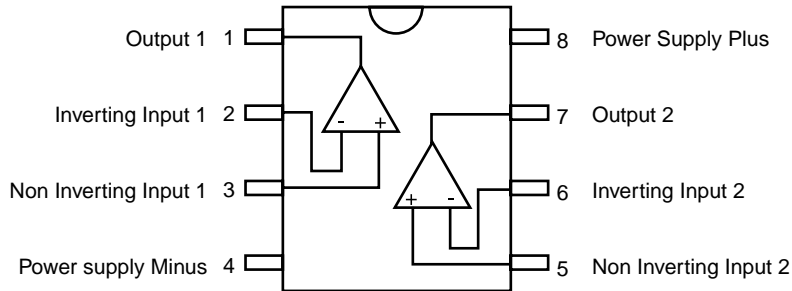
## 17) Power-on Circuit

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

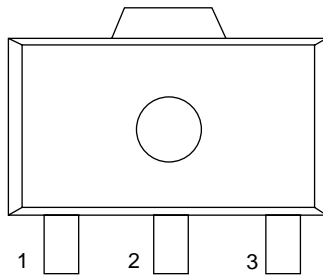
## 1) M5218FP (XA0068)

Dual Low Noise  
Operational Amplifiers



## 2) NJM78L05UA (XA0098)

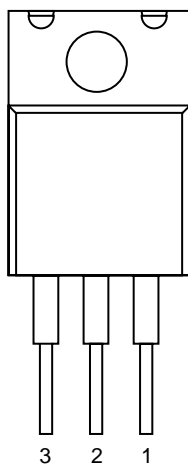
5V Voltage Regulator



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

## 3) NJM7808FA (XA0102)

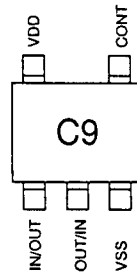
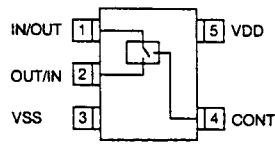
8V Voltage Ragulator  
Pin Assignment



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

#### 4) TC4S66F (XA0115)

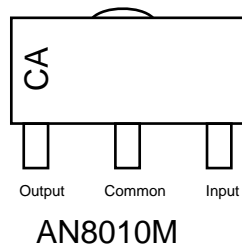
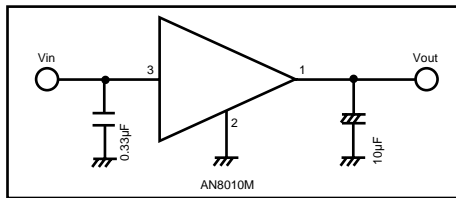
Bilateral Switch



#### 5) AN8010M (XA0119)

10V Voltage Regulator

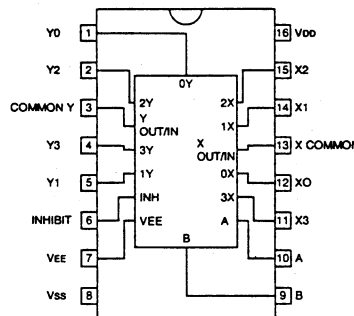
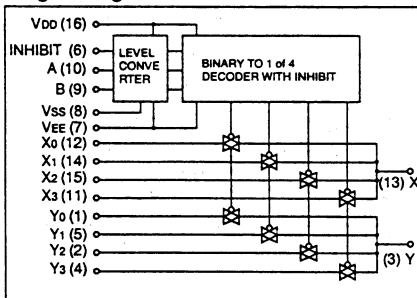
Test Circuit



#### 6) BU4052BF (XA0236)

Analog Multiplexer/Demultiplexer

Logic Diagram



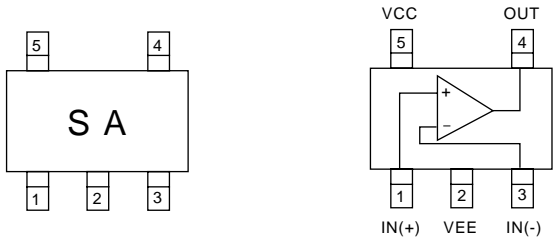
Truth Table

| 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



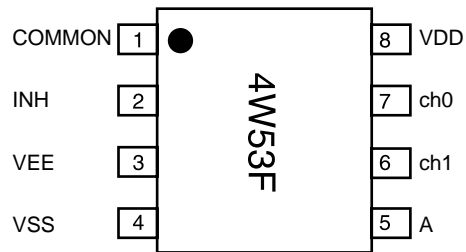
### 8) TC4W53FU (XA0348)

Multiplexer/Demultiplexer

Function Table

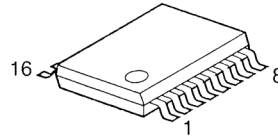
| Control input |   | ON channel |
|---------------|---|------------|
| INH           | A |            |
| L             | L | ch0        |
| L             | H | ch1        |
| H             | * | NONE       |

\* Don't Care

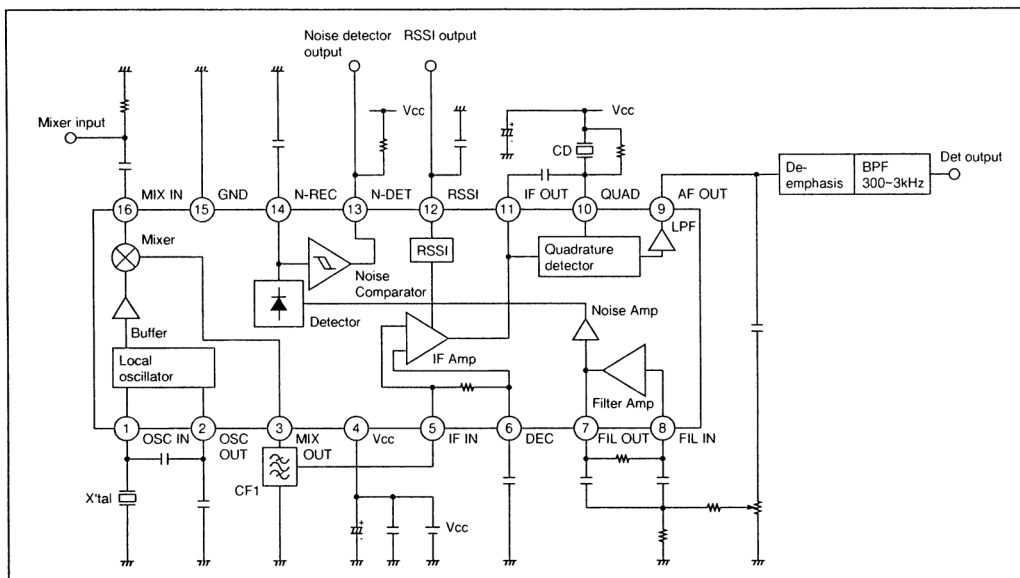


### 9) TA31136FN (XA0404)

Low Power FM IF

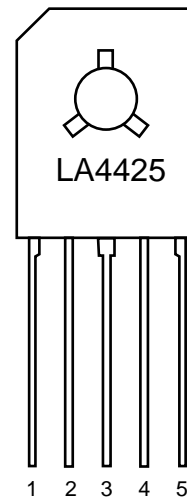
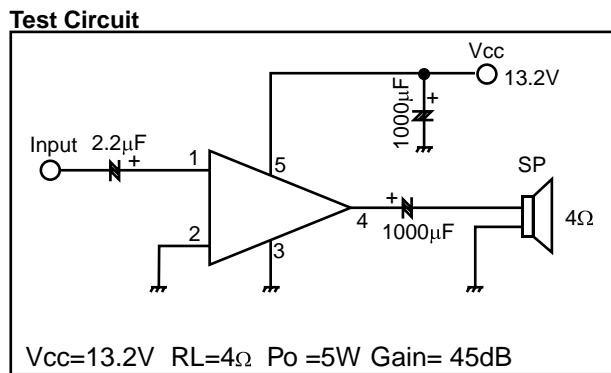


Block Diagram

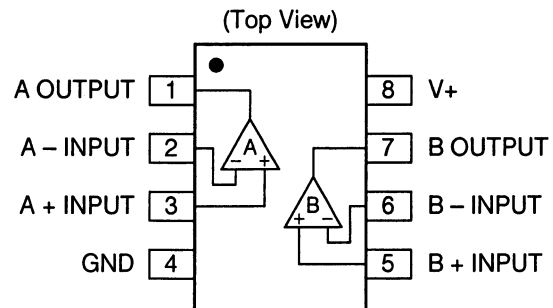
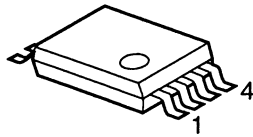


## 10) LA4425A (XA0410)

5W Audio Power Amplifiers

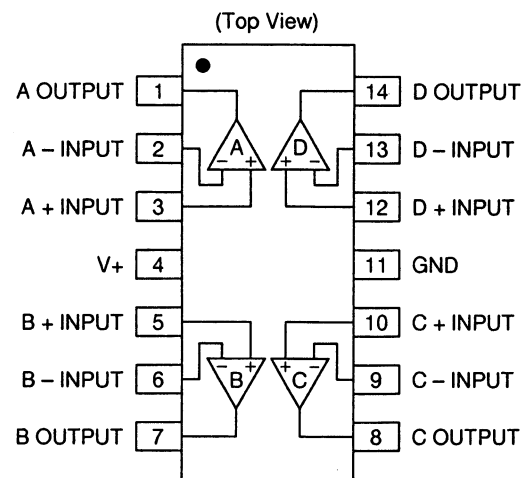
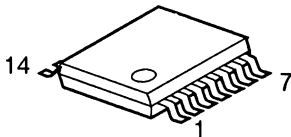


## 11) NJM2904V (XA0573)



## 12) NJM2902V-TE1 (XA0596)

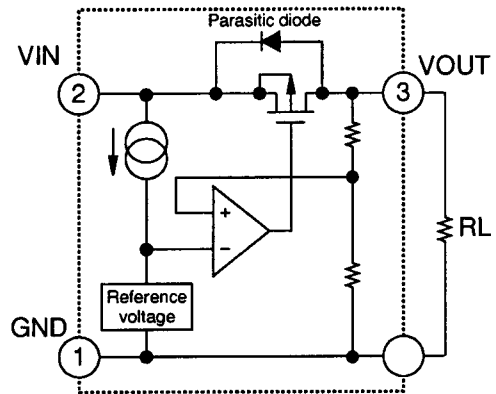
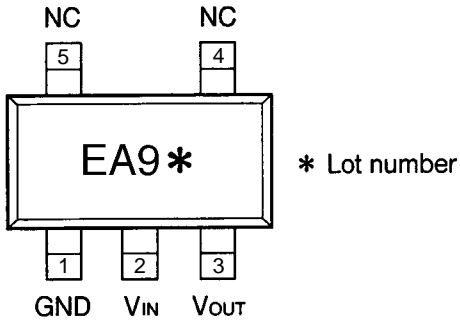
Quad Single Supply Operational Amplifier



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

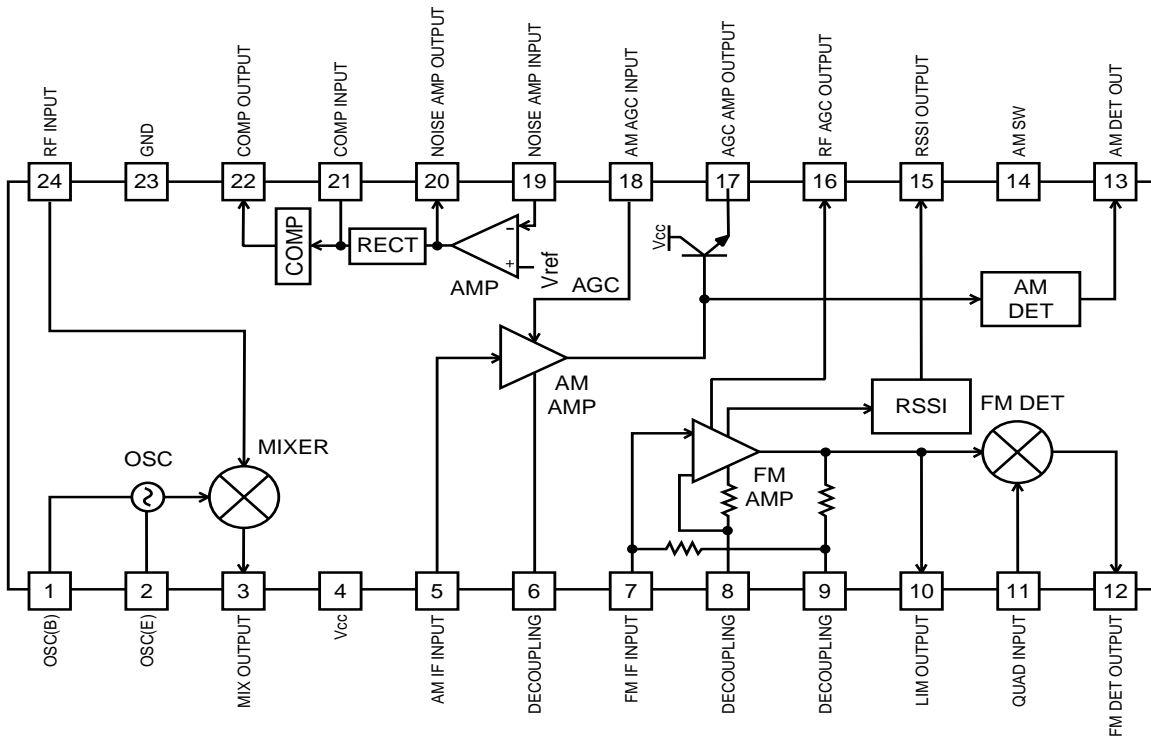
Voltage Detector

Vin=18V  
Iout=100mA



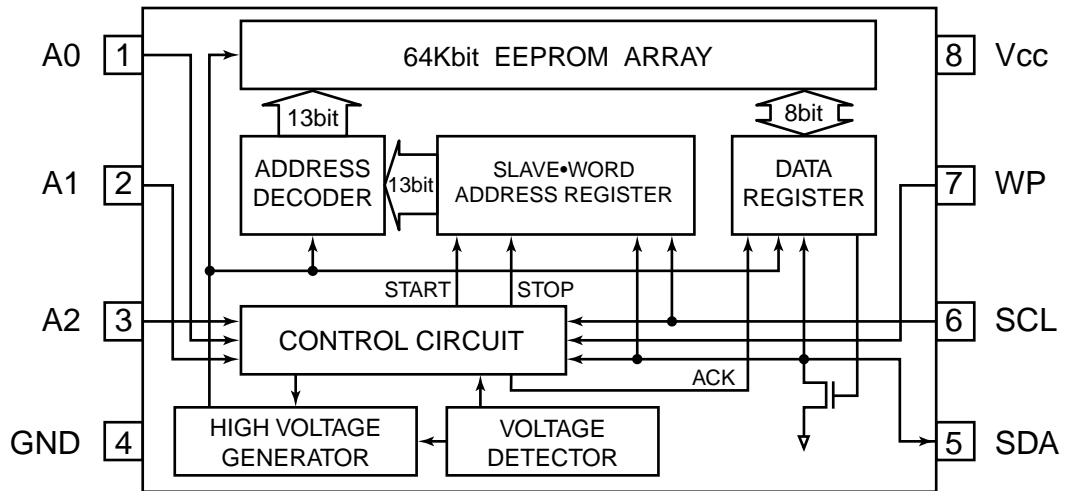
### 14) TK10931V (XA0666)

Pin Assignment / BLOCK Diagram (Top View)

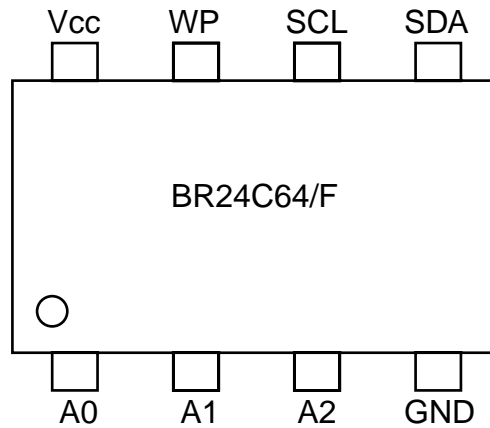


### 15) BR24C64F-E2 (XA0669)

EE-P ROM  
Block Diagram

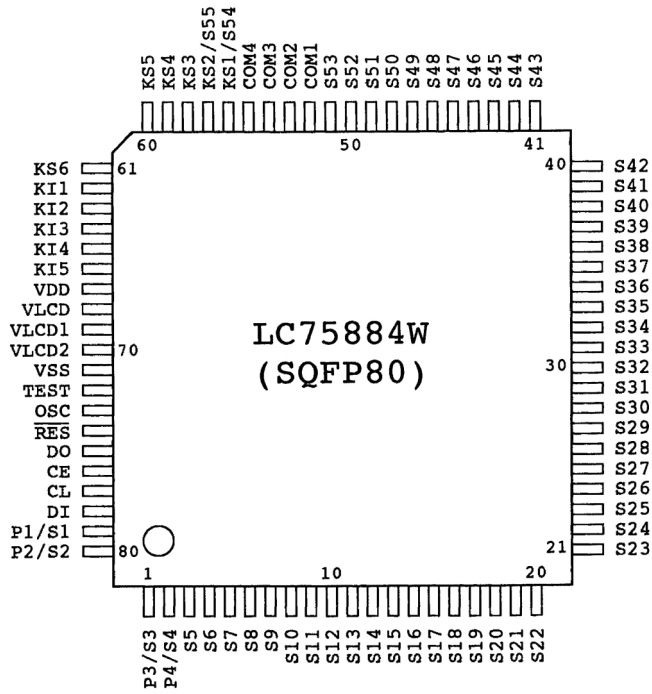


Pin Assignment

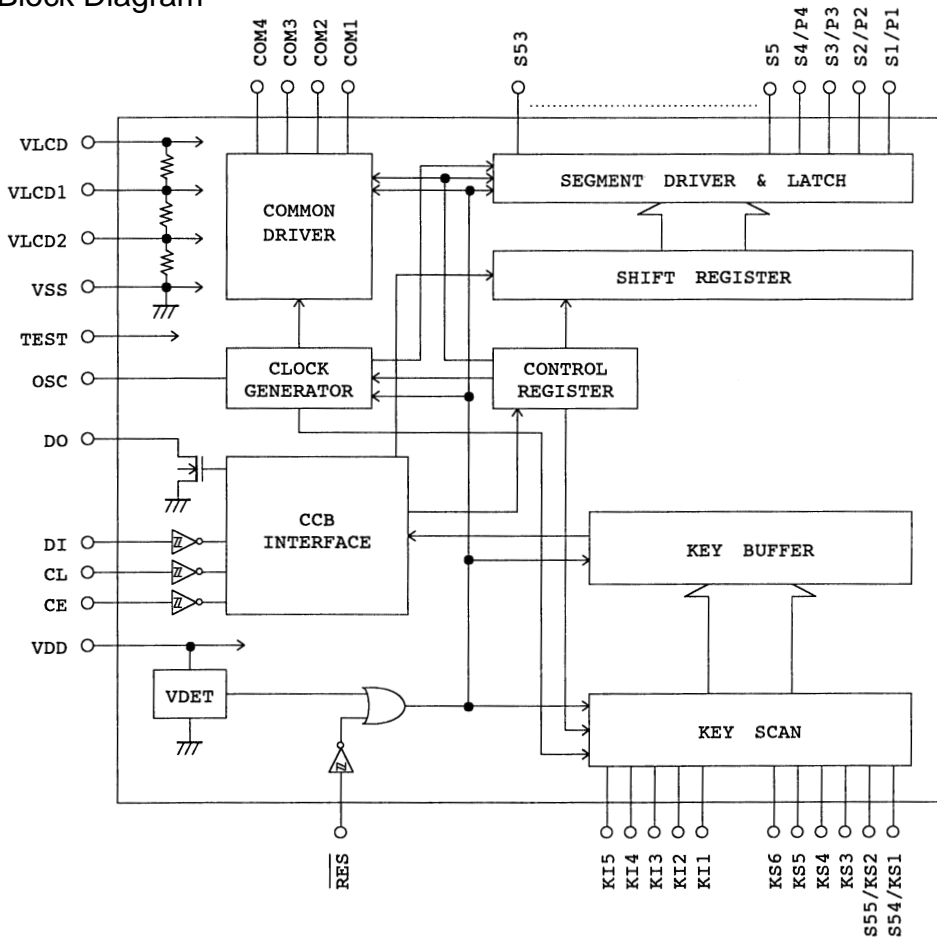


# 16) LC75884W (XA0899)

## LCD Driver



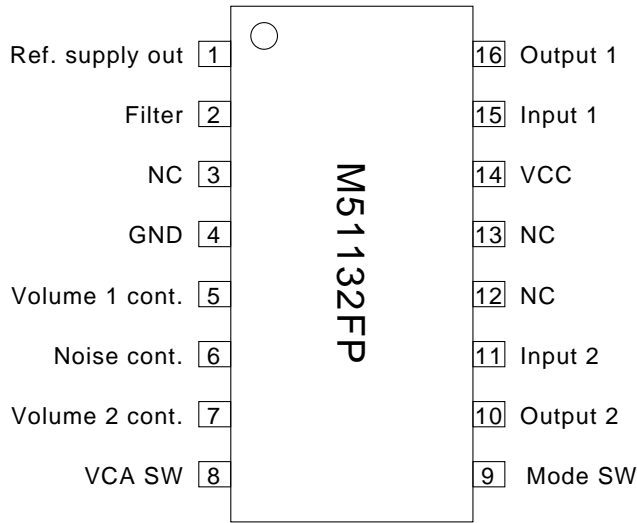
## Block Diagram





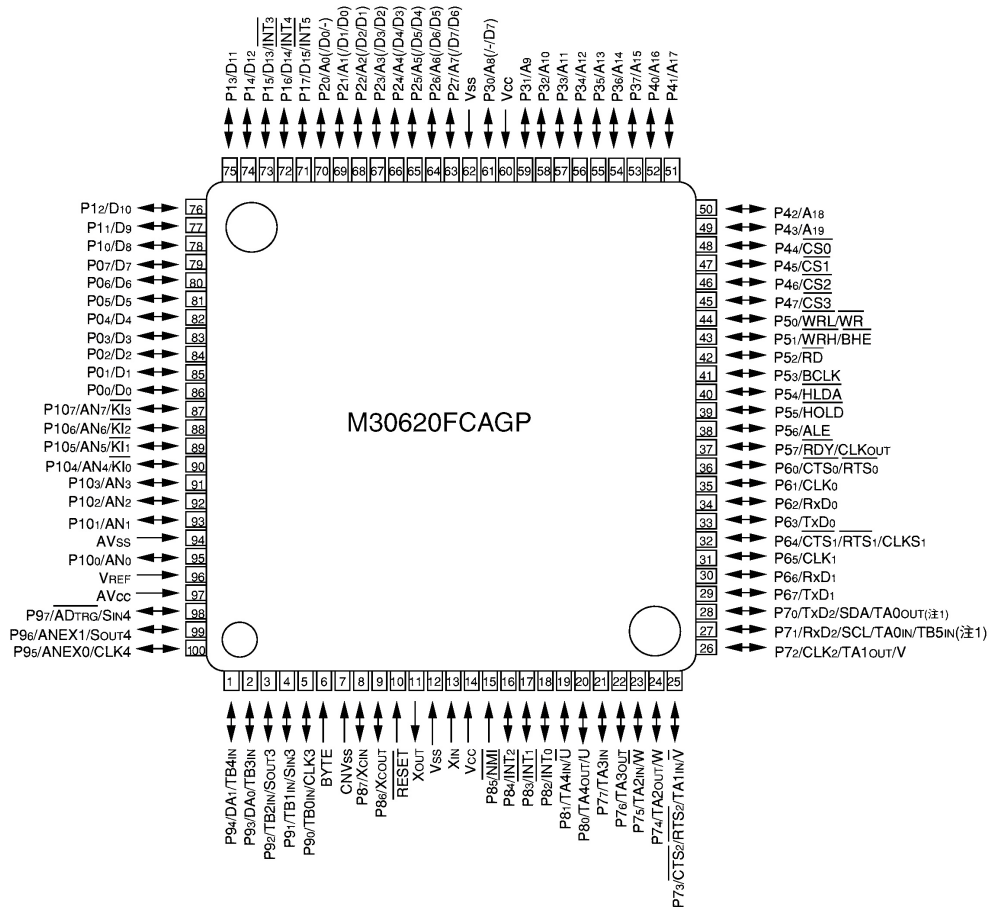
## 17) M51132FP (XA0900)

2ch Electronic Volume



## 18) M30620FCAGP (XA0913/XA0949)

Main CPU



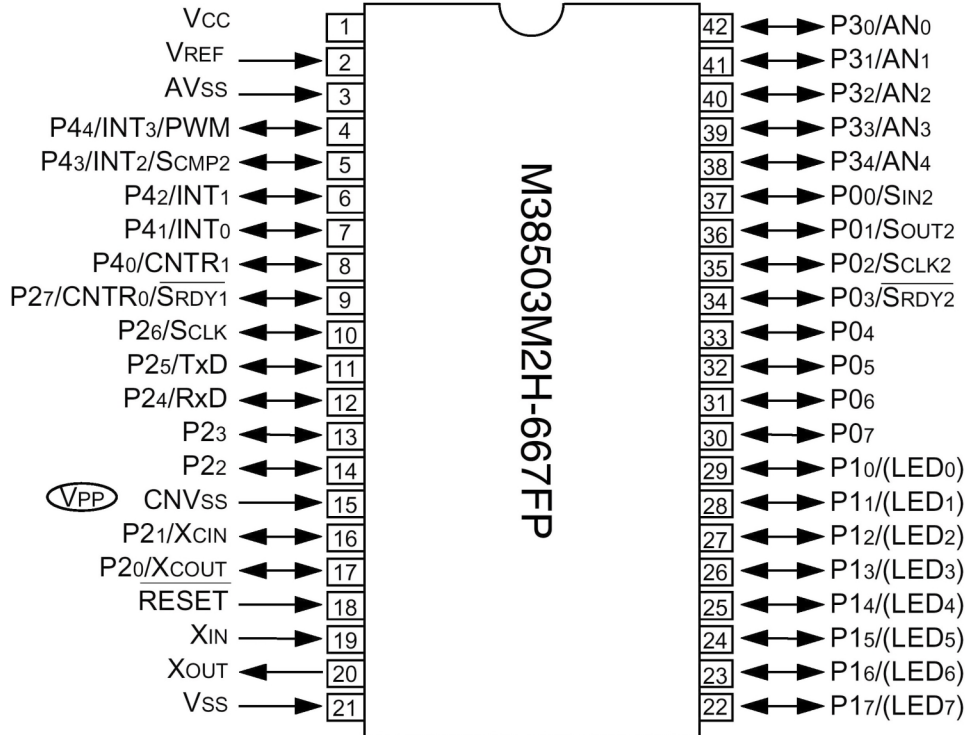
## Terminal Function of Main CPU

| 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   | Pluse      |    | 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 signal 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    |

# 19) M38503M2H667FP (XA0914)

Front CPU



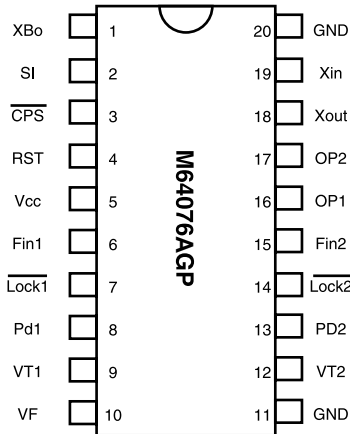
## Terminal Function of Front CPU

| 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              |

# 20) M64076AGP (XA0915)

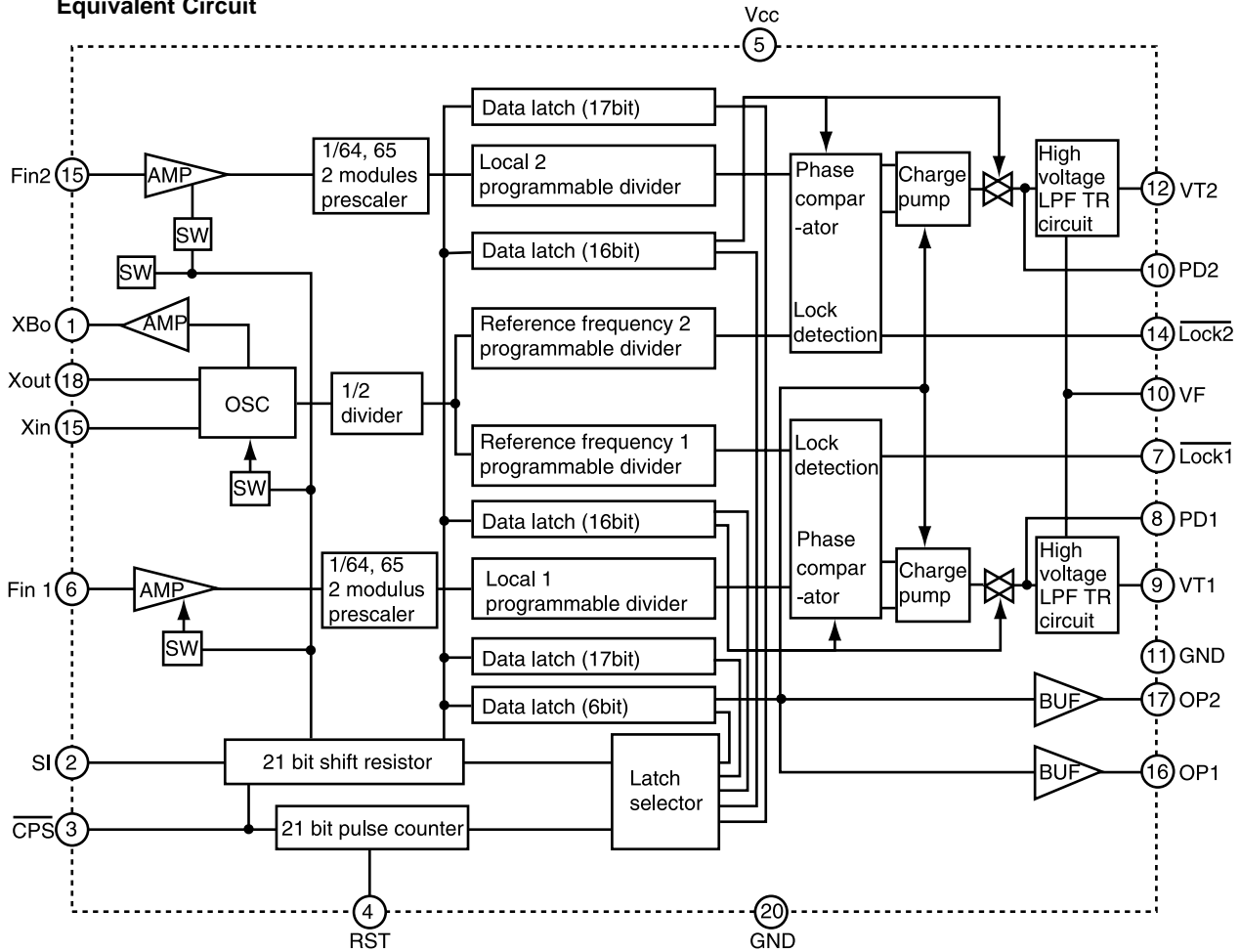
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## Dual PLL Synthesizer



| Parameter                        | Symbol | Condition                                  | Min. | Typ. | Max. | Unit |
|----------------------------------|--------|--|------|------|------|------|
| Power supply voltage             | Vcc    | Fin=80~520MHz<br>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<br>Vcc=2.7~5.5V              | 80   | -    | 520  | MHz  |
| Xin input level                  | Vxin   | Vcc=2.7~5.5V<br>Fxin=10~25MHz<br>Sine wave | 0.4  | -    | 1.4  | Vp-p |
| Xin input frequency              | Fxin   | Vcc=2.7~5.5V<br>Vxin=0.4~1.4Vp-p           | 10   | -    | 25   | MHz  |

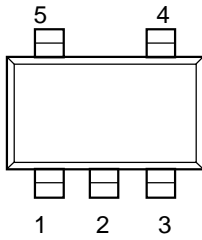
### Equivalent Circuit



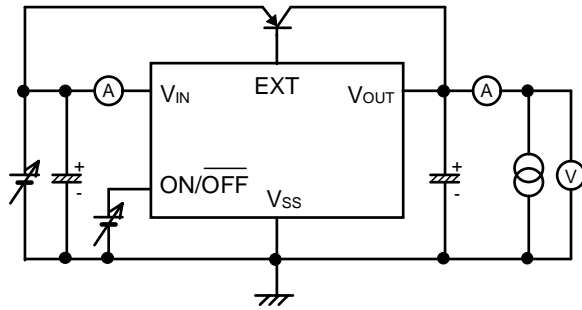
**21) S-816A50AMC (XA0925)**

Voltage Regulator

Top View



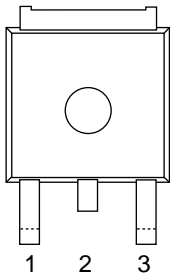
| No. | Terminal |
|-----|----------|
| 1   | EXT      |
| 2   | VSS      |
| 3   | ON/OFF   |
| 4   | VIN      |
| 5   | VOUT     |



**22) NJM78M05DL1A (XA0947)**

Voltage Regulator

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



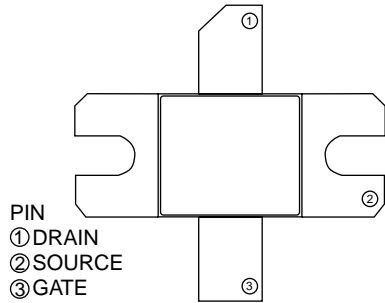
### 23) Transistor, Diode, and LED Outline Drawings

|                       |                      |                      |                        |                        |                          |                         |
|-----------------------|----------------------|----------------------|------------------------|------------------------|--------------------------|-------------------------|
| XB15A407AGB<br>XD0013 | UDZ5.1B<br>XD.0165   | MA742<br>XD0250      | 1SS355<br>XD0254       | DSA3A1<br>XD0131       | HVU359TRF<br>XD0314      | MA2S728-TX<br>XD0315    |
|                       |                      |                      |                        |                        |                          |                         |
| MA2S077-TX<br>XD0319  | DAN235E-TL<br>XD0320 | MA2S111-TX<br>XD0323 | HSU277TRF<br>XD0331    | ISS362 TE85L<br>XD0338 | ISS390 TE61<br>XD0342    | UM9401F<br>XD0373       |
|                       |                      |                      |                        |                        |                          |                         |
| ISV278<br>XD0374      | MA4S713-TX<br>XD0375 | ISV282<br>XD0376     | MAZS270HL<br>XD0377    | 2SK508<br>XE0010       | 3SK131V12<br>XE0028      | 2SK2975-T11-A<br>XE0038 |
|                       |                      |                      |                        |                        |                          |                         |
| 2SK3074<br>XE0044     | 3SK240<br>XE0048     | VRPG3312X<br>XL0051  | FA1111C<br>XL0069      | FA1111C<br>XL0077      | FA1111C<br>XL0091        | MPG338S<br>XL0092       |
|                       |                      |                      |                        |                        |                          |                         |
| 2SB1132<br>XT0061     | 2SC4081<br>XT0095    | 2SA1736<br>XT0099    | 2SC5066-O<br>XT0138    | 2SC5226<br>XT0146      | 2SC4808-TX. AR<br>XT0171 | 2SC4618TLP<br>XT0172    |
|                       |                      |                      |                        |                        |                          |                         |
| 2SB1386<br>XT0190     | DTC363EK<br>XU0160   | DTD114EK<br>XU0173   | RN2107 TE85L<br>XU0192 | RN1107 TE85L<br>XU0193 | RN1111<br>XU0197         | XP03383-TX<br>XU0202    |
|                       |                      |                      |                        |                        |                          |                         |
|                       |                      |                      |                        |                        |                          |                         |



## RD70VHF1 (XE0047)

Nch MOS FET



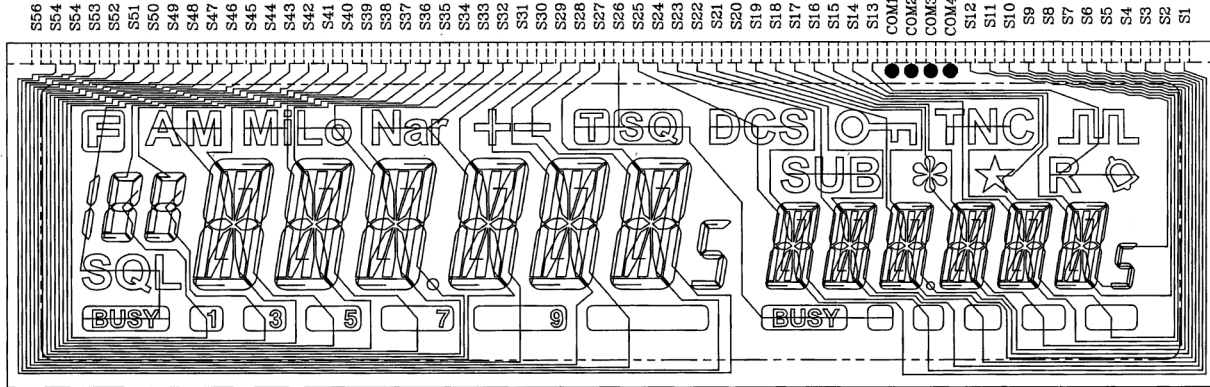
### ABSOLUTE MAXIMUM RATING

| 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   |

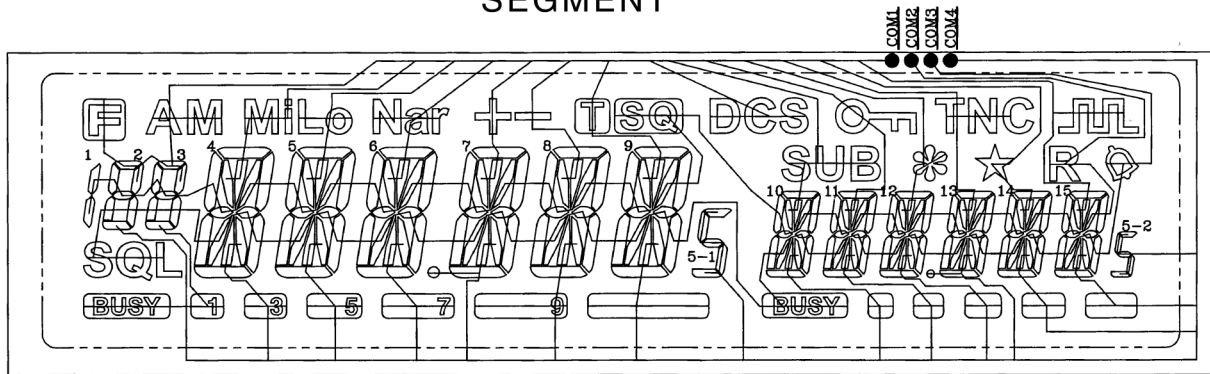
### ELECTRICAL CHARACTERISTIC(Ta=25°C)

| 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<br>Ids(idle)=2.0A | 55     |     | %    |
| Output power 2                 | Po2    | f=520MHz, Pin=10W           | 50     |     | W    |
| Drain efficiency 2             | ηD2    | Vds=12.5V<br>Ids(idle)=2.0A | 50     |     | %    |

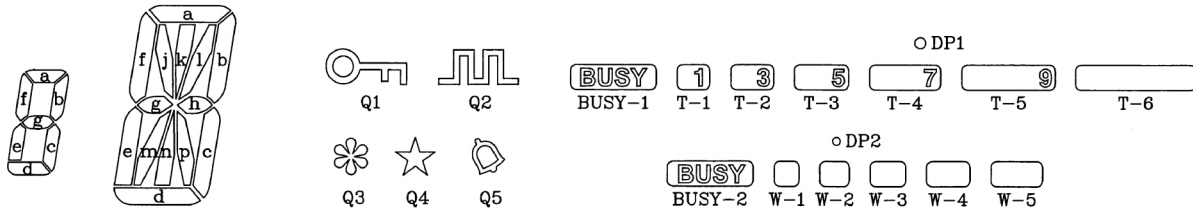
## 24) LCD Connection



SEGMENT



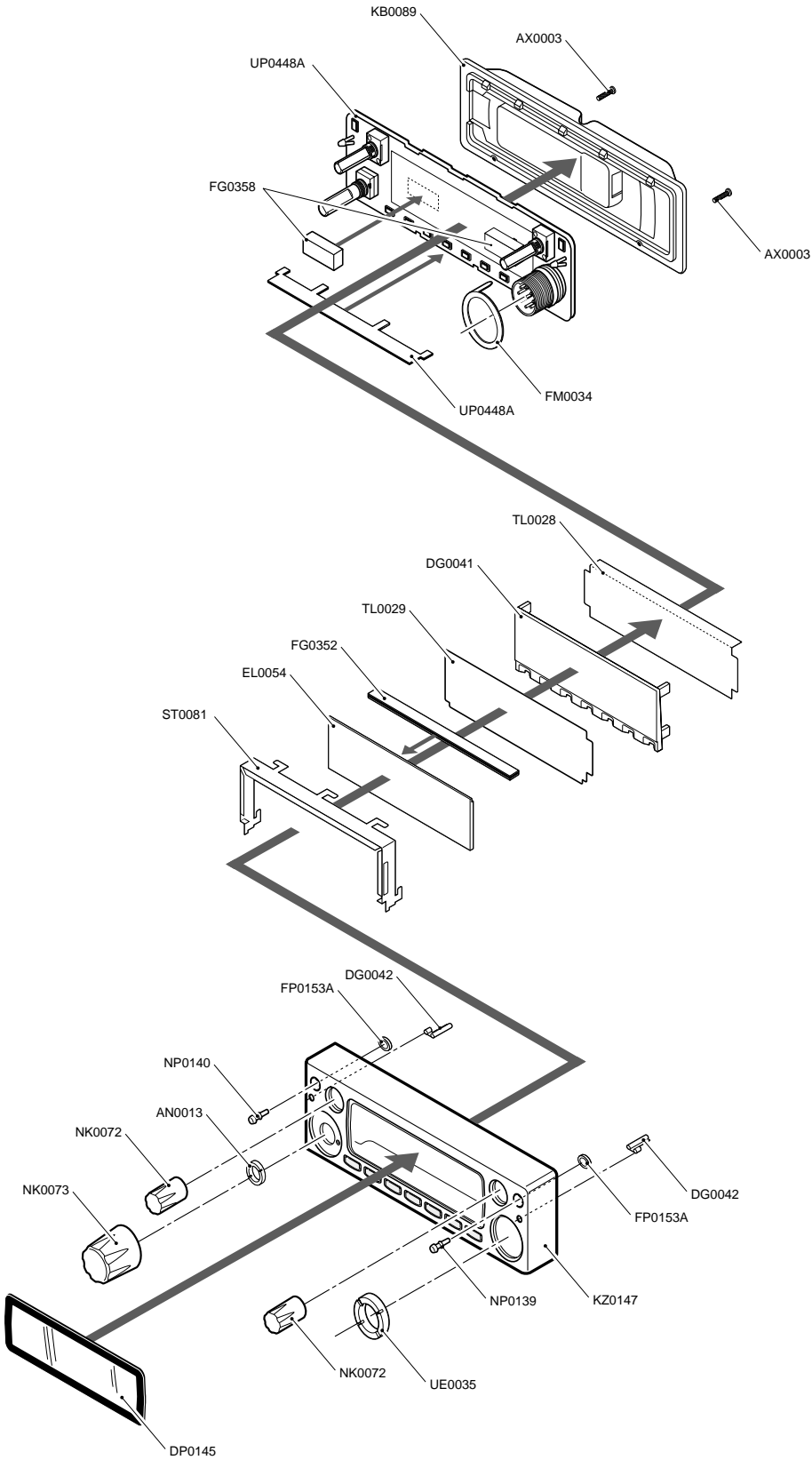
COMMON



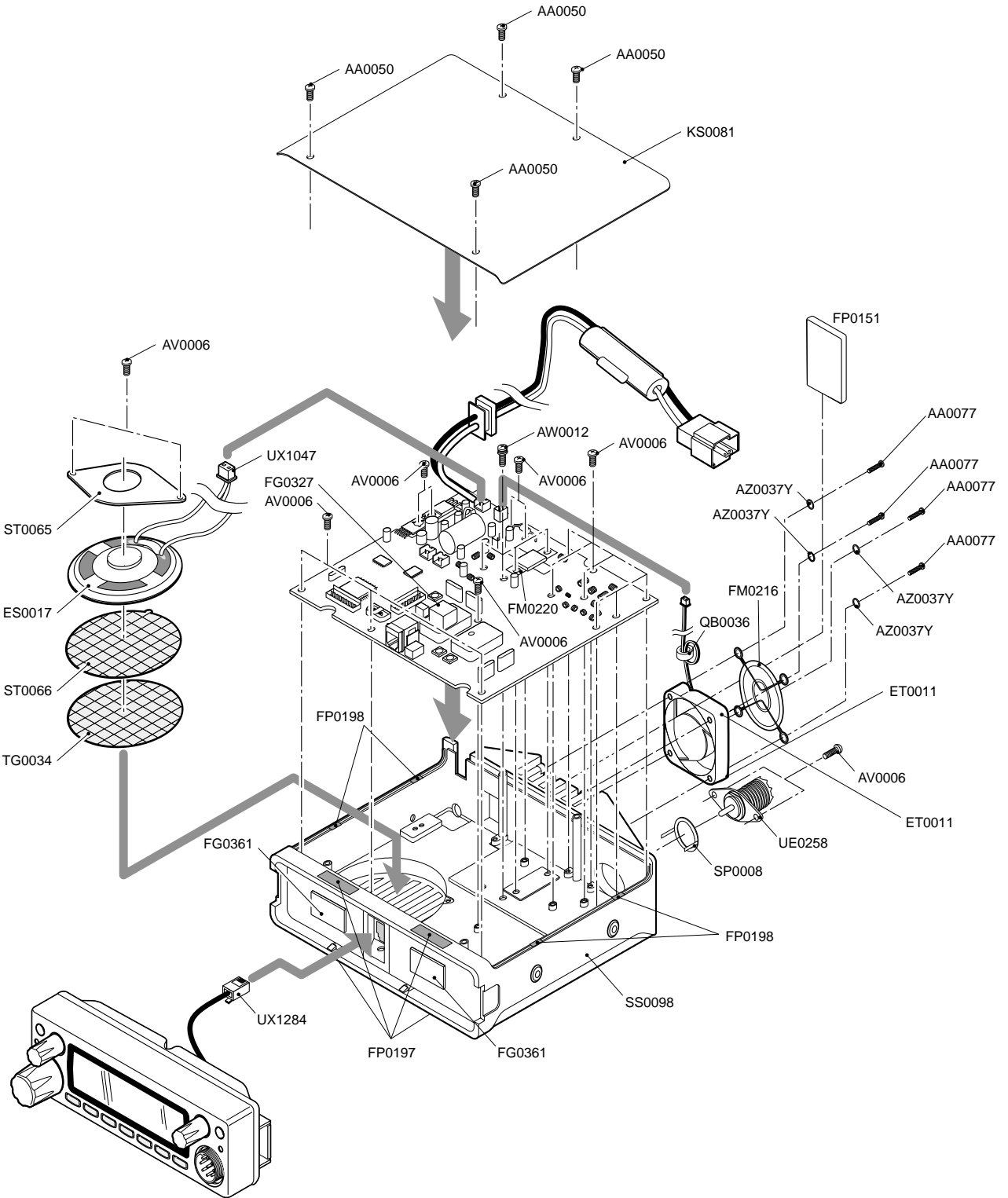
|      | COM1     | COM2 | COM3   | COM4   |
|------|----------|------|--------|--------|
| S1   | 10k      | 10l  | 10h    | 10p    |
| S2   | 10a      | 10b  | 10c    | W-2    |
| S3   | 111k     | 11l  | 11h    | 11p    |
| S4   | 11a      | 11b  | 11c    | W-3    |
| S5   | 12k      | 12l  | 12h    | 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



# PARTS LIST

## Front Unit

| Ref. No. | Parts No. | Description     | Parts Name        | Qty |     |
|----------|-----------|-----------------|-------------------|-----|-----|
|          |           |                 |                   | (T) | (E) |
| C601     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C602     | CS0424    | Chip Tantalum   | TMCMA1C106MTR     | 1   | 1   |
| C603     | CU3523    | Chip C.         | GRM36CH101J50PT   | 1   | 1   |
| C604     | CU0108    | Chip C.         | LMK212BJ105KG     | 1   | 1   |
| C605     | CU3551    | Chip C.         | GRM36B223K16PT    | 1   | 1   |
| C606     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C607     | CS0424    | Chip Tantalum   | TMCMA1C106MTR     | 1   | 1   |
| C608     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C609     | CU0108    | Chip C.         | LMK212BJ105KG     | 1   | 1   |
| C610     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C611     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C612     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C613     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C614     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C615     | CS0424    | Chip Tantalum   | TMCMA1C106MTR     | 1   | 1   |
| C616     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C617     | CS0424    | Chip Tantalum   | TMCMA1C106MTR     | 1   | 1   |
| C618     | CU3533    | Chip C.         | GRM36B681K50PT    | 1   | 1   |
| C619     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C620     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C621     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C622     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C623     | CU3543    | Chip C.         | GRM36B472K25PT    | 1   | 1   |
| C624     | CU3543    | Chip C.         | GRM36B472K25PT    | 1   | 1   |
| C625     | CU3551    | Chip C.         | GRM36B223K16PT    | 1   | 1   |
| C626     | CU3023    | Chip C.         | C1608CH1H101JT-AS | 1   | 1   |
| C627     | CU3023    | Chip C.         | C1608CH1H101JT-AS | 1   | 1   |
| CN601    | UE0035    | Connector       | FM214-8SMPY       | 1   | 1   |
| CN602    | UJ0052    | Jack            | HJCO163-01-022    | 1   | 1   |
| CN603    | UE0456    | Connector       | PI28A08M          | 1   | 1   |
| D601     | XD0254    | Chip Diode      | 1SS355 TE17       | 1   | 1   |
| D606     | XD0254    | Chip Diode      | 1SS355 TE17       | 1   | 1   |
| D611     | XL0069    | Chip LED        | FA1111C-TR        | 1   | 1   |
| D612     | XL0091    | Chip LED        | FY1111C-433-TR    | 1   | 1   |
| D613     | XL0069    | Chip LED        | FA1111C-TR        | 1   | 1   |
| D614     | XL0092    | LED             | MPG3338S          | 1   | 1   |
| D618     | XL0051    | LED             | VRPG3312X         | 1   | 1   |
| D620     | XD0254    | Chip Diode      | 1SS355 TE17       | 1   | 1   |
| IC601    | XA0068    | IC              | M5218AFP/600E     | 1   | 1   |
| IC602    | XA0947    | IC              | NJM78M05DL1A-TE1  | 1   | 1   |
| IC603    | XA0899    | IC              | LC75884W          | 1   | 1   |
| IC604    | XA0914    | IC              | M38503M2H667FP    | 1   | 1   |
| LCD60    | EL0054    | LCD             | LCD DR620         | 1   | 1   |
| Q601     | XT0095    | Chip Transistor | 2SC4081 T106R     | 1   | 1   |
| Q602     | XT0095    | Chip Transistor | 2SC4081 T106R     | 1   | 1   |
| Q603     | XU0193    | Chip Transistor | RN1107 TE85L      | 1   | 1   |
| Q604     | XT0095    | Chip Transistor | 2SC4081 T106R     | 1   | 1   |
| Q605     | XU0193    | Chip Transistor | RN1107 TE85L      | 1   | 1   |
| Q606     | XU0192    | Chip Transistor | RN2107 TE85L      | 1   | 1   |
| Q607     | XU0173    | Chip Transistor | DTD114EK-T146     | 1   | 1   |
| Q608     | XU0173    | Chip Transistor | DTD114EK-T146     | 1   | 1   |
| Q609     | XT0095    | Chip Transistor | 2SC4081 T106R     | 1   | 1   |
| Q610     | XU0193    | Chip Transistor | RN1107 TE85L      | 1   | 1   |
| Q611     | XT0095    | Chip Transistor | 2SC4081 T106R     | 1   | 1   |
| Q612     | XU0193    | Chip Transistor | RN1107 TE85L      | 1   | 1   |
| R601     | RK3566    | Chip R.         | ERJ2GJEJ224X      | 1   | 1   |
| R602     | RK3550    | Chip R.         | ERJ2GJEJ103X      | 1   | 1   |
| R603     | RK3551    | Chip R.         | ERJ2GJEJ123X      | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name    | Qty |     |
|----------|-----------|-------------|---------------|-----|-----|
|          |           |             |               | (T) | (E) |
| R604     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R605     | RK3560    | Chip R.     | ERJ2GJEJ683X  | 1   | 1   |
| R606     | RK3543    | Chip R.     | ERJ2GJEJ272X  | 1   | 1   |
| R607     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R608     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R609     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R610     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R611     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R612     | RK3526    | Chip R.     | ERJ2GJEJ101X  | 1   | 1   |
| R613     | RK3522    | Chip R.     | ERJ2GJEJ470X  | 1   | 1   |
| R614     | RK3501    | Chip R.     | ERJ2GEO000X   | 1   | 1   |
| R615     | RK3546    | Chip R.     | ERJ2GJEJ472X  | 1   | 1   |
| R616     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R617     | RK3546    | Chip R.     | ERJ2GJEJ472X  | 1   | 1   |
| R618     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R619     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R620     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R621     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R622     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R623     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R624     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R625     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R626     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R627     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R628     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R629     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R630     | RK3546    | Chip R.     | ERJ2GJEJ472X  | 1   | 1   |
| R631     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R632     | RK3542    | Chip R.     | ERJ2GJEJ222X  | 1   | 1   |
| R633     | RK3526    | Chip R.     | ERJ2GJEJ101X  | 1   | 1   |
| R634     | RK3526    | Chip R.     | ERJ2GJEJ101X  | 1   | 1   |
| R635     | RK3558    | Chip R.     | ERJ2GJEJ473X  | 1   | 1   |
| R636     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R637     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R639     | RK3026    | Chip R.     | MCR03EZHHJ101 | 1   | 1   |
| R640     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R641     | RK3570    | Chip R.     | ERJ2GJEJ474X  | 1   | 1   |
| R642     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R643     | RK3574    | Chip R.     | ERJ2GJEJ105X  | 1   | 1   |
| R645     | RK3030    | Chip R.     | MCR03EZHHJ221 | 1   | 1   |
| R646     | RK3534    | Chip R.     | ERJ2GJEJ471X  | 1   | 1   |
| R651     | RK3530    | Chip R.     | ERJ2GJEJ221X  | 1   | 1   |
| R652     | RK3530    | Chip R.     | ERJ2GJEJ221X  | 1   | 1   |
| R653     | RK3535    | Chip R.     | ERJ2GJEJ561X  | 1   | 1   |
| R654     | RK3535    | Chip R.     | ERJ2GJEJ561X  | 1   | 1   |
| R655     | RK3528    | Chip R.     | ERJ2GJEJ151X  | 1   | 1   |
| R656     | RK3535    | Chip R.     | ERJ2GJEJ561X  | 1   | 1   |
| R657     | RK3528    | Chip R.     | ERJ2GJEJ151X  | 1   | 1   |
| R658     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R659     | RK3550    | Chip R.     | ERJ2GJEJ103X  | 1   | 1   |
| R660     | RK3026    | Chip R.     | MCR03EZHHJ101 | 1   | 1   |
| R661     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R662     | RK3030    | Chip R.     | MCR03EZHHJ221 | 1   | 1   |
| R663     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R666     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R667     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R668     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |
| R669     | RK3538    | Chip R.     | ERJ2GJEJ102X  | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name           | Qty |     |
|----------|-----------|-------------|----------------------|-----|-----|
|          |           |             |                      | (T) | (E) |
| RE601    | UR0015    | Dial        | RH90N74E20-A90770    | 1   | 1   |
| SW601    | UU0015Z   | Switch      | EVQPPPA25            | 1   | 1   |
| SW602    | UU0015Z   | Switch      | EVQPPPA25            | 1   | 1   |
| SW603    | UU0015Z   | Switch      | EVQPPPA25            | 1   | 1   |
| SW604    | UU0015Z   | Switch      | EVQPPPA25            | 1   | 1   |
| SW605    | UU0015Z   | Switch      | EVQPPPA25            | 1   | 1   |
| SW606    | UU0015Z   | Switch      | EVQPPPA25            | 1   | 1   |
| SW607    | UU0015Z   | Switch      | EVQPPPA25            | 1   | 1   |
| SW608    | UU0015Z   | Switch      | EVQPPPA25            | 1   | 1   |
| SW609    | UU0015Z   | Switch      | EVQPPPA25            | 1   | 1   |
| VR601    | RV0035    | Variable R. | EVUF2JFK4B14         | 1   | 1   |
| VR602    | RV0035    | Variable R. | EVUF2JFK4B14         | 1   | 1   |
| X601     | XB0029    | Ceramic OSC | EF0S4914E5           | 1   | 1   |
|          | TL0029    |             | DIFFUSION SHEET      | 1   | 1   |
|          | FG0358    |             | LCD CUSHION DR620    | 2   | 2   |
|          | ST0081    |             | LCD HOLDER DR620     | 1   | 1   |
|          | DG0041    |             | LCD LIGHT DR620      | 1   | 1   |
|          | FG0352    |             | LCD RUBBER CONNECTOR | 1   | 1   |
|          | FM0034    |             | MIC GND PLATE        | 1   | 1   |
|          | FP0034    |             | MIC SPACER DR110     | 1   | 1   |
|          | TL0028    |             | REFLECTIVE SHEET     | 1   | 1   |

## LED Unit

| Ref. No. | Parts No. | Description | Parts Name     | Qty |     |
|----------|-----------|-------------|----------------|-----|-----|
|          |           |             |                | (T) | (E) |
| D602     | XL0077    | Chip LED    | FA1111C-732-TR | 1   | 1   |
| D603     | XL0077    | Chip LED    | FA1111C-732-TR | 1   | 1   |
| D604     | XL0077    | Chip LED    | FA1111C-732-TR | 1   | 1   |
| D605     | XL0091    | Chip LED    | FY1111C-433-TR | 1   | 1   |
| D607     | XL0077    | Chip LED    | FA1111C-732-TR | 1   | 1   |
| D608     | XL0091    | Chip LED    | FY1111C-433-TR | 1   | 1   |
| D609     | XL0077    | Chip LED    | FA1111C-732-TR | 1   | 1   |
| D610     | XL0077    | Chip LED    | FA1111C-732-TR | 1   | 1   |
| D615     | XL0091    | Chip LED    | FY1111C-433-TR | 1   | 1   |
| D616     | XL0091    | Chip LED    | FY1111C-433-TR | 1   | 1   |
| D617     | XL0091    | Chip LED    | FY1111C-433-TR | 1   | 1   |
| D619     | XL0091    | Chip LED    | FY1111C-433-TR | 1   | 1   |
| R647     | RK3028    | Chip R.     | MCR03EZJH151   | 1   | 1   |
| R648     | RK3028    | Chip R.     | MCR03EZJH151   | 1   | 1   |
| R649     | RK3028    | Chip R.     | MCR03EZJH151   | 1   | 1   |
| R650     | RK3026    | Chip R.     | MCR03EZJH101   | 1   | 1   |
| R664     | RK3026    | Chip R.     | MCR03EZJH101   | 1   | 1   |
| R665     | RK3026    | Chip R.     | MCR03EZJH101   | 1   | 1   |

## Main Unit

| Ref. No. | Parts No. | Description | Parts Name         | Qty |     |
|----------|-----------|-------------|--------------------|-----|-----|
|          |           |             |                    | (T) | (E) |
| C1       | CU3035    | Chip C.     | C1608JB1H102KT-AS  | 1   | 1   |
| C3       | CU3535    | Chip C.     | GRM36B102K50PT     | 1   | 1   |
| C4       | CU3031    | Chip C.     | C1608JB1H471KT-AS  | 1   | 1   |
| C5       | CU4008    | Chip C.     | GRM42-6CH070D500PT | 1   | 1   |
| C6       | CU3019    | Chip C.     | C1608CH1H470JT-AS  | 1   | 1   |
| C8       | CU3035    | Chip C.     | C1608JB1H102KT-AS  | 1   | 1   |
| C9       | CU7046    | Chip C.     | UC232H0270C-T      | 1   | 1   |
| C10      | CU3035    | Chip C.     | C1608JB1H102KT-AS  | 1   | 1   |
| C11      | CU3035    | Chip C.     | C1608JB1H102KT-AS  | 1   | 1   |
| C12      | CU3057    | Chip C.     | C1608CH1H130JT-A   | 1   | 1   |
| C13      | CU3057    | Chip C.     | C1608CH1H130JT-A   | 1   | 1   |

| Ref. No. | Parts No. | Description     | Parts Name         | Qty |     |
|----------|-----------|-----------------|--------------------|-----|-----|
|          |           |                 |                    | (T) | (E) |
| C14      | CU4023    | Chip C.         | GRM42-6CH101J500PT | 1   | 1   |
| C15      | CU7052    | Chip C.         | UC232H0820F-T      | 1   | 1   |
| C16      | CU3507    | Chip C.         | GRM36CH060D50PT    | 1   | 1   |
| C17      | CU3018    | Chip C.         | C1608CH1H390JT-AS  | 1   | 1   |
| C18      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C19      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C20      | CU4023    | Chip C.         | GRM42-6CH101J500PT | 1   | 1   |
| C21      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C22      | CU3511    | Chip C.         | GRM36CH100D50PT    | 1   | 1   |
| C23      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C26      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C27      | CU3515    | Chip C.         | GRM36CH220J50PT    | 1   | 1   |
| C29      | CU3515    | Chip C.         | GRM36CH220J50PT    | 1   | 1   |
| C30      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C31      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C32      | CU3024    | Chip C.         | C1608CH1H121JT-AS  | 1   | 1   |
| C33      | CU3024    | Chip C.         | C1608CH1H121JT-AS  | 1   | 1   |
| C35      | CU4016    | Chip C.         | GRM42-6CH270J500PT | 1   | 1   |
| C36      | CU4015    | Chip C.         | GRM42-6CH220J500PT | 1   | 1   |
| C38      | CU4016    | Chip C.         | GRM42-6CH270J500PT | 1   | 1   |
| C39      | CU4014    | Chip C.         | GRM42-6CH180J500PT | 1   | 1   |
| C40      | CU7050    | Chip C.         | UC232H0560F-T      | 1   | 1   |
| C42      | CU3513    | Chip C.         | GRM36CH150J50PT    | 1   | 1   |
| C43      | CU3518    | Chip C.         | GRM36CH390J50PT    | 1   | 1   |
| C44      | CU3515    | Chip C.         | GRM36CH220J50PT    | 1   | 1   |
| C45      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C46      | CU3001    | Chip C.         | C1608CH1H0R5CT-AS  | 1   | 1   |
| C48      | CU3001    | Chip C.         | C1608CH1H0R5CT-AS  | 1   | 1   |
| C49      | CU4013    | Chip C.         | GRM42-6CH150J500PT | 1   | 1   |
| C51      | CU3511    | Chip C.         | GRM36CH100D50PT    | 1   | 1   |
| C52      | CU0108    | Chip C.         | LMK212BJ105KG      | 1   | 1   |
| C53      | CU0108    | Chip C.         | LMK212BJ105KG      | 1   | 1   |
| C54      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C55      | CU3515    | Chip C.         | GRM36CH220J50PT    | 1   | 1   |
| C56      | CU3511    | Chip C.         | GRM36CH100D50PT    | 1   | 1   |
| C57      | CU4011    | Chip C.         | GRM42-6CH100J500PT | 1   | 0   |
| C57      | CU4012    | Chip C.         | GRM42-6CH120J500PT | 0   | 1   |
| C58      | CU3509    | Chip C.         | GRM36CH080D50PT    | 1   | 1   |
| C59      | CU3510    | Chip C.         | GRM36CH090D50PT    | 1   | 1   |
| C60      | CU3514    | Chip C.         | GRM36CH180J50PT    | 1   | 1   |
| C61      | CU3514    | Chip C.         | GRM36CH180J50PT    | 1   | 1   |
| C62      | CE0339    | Electrolytic C. | 16MV 10SWB+TS      | 1   | 1   |
| C63      | CU4015    | Chip C.         | GRM42-6CH220J500PT | 1   | 1   |
| C64      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C65      | CS0424    | Chip Tantalum   | TMCMA1C106MTR      | 1   | 1   |
| C66      | CU3503    | Chip C.         | GRM36CK020C50PT    | 1   | 1   |
| C67      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C68      | CU3019    | Chip C.         | C1608CH1H470JT-AS  | 1   | 1   |
| C69      | CU3530    | Chip C.         | GRM36B391K50PT     | 1   | 1   |
| C70      | CE0339    | Electrolytic C. | 16MV 10SWB+TS      | 1   | 1   |
| C71      | CU3011    | Chip C.         | C1608CH1H100DT-AS  | 1   | 1   |
| C72      | CU3012    | Chip C.         | C1608CH1H120JT-AS  | 1   | 1   |
| C73      | CU3015    | Chip C.         | C1608CH1H220JT-AS  | 1   | 1   |
| C74      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C75      | CU3514    | Chip C.         | GRM36CH180J50PT    | 1   | 1   |
| C76      | CU3514    | Chip C.         | GRM36CH180J50PT    | 1   | 1   |
| C78      | CU3531    | Chip C.         | GRM36B471K50PT     | 1   | 1   |
| C79      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C80      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C81      | CU3511    | Chip C.         | GRM36CH100D50PT    | 1   | 1   |
| C82      | CU3547    | Chip C.         | GRM36B103K16PT     | 1   | 1   |
| C83      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C84      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C85      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |

| Ref. No. | Parts No. | Description     | Parts Name         | Qty |     |
|----------|-----------|-----------------|--------------------|-----|-----|
|          |           |                 |                    | (T) | (E) |
| C86      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C87      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C88      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C89      | CU3111    | Chip C.         | C1608JB1C104KT-N   | 1   | 1   |
| C91      | CU3502    | Chip C.         | GRM36CK010C50PT    | 1   | 1   |
| C92      | CU3547    | Chip C.         | GRM36B103K16PT     | 1   | 1   |
| C93      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C94      | CU3511    | Chip C.         | GRM36CH100D50PT    | 1   | 1   |
| C95      | CU3111    | Chip C.         | C1608JB1C104KT-N   | 1   | 1   |
| C96      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C97      | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C98      | CS0220    | Chip Tantalum   | TMCMA1C225MTR      | 1   | 1   |
| C99      | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C100     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C101     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C102     | CU3506    | Chip C.         | GRM36CH050C50PT    | 1   | 1   |
| C103     | CU4019    | Chip C.         | GRM42-6CH470J500PT | 1   | 1   |
| C104     | CS0220    | Chip Tantalum   | TMCMA1C225MTR      | 1   | 1   |
| C105     | CU3512    | Chip C.         | GRM36CH120J50PT    | 1   | 1   |
| C106     | CU4008    | Chip C.         | GRM42-6CH070D500PT | 1   | 1   |
| C107     | CU3551    | Chip C.         | GRM36B223K16PT     | 1   | 1   |
| C108     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C109     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C110     | CU3547    | Chip C.         | GRM36B103K16PT     | 1   | 1   |
| C111     | CU0002    | Chip C.         | C2012CH1H010CT-A   | 1   | 1   |
| C112     | CU4006    | Chip C.         | GRM42-6CH050C500PT | 1   | 1   |
| C113     | CU3502    | Chip C.         | GRM36CK010C50PT    | 1   | 1   |
| C114     | CS0063    | Chip Tantalum   | TMCSA1V104MTR      | 1   | 1   |
| C115     | CU3004    | Chip C.         | C1608CH1H030CT-AS  | 1   | 0   |
| C115     | CU3005    | Chip C.         | C1608CH1H040CT-AS  | 0   | 1   |
| C116     | CU4010    | Chip C.         | GRM42-6CH090D500PT | 1   | 1   |
| C117     | CU4007    | Chip C.         | GRM42-6CH060D500PT | 1   | 1   |
| C118     | CU3547    | Chip C.         | GRM36B103K16PT     | 1   | 1   |
| C119     | CE0420    | Electrolytic C. | 16MV22SZ           | 1   | 1   |
| C120     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C121     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C122     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C123     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C124     | CU4006    | Chip C.         | GRM42-6CH050C500PT | 1   | 1   |
| C125     | CU4001    | Chip C.         | GRM42-6CK010C500PT | 1   | 1   |
| C126     | CU4007    | Chip C.         | GRM42-6CH060D500PT | 1   | 1   |
| C127     | CU4005    | Chip C.         | GRM42-6CH040C500PT | 1   | 1   |
| C128     | CU3511    | Chip C.         | GRM36CH100D50PT    | 1   | 1   |
| C129     | CU3001    | Chip C.         | C1608CH1H0R5CT-AS  | 1   | 1   |
| C130     | CU3001    | Chip C.         | C1608CH1H0R5CT-AS  | 1   | 1   |
| C131     | CU4019    | Chip C.         | GRM42-6CH470J500PT | 1   | 1   |
| C132     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C133     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C134     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C135     | CS0063    | Chip Tantalum   | TMCSA1V104MTR      | 1   | 1   |
| C136     | CU3531    | Chip C.         | GRM36B471K50PT     | 1   | 1   |
| C137     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C138     | CU3523    | Chip C.         | GRM36CH101J50PT    | 1   | 1   |
| C139     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C141     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C142     | CU3523    | Chip C.         | GRM36CH101J50PT    | 1   | 1   |
| C143     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C144     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C145     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C146     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C147     | CU3523    | Chip C.         | GRM36CH101J50PT    | 1   | 1   |
| C148     | CU3547    | Chip C.         | GRM36B103K16PT     | 1   | 1   |
| C149     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C150     | CU3111    | Chip C.         | C1608JB1C104KT-N   | 1   | 1   |

| Ref. No. | Parts No. | Description   | Parts Name        | Qty |     |
|----------|-----------|---------------|-------------------|-----|-----|
|          |           |               |                   | (T) | (E) |
| C151     | CU3523    | Chip C.       | GRM36CH101J50PT   | 1   | 1   |
| C152     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C153     | CU3512    | Chip C.       | GRM36CH120J50PT   | 1   | 1   |
| C154     | CU3007    | Chip C.       | C1608CH1H060CT-A  | 1   | 1   |
| C155     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C156     | CU3023    | Chip C.       | C1608CH1H101JT-AS | 1   | 1   |
| C157     | CU3006    | Chip C.       | C1608CH1H050CT-AS | 1   | 1   |
| C159     | CU3506    | Chip C.       | GRM36CH050C50PT   | 1   | 1   |
| C160     | CU3007    | Chip C.       | C1608CH1H060CT-A  | 1   | 1   |
| C161     | CU3035    | Chip C.       | C1608JB1H102KT-AS | 1   | 1   |
| C162     | CU3508    | Chip C.       | GRM36CH070D50PT   | 1   | 1   |
| C163     | CU3504    | Chip C.       | GRM36CJ030C50PT   | 1   | 1   |
| C164     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C165     | CU3503    | Chip C.       | GRM36CK020C50PT   | 1   | 1   |
| C166     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C167     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C168     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C169     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C170     | CU3513    | Chip C.       | GRM36CH150J50PT   | 1   | 1   |
| C171     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C173     | CU3515    | Chip C.       | GRM36CH220J50PT   | 1   | 1   |
| C174     | CU3511    | Chip C.       | GRM36CH100D50PT   | 1   | 1   |
| C175     | CU3511    | Chip C.       | GRM36CH100D50PT   | 1   | 1   |
| C176     | CS0237    | Chip Tantalum | TMCMA1A475MTR     | 1   | 1   |
| C177     | CU3503    | Chip C.       | GRM36CK020C50PT   | 1   | 1   |
| C178     | CU3515    | Chip C.       | GRM36CH220J50PT   | 1   | 1   |
| C179     | CU3503    | Chip C.       | GRM36CJ020C50PT   | 1   | 1   |
| C180     | CU3502    | Chip C.       | GRM36CK010C50PT   | 1   | 1   |
| C181     | CU3502    | Chip C.       | GRM36CK010C50PT   | 1   | 1   |
| C182     | CU3512    | Chip C.       | GRM36CH120J50PT   | 1   | 1   |
| C183     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C184     | CU3529    | Chip C.       | GRM36B331K50PT    | 1   | 1   |
| C185     | CU3527    | Chip C.       | GRM36CH221J25PT   | 1   | 1   |
| C186     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C187     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C188     | CU3513    | Chip C.       | GRM36CH150J50PT   | 1   | 1   |
| C189     | CU3516    | Chip C.       | GRM36CH270J50PT   | 1   | 1   |
| C190     | CU3523    | Chip C.       | GRM36CH101J50PT   | 1   | 1   |
| C191     | CU3504    | Chip C.       | GRM36CJ030C50PT   | 1   | 1   |
| C192     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C193     | CU3513    | Chip C.       | GRM36CH150J50PT   | 1   | 1   |
| C194     | CU3511    | Chip C.       | GRM36CH100D50PT   | 1   | 1   |
| C195     | CU3511    | Chip C.       | GRM36CH100D50PT   | 1   | 1   |
| C196     | CS0049    | Chip Tantalum | TMCSA1C105MTR     | 1   | 1   |
| C197     | CS0063    | Chip Tantalum | TMCSA1V104MTR     | 1   | 1   |
| C198     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C199     | CU3515    | Chip C.       | GRM36CH220J50PT   | 1   | 1   |
| C200     | CU3517    | Chip C.       | GRM36CH330J50PT   | 1   | 1   |
| C201     | CU3519    | Chip C.       | GRM36CH470J50PT   | 1   | 1   |
| C202     | CU3507    | Chip C.       | GRM36CH060D50PT   | 1   | 1   |
| C203     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C205     | CU3517    | Chip C.       | GRM36CH330J50PT   | 1   | 1   |
| C206     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C207     | CU3535    | Chip C.       | GRM36CH102K50PT   | 1   | 1   |
| C208     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C209     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C210     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C211     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C213     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C214     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C215     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C216     | CU3517    | Chip C.       | GRM36CH330J50PT   | 1   | 1   |
| C218     | CU3517    | Chip C.       | GRM36CH330J50PT   | 1   | 1   |
| C219     | CU3517    | Chip C.       | GRM36CH330J50PT   | 1   | 1   |



| Ref. No. | Parts No. | Description   | Parts Name       | Qty |     |
|----------|-----------|---------------|------------------|-----|-----|
|          |           |               |                  | (T) | (E) |
| C220     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C221     | CU3547    | Chip C.       | GRM36B103K16PT   | 1   | 1   |
| C222     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C223     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C224     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C225     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C226     | CU3515    | Chip C.       | GRM36CH220J50PT  | 1   | 1   |
| C227     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C228     | CU3511    | Chip C.       | GRM36CH100D50PT  | 1   | 1   |
| C229     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C230     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C231     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C232     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C233     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C234     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C235     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C236     | CU0108    | Chip C.       | LMK212BJ105KG    | 1   | 1   |
| C237     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C238     | CU3551    | Chip C.       | GRM36B223K16PT   | 1   | 1   |
| C239     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C240     | CU3531    | Chip C.       | GRM36B471K50PT   | 1   | 1   |
| C242     | CU3523    | Chip C.       | GRM36CH101J50PT  | 1   | 1   |
| C243     | CU3503    | Chip C.       | GRM36CK020C50PT  | 1   | 1   |
| C244     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C245     | CS0424    | Chip Tantalum | TMCMA1C106MTR    | 1   | 1   |
| C246     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C247     | CU3506    | Chip C.       | GRM36CH050C50PT  | 1   | 1   |
| C248     | CU3547    | Chip C.       | GRM36B103K16PT   | 1   | 1   |
| C249     | CU3511    | Chip C.       | GRM36CH100D50PT  | 1   | 1   |
| C250     | CU3531    | Chip C.       | GRM36B471K50PT   | 1   | 1   |
| C251     | CU3502    | Chip C.       | GRM36CK010C50PT  | 1   | 1   |
| C252     | CU3519    | Chip C.       | GRM36CH470J50PT  | 1   | 1   |
| C253     | CS0424    | Chip Tantalum | TMCMA1C106MTR    | 1   | 1   |
| C254     | CU3547    | Chip C.       | GRM36B103K16PT   | 1   | 1   |
| C255     | CS0220    | Chip Tantalum | TMCMA1C225MTR    | 1   | 1   |
| C256     | CU3547    | Chip C.       | GRM36B103K16PT   | 1   | 1   |
| C257     | CS0220    | Chip Tantalum | TMCMA1C225MTR    | 1   | 1   |
| C258     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C259     | CU3515    | Chip C.       | GRM36CH220J50PT  | 1   | 1   |
| C260     | CU3514    | Chip C.       | GRM36CH180J50PT  | 1   | 1   |
| C261     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C262     | CU3111    | Chip C.       | C1608JB1C104KT-N | 1   | 1   |
| C263     | CU3523    | Chip C.       | GRM36CH101J50PT  | 1   | 1   |
| C264     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C265     | CS0063    | Chip Tantalum | TMCSA1V104MTR    | 1   | 1   |
| C266     | CU3524    | Chip C.       | GRM36CH121J50PT  | 1   | 1   |
| C267     | CU3547    | Chip C.       | GRM36B103K16PT   | 1   | 1   |
| C268     | CU3515    | Chip C.       | GRM36CH220J50PT  | 1   | 1   |
| C269     | CU3519    | Chip C.       | GRM36CH470J50PT  | 1   | 1   |
| C270     | CU3516    | Chip C.       | GRM36CH270J50PT  | 1   | 1   |
| C271     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C272     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C273     | CU3504    | Chip C.       | GRM36CJ030C50PT  | 1   | 1   |
| C274     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C275     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C276     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C278     | CU3513    | Chip C.       | GRM36CH150J50PT  | 1   | 1   |
| C279     | CU3535    | Chip C.       | GRM36B102K50PT   | 1   | 1   |
| C280     | CU3547    | Chip C.       | GRM36B103K16PT   | 1   | 1   |
| C281     | CU3514    | Chip C.       | GRM36CH180J50PT  | 1   | 1   |
| C282     | CU3518    | Chip C.       | GRM36CH390J50PT  | 1   | 1   |
| C283     | CU3524    | Chip C.       | GRM36CH121J50PT  | 1   | 1   |
| C284     | CU3504    | Chip C.       | GRM36CJ030C50PT  | 1   | 1   |
| C285     | CU3524    | Chip C.       | GRM36CH121J50PT  | 1   | 1   |

| Ref. No. | Parts No. | Description   | Parts Name         | Qty |     |
|----------|-----------|---------------|--------------------|-----|-----|
|          |           |               |                    | (T) | (E) |
| C286     | CU3511    | Chip C.       | GRM36CH100D50PT    | 1   | 1   |
| C287     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C288     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C289     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C290     | CU3518    | Chip C.       | GRM36CH390J50PT    | 1   | 1   |
| C291     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C292     | CU3518    | Chip C.       | GRM36CH390J50PT    | 1   | 1   |
| C293     | CU3506    | Chip C.       | GRM36CH050C50PT    | 1   | 1   |
| C294     | CU3514    | Chip C.       | GRM36CH180J50PT    | 1   | 1   |
| C295     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C296     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C298     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C300     | CU3512    | Chip C.       | GRM36CH120J50PT    | 1   | 1   |
| C301     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C302     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C303     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C305     | CU3511    | Chip C.       | GRM36CH100D50PT    | 1   | 1   |
| C306     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C308     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C309     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C310     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C311     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C312     | CU3511    | Chip C.       | GRM36CH100D50PT    | 1   | 1   |
| C313     | CU3502    | Chip C.       | GRM36CK010C50PT    | 1   | 1   |
| C314     | CU3535    | Chip C.       | GRM36CK010C50PT    | 1   | 1   |
| C315     | CU3503    | Chip C.       | GRM36CK020C50PT    | 1   | 1   |
| C316     | CU0108    | Chip C.       | LMK212BJ105KG      | 1   | 1   |
| C317     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C318     | CS0063    | Chip Tantalum | TMCSA1V104MTR      | 1   | 1   |
| C319     | CU3111    | Chip C.       | C1608JB1C104KT-N   | 1   | 1   |
| C320     | CU3502    | Chip C.       | GRM36CK010C50PT    | 1   | 1   |
| C321     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C322     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C323     | CU3511    | Chip C.       | GRM36CH100D50PT    | 1   | 1   |
| C324     | CU0108    | Chip C.       | LMK212BJ105KG      | 1   | 1   |
| C325     | CU0071    | Chip C.       | C2012CH1H101JT-A/M | 1   | 1   |
| C326     | CU3507    | Chip C.       | GRM36CH060D50PT    | 1   | 1   |
| C327     | CU3511    | Chip C.       | GRM36CH100D50PT    | 1   | 1   |
| C328     | CU3508    | Chip C.       | GRM36CH070D50PT    | 1   | 1   |
| C329     | CU3512    | Chip C.       | GRM36CH120J50PT    | 1   | 1   |
| C330     | CU3507    | Chip C.       | GRM36CH060D50PT    | 1   | 1   |
| C331     | CU3515    | Chip C.       | GRM36CH220J50PT    | 1   | 1   |
| C332     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C333     | CU3111    | Chip C.       | C1608JB1C104KT-N   | 1   | 1   |
| C334     | CU3505    | Chip C.       | GRM36CH040C50PT    | 1   | 1   |
| C335     | CU3511    | Chip C.       | GRM36CH100D50PT    | 1   | 1   |
| C337     | CU3111    | Chip C.       | C1608JB1C104KT-N   | 1   | 1   |
| C338     | CU3512    | Chip C.       | GRM36CH120J50PT    | 1   | 1   |
| C339     | CS0237    | Chip Tantalum | TMCMA1A475MTR      | 1   | 1   |
| C340     | CU3508    | Chip C.       | GRM36CH070D50PT    | 1   | 1   |
| C342     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C344     | CU3507    | Chip C.       | GRM36CH060D50PT    | 1   | 1   |
| C345     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C346     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C347     | CU3111    | Chip C.       | C1608JB1C104KT-N   | 1   | 1   |
| C348     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C349     | CU3523    | Chip C.       | GRM36CH101J50PT    | 1   | 1   |
| C350     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C353     | CU3504    | Chip C.       | GRM36CJ030C50PT    | 1   | 1   |
| C354     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C355     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |
| C356     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C357     | CU3547    | Chip C.       | GRM36B103K16PT     | 1   | 1   |
| C358     | CU3535    | Chip C.       | GRM36B102K50PT     | 1   | 1   |

| Ref. No. | Parts No. | Description   | Parts Name        | Qty |     |
|----------|-----------|---------------|-------------------|-----|-----|
|          |           |               |                   | (T) | (E) |
| C359     | CU3522    | Chip C.       | GRM36CH820J50PT   | 1   | 1   |
| C360     | CU3551    | Chip C.       | GRM36B223K16PT    | 1   | 1   |
| C361     | CU3527    | Chip C.       | GRM36CH221J25PT   | 1   | 1   |
| C362     | CS0424    | Chip Tantalum | TMCMA1C106MTR     | 1   | 1   |
| C363     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C364     | CS0237    | Chip Tantalum | TMCMA1A475MTR     | 1   | 1   |
| C365     | CS0424    | Chip Tantalum | TMCMA1C106MTR     | 1   | 1   |
| C366     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C367     | CU3511    | Chip C.       | GRM36CH100D50PT   | 1   | 1   |
| C368     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C369     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C370     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C371     | CU3543    | Chip C.       | GRM36B472K25PT    | 1   | 1   |
| C372     | CU3527    | Chip C.       | GRM36CH221J25PT   | 1   | 1   |
| C373     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C374     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C375     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C376     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C377     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C378     | CU3101    | Chip C.       | C1608JB1C473KT-NS | 1   | 1   |
| C379     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C380     | CU3511    | Chip C.       | GRM36CH100D50PT   | 1   | 1   |
| C381     | CU3509    | Chip C.       | GRM36CH080D50PT   | 1   | 1   |
| C382     | CU3505    | Chip C.       | GRM36CH040C50PT   | 1   | 1   |
| C383     | CU3523    | Chip C.       | GRM36CH101J50PT   | 1   | 1   |
| C384     | CU3520    | Chip C.       | GRM36CH560J50PT   | 1   | 1   |
| C386     | CU3526    | Chip C.       | GRM36CH181J25PT   | 1   | 1   |
| C387     | CU3047    | Chip C.       | C1608JB1H103KT-N  | 1   | 1   |
| C389     | CU3538    | Chip C.       | GRM36B182K50PT    | 1   | 1   |
| C390     | CU3523    | Chip C.       | GRM36CH101J50PT   | 1   | 1   |
| C391     | CU3503    | Chip C.       | GRM36CK020C50PT   | 1   | 1   |
| C392     | CU3512    | Chip C.       | GRM36CH120J50PT   | 1   | 1   |
| C393     | CU3506    | Chip C.       | GRM36CH050C50PT   | 1   | 1   |
| C394     | CU3507    | Chip C.       | GRM36CH060D50PT   | 1   | 1   |
| C395     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C396     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C397     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C398     | CU3504    | Chip C.       | GRM36CJ030C50PT   | 1   | 1   |
| C399     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C401     | CU3505    | Chip C.       | GRM36CH040C50PT   | 1   | 1   |
| C402     | CU3511    | Chip C.       | GRM36CH100D50PT   | 1   | 1   |
| C403     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C404     | CU3547    | Chip C.       | GRM36B103K16PT    | 1   | 1   |
| C405     | CU3505    | Chip C.       | GRM36CH040C50PT   | 1   | 1   |
| C406     | CU3511    | Chip C.       | GRM36CH100D50PT   | 1   | 1   |
| C407     | CS0424    | Chip Tantalum | TMCMA1C106MTR     | 1   | 1   |
| C408     | CU3102    | Chip C.       | C1608JB1C333KT-NS | 1   | 1   |
| C409     | CU3549    | Chip C.       | GRM36B153K16PT    | 1   | 1   |
| C410     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C411     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C412     | CU3111    | Chip C.       | C1608JB1C104KT-N  | 1   | 1   |
| C413     | CU3549    | Chip C.       | GRM36B153K16PT    | 1   | 1   |
| C414     | CU3535    | Chip C.       | GRM36B102K50PT    | 1   | 1   |
| C415     | CU3523    | Chip C.       | GRM36CH101J50PT   | 1   | 1   |
| C416     | CU3523    | Chip C.       | GRM36CH101J50PT   | 1   | 1   |
| C417     | CU0002    | Chip C.       | C2012CH1H010CT-A  | 1   | 1   |
| C418     | CU3503    | Chip C.       | GRM36CK020C50PT   | 1   | 1   |
| C419     | CU3504    | Chip C.       | GRM36CJ030C50PT   | 1   | 1   |
| C420     | CU3506    | Chip C.       | GRM36CH050C50PT   | 1   | 1   |
| C421     | CU3506    | Chip C.       | GRM36CH050C50PT   | 1   | 1   |
| C422     | CU3506    | Chip C.       | GRM36CH050C50PT   | 1   | 1   |
| C423     | CU3503    | Chip C.       | GRM36CK020C50PT   | 1   | 1   |
| C425     | CU3506    | Chip C.       | GRM36CH050C50PT   | 1   | 1   |
| C426     | CU3503    | Chip C.       | GRM36CK020C50PT   | 1   | 1   |

| Ref. No. | Parts No. | Description     | Parts Name        | Qty |     |
|----------|-----------|-----------------|-------------------|-----|-----|
|          |           |                 |                   | (T) | (E) |
| C427     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C428     | CU3512    | Chip C.         | GRM36CH120J50PT   | 1   | 1   |
| C429     | CU3502    | Chip C.         | GRM36CK010C50PT   | 1   | 1   |
| C430     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C431     | CS0237    | Chip Tantalum   | TMCMA1A475MTR     | 1   | 1   |
| C432     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C434     | CU3503    | Chip C.         | GRM36CK020C50PT   | 1   | 1   |
| C435     | CS0237    | Chip Tantalum   | TMCMA1A475MTR     | 1   | 1   |
| C436     | CS0424    | Chip Tantalum   | TMCMA1C106MTR     | 1   | 1   |
| C437     | CS0237    | Chip Tantalum   | TMCMA1A475MTR     | 1   | 1   |
| C438     | CU3505    | Chip C.         | GRM36CH040C50PT   | 1   | 1   |
| C439     | CS0424    | Chip Tantalum   | TMCMA1C106MTR     | 1   | 1   |
| C440     | CU0108    | Chip C.         | LMK212BJ105KG     | 1   | 1   |
| C441     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C442     | CE0364    | Electrolytic C. | 16MV 47SWB+TS     | 1   | 1   |
| C443     | CU3551    | Chip C.         | GRM36B223K16PT    | 1   | 1   |
| C444     | CU3551    | Chip C.         | GRM36B223K16PT    | 1   | 1   |
| C445     | CE0342    | Electrolytic C. | 16MV 470HC+TS     | 1   | 1   |
| C446     | CU0108    | Chip C.         | LMK212BJ105KG     | 1   | 1   |
| C447     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C448     | CU0108    | Chip C.         | LMK212BJ105KG     | 1   | 1   |
| C449     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C450     | CU3547    | Chip C.         | GRM36B103K16PT    | 1   | 1   |
| C451     | CU3551    | Chip C.         | GRM36B223K16PT    | 1   | 1   |
| C453     | CS0424    | Chip Tantalum   | TMCMA1C106MTR     | 1   | 1   |
| C454     | CS0424    | Chip Tantalum   | TMCMA1C106MTR     | 1   | 1   |
| C455     | CU3547    | Chip C.         | GRM36B103K16PT    | 1   | 1   |
| C456     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C457     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C458     | CE0339    | Electrolytic C. | 16MV 10SWB+TS     | 1   | 1   |
| C459     | CS0423    | Chip Tantalum   | TMCM81C226MTR     | 1   | 1   |
| C460     | CE0100    | Electrolytic C. | 16MV 22UW         | 1   | 1   |
| C461     | CU3551    | Chip C.         | GRM36B223K16PT    | 1   | 1   |
| C462     | CU3551    | Chip C.         | GRM36B223K16PT    | 1   | 1   |
| C463     | CU3111    | Chip C.         | C1608JB1C104KT-N  | 1   | 1   |
| C464     | CU3547    | Chip C.         | GRM36B103K16PT    | 1   | 1   |
| C465     | CU3111    | Chip C.         | C1608JB1C104KT-N  | 1   | 1   |
| C466     | CU3102    | Chip C.         | C1608JB1C333KT-NS | 1   | 1   |
| C467     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C468     | CU3035    | Chip C.         | C1608JB1H102KT-AS | 1   | 1   |
| C469     | CU3027    | Chip C.         | C1608CH1H221JT-AS | 1   | 1   |
| C470     | CE0418    | Electrolytic C. | 16MV2200CA        | 1   | 1   |
| C471     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C472     | CE0339    | Electrolytic C. | 16MV 10SWB+TS     | 1   | 1   |
| C473     | CE0364    | Electrolytic C. | 16MV 47SWB+TS     | 1   | 1   |
| C474     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C475     | CU3551    | Chip C.         | GRM36B223K16PT    | 1   | 1   |
| C476     | CU3549    | Chip C.         | GRM36B153K16PT    | 1   | 1   |
| C477     | CS0424    | Chip Tantalum   | TMCMA1C106MTR     | 1   | 1   |
| C478     | CU3547    | Chip C.         | GRM36B103K16PT    | 1   | 1   |
| C479     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C480     | CE0364    | Electrolytic C. | 16MV 47SWB+TS     | 1   | 1   |
| C481     | CS0049    | Chip Tantalum   | TMCSA1C105MTR     | 1   | 1   |
| C482     | CU3047    | Chip C.         | C1608JB1H103KT-N  | 1   | 1   |
| C483     | CU3541    | Chip C.         | GRM36B332K50PT    | 1   | 1   |
| C484     | CU3538    | Chip C.         | GRM36B182K50PT    | 1   | 1   |
| C485     | CU3544    | Chip C.         | GRM36B562K25PT    | 1   | 1   |
| C486     | CU3540    | Chip C.         | GRM36B272K50PT    | 1   | 1   |
| C487     | CU3535    | Chip C.         | GRM36B102K50PT    | 1   | 1   |
| C488     | CS0049    | Chip Tantalum   | TMCSA1C105MTR     | 1   | 1   |
| C489     | CU3551    | Chip C.         | GRM36B223K16PT    | 1   | 1   |
| C490     | CU3544    | Chip C.         | GRM36B562K25PT    | 1   | 1   |
| C491     | CU3542    | Chip C.         | GRM36B392K50PT    | 1   | 1   |
| C492     | CU0108    | Chip C.         | LMK212BJ105KG     | 1   | 1   |

| Ref. No. | Parts No. | Description     | Parts Name         | Qty |     |
|----------|-----------|-----------------|--------------------|-----|-----|
|          |           |                 |                    | (T) | (E) |
| C493     | CU3551    | Chip C.         | GRM36B223K16PT     | 1   | 1   |
| C494     | CU3549    | Chip C.         | GRM36B153K16PT     | 1   | 1   |
| C495     | CS0049    | Chip Tantalum   | TMCSA1C105MTR      | 1   | 1   |
| C496     | CU3547    | Chip C.         | GRM36B103K16PT     | 1   | 1   |
| C497     | CU3047    | Chip C.         | C1608JB1H103KT-N   | 1   | 1   |
| C498     | CU3047    | Chip C.         | C1608JB1H103KT-N   | 1   | 1   |
| C499     | CU3531    | Chip C.         | GRM36B471K50PT     | 1   | 1   |
| C500     | CS0424    | Chip Tantalum   | TMCMA1C106MTR      | 1   | 1   |
| C501     | CU3551    | Chip C.         | GRM36B223K16PT     | 1   | 1   |
| C502     | CU3111    | Chip C.         | C1608JB1C104KT-N   | 1   | 1   |
| C503     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C504     | CE0364    | Electrolytic C. | 16MV 47SWB+TS      | 1   | 1   |
| C505     | CU3111    | Chip C.         | C1608JB1C104KT-N   | 1   | 1   |
| C506     | CU3538    | Chip C.         | GRM36B182K50PT     | 1   | 1   |
| C507     | CU3544    | Chip C.         | GRM36B562K25PT     | 1   | 1   |
| C508     | CU3540    | Chip C.         | GRM36B272K50PT     | 1   | 1   |
| C509     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C510     | CU3541    | Chip C.         | GRM36B332K50PT     | 1   | 1   |
| C511     | CU3551    | Chip C.         | GRM36B223K16PT     | 1   | 1   |
| C512     | CU3551    | Chip C.         | GRM36B223K16PT     | 1   | 1   |
| C513     | CU3542    | Chip C.         | GRM36B392K50PT     | 1   | 1   |
| C514     | CU3544    | Chip C.         | GRM36B562K25PT     | 1   | 1   |
| C515     | CU3523    | Chip C.         | GRM36CH101J50PT    | 1   | 1   |
| C516     | CU3111    | Chip C.         | C1608JB1C104KT-N   | 1   | 1   |
| C517     | CS0424    | Chip Tantalum   | TMCMA1C106MTR      | 1   | 1   |
| C518     | CU3111    | Chip C.         | C1608JB1C104KT-N   | 1   | 1   |
| C519     | CU0108    | Chip C.         | LMK212BJ105KG      | 1   | 1   |
| C520     | CU3506    | Chip C.         | GRM36CH050C50PT    | 1   | 1   |
| C521     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C522     | CE0339    | Electrolytic C. | 16MV 10SWB+TS      | 1   | 1   |
| C523     | CU3511    | Chip C.         | GRM36CH100D50PT    | 1   | 1   |
| C524     | CU3509    | Chip C.         | GRM36CH080D50PT    | 1   | 1   |
| C525     | CU3527    | Chip C.         | GRM36CH221J25PT    | 1   | 1   |
| C527     | CU3547    | Chip C.         | GRM36B103K16PT     | 1   | 1   |
| C530     | CU3515    | Chip C.         | GRM36CH220J50PT    | 1   | 1   |
| C531     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C532     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C533     | CS0424    | Chip Tantalum   | TMCMA1C106MTR      | 1   | 1   |
| C534     | CS0424    | Chip Tantalum   | TMCMA1C106MTR      | 1   | 1   |
| C536     | CU3502    | Chip C.         | GRM36CK010C50PT    | 1   | 1   |
| C537     | CU3515    | Chip C.         | GRM36CH220J50PT    | 1   | 1   |
| C538     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C539     | CU3506    | Chip C.         | GRM36CH050C50PT    | 1   | 1   |
| C540     | CS0220    | Chip Tantalum   | TMCMA1C225MTR      | 1   | 1   |
| C541     | CS0230    | Chip Tantalum   | TMCMA1E105MTR      | 1   | 1   |
| C542     | CS0049    | Chip Tantalum   | TMCSA1C105MTR      | 1   | 1   |
| C543     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C545     | CS0423    | Chip Tantalum   | TMCMB1C226MTR      | 1   | 1   |
| C546     | CS0423    | Chip Tantalum   | TMCMB1C226MTR      | 1   | 1   |
| C547     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C548     | CU3506    | Chip C.         | GRM36CH050C50PT    | 1   | 1   |
| C549     | CU0108    | Chip C.         | LMK212BJ105KG      | 1   | 1   |
| C550     | CU0108    | Chip C.         | LMK212BJ105KG      | 1   | 1   |
| C551     | CU3535    | Chip C.         | GRM36B102K50PT     | 1   | 1   |
| C552     | CU3551    | Chip C.         | GRM36B223K16PT     | 1   | 1   |
| C553     | CU0108    | Chip C.         | LMK212BJ105KG      | 1   | 1   |
| C555     | CU3017    | Chip C.         | C1608CH1H330JT-AS  | 1   | 1   |
| C556     | CU3035    | Chip C.         | C1608JB1H102KT-AS  | 1   | 1   |
| C558     | CU7047    | Chip C.         | UC232H0330F-T      | 1   | 1   |
| C559     | CU4004    | Chip C.         | GRM42-6CH050C300PT | 1   | 0   |
| C559     | CU4006    | Chip C.         | GRM42-6CH050C500PT | 0   | 1   |
| C560     | CU4004    | Chip C.         | GRM42-6CJ030C500PT | 1   | 1   |
| C561     | CU3031    | Chip C.         | C1608JB1H471KT-AS  | 1   | 1   |
| C562     | CE0341    | Electrolytic C. | 16MV 100HC+TS      | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name        | Qty |     |
|----------|-----------|-------------|-------------------|-----|-----|
|          |           |             |                   | (T) | (E) |
| C563     | CU3547    | Chip C.     | GRM36B103K16PT    | 1   | 1   |
| C567     | CU3035    | Chip C.     | C1608JB1H102KT-AS | 1   | 1   |
| C568     | CU3011    | Chip C.     | C1608CH1H100DT-AS | 1   | 1   |
| C569     | CU3111    | Chip C.     | C1608JB1C104KT-N  | 1   | 1   |
| CN1      | RD0108    | Jumper      | J1/6Z             | 1   | 1   |
| CN2      | UJ0051    | Jack        | HJC0212-01-022    | 1   | 1   |
| CN3      | UE0214    | Connector   | AXN420C530P       | 1   | 1   |
| CN4      | UE0393    | Connector   | PI28A11M          | 1   | 1   |
| CN5      | UE0043    | Connector   | PI22A02M          | 1   | 1   |
| CN6      | UE0043    | Connector   | PI22A02M          | 1   | 1   |
| CN7      | UA0037Y   |             | DC CABLE UA0037   | 1   | 1   |
| CN8      | UE0455    | Connector   | PI28A10M          | 1   | 1   |
| CN9      | UE0226    | Connector   | B2B-PH-K-S        | 1   | 1   |
| CN10     | UE0043    | Connector   | PI22A02M          | 1   | 1   |
| CN11     | UE0043    | Connector   | PI22A02M          | 1   | 1   |
| D1       | XD0013    | Diode       | XB15A407AGB       | 1   | 1   |
| D2       | XD0320    | Chip Diode  | DAN235E-TL        | 1   | 1   |
| D3       | XD0320    | Chip Diode  | DAN235E-TL        | 1   | 1   |
| D5       | XD0320    | Chip Diode  | DAN235E-TL        | 1   | 1   |
| D6       | XD0374    | Chip Diode  | 1SV278 TPH2       | 1   | 1   |
| D7       | XD0342    | Chip Diode  | 1SS390 TE61       | 1   | 1   |
| D8       | XD0375    | Chip Diode  | MA4S713-TX        | 1   | 1   |
| D9       | XD0375    | Chip Diode  | MA4S713-TX        | 1   | 1   |
| D10      | XD0376    | Chip Diode  | 1SV282 TPH2       | 1   | 1   |
| D11      | XD0376    | Chip Diode  | 1SV282 TPH2       | 1   | 1   |
| D12      | XD0373    | Chip Diode  | UM9401F           | 1   | 1   |
| D13      | XD0373    | Chip Diode  | UM9401F           | 1   | 1   |
| D14      | XD0331    | Chip Diode  | HSU277TRF         | 1   | 1   |
| D15      | XD0331    | Chip Diode  | HSU277TRF         | 1   | 1   |
| D16      | XD0331    | Chip Diode  | HSU277TRF         | 1   | 1   |
| D17      | XD0320    | Chip Diode  | DAN235E-TL        | 1   | 1   |
| D18      | XD0254    | Chip Diode  | 1SS355 TE17       | 1   | 1   |
| D19      | XD0331    | Chip Diode  | HSU277TRF         | 1   | 1   |
| D20      | XD0254    | Chip Diode  | 1SS355 TE17       | 1   | 1   |
| D21      | XD0374    | Chip Diode  | 1SV278 TPH2       | 1   | 1   |
| D22      | XD0375    | Chip Diode  | MA4S713-TX        | 1   | 1   |
| D23      | XD0376    | Chip Diode  | 1SV282 TPH2       | 1   | 1   |
| D24      | XD0374    | Chip Diode  | 1SV278 TPH2       | 1   | 1   |
| D25      | XD0376    | Chip Diode  | 1SV282 TPH2       | 1   | 1   |
| D26      | XD0320    | Chip Diode  | DAN235E-TL        | 1   | 1   |
| D27      | XD0320    | Chip Diode  | DAN235E-TL        | 1   | 1   |
| D28      | XD0314    | Chip Diode  | HVU359TRF         | 1   | 1   |
| D29      | XD0314    | Chip Diode  | HVU359TRF         | 1   | 1   |
| D30      | XD0314    | Chip Diode  | HVU359TRF         | 1   | 1   |
| D31      | XD0377    | Chip Diode  | MAZS0270HL        | 1   | 1   |
| D32      | XD0338    | Chip Diode  | 1SS362(TE85L)     | 1   | 1   |
| D33      | XD0320    | Chip Diode  | DAN235E-TL        | 1   | 1   |
| D34      | XD0342    | Chip Diode  | 1SS390 TE61       | 1   | 1   |
| D35      | XD0374    | Chip Diode  | 1SV278 TPH2       | 1   | 1   |
| D37      | XD0320    | Chip Diode  | DAN235E-TL        | 1   | 1   |
| D38      | XD0374    | Chip Diode  | 1SV278 TPH2       | 1   | 1   |
| D39      | XD0165    | Chip Diode  | UDZSTE-17 5.1B    | 1   | 1   |
| D40      | XD0374    | Chip Diode  | 1SV278 TPH2       | 1   | 1   |
| D41      | XD0342    | Chip Diode  | 1SS390 TE61       | 1   | 1   |
| D42      | XD0250    | Chip Diode  | MA742 TX          | 1   | 1   |
| D43      | XD0319    | Chip Diode  | MA2S077-TX        | 1   | 1   |
| D45      | XD0323    | Chip Diode  | MA2S111-TX        | 1   | 1   |
| D46      | XD0374    | Chip Diode  | 1SV278 TPH2       | 1   | 1   |
| D47      | XD0374    | Chip Diode  | 1SV278 TPH2       | 1   | 1   |
| D48      | XD0320    | Chip Diode  | DAN235E-TL        | 1   | 1   |
| D49      | XD0314    | Chip Diode  | HVU359TRF         | 1   | 1   |
| D50      | XD0314    | Chip Diode  | HVU359TRF         | 1   | 1   |
| D51      | XD0314    | Chip Diode  | HVU359TRF         | 1   | 1   |
| D52      | XD0314    | Chip Diode  | HVU359TRF         | 1   | 1   |

| Ref. No. | Parts No. | Description    | Parts Name         | Qty |     |
|----------|-----------|----------------|--------------------|-----|-----|
|          |           |                |                    | (T) | (E) |
| D53      | XD0338    | Chip Diode     | 1SS362(TE85L)      | 1   | 1   |
| D54      | XD0342    | Chip Diode     | 1SS390 TE61        | 1   | 1   |
| D57      | XD0165    | Chip Diode     | UDZSTE-17 5.1B     | 1   | 1   |
| D58      | XD0165    | Chip Diode     | UDZSTE-17 5.1B     | 1   | 1   |
| D59      | XD0165    | Chip Diode     | UDZSTE-17 5.1B     | 1   | 1   |
| D60      | XD0323    | Chip Diode     | MA2S111-TX         | 1   | 1   |
| D61      | XD0323    | Chip Diode     | MA2S111-TX         | 1   | 1   |
| D62      | XD0323    | Chip Diode     | MA2S111-TX         | 1   | 1   |
| D63      | XD0274    | Diode          | DSA3A1             | 1   | 1   |
| D64      | XD0315    | Chip Diode     | MA2S728-TX         | 1   | 1   |
| D65      | XD0165    | Chip Diode     | UDZSTE-17 5.1B     | 1   | 1   |
| D66      | XD0315    | Chip Diode     | MA2S728-TX         | 1   | 1   |
| D67      | XD0323    | Chip Diode     | MA2S111-TX         | 1   | 1   |
| D68      | XD0165    | Chip Diode     | UDZSTE-17 5.1B     | 1   | 1   |
| D69      | XD0315    | Chip Diode     | MA2S728-TX         | 1   | 1   |
| FL1      | XC0070    | Ceramic Filter | ALFYM450E=K        | 1   | 1   |
| FL3      | XC0078    | Ceramic Filter | SFT10.7MA5-Z       | 1   | 1   |
| FL4      | XC0047    | Ceramic Filter | ALFYM455E=K        | 1   | 1   |
| IC1      | XA0596    | IC             | NJM2902V-TE1       | 1   | 1   |
| IC2      | XA0915    | IC             | M64076AGP          | 1   | 1   |
| IC3      | XA0666    | IC             | TK10931VTL         | 1   | 1   |
| IC4      | XA0573    | IC             | NJM2904V-TE1       | 1   | 1   |
| IC5      | XA0404    | IC             | TA31136FN(EL)      | 1   | 1   |
| IC6      | XA0348    | IC             | TC4W53FU(TE12)     | 1   | 1   |
| IC7      | XA0115    | IC             | TC4S66F TE85R      | 1   | 1   |
| IC8      | XA0410    | IC             | LA4425A            | 1   | 1   |
| IC9      | XA0596    | IC             | NJM2902V-TE1       | 1   | 1   |
| IC10     | XA0348    | IC             | TC4W53FU(TE12)     | 1   | 1   |
| IC12     | XA0236    | IC             | BU4052BCF-E2       | 1   | 1   |
| IC13     | XA0900    | IC             | M51132FP           | 1   | 1   |
| IC14     | XA0119    | IC             | AN8010M E1         | 1   | 1   |
| IC15     | XA0348    | IC             | TC4W53FU(TE12)     | 1   | 1   |
| IC16     | XA0102    | IC             | NJM7808FA          | 1   | 1   |
| IC18     | XA0596    | IC             | NJM2902V-TE1       | 1   | 1   |
| IC19     | XA0913    | IC             | M30620FCAGP        | 0   | 1   |
| IC19     | XA0949    | IC             | M30620FCAGP(T)     | 1   | 0   |
| IC20     | XA0620    | IC             | S-80845ALMP-EA9-T2 | 1   | 1   |
| IC21     | XA0669    | IC             | BR24C64F-E2        | 1   | 1   |
| IC22     | XA0098    | IC             | NJM78L05UA TE1     | 1   | 1   |
| IC23     | XA0348    | IC             | TC4W53FU(TE12)     | 1   | 1   |
| IC24     | XA0925    | IC             | S-816A50AMC-BAZ-T2 | 1   | 1   |
| IC25     | XA0332    | IC             | TA75S01F(TE85L)    | 1   | 1   |
| JK1      | UJ0053    | Jack           | HSJ1332-01-020     | 1   | 1   |
| JP3      | MACL04GG  | Wire           | #30AH1-040-H1      | 1   | 1   |
| L1       | QB0038    | Inductor       | EXCELSA39          | 1   | 1   |
| L2       | QKA15A    | Coil           | MR1.5 1.5T 0.4     | 1   | 1   |
| L3       | QKA95D    | Coil           | MR3.0 9.5T 0.6     | 1   | 1   |
| L4       | QKA55E    | Coil           | MR3.0 5.5T 0.8     | 1   | 1   |
| L5       | QKA55E    | Coil           | MR3.0 5.5T 0.8     | 1   | 1   |
| L6       | QKA55E    | Coil           | MR3.0 5.5T 0.8     | 1   | 1   |
| L7       | QKA45E    | Coil           | MR3.0 4.5T 0.8     | 1   | 1   |
| L8       | QKA65A    | Coil           | MR1.5 3.5T 0.4     | 1   | 1   |
| L9       | QC0621    | Chip Inductor  | LL1608-FS33NJ      | 1   | 1   |
| L10      | QKA15E    | Coil           | MR3.0 1.5T 0.8     | 1   | 1   |
| L11      | QK0115    | Coil           | AS120252-9R3N      | 1   | 1   |
| L12      | QC0442    | Chip Inductor  | MLF1608A1R0K-T     | 1   | 1   |
| L13      | QC0534    | Chip Inductor  | LQN21A47NJ04       | 1   | 1   |
| L14      | QKA65A    | Coil           | MR1.5 3.5T 0.4     | 1   | 1   |
| L15      | QC0534    | Chip Inductor  | LQN21A47NJ04       | 1   | 1   |
| L16      | QC0620    | Chip Inductor  | LL1608-FS27NJ      | 1   | 1   |
| L17      | QC0570    | Chip Inductor  | LL1608-FH56NJ      | 1   | 1   |
| L18      | QKA75A    | Coil           | QKA75A             | 1   | 1   |
| L19      | QKA15A    | Coil           | MR1.5 1.5T 0.4     | 1   | 1   |
| L20      | QC0508    | Chip Inductor  | LK16082R2K-T       | 1   | 1   |

| Ref. No. | Parts No. | Description   | Parts Name           | Qty |     |
|----------|-----------|---------------|----------------------|-----|-----|
|          |           |               |                      | (T) | (E) |
| L21      | QC0573    | Chip Inductor | LL1608-FHR10J        | 1   | 1   |
| L22      | QKA75A    | Coil          | QKA75A               | 1   | 1   |
| L23      | QC0614    | Chip Inductor | LL1608-FS8N2J        | 1   | 1   |
| L24      | QKA45E    | Coil          | MR3.0 4.5T 0.8       | 1   | 1   |
| L25      | QA0162    | Chip Inductor | VCO QA0162 5CBM      | 1   | 1   |
| L26      | QC0530    | Chip Inductor | LQN21A22NJ04         | 1   | 1   |
| L27      | QC0442    | Chip Inductor | MLF1608A1R0K-T       | 1   | 1   |
| L28      | QC0442    | Chip Inductor | MLF1608A1R0K-T       | 1   | 1   |
| L29      | QKA15E    | Coil          | MR3.0 1.5T 0.8       | 1   | 1   |
| L30      | QKA35E    | Coil          | MR3.0 3.5T 0.8       | 1   | 1   |
| L31      | QKA25E    | Coil          | MR3.0 2.5T 0.8       | 1   | 1   |
| L32      | QKA15E    | Coil          | MR3.0 1.5T 0.8       | 1   | 1   |
| L33      | QKA85C    | Coil          | QKA85C               | 1   | 1   |
| L34      | QKA25E    | Coil          | MR3.0 2.5T 0.8       | 1   | 1   |
| L35      | QKA25E    | Coil          | MR3.0 2.5T 0.8       | 1   | 1   |
| L36      | QC0621    | Chip Inductor | LL1608-FS33NJ        | 1   | 1   |
| L37      | QC0442    | Chip Inductor | MLF1608A1R0K-T       | 1   | 1   |
| L38      | QC0573    | Chip Inductor | LL1608-FHR10J        | 1   | 1   |
| L39      | QC0527    | Chip Inductor | LQN21A12NJ04         | 1   | 1   |
| L40      | QC0540    | Chip Inductor | LQN21AR15J04         | 1   | 1   |
| L41      | QC0572    | Chip Inductor | LL1608-FH82NJ        | 1   | 1   |
| L42      | QC0535    | Chip Inductor | LQN21A56NJ04         | 1   | 1   |
| L43      | QC0542    | Chip Inductor | LQN21AR22J04         | 1   | 1   |
| L44      | QC0542    | Chip Inductor | LQN21AR22J04         | 1   | 1   |
| L45      | QC0518    | Chip Inductor | LK16081R5K-T         | 1   | 1   |
| L46      | QC0539    | Chip Inductor | LQN21AR12J04         | 1   | 1   |
| L47      | QC0540    | Chip Inductor | LQN21AR15J04         | 1   | 1   |
| L48      | QC0537    | Chip Inductor | LQN21A82NJ04         | 1   | 1   |
| L49      | QC0539    | Chip Inductor | LQN21AR12J04         | 1   | 1   |
| L50      | QC0538    | Chip Inductor | LQN21AR10J04         | 1   | 1   |
| L51      | QC0539    | Chip Inductor | LQN21AR12J04         | 1   | 1   |
| L52      | QC0442    | Chip Inductor | MLF1608A1R0K-T       | 1   | 1   |
| L53      | QA0160    | Chip Inductor | K5-S2/33331 PKI-0042 | 1   | 1   |
| L54      | QC0677    | Chip Inductor | LER012TR82M          | 1   | 1   |
| L55      | QC0527    | Chip Inductor | LQN21A12NJ04         | 1   | 1   |
| L56      | QC0621    | Chip Inductor | LL1608-FS33NJ        | 1   | 1   |
| L57      | QA0093    | Chip Inductor | QA0093               | 1   | 1   |
| L58      | QC0285    | Chip Inductor | NL252018T-R56JA      | 1   | 1   |
| L59      | QC0677    | Chip Inductor | LER012TR82M          | 1   | 1   |
| L60      | QC0518    | Chip Inductor | LK16081R5K-T         | 1   | 1   |
| L62      | QC0535    | Chip Inductor | LQN21A56NJ04         | 1   | 1   |
| L63      | QC0442    | Chip Inductor | MLF1608A1R0K-T       | 1   | 1   |
| L64      | QC0531    | Chip Inductor | LQN21A27NJ04         | 1   | 1   |
| L65      | QC0573    | Chip Inductor | LL1608-FHR10J        | 1   | 1   |
| L66      | QC0672    | Chip Inductor | LER012TR33M          | 1   | 1   |
| L67      | QC0542    | Chip Inductor | LQN21AR22J04         | 1   | 1   |
| L68      | QC0542    | Chip Inductor | LQN21AR22J04         | 1   | 1   |
| L69      | QC0518    | Chip Inductor | LK16081R5K-T         | 1   | 1   |
| L70      | QC0536    | Chip Inductor | LQN21A68NJ04         | 1   | 1   |
| L71      | QC0534    | Chip Inductor | LQN21A47NJ04         | 1   | 1   |
| L72      | QC0536    | Chip Inductor | LQN21A68NJ04         | 1   | 1   |
| L73      | QC0573    | Chip Inductor | LL1608-FHR10J        | 1   | 1   |
| L74      | QC0535    | Chip Inductor | LQN21A56NJ04         | 1   | 1   |
| L75      | QC0535    | Chip Inductor | LQN21A56NJ04         | 1   | 1   |
| L76      | QC0442    | Chip Inductor | MLF1608A1R0K-T       | 1   | 1   |
| L77      | QC0534    | Chip Inductor | LQN21A47NJ04         | 1   | 1   |
| L78      | QC0530    | Chip Inductor | LQN21A22NJ04         | 1   | 1   |
| L79      | QKA45A    | Coil          | MR1.5 4.5T 0.4       | 1   | 1   |
| L80      | QKA45A    | Coil          | MR1.5 4.5T 0.4       | 1   | 1   |
| L81      | QKA45A    | Coil          | MR1.5 4.5T 0.4       | 1   | 1   |
| L82      | QKA45A    | Coil          | MR1.5 4.5T 0.4       | 1   | 1   |
| L83      | QC0288    | Chip Inductor | NL252018T-1R0JA      | 1   | 1   |
| L84      | QC0526    | Chip Inductor | LQN21A10NJ04         | 1   | 1   |
| L85      | QC0619    | Chip Inductor | LL1608-FS22NJ        | 1   | 1   |

| Ref. No. | Parts No. | Description     | Parts Name           | Qty |     |
|----------|-----------|-----------------|----------------------|-----|-----|
|          |           |                 |                      | (T) | (E) |
| L86      | QC0526    | Chip Inductor   | LQN21A10NJ04         | 1   | 1   |
| L87      | QC0530    | Chip Inductor   | LQN21A22NJ04         | 1   | 1   |
| L88      | QC0518    | Chip Inductor   | LK16081R5K-T         | 1   | 1   |
| L89      | QC0532    | Chip Inductor   | LQN21A33NJ04         | 1   | 1   |
| L90      | QC0524    | Chip Inductor   | LQN21A6N8D04         | 1   | 1   |
| L91      | QC0442    | Chip Inductor   | MLF1608A1R0K-T       | 1   | 1   |
| L92      | QC0526    | Chip Inductor   | LQN21A10NJ04         | 1   | 1   |
| L93      | QKA25A    | Coil            | MR1.5 2.5T 0.4       | 1   | 1   |
| L94      | QC0611    | Chip Inductor   | LL1608-FS4N7S        | 1   | 1   |
| L95      | QC0524    | Chip Inductor   | LQN21A6N8D04         | 1   | 1   |
| L96      | QC0075    | Chip Inductor   | NL322522T-120JA      | 1   | 1   |
| L97      | QC0611    | Chip Inductor   | LL1608-FS4N7S        | 1   | 1   |
| L101     | QA0159    | Chip Inductor   | K5-S2/33331 R12T521Y | 1   | 1   |
| L102     | QA0159    | Chip Inductor   | K5-S2/33331 R12T521Y | 1   | 1   |
| L103     | QC0570    | Chip Inductor   | LL1608-FH56NJ        | 1   | 1   |
| L104     | QC0621    | Chip Inductor   | LL1608-FS33NJ        | 1   | 1   |
| L105     | QC0619    | Chip Inductor   | LL1608-FS22NJ        | 1   | 1   |
| L106     | QC0570    | Chip Inductor   | LL1608-FH56NJ        | 1   | 1   |
| L107     | QC0621    | Chip Inductor   | LL1608-FS33NJ        | 1   | 1   |
| Q1       | XE0038    | Chip FET        | 2SK2975-T11-A        | 1   | 1   |
| Q2       | XE0044    | Chip FET        | 2SK3074 TE12L        | 1   | 1   |
| Q3       | XT0146    | Chip Transistor | 2SC5226-4-TL         | 1   | 1   |
| Q4       | XE0047    | FET             | MTH538A(RD70HVF1-01) | 1   | 1   |
| Q5       | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q6       | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q7       | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q8       | XU0192    | Chip Transistor | RN2107 TE85L         | 1   | 1   |
| Q9       | XE0010    | Chip FET        | 2SK508K52 T2B        | 1   | 1   |
| Q10      | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q11      | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q12      | XT0095    | Chip Transistor | 2SC4081 T106R        | 1   | 1   |
| Q13      | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q14      | XT0171    | Chip Transistor | 2SC4808-TX.AR        | 1   | 1   |
| Q15      | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q16      | XT0171    | Chip Transistor | 2SC4808-TX.AR        | 1   | 1   |
| Q17      | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q18      | XT0146    | Chip Transistor | 2SC5226-4-TL         | 1   | 1   |
| Q19      | XE0028    | Chip FET        | 3SK131V12-T1         | 1   | 1   |
| Q20      | XT0172    | Chip Transistor | 2SC4618TLP           | 1   | 1   |
| Q21      | XE0048    | Chip FET        | 3SK240 TE85L         | 1   | 1   |
| Q23      | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q24      | XT0095    | Chip Transistor | 2SC4081 T106R        | 1   | 1   |
| Q25      | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q26      | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q27      | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q28      | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q29      | XE0010    | Chip FET        | 2SK508K52 T2B        | 1   | 1   |
| Q31      | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q32      | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q33      | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q34      | XU0197    | Chip Transistor | RN1111 (TE85L)       | 1   | 1   |
| Q35      | XU0192    | Chip Transistor | RN2107 TE85L         | 1   | 1   |
| Q36      | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q37      | XT0172    | Chip Transistor | 2SC4618TLP           | 1   | 1   |
| Q38      | XT0171    | Chip Transistor | 2SC4808-TX.AR        | 1   | 1   |
| Q39      | XT0138    | Chip Transistor | 2SC5066-O(TE85L)     | 1   | 1   |
| Q40      | XT0171    | Chip Transistor | 2SC4808-TX.AR        | 1   | 1   |
| Q41      | XE0048    | Chip FET        | 3SK240 TE85L         | 1   | 1   |
| Q42      | XE0048    | Chip FET        | 3SK240 TE85L         | 1   | 1   |
| Q43      | XT0146    | Chip Transistor | 2SC5226-4-TL         | 1   | 1   |
| Q44      | XT0172    | Chip Transistor | 2SC4618TLP           | 1   | 1   |
| Q45      | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q46      | XU0193    | Chip Transistor | RN1107 TE85L         | 1   | 1   |
| Q47      | XT0061    | Chip Transistor | 2SB1132T 100Q        | 1   | 1   |

| Ref. No. | Parts No. | Description     | Parts Name       | Qty |     |
|----------|-----------|-----------------|------------------|-----|-----|
|          |           |                 |                  | (T) | (E) |
| Q49      | XT0138    | Chip Transistor | 2SC5066-O(TE85L) | 1   | 1   |
| Q50      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q51      | XT0138    | Chip Transistor | 2SC5066-O(TE85L) | 1   | 1   |
| Q52      | XT0138    | Chip Transistor | 2SC5066-O(TE85L) | 1   | 1   |
| Q54      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q55      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q56      | XT0146    | Chip Transistor | 2SC5226-4-TL     | 1   | 1   |
| Q57      | XT0146    | Chip Transistor | 2SC5226-4-TL     | 1   | 1   |
| Q58      | XU0192    | Chip Transistor | RN2107 TE85L     | 1   | 1   |
| Q59      | XU0202    | Chip Transistor | XP03383-TX       | 1   | 1   |
| Q61      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q63      | XT0190    | Chip Transistor | 2SB1386 T100Q    | 1   | 1   |
| Q64      | XT0110    | Chip Transistor | 2SA1036K T146Q   | 1   | 1   |
| Q65      | XU0192    | Chip Transistor | RN2107 TE85L     | 1   | 1   |
| Q66      | XT0110    | Chip Transistor | 2SA1036K T146Q   | 1   | 1   |
| Q67      | XU0192    | Chip Transistor | RN2107 TE85L     | 1   | 1   |
| Q68      | XT0061    | Chip Transistor | 2SB1132T 100Q    | 1   | 1   |
| Q69      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q70      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q71      | XT0061    | Chip Transistor | 2SB1132T 100Q    | 1   | 1   |
| Q72      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q73      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q74      | XT0095    | Chip Transistor | 2SC4081 T106R    | 1   | 1   |
| Q75      | XU0192    | Chip Transistor | RN2107 TE85L     | 1   | 1   |
| Q76      | XU0192    | Chip Transistor | RN2107 TE85L     | 1   | 1   |
| Q77      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q78      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q79      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q80      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q81      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q82      | XT0061    | Chip Transistor | 2SB1132T 100Q    | 1   | 1   |
| Q83      | XU0192    | Chip Transistor | RN2107 TE85L     | 1   | 1   |
| Q84      | XU0192    | Chip Transistor | RN2107 TE85L     | 1   | 1   |
| Q85      | XT0095    | Chip Transistor | 2SC4081 T106R    | 1   | 1   |
| Q86      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q87      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q88      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q89      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q90      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q91      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q92      | XT0172    | Chip Transistor | 2SC4618TLP       | 1   | 1   |
| Q93      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q94      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q95      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q96      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q97      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q98      | XT0146    | Chip Transistor | 2SC5226-4-TL     | 1   | 1   |
| Q99      | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q100     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q101     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q102     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q103     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q105     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q106     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q107     | XT0138    | Chip Transistor | 2SC5066-O(TE85L) | 1   | 1   |
| Q108     | XU0160    | Chip Transistor | DTC363EKT146     | 1   | 1   |
| Q109     | XU0160    | Chip Transistor | DTC363EKT146     | 1   | 1   |
| Q110     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q111     | XU0192    | Chip Transistor | RN2107 TE85L     | 1   | 1   |
| Q112     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q113     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| Q114     | XT0110    | Chip Transistor | 2SA1036K T146Q   | 1   | 1   |
| Q115     | XU0193    | Chip Transistor | RN1107 TE85L     | 1   | 1   |
| R1       | RK3538    | Chip R.         | ERJ2GEJ102X      | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name   | Qty |     |
|----------|-----------|-------------|--------------|-----|-----|
|          |           |             |              | (T) | (E) |
| R2       | RK6024    | Chip R.     | ERJ1WYJ680H  | 1   | 1   |
| R3       | RK3546    | Chip R.     | ERJ2GEJ472X  | 1   | 1   |
| R4       | RK3546    | Chip R.     | ERJ2GEJ472X  | 1   | 1   |
| R5       | RK3062    | Chip R.     | MCR03EZHJ104 | 1   | 1   |
| R6       | RK3526    | Chip R.     | ERJ2GEJ101X  | 1   | 1   |
| R7       | RK3038    | Chip R.     | MCR03EZHJ102 | 1   | 1   |
| R8       | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R9       | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R10      | RK0069    | Chip R.     | ERJ6GEYJ104V | 1   | 1   |
| R11      | RK3524    | Chip R.     | ERJ2GEJ680X  | 1   | 1   |
| R12      | RK3516    | Chip R.     | ERJ2GEJ150X  | 1   | 1   |
| R13      | RK3522    | Chip R.     | ERJ2GEJ470X  | 1   | 1   |
| R14      | RK3516    | Chip R.     | ERJ2GEJ150X  | 1   | 1   |
| R15      | RK3018    | Chip R.     | MCR03EZHJ220 | 1   | 1   |
| R16      | RK3032    | Chip R.     | MCR03EZHJ331 | 1   | 1   |
| R17      | RK3534    | Chip R.     | ERJ2GEJ471X  | 1   | 1   |
| R18      | RK3560    | Chip R.     | ERJ2GEJ683X  | 1   | 1   |
| R19      | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R20      | RK3554    | Chip R.     | ERJ2GEJ223X  | 1   | 1   |
| R21      | RK3530    | Chip R.     | ERJ2GEJ221X  | 1   | 1   |
| R22      | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R23      | RK3534    | Chip R.     | ERJ2GEJ471X  | 1   | 1   |
| R24      | RK3049    | Chip R.     | MCR03EZHJ822 | 1   | 1   |
| R25      | RK3534    | Chip R.     | ERJ2GEJ471X  | 1   | 1   |
| R26      | RK3516    | Chip R.     | ERJ2GEJ150X  | 1   | 1   |
| R27      | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R28      | RK3025    | Chip R.     | MCR03EZHJ820 | 1   | 1   |
| R29      | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R30      | RK3558    | Chip R.     | ERJ2GEJ473X  | 1   | 1   |
| R31      | RK3552    | Chip R.     | ERJ2GEJ153X  | 1   | 1   |
| R32      | RK3050    | Chip R.     | MCR03EZHJ103 | 1   | 1   |
| R33      | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R34      | RK3046    | Chip R.     | MCR03EZHJ472 | 1   | 1   |
| R35      | RK3546    | Chip R.     | ERJ2GEJ472X  | 1   | 1   |
| R36      | RK3546    | Chip R.     | ERJ2GEJ472X  | 1   | 1   |
| R37      | RK3518    | Chip R.     | ERJ2GEJ220X  | 1   | 1   |
| R38      | RK3516    | Chip R.     | ERJ2GEJ150X  | 1   | 1   |
| R39      | RK3062    | Chip R.     | MCR03EZHJ104 | 1   | 1   |
| R40      | RK3562    | Chip R.     | ERJ2GEJ104X  | 1   | 1   |
| R41      | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R42      | RK3050    | Chip R.     | MCR03EZHJ103 | 1   | 1   |
| R43      | RK3534    | Chip R.     | ERJ2GEJ471X  | 1   | 1   |
| R44      | RK3050    | Chip R.     | MCR03EZHJ103 | 1   | 1   |
| R45      | RK3522    | Chip R.     | ERJ2GEJ470X  | 1   | 1   |
| R46      | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R47      | RK3050    | Chip R.     | MCR03EZHJ103 | 1   | 1   |
| R48      | RK3038    | Chip R.     | MCR03EZHJ102 | 1   | 1   |
| R49      | RK3547    | Chip R.     | ERJ2GEJ562X  | 1   | 1   |
| R50      | RK3518    | Chip R.     | ERJ2GEJ220X  | 1   | 1   |
| R51      | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R53      | RK3568    | Chip R.     | ERJ2GEJ334X  | 1   | 1   |
| R54      | RK3546    | Chip R.     | ERJ2GEJ472X  | 1   | 1   |
| R55      | RK3042    | Chip R.     | MCR03EZHJ222 | 1   | 1   |
| R56      | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R57      | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R58      | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R59      | RK3501    | Chip R.     | ERJ2GEOR00X  | 1   | 1   |
| R60      | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R61      | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R62      | RK3526    | Chip R.     | ERJ2GEJ101X  | 1   | 1   |
| R63      | RK3524    | Chip R.     | ERJ2GEJ680X  | 1   | 1   |
| R64      | RK3556    | Chip R.     | ERJ2GEJ333X  | 1   | 1   |
| R65      | RK3022    | Chip R.     | MCR03EZHJ470 | 1   | 1   |
| R66      | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name   | Qty |     |
|----------|-----------|-------------|--------------|-----|-----|
|          |           |             |              | (T) | (E) |
| R67      | RK3522    | Chip R.     | ERJ2GEJ470X  | 1   | 1   |
| R68      | RK3001    | Chip R.     | MCR03EZHJ000 | 1   | 1   |
| R69      | RK3562    | Chip R.     | ERJ2GEJ104X  | 1   | 1   |
| R70      | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R71      | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R72      | RK6024    | Chip R.     | ERJ1WYJ680H  | 1   | 1   |
| R73      | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R74      | RK3038    | Chip R.     | MCR03EZHJ102 | 1   | 1   |
| R75      | RK3046    | Chip R.     | MCR03EZHJ472 | 1   | 1   |
| R76      | RK3038    | Chip R.     | MCR03EZHJ102 | 1   | 1   |
| R77      | RK3526    | Chip R.     | ERJ2GEJ101X  | 1   | 1   |
| R78      | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R79      | RK3050    | Chip R.     | MCR03EZHJ103 | 1   | 1   |
| R80      | RK3050    | Chip R.     | MCR03EZHJ103 | 1   | 1   |
| R81      | RK3522    | Chip R.     | ERJ2GEJ470X  | 1   | 1   |
| R82      | RK3530    | Chip R.     | ERJ2GEJ221X  | 1   | 1   |
| R83      | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R84      | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R85      | RK3054    | Chip R.     | MCR03EZHJ223 | 1   | 1   |
| R86      | RK3552    | Chip R.     | ERJ2GEJ153X  | 1   | 1   |
| R87      | RK3522    | Chip R.     | ERJ2GEJ470X  | 1   | 1   |
| R88      | RK3050    | Chip R.     | MCR03EZHJ103 | 1   | 1   |
| R89      | RK3516    | Chip R.     | ERJ2GEJ150X  | 1   | 1   |
| R90      | RK3559    | Chip R.     | ERJ2GEJ563X  | 1   | 1   |
| R92      | RK3530    | Chip R.     | ERJ2GEJ221X  | 1   | 1   |
| R93      | RK3522    | Chip R.     | ERJ2GEJ470X  | 1   | 1   |
| R94      | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R95      | RK3565    | Chip R.     | ERJ2GEJ184X  | 1   | 1   |
| R96      | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R97      | RK3559    | Chip R.     | ERJ2GEJ563X  | 1   | 1   |
| R98      | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R99      | RK3552    | Chip R.     | ERJ2GEJ153X  | 1   | 1   |
| R100     | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R101     | RK3516    | Chip R.     | ERJ2GEJ150X  | 1   | 1   |
| R102     | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R103     | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R104     | RK3555    | Chip R.     | ERJ2GEJ273X  | 1   | 1   |
| R105     | RK3552    | Chip R.     | ERJ2GEJ153X  | 1   | 1   |
| R106     | RK3534    | Chip R.     | ERJ2GEJ471X  | 1   | 1   |
| R107     | RK3554    | Chip R.     | ERJ2GEJ223X  | 1   | 1   |
| R108     | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R109     | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R110     | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R111     | RK3546    | Chip R.     | ERJ2GEJ472X  | 1   | 1   |
| R112     | RK3529    | Chip R.     | ERJ2GEJ181X  | 1   | 1   |
| R113     | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R114     | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R115     | RK3554    | Chip R.     | ERJ2GEJ223X  | 1   | 1   |
| R116     | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R117     | RK3566    | Chip R.     | ERJ2GEJ224X  | 1   | 1   |
| R118     | RK3558    | Chip R.     | ERJ2GEJ473X  | 1   | 1   |
| R119     | RK3543    | Chip R.     | ERJ2GEJ272X  | 1   | 1   |
| R120     | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R121     | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R122     | RK3542    | Chip R.     | ERJ2GEJ222X  | 1   | 1   |
| R123     | RK3535    | Chip R.     | ERJ2GEJ561X  | 1   | 1   |
| R124     | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |
| R125     | RK3572    | Chip R.     | ERJ2GEJ684X  | 1   | 1   |
| R126     | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R127     | RK3552    | Chip R.     | ERJ2GEJ153X  | 1   | 1   |
| R128     | RK3532    | Chip R.     | ERJ2GEJ331X  | 1   | 1   |
| R129     | RK3532    | Chip R.     | ERJ2GEJ331X  | 1   | 1   |
| R130     | RK3550    | Chip R.     | ERJ2GEJ103X  | 1   | 1   |
| R131     | RK3538    | Chip R.     | ERJ2GEJ102X  | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name  | Qty |     |
|----------|-----------|-------------|-------------|-----|-----|
|          |           |             |             | (T) | (E) |
| R132     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R133     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R134     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R135     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R136     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R137     | RK3501    | Chip R.     | ERJ2GE0R00X | 1   | 1   |
| R138     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R139     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R140     | RK3543    | Chip R.     | ERJ2GEJ272X | 1   | 1   |
| R141     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |
| R142     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R143     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R144     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R145     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R146     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R147     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R148     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R149     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R150     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R151     | RK3516    | Chip R.     | ERJ2GEJ150X | 1   | 1   |
| R152     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R153     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R154     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R155     | RK3546    | Chip R.     | ERJ2GEJ472X | 1   | 1   |
| R157     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R158     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R159     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R160     | RK3560    | Chip R.     | ERJ2GEJ683X | 1   | 1   |
| R161     | RK3516    | Chip R.     | ERJ2GEJ150X | 1   | 1   |
| R162     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R163     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R164     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R165     | RK3546    | Chip R.     | ERJ2GEJ472X | 1   | 1   |
| R166     | RK3501    | Chip R.     | ERJ2GE0R00X | 1   | 1   |
| R168     | RK3554    | Chip R.     | ERJ2GEJ223X | 1   | 1   |
| R169     | RK3559    | Chip R.     | ERJ2GEJ563X | 1   | 1   |
| R170     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R172     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R173     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R174     | RK3547    | Chip R.     | ERJ2GEJ562X | 1   | 1   |
| R175     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R176     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R177     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R178     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R179     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R180     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R181     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R182     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R183     | RK3516    | Chip R.     | ERJ2GEJ150X | 1   | 1   |
| R184     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R185     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R186     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |
| R187     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R188     | RK3555    | Chip R.     | ERJ2GEJ273X | 1   | 1   |
| R189     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R190     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R191     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R193     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R194     | RK3574    | Chip R.     | ERJ2GEJ105X | 1   | 1   |
| R195     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R196     | RK3552    | Chip R.     | ERJ2GEJ153X | 1   | 1   |
| R197     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R200     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R201     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name  | Qty |     |
|----------|-----------|-------------|-------------|-----|-----|
|          |           |             |             | (T) | (E) |
| R202     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R203     | RK3561    | Chip R.     | ERJ2GEJ823X | 1   | 1   |
| R204     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R205     | RK3544    | Chip R.     | ERJ2GEJ332X | 1   | 1   |
| R206     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R208     | RK3501    | Chip R.     | ERJ2GE0R00X | 1   | 1   |
| R209     | RK3534    | Chip R.     | ERJ2GEJ471X | 1   | 1   |
| R210     | RK3519    | Chip R.     | ERJ2GEJ270X | 1   | 1   |
| R211     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R212     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R213     | RK3561    | Chip R.     | ERJ2GEJ823X | 1   | 1   |
| R214     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R215     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R216     | RK3534    | Chip R.     | ERJ2GEJ471X | 1   | 1   |
| R217     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |
| R218     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |
| R219     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R221     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |
| R222     | RK3554    | Chip R.     | ERJ2GEJ223X | 1   | 1   |
| R223     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R224     | RK3534    | Chip R.     | ERJ2GEJ471X | 1   | 1   |
| R225     | RK3516    | Chip R.     | ERJ2GEJ150X | 1   | 1   |
| R226     | RK3516    | Chip R.     | ERJ2GEJ150X | 1   | 1   |
| R227     | RK3559    | Chip R.     | ERJ2GEJ563X | 1   | 1   |
| R228     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R229     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R230     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R231     | RK3551    | Chip R.     | ERJ2GEJ123X | 1   | 1   |
| R233     | RK3546    | Chip R.     | ERJ2GEJ472X | 1   | 1   |
| R234     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R235     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R236     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R237     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R238     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R239     | RK3547    | Chip R.     | ERJ2GEJ562X | 1   | 1   |
| R240     | RK3566    | Chip R.     | ERJ2GEJ224X | 1   | 1   |
| R241     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R242     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R243     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R244     | RK3501    | Chip R.     | ERJ2GE0R00X | 1   | 1   |
| R245     | RK3546    | Chip R.     | ERJ2GEJ472X | 1   | 1   |
| R246     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R247     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R248     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R249     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R250     | RK3555    | Chip R.     | ERJ2GEJ273X | 1   | 1   |
| R251     | RK3555    | Chip R.     | ERJ2GEJ273X | 1   | 1   |
| R252     | RK3566    | Chip R.     | ERJ2GEJ224X | 1   | 1   |
| R253     | RK3567    | Chip R.     | ERJ2GEJ274X | 1   | 1   |
| R254     | RK3532    | Chip R.     | ERJ2GEJ331X | 1   | 1   |
| R255     | RK3535    | Chip R.     | ERJ2GEJ561X | 1   | 1   |
| R256     | RK3534    | Chip R.     | ERJ2GEJ471X | 1   | 1   |
| R257     | RK3535    | Chip R.     | ERJ2GEJ561X | 1   | 1   |
| R258     | RK3554    | Chip R.     | ERJ2GEJ223X | 1   | 1   |
| R259     | RK3566    | Chip R.     | ERJ2GEJ224X | 1   | 1   |
| R260     | RK3557    | Chip R.     | ERJ2GEJ393X | 1   | 1   |
| R261     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R262     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R263     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |
| R264     | RK3532    | Chip R.     | ERJ2GEJ331X | 1   | 1   |
| R265     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R266     | RK3556    | Chip R.     | ERJ2GEJ333X | 1   | 1   |
| R267     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R268     | RK3532    | Chip R.     | ERJ2GEJ331X | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name  | Qty |     |
|----------|-----------|-------------|-------------|-----|-----|
|          |           |             |             | (T) | (E) |
| R269     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |
| R270     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R271     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |
| R272     | RK3546    | Chip R.     | ERJ2GEJ472X | 1   | 1   |
| R273     | RK3526    | Chip R.     | ERJ2GEJ101X | 1   | 1   |
| R274     | RK3551    | Chip R.     | ERJ2GEJ123X | 1   | 1   |
| R275     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R276     | RK3501    | Chip R.     | ERJ2GE0R00X | 1   | 1   |
| R277     | RK3516    | Chip R.     | ERJ2GEJ150X | 1   | 1   |
| R278     | RK3516    | Chip R.     | ERJ2GEJ150X | 1   | 1   |
| R279     | RK3516    | Chip R.     | ERJ2GEJ150X | 1   | 1   |
| R280     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R282     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R283     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R284     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R285     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R286     | RK3568    | Chip R.     | ERJ2GEJ334X | 1   | 1   |
| R288     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R289     | RK3570    | Chip R.     | ERJ2GEJ474X | 1   | 1   |
| R290     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R291     | RK3546    | Chip R.     | ERJ2GEJ472X | 1   | 1   |
| R292     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R293     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R294     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R295     | RK3557    | Chip R.     | ERJ2GEJ393X | 1   | 1   |
| R296     | RK3557    | Chip R.     | ERJ2GEJ393X | 1   | 1   |
| R297     | RK3546    | Chip R.     | ERJ2GEJ472X | 1   | 1   |
| R298     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R299     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R300     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R301     | RK3557    | Chip R.     | ERJ2GEJ393X | 1   | 1   |
| R302     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R303     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R304     | RK3546    | Chip R.     | ERJ2GEJ472X | 1   | 1   |
| R306     | RK3501    | Chip R.     | ERJ2GE0R00X | 1   | 1   |
| R307     | RK3535    | Chip R.     | ERJ2GEJ561X | 1   | 1   |
| R308     | RK3501    | Chip R.     | ERJ2GE0R00X | 1   | 1   |
| R309     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R310     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R311     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R313     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R314     | RK3554    | Chip R.     | ERJ2GEJ223X | 1   | 1   |
| R316     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R318     | RK3562    | Chip R.     | ERJ2GEJ104X | 1   | 1   |
| R319     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R320     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R321     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R322     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R323     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R324     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |
| R327     | RK3560    | Chip R.     | ERJ2GEJ683X | 1   | 1   |
| R328     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R331     | RK3516    | Chip R.     | ERJ2GEJ150X | 1   | 1   |
| R332     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R333     | RK3550    | Chip R.     | ERJ2GEJ103X | 1   | 1   |
| R334     | RK3549    | Chip R.     | ERJ2GEJ822X | 1   | 1   |
| R335     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R336     | RK3538    | Chip R.     | ERJ2GEJ102X | 1   | 1   |
| R338     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R339     | RK3558    | Chip R.     | ERJ2GEJ473X | 1   | 1   |
| R340     | RK3574    | Chip R.     | ERJ2GEJ105X | 1   | 1   |
| R341     | RK3542    | Chip R.     | ERJ2GEJ222X | 1   | 1   |
| R342     | RK3530    | Chip R.     | ERJ2GEJ221X | 1   | 1   |
| R343     | RK3522    | Chip R.     | ERJ2GEJ470X | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name     | Qty |     |
|----------|-----------|-------------|----------------|-----|-----|
|          |           |             |                | (T) | (E) |
| R344     | RK3522    | Chip R.     | ERJ2GEJ470X    | 1   | 1   |
| R346     | RK3526    | Chip R.     | ERJ2GEJ101X    | 1   | 1   |
| R347     | RK3522    | Chip R.     | ERJ2GEJ470X    | 1   | 1   |
| R348     | RK3570    | Chip R.     | ERJ2GEJ474X    | 1   | 1   |
| R349     | RK3534    | Chip R.     | ERJ2GEJ471X    | 1   | 1   |
| R350     | RK3514    | Chip R.     | ERJ2GEJ100X    | 1   | 1   |
| R351     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R352     | RK3522    | Chip R.     | ERJ2GEJ470X    | 1   | 1   |
| R353     | RK3558    | Chip R.     | ERJ2GEJ473X    | 1   | 1   |
| R354     | RK3549    | Chip R.     | ERJ2GEJ822X    | 1   | 1   |
| R355     | RK3542    | Chip R.     | ERJ2GEJ222X    | 1   | 1   |
| R356     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R357     | RK3554    | Chip R.     | ERJ2GEJ223X    | 1   | 1   |
| R358     | RK3558    | Chip R.     | ERJ2GEJ473X    | 1   | 1   |
| R359     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R360     | RK3546    | Chip R.     | ERJ2GEJ472X    | 1   | 1   |
| R361     | RK3542    | Chip R.     | ERJ2GEJ222X    | 1   | 1   |
| R362     | RK3542    | Chip R.     | ERJ2GEJ222X    | 1   | 1   |
| R363     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R364     | RK3558    | Chip R.     | ERJ2GEJ473X    | 1   | 1   |
| R365     | RK3546    | Chip R.     | ERJ2GEJ472X    | 1   | 1   |
| R366     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R367     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R368     | RK3574    | Chip R.     | ERJ2GEJ105X    | 1   | 1   |
| R369     | RK3552    | Chip R.     | ERJ2GEJ153X    | 1   | 1   |
| R370     | RK3561    | Chip R.     | ERJ2GEJ823X    | 1   | 1   |
| R371     | RK3552    | Chip R.     | ERJ2GEJ153X    | 1   | 1   |
| R372     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R373     | RK3546    | Chip R.     | ERJ2GEJ472X    | 1   | 1   |
| R374     | RK3501    | Chip R.     | ERJ2GE0R00X    | 1   | 1   |
| R375     | RK3554    | Chip R.     | ERJ2GEJ223X    | 1   | 1   |
| R376     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R377     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R378     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R379     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R380     | RK3558    | Chip R.     | ERJ2GEJ473X    | 1   | 1   |
| R381     | RK3536    | Chip R.     | ERJ2GEJ681X    | 1   | 1   |
| R382     | RK3546    | Chip R.     | ERJ2GEJ472X    | 1   | 1   |
| R383     | RK3555    | Chip R.     | ERJ2GEJ273X    | 1   | 1   |
| R384     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R385     | RK3542    | Chip R.     | ERJ2GEJ222X    | 1   | 1   |
| R386     | RK3542    | Chip R.     | ERJ2GEJ222X    | 1   | 1   |
| R387     | RK3552    | Chip R.     | ERJ2GEJ153X    | 1   | 1   |
| R388     | RK3561    | Chip R.     | ERJ2GEJ823X    | 1   | 1   |
| R389     | RK3558    | Chip R.     | ERJ2GEJ473X    | 1   | 1   |
| R390     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R391     | RK3574    | Chip R.     | ERJ2GEJ105X    | 1   | 1   |
| R392     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R394     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R395     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R396     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R397     | RK3092    | Chip R.     | MCR03EZPFX7502 | 1   | 1   |
| R398     | RK3549    | Chip R.     | ERJ2GEJ822X    | 1   | 1   |
| R399     | RK3050    | Chip R.     | MCR03EZHH103   | 1   | 1   |
| R400     | RK3546    | Chip R.     | ERJ2GEJ472X    | 1   | 1   |
| R401     | RK3546    | Chip R.     | ERJ2GEJ472X    | 1   | 1   |
| R402     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R403     | RK3541    | Chip R.     | ERJ2GEJ182X    | 1   | 1   |
| R404     | RK3091    | Chip R.     | MCR03EZPFX3902 | 1   | 1   |
| R405     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R406     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R407     | RK3526    | Chip R.     | ERJ2GEJ101X    | 1   | 1   |
| R408     | RK2024    | Chip R.     | MCR50JZH471E   | 1   | 1   |
| R409     | RK3542    | Chip R.     | ERJ2GEJ222X    | 1   | 1   |



| Ref. No. | Parts No. | Description | Parts Name     | Qty |     |
|----------|-----------|-------------|----------------|-----|-----|
|          |           |             |                | (T) | (E) |
| R410     | RK3542    | Chip R.     | ERJ2GEJ222X    | 1   | 1   |
| R411     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R412     | RK3566    | Chip R.     | ERJ2GEJ224X    | 1   | 1   |
| R413     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R414     | RK3046    | Chip R.     | MCR03EZHJ472   | 1   | 1   |
| R415     | RK3091    | Chip R.     | MCR03EZPFX3902 | 1   | 1   |
| R416     | RK3557    | Chip R.     | ERJ2GEJ393X    | 1   | 1   |
| R417     | RK3561    | Chip R.     | ERJ2GEJ823X    | 1   | 1   |
| R418     | RK3559    | Chip R.     | ERJ2GEJ563X    | 1   | 1   |
| R419     | RK3563    | Chip R.     | ERJ2GEJ124X    | 1   | 1   |
| R420     | RK3545    | Chip R.     | ERJ2GEJ392X    | 1   | 1   |
| R421     | RK3552    | Chip R.     | ERJ2GEJ153X    | 1   | 1   |
| R422     | RK0025    | Chip R.     | ERJ6GEJ331V    | 1   | 1   |
| R423     | RK3572    | Chip R.     | ERJ2GEJ684X    | 1   | 1   |
| R424     | RK3564    | Chip R.     | ERJ2GEJ154X    | 1   | 1   |
| R425     | RK3522    | Chip R.     | ERJ2GEJ470X    | 1   | 1   |
| R426     | RK3038    | Chip R.     | MCR03EZHJ102   | 1   | 1   |
| R427     | RK3534    | Chip R.     | ERJ2GEJ471X    | 1   | 1   |
| R428     | RK3542    | Chip R.     | ERJ2GEJ222X    | 1   | 1   |
| R429     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R430     | RK3564    | Chip R.     | ERJ2GEJ154X    | 1   | 1   |
| R431     | RK3572    | Chip R.     | ERJ2GEJ684X    | 1   | 1   |
| R432     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R433     | RK3559    | Chip R.     | ERJ2GEJ563X    | 1   | 1   |
| R434     | RK3567    | Chip R.     | ERJ2GEJ274X    | 1   | 1   |
| R435     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R436     | RK3560    | Chip R.     | ERJ2GEJ683X    | 1   | 1   |
| R437     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R438     | RK3552    | Chip R.     | ERJ2GEJ153X    | 1   | 1   |
| R439     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R440     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R441     | RK3541    | Chip R.     | ERJ2GEJ182X    | 1   | 1   |
| R442     | RK3534    | Chip R.     | ERJ2GEJ471X    | 1   | 1   |
| R443     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R444     | RK3558    | Chip R.     | ERJ2GEJ473X    | 1   | 1   |
| R445     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R446     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R447     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R448     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R449     | RK3558    | Chip R.     | ERJ2GEJ473X    | 1   | 1   |
| R450     | RK3538    | Chip R.     | ERJ2GEJ102X    | 1   | 1   |
| R451     | RK3557    | Chip R.     | ERJ2GEJ393X    | 1   | 1   |
| R452     | RK3561    | Chip R.     | ERJ2GEJ823X    | 1   | 1   |
| R453     | RK3559    | Chip R.     | ERJ2GEJ563X    | 1   | 1   |
| R454     | RK3563    | Chip R.     | ERJ2GEJ124X    | 1   | 1   |
| R455     | RK3545    | Chip R.     | ERJ2GEJ392X    | 1   | 1   |
| R456     | RK3552    | Chip R.     | ERJ2GEJ153X    | 1   | 1   |
| R457     | RK3546    | Chip R.     | ERJ2GEJ472X    | 1   | 1   |
| R458     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R459     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R460     | RK3562    | Chip R.     | ERJ2GEJ104X    | 1   | 1   |
| R461     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R462     | RK3001    | Chip R.     | MCR03EZHJ000   | 1   | 0   |
| R463     | RK3546    | Chip R.     | ERJ2GEJ472X    | 1   | 1   |
| R464     | RK3554    | Chip R.     | ERJ2GEJ223X    | 1   | 1   |
| R465     | RK3001    | Chip R.     | MCR03EZHJ000   | 0   | 0   |
| R467     | RK3564    | Chip R.     | ERJ2GEJ154X    | 1   | 1   |
| R468     | RK3559    | Chip R.     | ERJ2GEJ563X    | 1   | 1   |
| R469     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R470     | RK3001    | Chip R.     | MCR03EZHJ000   | 0   | 1   |
| R471     | RK3001    | Chip R.     | MCR03EZHJ000   | 0   | 0   |
| R472     | RK3574    | Chip R.     | ERJ2GEJ105X    | 1   | 1   |
| R473     | RK3550    | Chip R.     | ERJ2GEJ103X    | 1   | 1   |
| R474     | RK3567    | Chip R.     | ERJ2GEJ274X    | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name    | Qty |     |
|----------|-----------|-------------|---------------|-----|-----|
|          |           |             |               | (T) | (E) |
| R475     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R476     | RK3572    | Chip R.     | ERJ2GEJ684X   | 1   | 1   |
| R477     | RK3538    | Chip R.     | ERJ2GEJ102X   | 1   | 1   |
| R478     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R479     | RK2010    | Chip R.     | MCR50JZHJ330E | 1   | 1   |
| R481     | RK3562    | Chip R.     | ERJ2GEJ104X   | 1   | 1   |
| R482     | RK3558    | Chip R.     | ERJ2GEJ473X   | 1   | 1   |
| R483     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R484     | RK3558    | Chip R.     | ERJ2GEJ473X   | 1   | 1   |
| R485     | RK3501    | Chip R.     | ERJ2GEOR00X   | 1   | 1   |
| R486     | RK3557    | Chip R.     | ERJ2GEJ393X   | 1   | 1   |
| R487     | RK3557    | Chip R.     | ERJ2GEJ393X   | 1   | 1   |
| R488     | RK3562    | Chip R.     | ERJ2GEJ104X   | 1   | 1   |
| R489     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R490     | RK3564    | Chip R.     | ERJ2GEJ154X   | 1   | 1   |
| R491     | RK3538    | Chip R.     | ERJ2GEJ102X   | 1   | 1   |
| R492     | RK3522    | Chip R.     | ERJ2GEJ470X   | 1   | 1   |
| R493     | RK3534    | Chip R.     | ERJ2GEJ471X   | 1   | 1   |
| R494     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R495     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R496     | RK3522    | Chip R.     | ERJ2GEJ470X   | 1   | 1   |
| R497     | RK3562    | Chip R.     | ERJ2GEJ104X   | 1   | 1   |
| R498     | RK3526    | Chip R.     | ERJ2GEJ101X   | 1   | 1   |
| R500     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R501     | RK3558    | Chip R.     | ERJ2GEJ473X   | 1   | 1   |
| R502     | RK3542    | Chip R.     | ERJ2GEJ222X   | 1   | 1   |
| R503     | RK3542    | Chip R.     | ERJ2GEJ222X   | 1   | 1   |
| R504     | RK3554    | Chip R.     | ERJ2GEJ223X   | 1   | 1   |
| R505     | RK3554    | Chip R.     | ERJ2GEJ223X   | 1   | 1   |
| R506     | RK3501    | Chip R.     | ERJ2GEOR00X   | 1   | 1   |
| R508     | RK3538    | Chip R.     | ERJ2GEJ102X   | 1   | 1   |
| R509     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R511     | RK3538    | Chip R.     | ERJ2GEJ102X   | 1   | 1   |
| R512     | RK3557    | Chip R.     | ERJ2GEJ393X   | 1   | 1   |
| R513     | RK3538    | Chip R.     | ERJ2GEJ102X   | 1   | 1   |
| R514     | RK3538    | Chip R.     | ERJ2GEJ102X   | 1   | 1   |
| R515     | RK3552    | Chip R.     | ERJ2GEJ153X   | 1   | 1   |
| R516     | RK3538    | Chip R.     | ERJ2GEJ102X   | 1   | 1   |
| R517     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R519     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R520     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R521     | RK3522    | Chip R.     | ERJ2GEJ470X   | 1   | 1   |
| R522     | RK3559    | Chip R.     | ERJ2GEJ563X   | 1   | 1   |
| R523     | RK3530    | Chip R.     | ERJ2GEJ221X   | 1   | 1   |
| R524     | RK3542    | Chip R.     | ERJ2GEJ222X   | 1   | 1   |
| R525     | RK3522    | Chip R.     | ERJ2GEJ470X   | 1   | 1   |
| R526     | RK3574    | Chip R.     | ERJ2GEJ105X   | 1   | 1   |
| R527     | RK3558    | Chip R.     | ERJ2GEJ473X   | 1   | 1   |
| R528     | RK3546    | Chip R.     | ERJ2GEJ472X   | 1   | 1   |
| R529     | RK3516    | Chip R.     | ERJ2GEJ150X   | 1   | 1   |
| R530     | RK3516    | Chip R.     | ERJ2GEJ150X   | 1   | 1   |
| R531     | RK3547    | Chip R.     | ERJ2GEJ562X   | 1   | 1   |
| R532     | RK3501    | Chip R.     | ERJ2GEOR00X   | 1   | 1   |
| R533     | RK3526    | Chip R.     | ERJ2GEJ101X   | 1   | 1   |
| R534     | RK3562    | Chip R.     | ERJ2GEJ104X   | 1   | 1   |
| R535     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R536     | RK3558    | Chip R.     | ERJ2GEJ473X   | 1   | 1   |
| R537     | RK3550    | Chip R.     | ERJ2GEJ103X   | 1   | 1   |
| R538     | RK3520    | Chip R.     | ERJ2GEJ330X   | 1   | 1   |
| R539     | RK3562    | Chip R.     | ERJ2GEJ104X   | 1   | 1   |
| R540     | RK3562    | Chip R.     | ERJ2GEJ104X   | 1   | 1   |
| R541     | RK3554    | Chip R.     | ERJ2GEJ223X   | 1   | 1   |
| R542     | RK4091    | Chip R.     | ERJ12YJ104U   | 1   | 1   |
| SW1      | US0012    | Switch      | SSSS212ANSL2  | 1   | 1   |

| Ref. No. | Parts No. | Description | Parts Name          | Qty |     |
|----------|-----------|-------------|---------------------|-----|-----|
|          |           |             |                     | (T) | (E) |
| TH1      | XS0021    | Thermistor  | TBPS1R103K440H5Q    | 1   | 1   |
| VR3      | RH0142    | Trimmer R.  | MVR22HXBRN103       | 1   | 1   |
| VR4      | RH0142    | Trimmer R.  | MVR22HXBRN103       | 1   | 1   |
| VR5      | RH0146    | Trimmer R.  | MVR22HXBRN473       | 1   | 1   |
| VR6      | RH0154    | Trimmer R.  | MVR22HXBRN105       | 1   | 1   |
| VR7      | RH0148    | Trimmer R.  | MVR22HXBRN104       | 1   | 1   |
| VR8      | RH0152    | Trimmer R.  | MVR22HXBRN474       | 1   | 1   |
| VR9      | RH0148    | Trimmer R.  | MVR22HXBRN104       | 1   | 1   |
| X1       | XQ0148    | Xtal OSC    | DSA534HB 21.250MHZ  | 1   | 1   |
| X4       | XQ0150    | Xtal OSC    | DSX631S 45.555MHZ   | 1   | 1   |
| X5       | XQ0149    | Xtal OSC    | AT-49 9.8304MHZ     | 1   | 1   |
| XF1      | XF0051    | Xtal Filter | Q2175AD20 21.7MHZ   | 1   | 1   |
| XF2      | XF0051    | Xtal Filter | Q2175AD20 21.7MHZ   | 1   | 1   |
| XF3      | XF0050    | Xtal Filter | Q45115BD10 45.1MHZ  | 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   |
|          | TZ0049    |             | SILICON DUMPER      | 4   | 4   |
|          | TZ0056    |             | SILICON DUMPER 49U  | 1   | 1   |
|          | UP0448A   | P.C.B       | DR620 INTEGRATED    | 1   | 1   |

## Packing Parts

| Ref. No. | Parts No. | Description | Parts Name                | Qty |     |
|----------|-----------|-------------|---------------------------|-----|-----|
|          |           |             |                           | (T) | (E) |
|          | DS0446    |             | NITTO MODEL PLATE(S)      | 1   | 3.2 |
|          | EHM53A    | Microphone  | EMS53A                    | 0   | 1   |
|          | EHM57B    | Microphone  | EMS57B                    | 1   | 0   |
|          | FM0078Z   | Bracket     | BRACKET DR130             | 1   | 1   |
|          | HK0551    | Package     | PACKAGE DR620             | 1   | 1   |
|          | HM0215    |             | OUTER CARTON 10PCS        | 0.2 | 0.2 |
|          | HP0006Z   |             | POLY-BAG                  | 1   | 1   |
|          | HP0035    | Plastic bag | 5X200X250                 | 1   | 1   |
|          | HU0170    |             | INNER 10PCS DJX3          | 0.4 | 0.4 |
|          | HU0189    |             | INNER DR620               | 1   | 1   |
|          | HU0192    |             | INNER B DR620             | 1   | 1   |
|          | PH0013    |             | WARRANTY CEAT EXPORT      | 1   | 0   |
|          | PK0094    |             | Schematic Diagram DR620T  | 1   | 1   |
|          | PR0447    |             | WARNING FCC (N)           | 1   | 0   |
|          | PR0452    |             | FCC HOME USE              | 1   | 0   |
|          | PR0454    |             | SECURITY STICKER T        | 2   | 2   |
|          | PR0478    |             | SER.NO.STICKER            | 0   | 2.2 |
|          | PR0514    |             | EPSON 10X49 LABEL(W)      | 2   | 2   |
|          | PS0410    | Manual      | Instruction manual DR620T | 1   | 1   |
|          | UX1290A   | Wire        | WIRE UX1290A              | 1   | 1   |

## Mechanical Parts

| Ref. No. | Parts No. | Description  | Parts Name          | Qty |     |
|----------|-----------|--------------|---------------------|-----|-----|
|          |           |              |                     | (T) | (E) |
|          | AA0050    | Screw        | XSC26+6FZ           | 4   | 4   |
|          | AA0077    | Screw        | 3+16FeBC            | 4   | 4   |
|          | AB0012    | Screw        | XYN26+C5            | 2   | 2   |
|          | AN0013    | Screw        | RND N7X0.75 BR/B.ZN | 1   | 1   |
|          | AV0006    | Screw        | B2.6+8 FeNi         | 19  | 19  |
|          | AW0012    | Screw        | W 3+9FeN            | 4   | 4   |
|          | AX0003    | Screw        | 0PH P2+16 FE/B.ZN 3 | 2   | 2   |
|          | AZ0037Y   | Screw        | W3 Fe BC            | 4   | 4   |
|          | DG0042    |              | LED LIGHT DR620     | 2   | 2   |
|          | DP0145    |              | LCD Panel           | 1   | 1   |
|          | ES0017    | Speaker      | 057M9017            | 1   | 1   |
|          | ET0011    | Fan Motor    | FAN FD1240107B-1N   | 1   | 1   |
|          | FG0361    |              | CUSHION DR620       | 2   | 2   |
|          | FM0216    |              | FAN COVER DR620     | 1   | 1   |
|          | FM0222    |              | HEAT SINK 2         | 1   | 1   |
|          | FP0151    |              | REAR PANEL DR135    | 1   | 1   |
|          | FP0153A   |              | CUSHION B           | 2   | 2   |
|          | FP0197    |              | BLIND SHEET DR620   | 4   | 4   |
|          | FP0198    |              | SPACER DR620        | 4   | 4   |
|          | KB0089    |              | REAR CASE DR620     | 1   | 1   |
|          | KS0081    |              | BOTTOM CASE DR620   | 1   | 1   |
|          | KZ0147    |              | Front CaseDR620     | 1   | 1   |
|          | NK0072    | Knob         | KL0677A-VOL DR135   | 2   | 2   |
|          | NK0073    | Knob         | KL0678A-DIAL 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             | 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 #9110 12X1mm   | 80  | 80  |

## Accessories (Screw Set)

| Ref. No. | Parts 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   |

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# ADJUSTMENT

## 1) Adjustment Spot

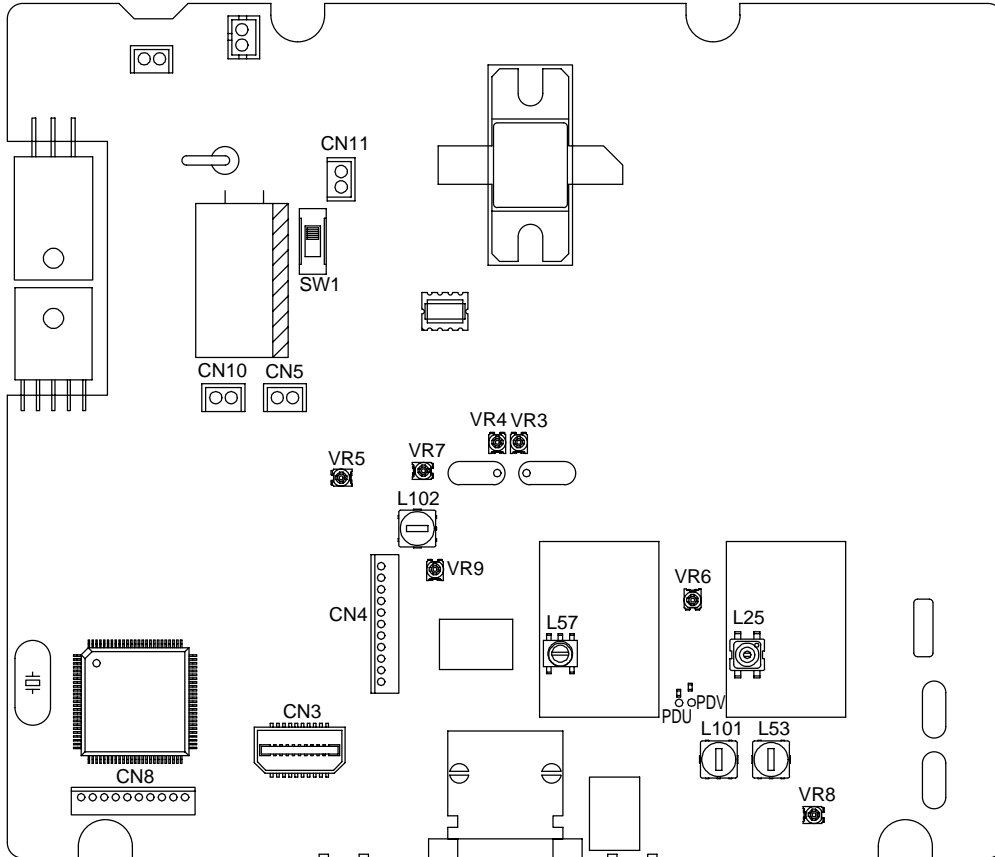
Power Supply Voltage 13.8V

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 8Ω and Output is 50 ~ 100mV.



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

## 2) Adjustment Mode

Adjustment memory table

| Memory CH | VHF Frequency [MHz] | UHF 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             |

( ) = DR620E

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→CALLMHz→MHz→TS/DCS→H/L→H/L

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.SPOT                 | ADJUSTING METHOD  |
|-----------------------|-------|--|-------|--------------------------|---|
| PD ADJ.               | CH1   | 146.00MHz<br>RX                              | MAIN  | L25                      | Adjust so that PDV voltage becomes 2.7V   |
| Frequency             | CH2   | 440.00MHz<br>TX                              | MAIN  | VR6                      | Adjust so that Tx Frequency becomes within 146.00MHz $\pm$ 100Hz                                |
| HI POWER              | CH3   | 146.00MHz<br>HIGH                            | FRONT | RE601                    | Adjust to 50.0 $\pm$ 1.0W   |
| MID POWER             | CH4   | 146.00MHz<br>MID                             | FRONT | RE601                    | Adjust to 10.0 $\pm$ 1.0W   |
| LOW POWER             | CH5   | 146.00MHz<br>LOW                             | FRONT | RE601                    | Adjust to 5.0 $\pm$ 0.5W  |
| RX Distortion         | CH6   | 146.05MHz<br>SSG 60dBu                       | MAIN  | L101                     | It is adjusted to become maximum.<br>Confirm : Less than 3%                                     |
| Rx Signal Sensitivity | CH7   | 136.05MHz                                    | FRONT | FUNC -<br>RE601-<br>FUNC | Adjust so that the Rx sensitivity becomes in maximum.<br>At -8dBu SINAD more than 12dB          |
| Rx Signal Sensitivity | CH8   | 146.05MHz                                    | FRONT | FUNC -<br>RE601-<br>FUNC | Adjust so that the Rx sensitivity becomes in maximum.<br>At -8dBu SINAD more than 12dB          |
| Rx Signal Sensitivity | CH9   | 173.95MHz                                    | FRONT | FUNC -<br>RE601-<br>FUNC | Adjust so that the Rx sensitivity becomes in maximum.<br>At -4dBu SINAD more than 12dB          |
| S-meter(1)            | CH10  | 146.05MHz<br>SSG -3dBu                       | FRONT | FUNC                     | It is confirmed by the FUNC key.  |
| S-meter (FULL)        | CH11  | 146.05MHz<br>SSG 15dBu                       | FRONT | FUNC                     | It is confirmed by the FUNC key.  |
| Squelch               | CH12  | 146.05MHz<br>SSG OFF<br>Ind : 01             | MAIN  | VR8                      | Adjust so that the squelch stops at perfectly close location                                    |
| RX Distortion         | CH13  | 87.5MHz<br>60dBu/1kHz<br>22KHz/DEV           | MAIN  | L53                      | It is adjusted to become maximum.<br>Confirm : Less than 3%<br>SG OUT 20 ~ 80dBu : Less than 5% |
| S-meter(1)            | CH14  | 87.7MHz<br>-3dBu/1KHz<br>22KHz/DEV           | FRONT | FUNC                     | It is confirmed by the FUNC key.  |
| S-meter (FULL)        | CH15  | 87.7MHz<br>15dBu/1KHz<br>22KHz/DEV           | FRONT | FUNC                     | It is confirmed by the FUNC key.  |
| Maximum Deviation     | CH16  | 146.00MHz<br>MOD<br>1KHz40mVemf              | MAIN  | VR3                      | 4.5 $\pm$ 0.1KHz/DEV  |
| Maximum Deviation     | CH17  | 146.00MHz<br>MOD 1KHz<br>40mVemf<br>(narrow) |       |                          | 2.2 $\pm$ 0.3KHz/DEV  |
| Mic Gain              | CH18  | 146.00MHz<br>MOD<br>1KHz4mVemf               | MAIN  | VR5                      | 2.85 $\pm$ 0.1KHz/DEV   |
| CTCSS Modulation      | CH19  | 146.00MHz<br>88.5Hz                          |       |                          | 800 $\pm$ 400Hz/DEV 3KHz LPF ON   |
| DCS Modulation        | CH20  | 146.00MHz<br>255 Code                        | MAIN  | VR7                      | 800 $\pm$ 50Hz/DEV 3KHz LPF ON  |
| 1750Hz Modulation     | CH21  | 146.00MHz<br>1750Hz                          |       |                          | 3.0 $\pm$ 0.5KHz/DEV  |

#### 4) UHF Adjustment Specification

| ITEM                    | CH No | CONDITION                                    | UNIT  | ADJ. SPOT                       | ADJUSTING METHOD   |
|-------------------------|-------|--|-------|---------------------------------|--|
| PD ADJ.                 | CH1   | 440.00MHz<br>RX                              | MAIN  | L57                             | Adjust so that PDU voltage becomes 3.4V  |
| HI POWER                | CH3   | 440.00MHz<br>HI POWER                        | FRONT | RE601                           | Adjust to $35.0 \pm 1.0W$  |
| MID POWER               | CH4   | 440.00MHz<br>MID POWER                       | FRONT | RE601                           | Adjust to $10.0 \pm 1.0W$  |
| LOW POWER               | CH5   | 440.00MHz<br>LOW POWER                       | FRONT | RE601                           | Adjust to $5.0 \pm 0.5W$   |
| RX Distortion           | CH6   | 440.05MHz<br>SSG 60dBu                       | MAIN  | L102                            | It is adjusted to become maximum volume when a position of Volume is done at 11 o'clock.<br>Confirm : Less than 3% |
| Rx Signal Sensitivity   | CH7   | 400.05MHz                                    | FRONT | FUNC<br>↓<br>RE601<br>↓<br>FUNC | Adjust so that the Rx sensitivity becomes in maximum.<br>Confirm :<br>At -4dBu SINAD more than 12dB                |
| Rx Signal Sensitivity   | CH8   | 440.05MHz                                    | FRONT | FUNC<br>↓<br>RE601<br>↓<br>FUNC | Adjust so that the Rx sensitivity becomes in maximum.<br>Confirm :<br>At -8dBu SINAD more than 12dB                |
| Rx Signal Sensitivity   | CH9   | 479.95MHz                                    | FRONT | FUNC<br>↓<br>RE601<br>↓<br>FUNC | Adjust so that the Rx sensitivity becomes in maximum.<br>Confirm :<br>At -6dBu SINAD more than 12dB                |
| S-meter(1)              | CH10  | 440.05MHz<br>SSG 0dBu                        | FRONT | FUNC                            | It is confirmed by the FUNC key.   |
| S-meter(FULL)           | CH11  | 440.05MHz<br>SSG 20dBu                       | FRONT | FUNC                            | It is confirmed by the FUNC key.   |
| Squelch                 | CH12  | 440.05MHz<br>SSG OFF<br>Indication 01        | MAIN  | VR9                             | Adjust so that the squelch stops at perfectly close location   |
| Maximum Deviation       | CH16  | 440.00MHz<br>MOD 1KHz<br>40mVemf             | MAIN  | VR4                             | $4.5 \pm 0.1KHz/DEV$   |
| Maximum Deviation       | CH17  | 440.00MHz<br>MOD 1KHz<br>40mVemf<br>(narrow) |       |                                 | $2.2 \pm 0.3KHz/DEV$   |
| Mic Gain                | CH18  | 440.00MHz<br>MOD 1KHz<br>4mVemf              |       |                                 | $3.0 \pm 0.5KHz/DEV$   |
| CTCSS Modulation Level  | CH19  | 440.00MHz<br>88.5Hz                          |       |                                 | $800 \pm 400Hz/DEV$ 3KHz LPF ON  |
| DCS Modulation Level    | CH20  | 440.00MHz<br>255 Code                        |       |                                 | $800 \pm 400Hz/DEV$ 3KHz LPF ON  |
| 1750Hz Modulation Level | CH21  | 440.00MHz<br>1750Hz                          |       |                                 | $3.0 \pm 0.5KHz/DEV$   |

## 5) VHF Test Specification

| TEST ITEM           | CONDITION                    | TEST STANDARD                              | NOTE   |
|---------------------|------------------------------|--|--|
| RX Sensitivity      | 136.05MHz                    | Less than -7dBu                            | 12dB SINAD                                       |
|                     | 145.90MHz                    | Less than -7dBu                            |  |
|                     | 173.95MHz                    | Less than -3dBu                            |  |
|                     | 87.7MHz                      | Less than 6dBu                             | 12dB SINAD 22KHz/DEV                             |
|                     | 135.05MHz                    | Less than 9dBu                             | AM 10dB S/N                                      |
|                     | 146.05MHz SUB                | Less than -6dBu                            | 12dB SINAD                                       |
| RX Distortion       | 146.05MHz                    | Less than 5%                               | SSG out 60dBu                                    |
|                     | 87.7MHz                      | Less than 5%                               | SSG out<br>60dBu 22KHz/DEV                       |
| RX S/N              | 146.05MHz                    | More than 38dB                             | SSG out 60dBu<br>0.3 ~ 3KHz BPF OFF              |
| Squelch Sensitivity | 146.05MHz<br>Indication 02   | Squelch Open                               | SSG Output -10dBu                                |
|                     |                              | Squelch Close                              | SSG Output OFF                                   |
| S Meter             | 146.05MHz<br>1KHz 3.5KHz/DEV | All appears at 18dBu<br>Disappear at -6dBu | Decrease SSG level and<br>decrease S Meter level |
| S Meter             | 87.7MHz<br>1KHz 22KHz/DEV    | All appears at 18dBu<br>Disappear at -6dBu | Decrease SSG level and<br>decrease S Meter level |
| AF Output           | 146.05MHz                    | More than 2W                               | SSG Output 60dBu                                 |
| AF Output<br>NARROW | 146.05MHz<br>NARROW          | More than Normal Mode.                     | SSG Output 60dBu                                 |
| AF Output           | 87.7MHz                      | More than 2W                               | SSG Output 60dBu<br>22KHz/DEV                    |

| TEST ITEM                  | CONDITION             | TEST STANDARD                         | NOTE  |
|----------------------------|-----------------------|---------------------------------------|---|
| TX Output<br>HI POWER      | 144.00MHz             | 50 ± 5W                               | (T)   |
|                            | 146.00MHz             | 50 ± 3W                               |   |
|                            | 148.00MHz             | 50 ± 5W                               |   |
| TX Output<br>MID POWER     | 146.00MHz             | 10 ± 2W                               |   |
| TX Output<br>LOW POWER     | 146.00MHz             | 5 ± 1W                                |   |
| Drain Current              | 146.00MHz             | Less than<br>10A                      |   |
| Spurious                   | 144.00MHz             | More than 55dB                        | M and L standard power is<br>also the<br>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<br>4.5 ± 0.2KHz/DEV | MIC IN 4mV <sub>eff</sub><br>MIC IN 40mV <sub>eff</sub>           |
|                            | 146.00MHz<br>NARROW   | 2.2 ± 0.3KHz/DEV                      | MIC IN 40mV <sub>eff</sub>  |
| CTCSS<br>Modulation Level  | 146.00MHz             | 800 ± 400Hz/DEV                       | 88.5Hz<br>3KHz LPF ON   |
|                            | 146.00MHz<br>(narrow) | 450 ± 200Hz/DEV                       |   |
| DCS Modulation<br>Level    | 146.00MHz             | 800 ± 200Hz/DEV                       | Code 255<br>3KHz LPF ON   |
|                            | 146.00MHz<br>(narrow) | 450 ± 200Hz/DEV                       |   |
| 1750Hz<br>Modulation Level | 146.00MHz             | 3.0 ± 0.5<br>KHz/DEV                  |   |
| Modulation<br>Distortion   | 146.00MHz             | Less than 4%                          |   |
| TX S/N                     | 146.00MHz             | More than 38dB                        | 0.3 ~ 3KHz BPF ON   |

## 6) UHF Test Specification

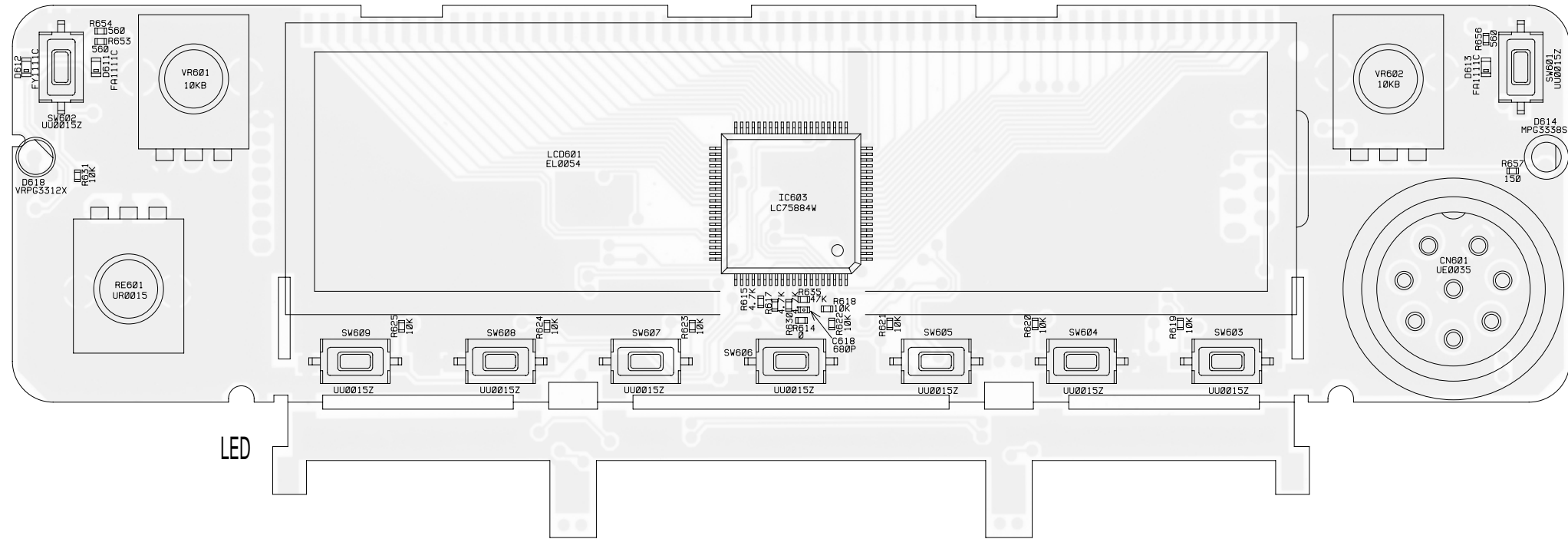
| TEST ITEM           | CONDITION                       | TEST STANDARD                              | NOTE  |
|---------------------|---------------------------------|--|---|
| RX Sensitivity      | 400.05MHz                       | Less than -3dBu                            | 12dBSINAD                                     |
|                     | 440.05MHz                       | Less than -7dBu                            |   |
|                     | 479.95MHz                       | Less than -5dBu                            |   |
|                     | 850.05MHz                       | Less than 10dBu                            |   |
|                     | 380.05MHz                       | Less than 2dBu                             |   |
|                     | 440.05MHzSUB                    | Less than -4dBu                            |   |
| RX Distortion       | 440.05MHz                       | Less than 5%                               | SSG out 60dBu                                 |
| RX S/N              | 440.05MHz                       | More than 38dB                             | SSG out 60dBu<br>0.3 ~ 3KHzBPF OFF            |
| Squelch Sensitivity | 440.05MHz                       | Squelch Open                               | SSG Output -10dBu                             |
|                     | Indication 02                   | Squelch Close                              | SSG Output OFF                                |
| S Meter             | 440.05MHz<br>1KHz<br>3.5KHz/DEV | All appears at 23dBu<br>Disappear at -3dBu | Decrease SSG level and decrease S Meter level |
| AF Output           | 440.05MHz                       | More than 2W                               | SSG Output 60dBu                              |
| AF Output NARROW    | 440.05MHz<br>NARROW             | More than Normal Mode.                     | SSG Output 60dBu                              |

| 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           | 10 ± 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                     |                                 |
|                         | 440.00MHz           | More than 60dB                     |                                 |
|                         | 450.00MHz           | More than 60dB                     |                                 |
| Modulation Level        | 440.00MHz           | 3.0 0.5KHz/DEV<br>4.5 ± 0.2KHz/DEV | MIC IN 4mVemf<br>MIC IN 40mVemf |
|                         | 440.00MHz<br>NARROW | 2.2 ± 0.3KHz/DEV                   | MIC IN 40mVemf                  |
| CTCSS Modulation Level  | 440.00MHz           | 800 ± 400Hz/DEV                    | 88.5Hz<br>3KHz LPF ON           |
| DCS Modulation Level    | 440.00MHz           | 800 ± 200Hz/DEV                    | Code 255<br>3KHz LPF ON         |
| 1750Hz Modulation Level | 440.00MHz           | 3.0 ± 0.5KHz/DEV                   |                                 |
| Modulation Distortion   | 440.00MHz           | Less than 4%                       |                                 |
| TX S/N                  |                     | More than 38dB                     | 0.3 -3KHz BPF ON                |



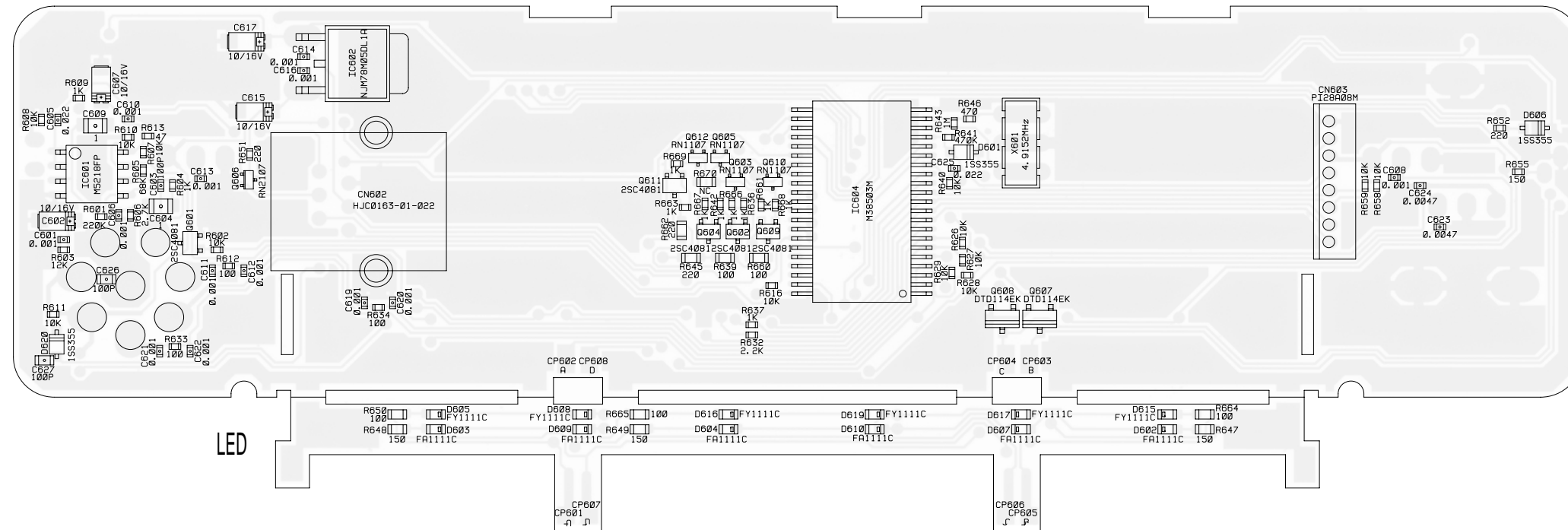
# PC BOARD VIEW

## 1) Front Side A



## 2) Front Side B

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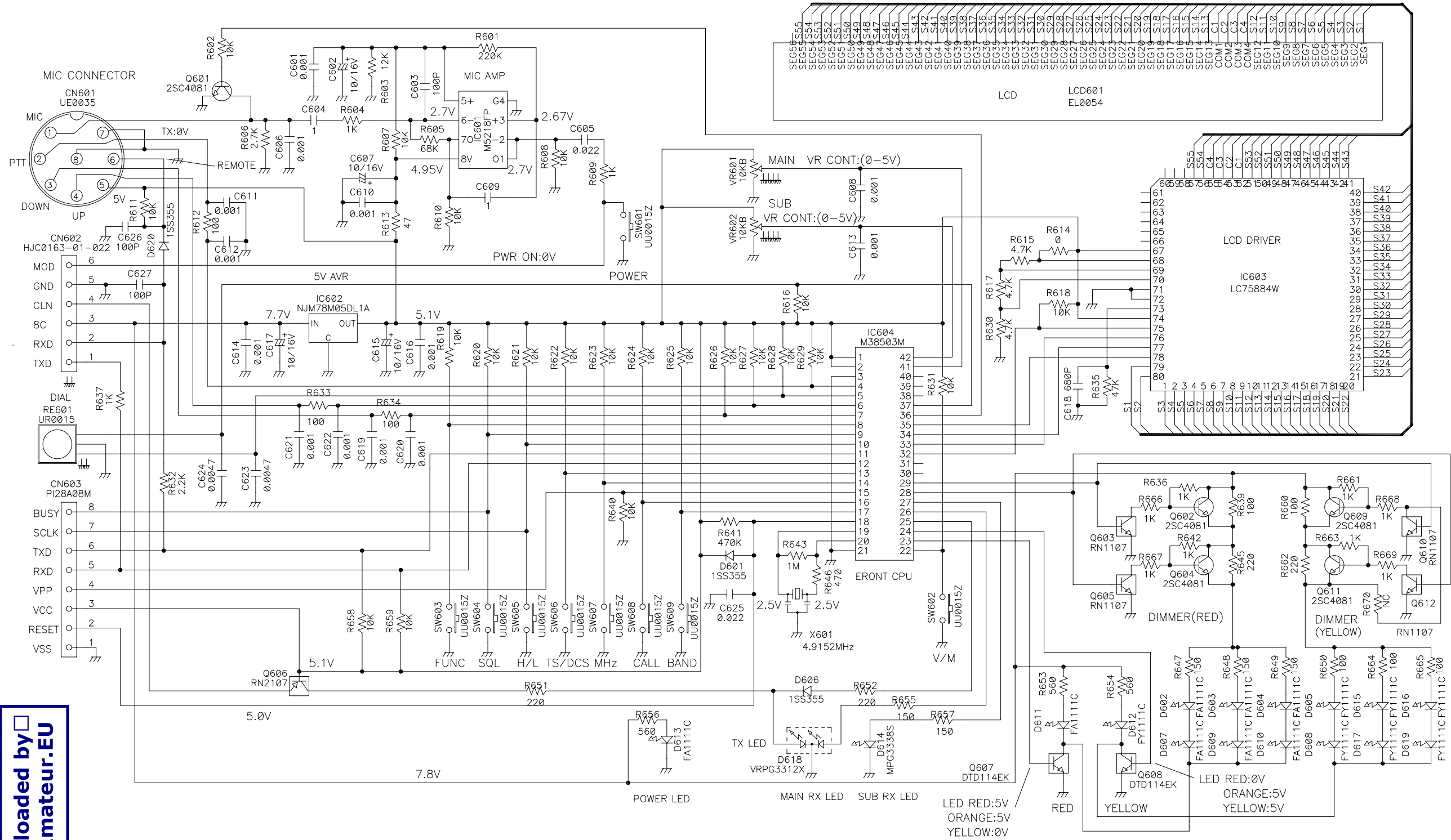




#### 4) Main Side B



# FRONT SCHEMATIC DIAGRAM

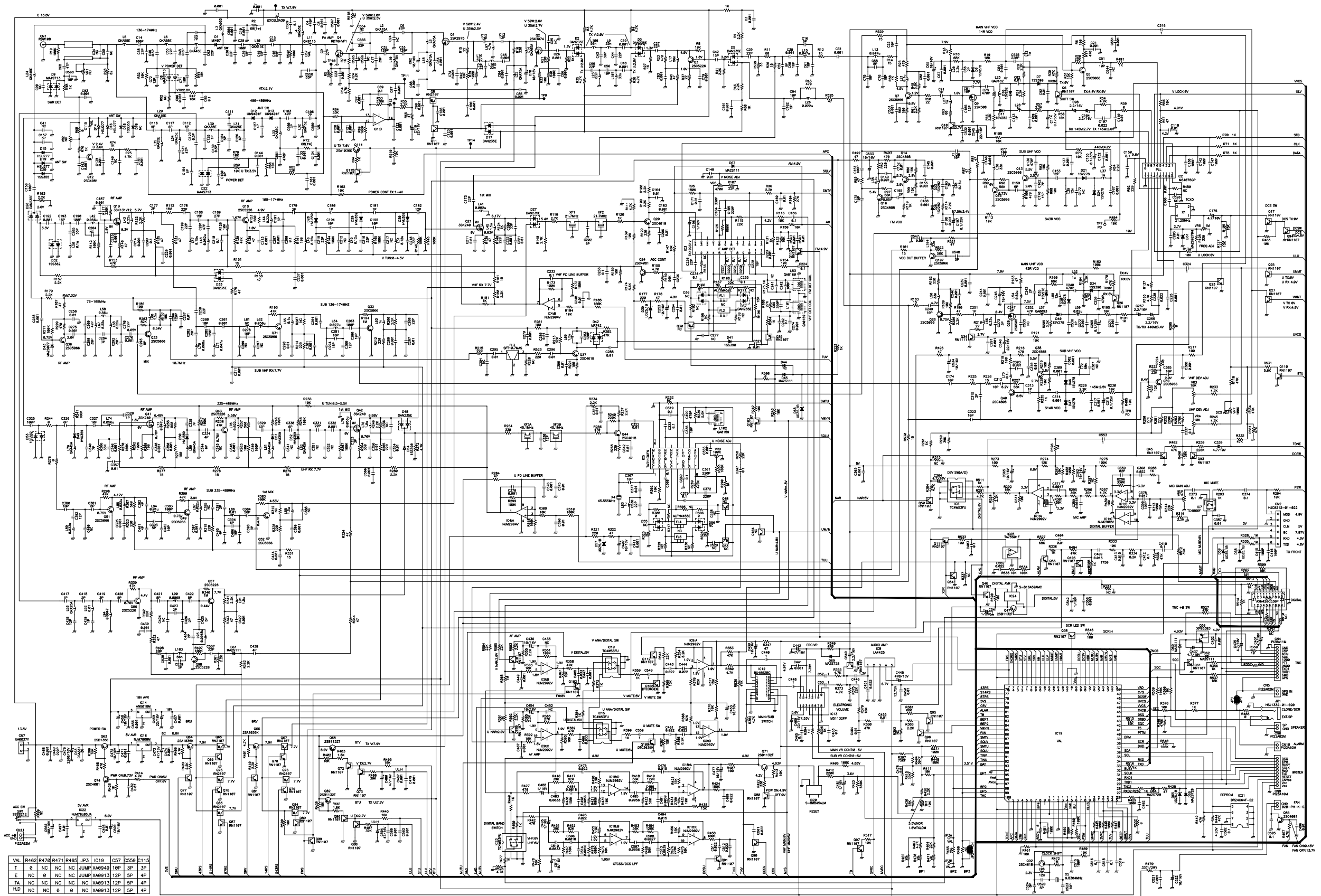


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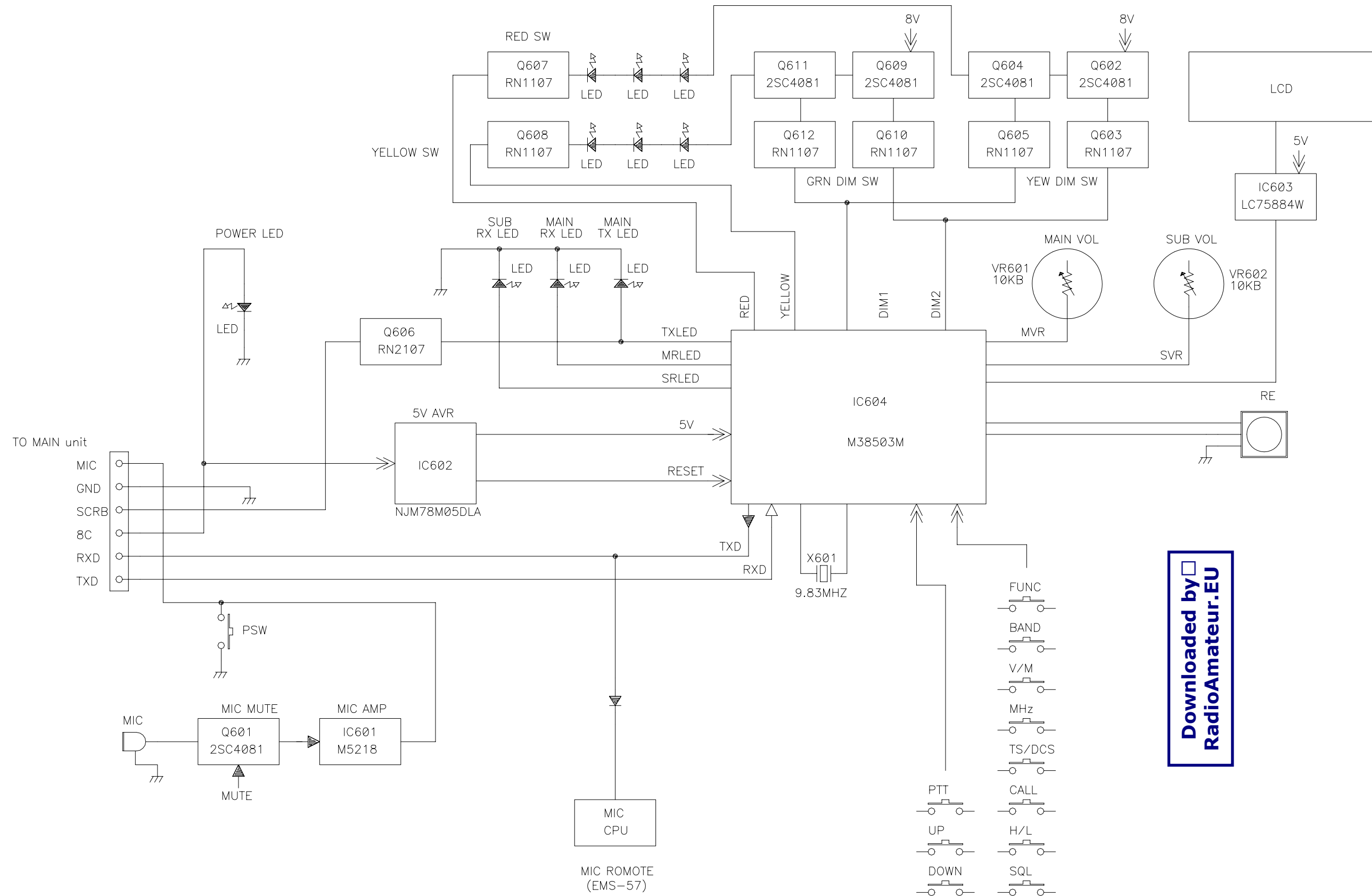


# MAIN SCHEMATIC DIAGRAM

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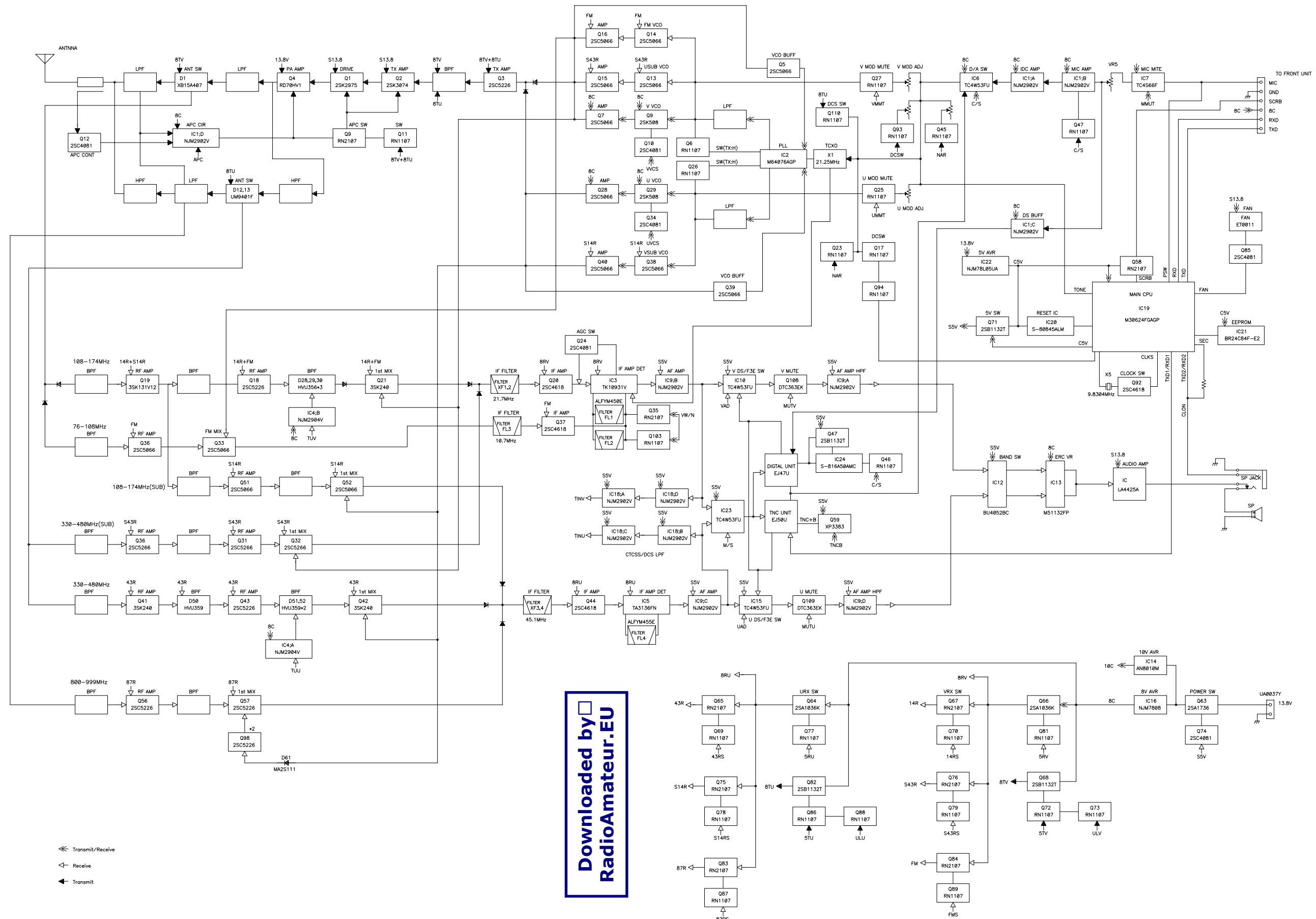


# FRONT BLOCK DIAGRAM



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# MAIN BLOCK DIAGRAM



← Transmit/Receive  
 ← Receive  
 ← Transmit

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