YAESU

FM TRANSCEIVER

FT-2800M

Technical Supplement

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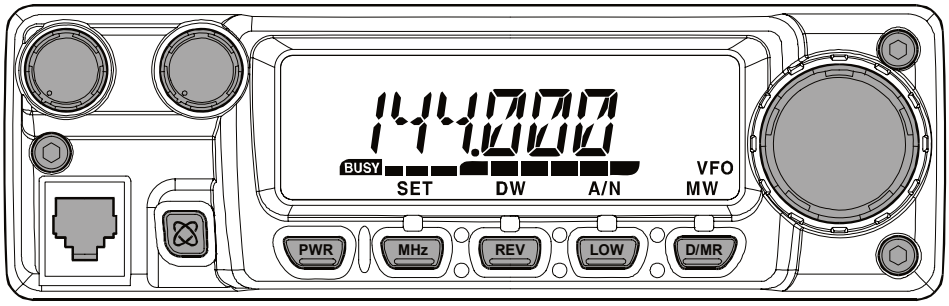
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Introduction

This manual provides technical information necessary for servicing the FT-2800M FM Transceiver.

Servicing this equipment requires expertise in handling surface-mount chip components. Attempts by non-qualified persons to service this equipment may result in permanent damage not covered by the warranty, and may be illegal in some countries.

Two PCB layout diagrams are provided for each double-sided circuit board in the Transceiver. Each side of is referred to by the type of the majority of components installed on that side ("leaded" or "chip-only"). In most cases one side has only chip components, and the other has either a mixture of both chip and leaded components (trimmers, coils, electrolytic capacitors, ICs, etc.), or leaded components only.

While we believe the technical information in this manual to be correct, VERTEX STANDARD assumes no liability for damage that may occur as a result of typographical or other errors that may be present. Your cooperation in pointing out any inconsistencies in the technical information would be appreciated.

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Specifications

General

Frequency Range:	Tx 144 - 146 MHz or 144 - 148 MHz Rx 144 - 146 MHz or 137 - 174 MHz
Channel Step:	5/10/12.5/15/20/25/50/100 kHz
Standard Repeater Shift:	±600 kHz
Frequency Stability:	Better than ±10 ppm [–4 °F to +140 °F (–20 °C to +60 °C)]
Modes of Emission:	F2/F3
Antenna Impedance:	50 Ohms, unbalanced
Supply voltage:	13.8 V DC ±15%, negative ground
Current Consumption (typical):	Rx: less than 0.7 A, less than 0.3 A (squelched) Tx: 10 A (65 W)/7 A (25 W)/5 A (10 W)/4 A (5 W)
Operating Temperature Range:	–4° F to +140° F (–20° C to +60° C)
Case Size (WxHxD):	6.3” x 2.0” x 7.3” (160 x 50 x 185 mm) (w/o knobs)
Weight (Approx.):	4.0 lb (1.8 kg)

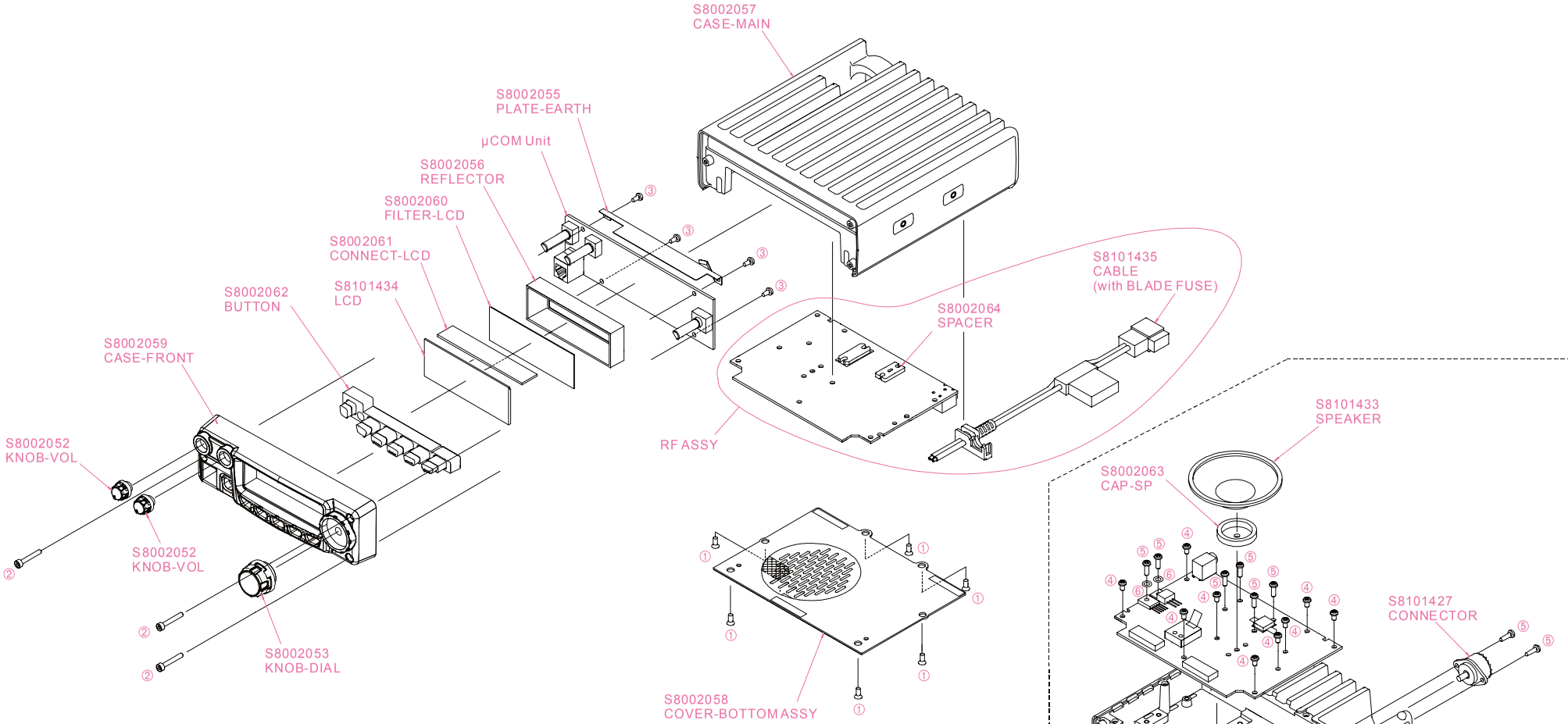
Transmitter

Output Power:	65 W/25 W/10 W/5 W
Modulation Type:	Variable Reactance
Maximum Deviation:	±5 kHz/±2.5 kHz
Spurious Radiation:	Better than –60 dB
Microphone Impedance:	2000 Ohms

Receiver

Circuit Type:	Double Conversion Superheterodyne
Ifs:	21.7 MHz & 450 kHz
Sensitivity (for 12dB SINAD):	Better than 0.2 µV
Selectivity (–6/–60dB):	12 kHz/28 kHz
IF Rejection:	Better than 70 dB
Image Rejection:	Better than 70 dB
Maximum AF Output:	3 W into 4 Ohms @10 % THD

Specifications subject to change without notice or obligation. Specifications guaranteed only within Amateur band

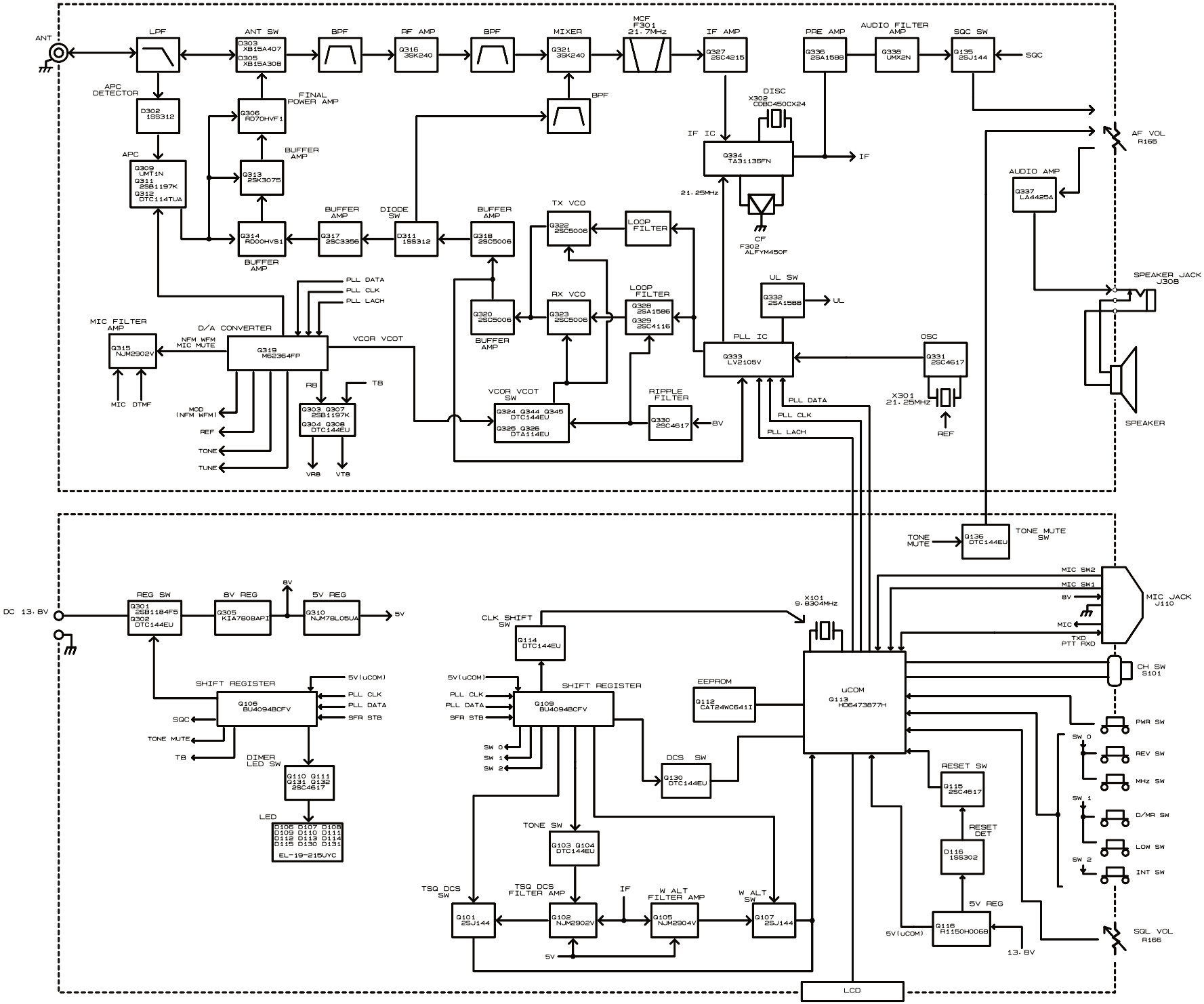


Screw List			
REF.	VXSTD P/N	Description	Qty.
①	U30308007	FLAT HEAD SCREW M3x8B	6
②	S8002065	BOLT CAP M3x20 BZC	3
③	S8002066	TAPTITE SCREW 3x8ZC	4
④	U44306001	TAPTITE SCREW M3x6	9
⑤	S8002067	TAPTITE SCREW 3x10ZC	8
⑥	S8002068	WASHER-PLAIN	2

Accessories	
Description	VXSTD P/N
FOOT	S8002050
BRACKET	S8002051
BLADE FUSE ATC 15A	Q0000075
CABLE ND-A35-2500CB	S8101436
MIC MH48A6J	AAA43X001

Exploded View & Miscellaneous Parts

Note


ANT
LPF
ANT SW
D303 XB15A407
D305 XB15A308
BPF
RF AMP
Q316 3SK240
BPF
MIXER
Q321 3SK240
MCF F301 21.7MHz
IF AMP
Q327 2SC4215
PRE AMP
Q336 2SA1588
AUDIO FILTER AMP
Q338 UMX2N
SQC SW
Q135 2SJ144
SQC
APC DETECTOR
D302 1SS312
FINAL POWER AMP
Q306 RD70HVF1
BPF
DISC
X302 CDBC450CX24
IF IC
Q334 TA31136FN
IF
21.25MHz
CF F302 ALFYM450F
APC
Q309 UMT1N
Q311 2SB1197K
Q312 DTC114TUA
BUFFER AMP
Q313 2SK3075
BUFFER AMP
Q314 RD00HVS1
BUFFER AMP
Q317 2SC3356
DIODE SW
D311 1SS312
BUFFER AMP
Q318 2SC5006
TX VCO
Q322 2SC5006
LOOP FILTER
AF VOL R165
AUDIO AMP
Q337 LA4425A
SPEAKER JACK J308
SPEAKER
PLL DATA
PLL CLK
PLL LACH
RX VCO
Q323 2SC5006
LOOP FILTER
Q328 2SA1586
Q329 2SC4116
UL SW
Q332 2SA1588
UL
MIC FILTER AMP
Q315 NJM2902V
MIC
DTMF
D/A CONVERTER
NFM WFM MIC MUTE
Q319 M62364FP
VCOR VCOT
Q320 2SC5006
BUFFER AMP
PLL IC
Q333 LV2105V
OSC
Q331 2SC4617
X301 21.25MHz
REF
MOD (NFM WFM)
REF
TONE
TUNE
RB
TB
Q303 Q307 2SB1197K
Q304 Q308 DTC144EU
VRB
VTB
VCOR VCOT SW
Q324 Q344 Q345 DTC144EU
Q325 Q326 DTA114EU
RIPPLE FILTER
Q330 2SC4617
8V
PLL DATA
PLL CLK
PLL LACH
TONE MUTE
Q136 DTC144EU
TONE MUTE SW
MIC SW2
MIC SW1
8V
MIC
TXD
PTT RXD
MIC JACK J110
CH SW S101
DC 13.8V
REG SW
Q301 2SB1184F5
Q302 DTC144EU
8V REG
Q305 KIA7808API
8V
5V REG
Q310 NJM78L05UA
5V
X101 9.6304MHz
CLK SHIFT SW
Q114 DTC144EU
SHIFT REGISTER
Q106 BU4094BCFV
5V(uCOM)
PLL CLK
PLL DATA
SFR STB
SQC
TONE MUTE
TB
DIMER LED SW
Q110 Q111 Q131 Q132 2SC4617
LED
D106 D107 D108 D109 D110 D111 D112 D113 D114 D115 D130 D131
EL-19-215UYC
SHIFT REGISTER
Q109 BU4094BCFV
5V(uCOM)
PLL CLK
PLL DATA
SFR STB
SW 0
SW 1
SW 2
EEPROM
Q112 CAT24WC641I
uCOM Q113 HD6473877H
DCS SW
Q130 DTC144EU
TONE SW
Q103 Q104 DTC144EU
TSQ DCS SW
Q101 2SJ144
TSQ DCS FILTER AMP
Q102 NJM2902V
IF
W ALT FILTER AMP
Q105 NJM2904V
W ALT SW
Q107 2SJ144
5V
LCD
RESET SW
Q115 2SC4617
RESET DET
D116 1SS302
5V REG
Q116 R1150H005B
5V(uCOM)
13.8V
SQL VOL R166
PWR SW
REV SW
MHz SW
SW 0
D/MR SW
LOW SW
INT SW
SW 1
SW 2

Block Diagram

Note

Reception and transmission are switched by "RX" and "TX" lines from the microprocessor unit (MPU). The receiver uses double-conversion superheterodyne circuitry, with a 21.7 MHz 1st IF and 450 kHz 2nd IF. The 1st local, produced by a PLL synthesizer, yields the 21.7 MHz 1st IF.

The 2nd local uses a 21.250 MHz (21.7 MHz - 450 kHz) signal generated by a crystal oscillator. The 2nd mixer and other circuits use a custom IC to convert and amplify the 2nd IF, and detect FM to obtain demodulated signals.

During transmit, the PLL synthesizer oscillates at the desired frequency directly, for amplification to obtain RF power output. During transmit, voice modulation and CTCSS (or DCS) modulation are applied to this synthesizer. Transceiver functions, such as TX/RX control, PLL synthesizer settings, and channel programming, are controlled using the MPU.

Receiver

Incoming RF signals from the antenna connector are delivered to the RF Unit, and pass through a lowpass filter (LPF) consisting of coils L303, L305, and L307, capacitors C303, C309, C310, and C316, and antenna switching diodes **D305** and **D306** (Both **MA111**) for delivery to the receiver front end.

Signals within the frequency range of the transceiver are then passed through a varactor-tuned bandpass filter consisting of diodes **D308**, **D322**, **D310** and **D323** (all **HVC3508**), and coils L334, L335, L320 and L322 and associated circuitry before RF amplification by **Q316** (**3SK240**).

The amplified RF signal is then bandpass filtered again by varactor-tuned resonators consisting of diodes **D312**, **D324**, **D313** and **D325** (all **HVC3508**), and coils L336, L337, L325 and L327 and associated circuitry, to ensure pure in-band input to 1st mixer **Q321** (**3SK240**).

Buffered output from the VCO Unit is amplified by **Q318** (**2SC5006**) and lowpass-filtered by L339, C414, and C413, to provide a pure 1st local signal between 112.3 and 152.3 MHz, which is delivered to the 1st mixer.

The 21.7 MHz 1st mixer product then passes through dual monolithic crystal filter F301 (7.5 kHz BW), and is amplified by **Q327** (**2SC4215Y**) and delivered to the input of the FM IF subsystem IC **Q334** (**TA31136FN**).

This IC contains the 2nd mixer, 2nd local oscillator, limiter amplifier, FM detector, noise amplifier, S-meter amplifier and squelch gates.

The 2nd local in the IF-IC is produced from crystal **X302** (21.250 MHz), and the 1st IF is converted to 450 kHz by the 2nd mixer and stripped of unwanted components by ceramic filter **F302**. After passing through a limiter amplifier, the signal is demodulated by the FM detector.

Demodulated receive audio from the IF-IC is amplified by **Q336** (**2SA1588Y**) and **Q338** (**UMX2M**). After volume adjustment by the AF power amplifier **Q337** (**LA4425A**), the audio signal is passed to the optional headphone or 8-ohm loudspeaker.

PLL Synthesizer

The 1st local maintains stability from the PLL synthesizer by using a 21.250 MHz reference signal from crystal **X301**. PLL synthesizer IC **Q333** (**LV2105V**) consists of a prescaler, reference counter, swallow counter, programmable counter, a serial data input port to set these counters based on external data, a phase comparator, and a charge pump.

The PLL-IC divides the 21.250 MHz reference signal by 4,250 using the reference counter (5.0 kHz comparison frequency). The VCO output is divided by the prescaler, swallow counter and programmable counter. These two signals are compared by the phase comparator and applied to the charge pump. A voltage proportional to their phase difference is delivered to the low-pass filter circuit, then fed back to the VCO as a voltage with phase error, controlling and stabilizing the oscillating frequency. This synthesizer also operates as a modulator during transmit.

The RX VCO is comprised of **Q323** (**2SC5006**) and **D314**/**D326** (Both 1SV282), and oscillates at 21.7 MHz during receive.

The TX VCO is comprised of **Q322** (**2SC5006**) and **D316**/**D327** (Both **1SV282**) and oscillates at the fundamental frequency during transmit, with direct frequency-modulation using varactor diode **D315** (**1SV214**).

The VCO output passes through buffer amplifier **Q320** (**2SC5005**), and a portion is fed to the PLL IC, and at the same time is amplified by **Q318** (**2SC5006**) to obtain stable output. Synthesizer output is fed to the 1st mixer by diode switch **D311** (**1SS321**) during receive, and to pri-drive amplifier **Q317** (**2SC3356**) for transmit.

The reference oscillator feeds the PLL synthesizer, and is composed of crystal **X301** (21.250 MHz) and transmit (DCS) modulation circuit **D317** (**HVC350B**).

The VCO DC supply is regulated by **Q330** (**2SC4617**).

Circuit Description

Transmitter

The speech signal from the microphone is delivered via the MIC Jack to the RF Unit; after passing through **Q315** (**NJM2902V**) which consists of amplifier, pre-emphasis, limiter (IDC instantaneous deviation control) and lowpass filter, to **Q319** (**M6364FP**) which is adjusted for optimum deviation level and delivered to the TX VCO **Q322**.

The speech signal from the microphone and CTCSS are FM modulated by the TX VCO of the synthesizer, while DCS audio is modulated by the reference frequency oscillator of the synthesizer.

Synthesizer output, after passing through diode switch **D311** (**1SS321**), is amplified by pri- drivers **Q317** (**2SC3356**) and **Q314** (**RD00HVS1**), driver **Q313** (**2SK3075**), and power amplifier **Q305** (**RD70HVS1**) to obtain full RF output. The RF energy then passes through antenna switch **D303** (**XB15A407**) and a lowpass filter circuit and finally to the antenna connector.

RF output power from the final amplifier is sampled by C318 and C324 and is rectified by **D302** (**1SS321**).

The resulting DC is fed through Automatic Power Controller **Q309** (**UMT1N**), **Q312** (**DTC114**), and **Q311** (**2SB1197**) to transmitter RF amplifier **Q305** and is used to provide control of the power output.

Generation of spurious products by the transmitter is minimized by the fundamental carrier frequency being equal to the final transmitting frequency, modulated directly in the transmit VCO.

Additionally harmonic suppression is provided by a lowpass filter consisting of L303, L305, C303, C309, C310, and C316, resulting in more than 60 dB of harmonic suppression prior to delivery of the RF

Introduction and Precautions

The FT-2800M has been carefully aligned at the factory for the specified performance at the 144 MHz amateur band. Realignment should therefore not be necessary except in the event of a component failure. All component replacement and service should be performed only by an authorized Vertex Standard representative, or the warranty policy may be voided.

The following procedures cover the sometimes critical and tedious adjustments that are not normally required once the transceiver has left the factory. However, if damage occurs and some parts are replaced, realignment may be required. If a sudden problem occurs during normal operation, it is likely due to component failure; realignment should not be done until after the faulty component has been replaced.

We recommend that servicing be performed only by authorized Vertex Standard service technicians who are experienced with the circuitry and fully equipped for repair and alignment. Therefore, if a fault is suspected, contact the dealer from whom the transceiver was purchased for instructions regarding repair. Authorized Vertex Standard service technicians realign all circuits and make complete performance checks to ensure compliance with factory specifications after replacing any faulty components.

Those who do undertake any of the following alignments are cautioned to proceed at their own risk. Problems caused by unauthorized attempts at realignment are not covered by the warranty policy. Also, Vertex Standard must reserve the right to change circuits and alignment procedures in the interest of improved performance, without notifying owners.

Under no circumstances should any alignment be attempted unless the normal function and operation of the transceiver are clearly understood, the cause of the malfunction has been clearly pinpointed and any faulty components replaced, and the need for realignment determined to be absolutely necessary.

Required Test Equipment

The following test equipment (and thorough familiarity with its correct use) is necessary for complete realignment. Correction of problems caused by misalignment resulting from use of improper test equipment is not covered under the warranty policy. While most steps do not require all of the equipment listed, the interactions of some adjustments may require that more complex adjustments be performed afterwards. Do not attempt to perform only a single step unless it is clearly isolated electrically from all other steps. Have all test equipment ready before beginning, and follow all of the steps in a section in the order presented.

- ❒ Regulated DC Power Supply: adjustable from 10 to 17 VDC, 15 A
- ❒ RF Signal Generator with calibrated output level at 200 MHz
- ❒ Frequency Counter: ±0.1 ppm accuracy at 200 MHz
- ❒ AF Signal Generator
- ❒ SINAD Meter
- ❒ Deviation Meter (linear detector)
- ❒ AF Milivoltmeter
- ❒ AF Dummy Load: 8-Ohm, 5 W
- ❒ DC Voltmeter: high impedance
- ❒ Inline Wattmeter with 5% accuracy at 200 MHz
- ❒ 50-Ohm non-reactive Dummy Load:
- ❒ 100 watts at 200 MHz
- ❒ VHF Sampling Coupler

Set up the test equipment as shown for the transceiver alignment, and apply 13.8 VDC power to the transceiver.

Alignment Preparation & Precautions

A dummy load and inline wattmeter must be connected to the antenna jack in all procedures that call for transmission, except where specified otherwise. Correct alignment is not possible with an antenna. After completing one step, read the following step to determine whether the same test equipment will be required. If not, remove the test equipment (except dummy load and wattmeter, if connected) before proceeding.

Correct alignment requires that the ambient temperature in the repair shop be the same as that of the transceiver and test equipment, and that this temperature be held constant between 68 °C and 86 °F (20 °C ~ 30 °C). When the transceiver is brought into the shop from hot or cold air it should be allowed some time for thermal equalization with the environment before alignment. If possible, alignments should be made with oscillator shields and circuit boards firmly affixed in place. Also, the test equipment must be thoroughly warmed up before beginning.

Notes: Signal levels in dB referred to in alignment are based on 0 dBμ = 0.5 μV.

Alignment

Entering the Alignment mode

Alignment of the FT-2800M is performed using a front-panel software-based procedure. To perform alignment of the transceiver, it must first be placed in the "Alignment Mode," in which the adjustments will be made and then stored into memory.

To enter the Alignment mode:

1. Press and hold in the [**LOW**] key and [**D/MR**] key while turning the radio on. Once the radio is on, release these two keys.
2. Press and hold the [**MHz**] key for one second to activate the "Set" (Menu) mode.
3. Rotate the **DIAL** knob to select "**35 D/ASMT**," then press the [**MHz**] key.
4. You will now note the appearance of "**REF**" on the display, this signifies that the transceiver is now in the "Alignment mode."

PLL Reference Frequency (REF)

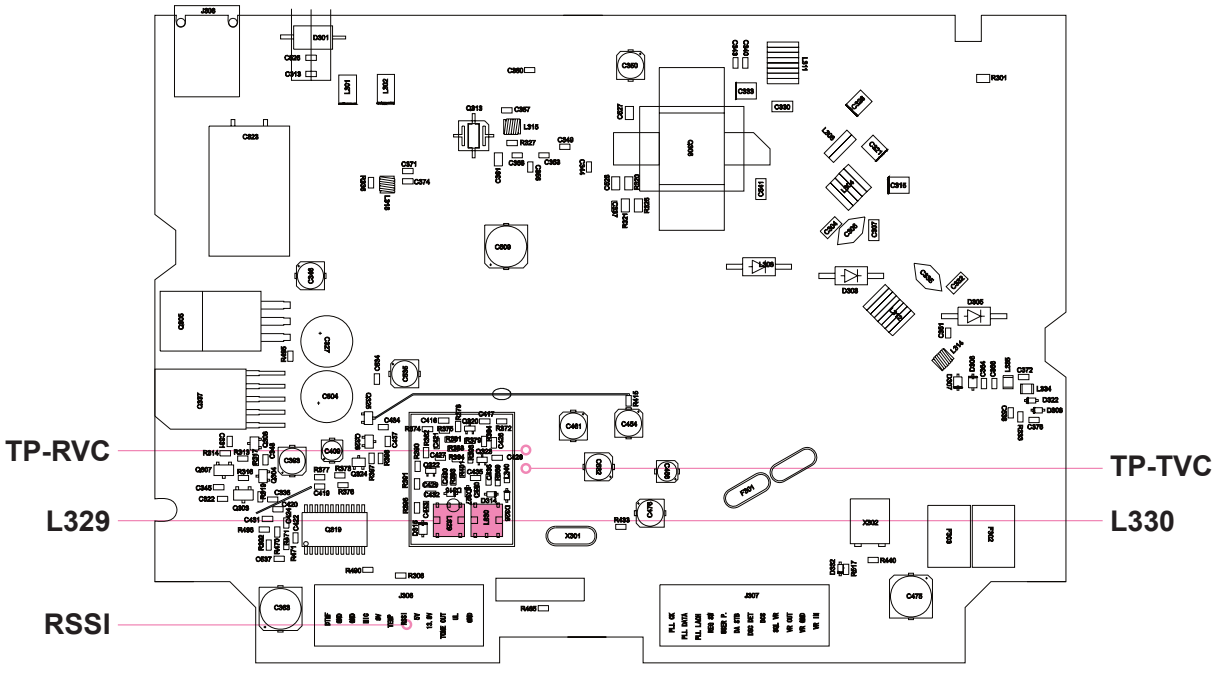
1. Tune the transceiver to 146.000 MHz.
2. Set the transceiver to Alignment mode, then rotate the **DIAL** knob to set the Alignment parameter to "**REF**."
3. Press the **PTT** switch to activate the transmitter, and press the [**REV**] or [**D/MR**] key, as needed, so that the counter frequency reading is 146.000 MHz.
4. Press and hold the [**LOW**] key for one second to save the new setting.
5. Press and hold the [**MHz**] key for one second to exit to the normal operation.

PLL VCO

1. Connect the DC voltmeter to **TP-RVC** on the RF Unit.
2. Tune the frequency to 146.000 MHz.
3. Adjust **L330** on the RF Unit for 1.5 V on the DC voltmeter.
4. Connect the DC voltmeter to **TP-TVC** on the RF Unit.
5. Press the **PTT** switch to activate the transmitter, and adjust **L329** on the RF Unit for 1.3 V on the DC voltmeter.

RF Front-end Tuning (TUN137/TUN146/TUN160/TUN173)

1. Connect the DC voltmeter to the Test Point (**RSSI**: Pin 6 of J307) on the RF Unit.
2. Tune the transceiver to 137.050 MHz.
3. Set the transceiver to Alignment mode, then rotate the **DIAL** knob to set the Alignment parameter to "**TUN137**."
4. Inject a 137.050 MHz signal at a level of –5 dBµ (with 1 kHz modulation @ ±3.5 kHz deviation) from the RF Signal Generator.
5. Press the [**REV**] or [**D/MR**] key for maximum deflection of the DC voltmeter.
6. Press and hold the [**LOW**] key for one second to save the new setting, then press and hold the [**MHz**] key for one second to exit to the normal operation.
7. Tune the transceiver to 146.050 MHz.
8. Set the transceiver to Alignment mode, then rotate the **DIAL** knob to set the Alignment parameter to "**TUN146**."



RF UNIT ALIGNMNT POINTS

9. Inject a 146.050 MHz signal at a level of –5 dBµ (with 1 kHz modulation @ ±3.5 kHz deviation) from the RF Signal Generator.
10. Press the [**REV**] or [**D/MR**] key for maximum def4lection of the DC voltmeter and maximum deflection of the SINAD meter.
11. Press and hold the [**LOW**] key for one second to save the new setting, then press and hold the [**MHz**] key for one second to exit to the normal operation.
12. Tune the transceiver to 160.050 MHz.
13. Set the transceiver to Alignment mode, then rotate the **DIAL** knob to set the Alignment parameter to "**TUN160**."
14. Inject a 160.050 MHz signal at a level of –5 dBµ (with 1 kHz modulation @ ±3.5 kHz deviation) from the RF Signal Generator.
15. Press the [**REV**] or [**D/MR**] key for maximum deflection of the DC voltmeter voltmeter at the higher side of the bandpass filter peaks.
16. Press and hold the [**LOW**] key for one second to save the new setting, then press and hold the [**MHz**] key for one second to exit to the normal operation.
17. Tune the transceiver to 173.050 MHz.
18. Set the transceiver to Alignment mode, then rotate the **DIAL** knob to set the Alignment parameter to "**TUN173**."
19. Inject a 173.050 MHz signal at a level of –5 dBµ (with 1 kHz modulation @ ±3.5 kHz deviation) from the RF Signal Generator.
20. Press the [**REV**] or [**D/MR**] key for maximum deflection of the DC voltmeter at the higher side of the bandpass filter peaks.
21. Press and hold the [**LOW**] key for one second to save the new setting, then press and hold the [**MHz**] key for one second to exit to the normal operation.

S-Meter Sensitivity (SMTL 10/SMTL 2)

1. Set the transceiver to Alignment mode, then rotate the **DIAL** knob to set the Alignment parameter to "**SMTL 10**."
2. Inject a 146.050 MHz signal at a level of +25 dBµ (with 1 kHz modulation @ ±3.5 kHz deviation) from the RF Signal Generator.
3. Press and hold the [**LOW**] key for one second to save the new setting.
4. Rotate the **DIAL** knob one click to clockwise to set the Alignment parameter to "**SMTL 2**."
5. Reduce the RF Signal Generator output level to –5 dBµ.
6. Press and hold the [**LOW**] key for one second to save the new setting.
7. Press and hold the [**MHz**] key for one second to exit to the normal operation.

TX Power Output
(TXPW H/TXPW M/TXPW L2/TXPW L1)

1. Tune the transceiver to 146.000 MHz, and set the Transmitter Power Level to "HIGH."
2. Set the transceiver to Alignment mode, then rotate the **DIAL** knob to set the Alignment parameter to "**TXPW H**."
3. Press the **PTT** switch to activate the transmitter, and press the [**REV**] or [**D/MR**] key for 65 Watts on the wattmeter, and confirm that supply current remains below 12.5 A.
4. Press and hold the [**LOW**] key for one second to save the new setting, then rotate the **DIAL** knob one click to clockwise to set the Alignment parameter to "**TXPW M**."
5. Press the **PTT** switch to activate the transmitter, and press the [**REV**] or [**D/MR**] key for 25 Watts on the wattmeter, and confirm that supply current remains below 7.5 A.
6. Press and hold the [**LOW**] key for one second to save the new setting, then rotate the **DIAL** knob one click to clockwise to set the Alignment parameter to "**TXPWL2**."
7. Press the **PTT** switch to activate the transmitter, and press the [**REV**] or [**D/MR**] key for 10 Watts on the wattmeter, and confirm that supply current remains below 5 A.
8. Press and hold the [**LOW**] key for one second to save the new setting, then rotate the **DIAL** knob one click to clockwise to set the Alignment parameter to "**TXPWL1**."
9. Press the **PTT** switch to activate the transmitter, and press the [**REV**] or [**D/MR**] key for 5 Watts on the wattmeter, and confirm that supply current remains below 4 A.
10. Press and hold the [**LOW**] key for one second to save the new setting, then press and hold the [**MHz**] key for one second to exit to the normal operation.

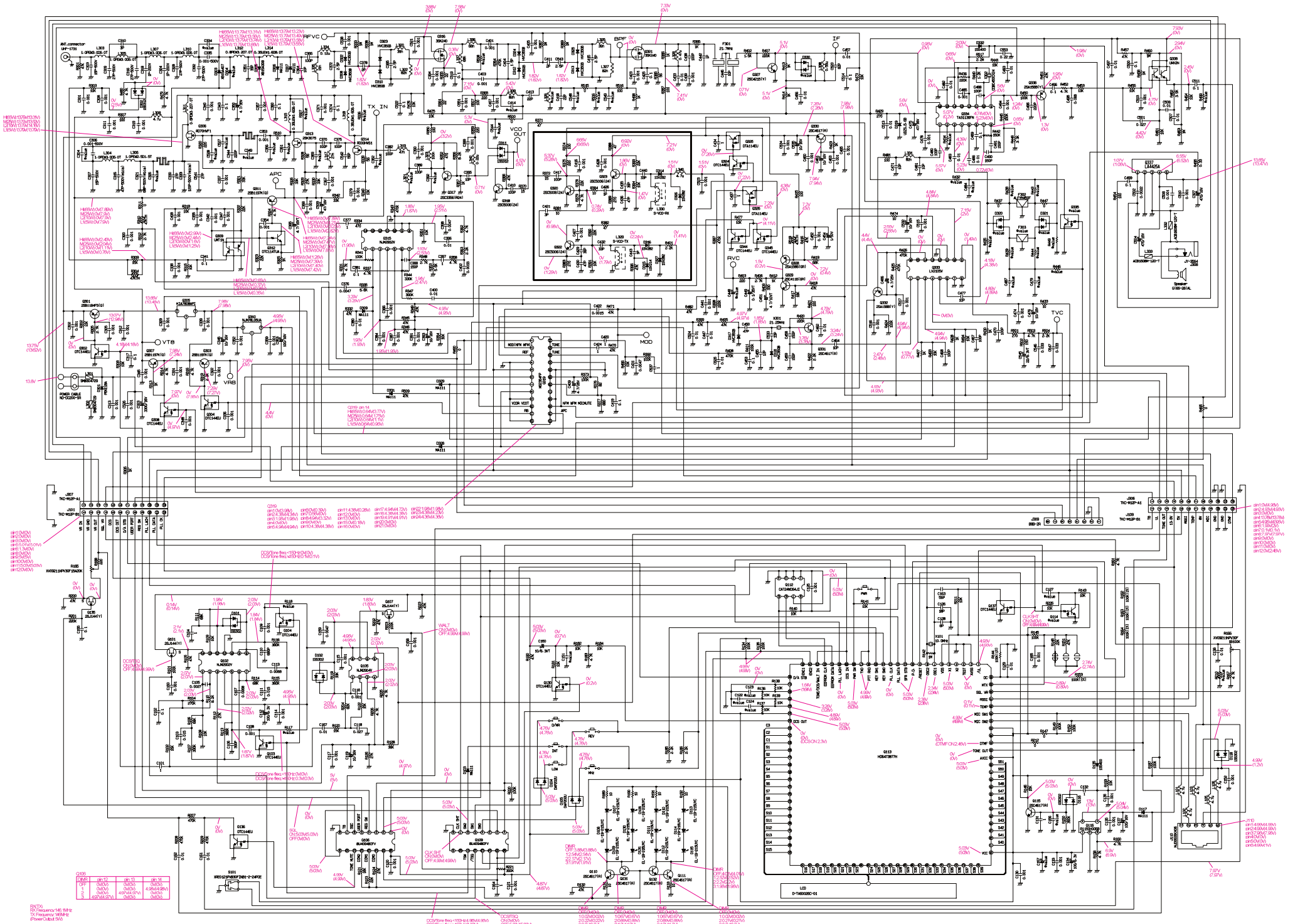
Alignment

TX Deviation (MODWFM/MODNFM)

1. Tune the transceiver to 146.000 MHz.
2. Inject a 1 kHz audio tone at a level of 60 mV from the Audio Generator.
3. Set the transceiver to Alignment mode, then rotate the **DIAL** knob to set the Alignment parameter to "**MODWFM**."
4. Press the **PTT** switch to activate the transmitter, and press the [**REV**] or [**D/MR**] key so that the deviation meter reading is 4.2 kHz.
5. Press and hold the [**LOW**] key for one second to save the new setting, then rotate the **DIAL** knob one click to clockwise to set the Alignment parameter to "**MODNFM**."
6. Press the **PTT** switch to activate the transmitter, and press the [**REV**] or [**D/MR**] key so that the deviation meter reading is 2.1 kHz.
7. Press and hold the [**LOW**] key for one second to save the new setting, then press and hold the [**MHz**] key for one second to exit to the normal operation.

CTCSS TX Deviation (TONE W/TONE N)

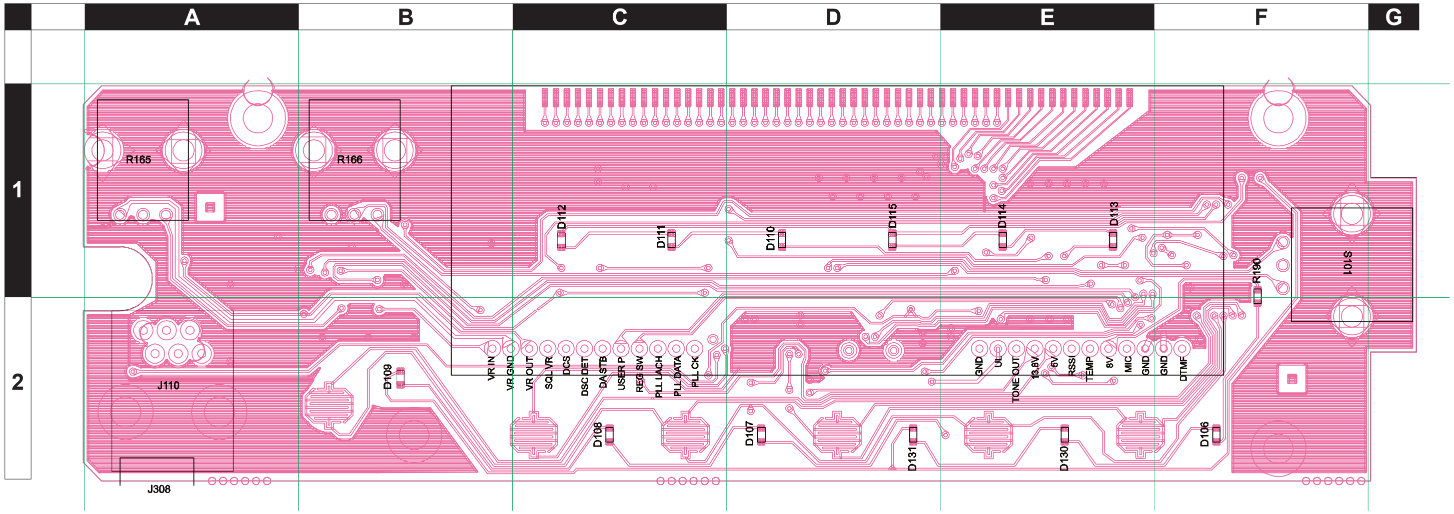
1. Tune the transceiver to 146.000 MHz.
2. Set the CTCSS tone to 100 Hz.
   - ❒ Press and hold the [**MHz**] key for one second to activate the "Set" (Menu) mode.
   - ❒ Rotate the **DIAL** knob to select "**27 SQ TNF**."
   - ❒ Press the [**MHz**] key momentarily, then rotate the **DIAL** knob to select to 100.0 (Hz).
   - ❒ Press and hold the [**MHz**] key for one second to exit to the normal operation
3. Set the transceiver to Alignment mode, then rotate the **DIAL** knob to set the Alignment parameter to "**TONE W**."
4. Press the **PTT** switch to activate the transmitter, and press the [**REV**] or [**D/MR**] key so that the deviation meter reading is 0.6 kHz.
5. Press and hold the [**LOW**] key for one second to save the new setting, then rotate the **DIAL** knob one click to counter clockwise to set the Alignment parameter to "**TONE N**."
6. Press the **PTT** switch to activate the transmitter, and press the [**REV**] or [**D/MR**] key so that the deviation meter reading is 0.3 kHz.
7. Press and hold the [**LOW**] key for one second to save the new setting, then press and hold the [**MHz**] key for one second to exit to the normal operation.



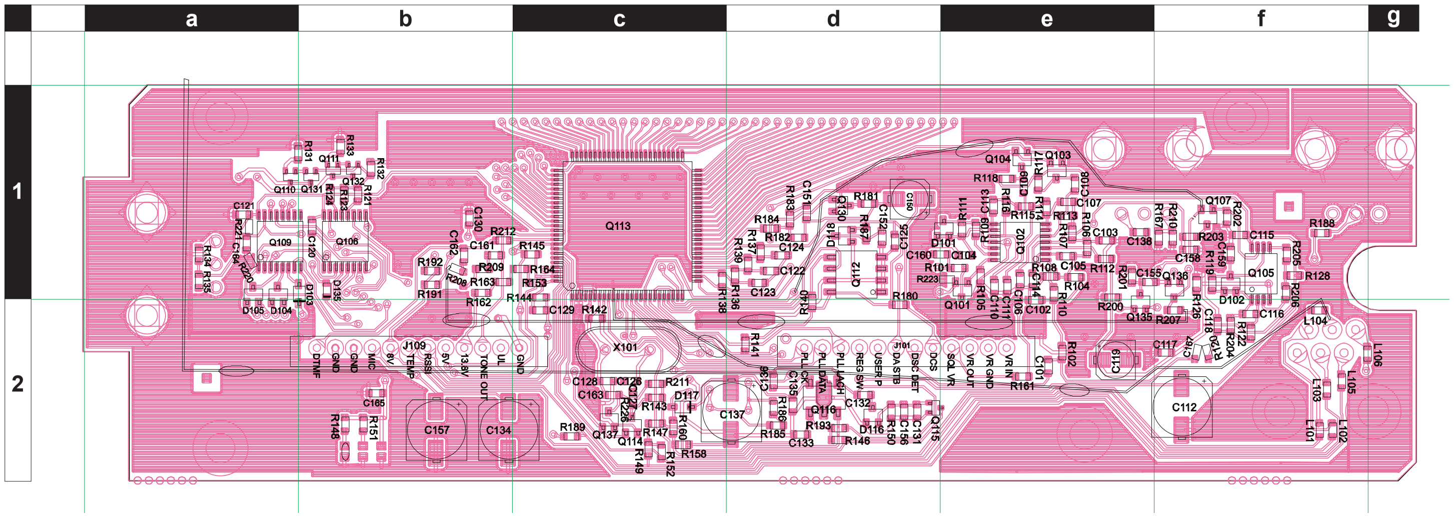
µCOM Unit /RF Unit Circuit Diagram

Note

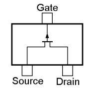
µCOM Unit Parts Layout (Lot. 1 ~ 15)



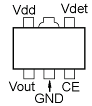
Side A



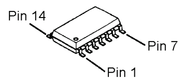
Side B



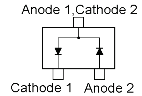
2SJ144Y (VY)
(Q101, 107, 135)



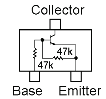
R1150H006B
(Q116)



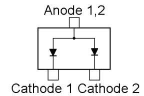
NJM2902V
(Q102)



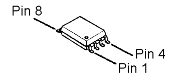
1SS302 (C3)
(D101, 102, 116, 118)



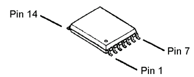
DTC144EU (26)
(Q103, 104, 130, 136, 137)



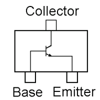
DAP202U (P)
(D104, 105)



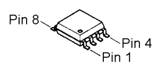
NJM2904V
(Q105)



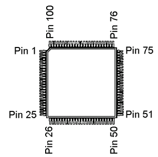
BU4094BCFV
(Q106, 109)



2SC4617R (BR)
(Q110, 111, 115, 130, 132)

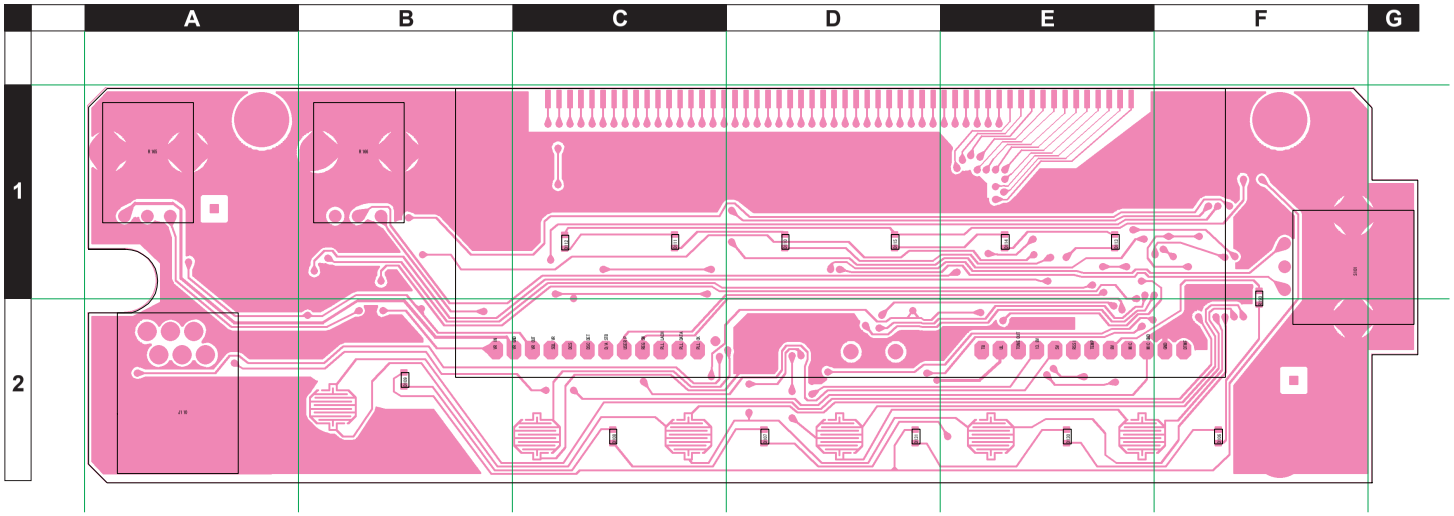


CAT24WC64JI
(Q112)

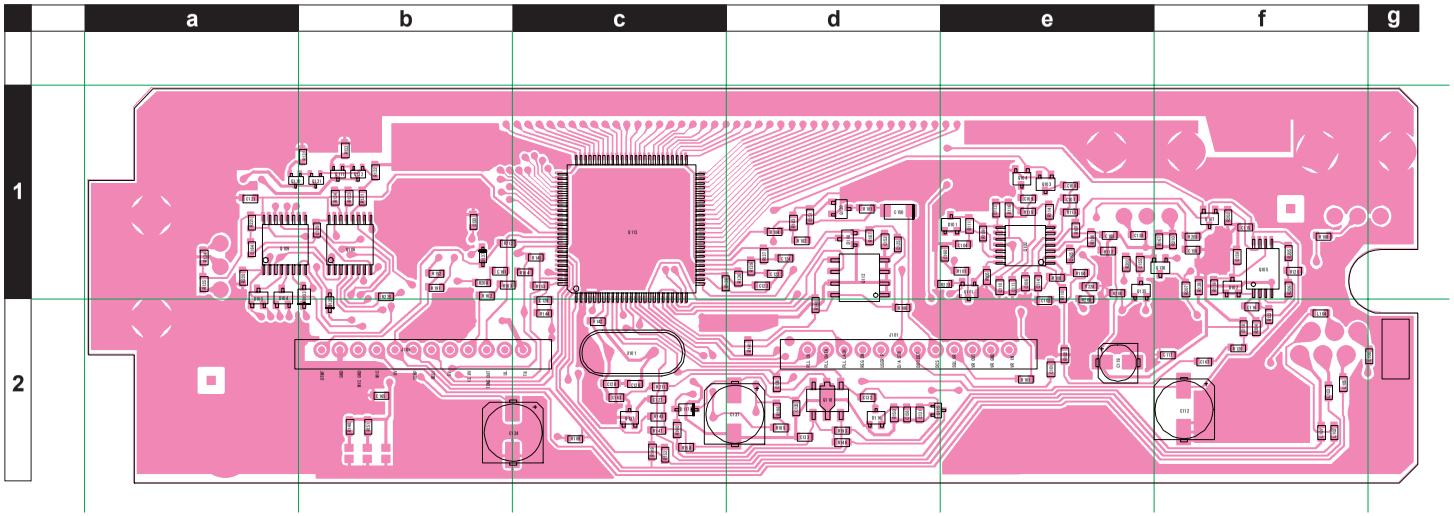


HD6473877H
(Q113)

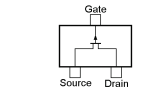
µCOM Unit Parts Layout (Lot. 16 ~ 57)



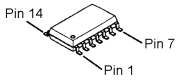
Side A



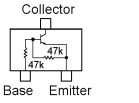
Side B



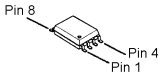
2SJ144Y (VY)
(Q101, 107, 135)



NJM2902V
(Q102)



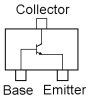
DTC144EU (26)
(Q103, 104, 130, 136, 137)



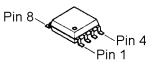
NJM2904V
(Q105)



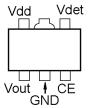
BU4094BCFV
(Q106, 109)



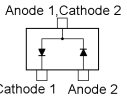
2SC4617R (BR)
(Q110, 111, 115, 130, 132)



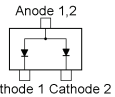
CAT24WC64JI
(Q112)



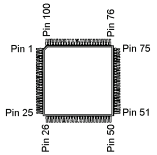
R1150H006B
(Q116)



1SS302 (C3)
(D101, 102, 116, 118)

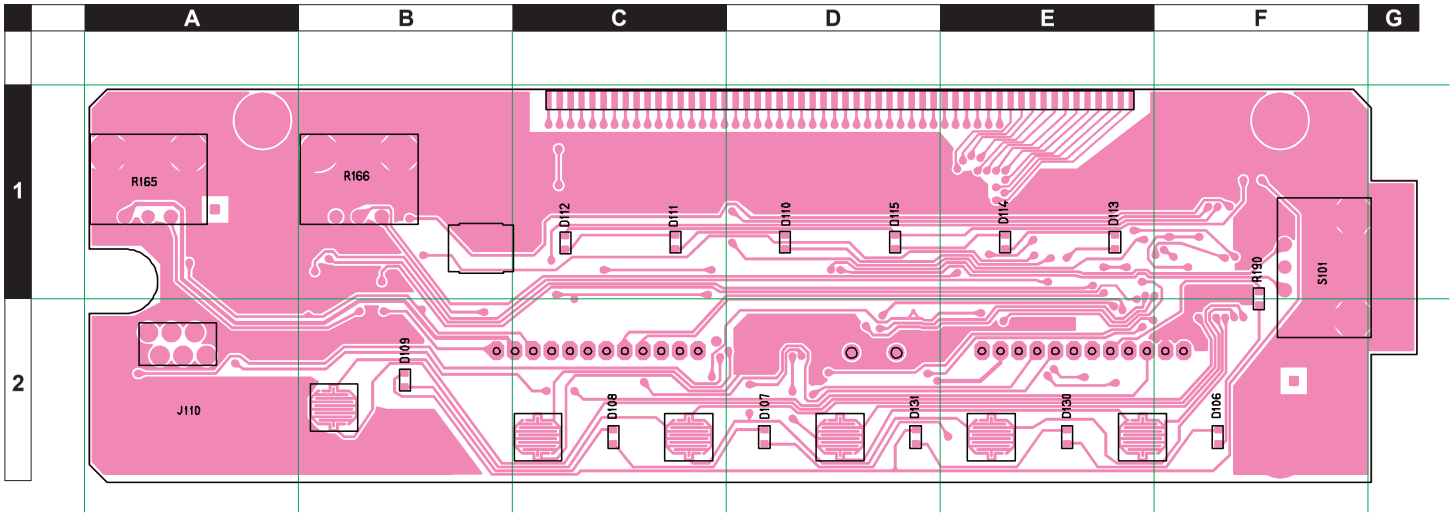


DAP202U (P)
(D104, 105)

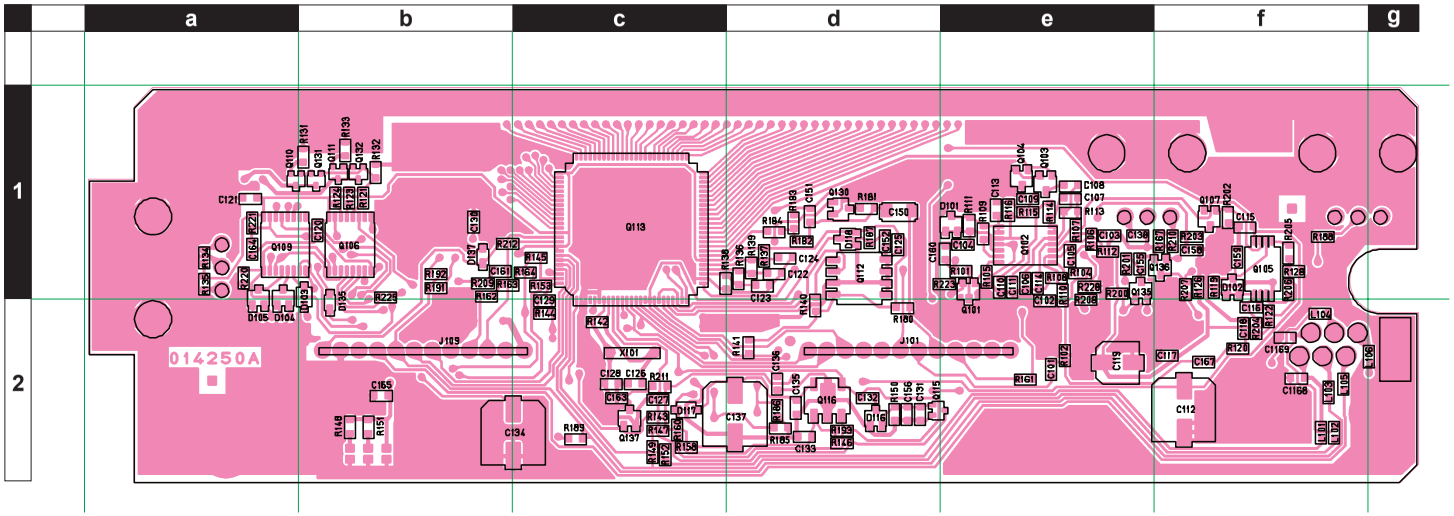


HD6473877H
(Q113)

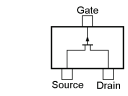
µCOM Unit Parts Layout (Lot. 58 ~)



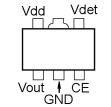
Side A



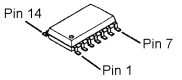
Side B



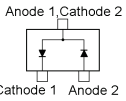
2SJ144Y (VY)
(Q101, 107, 135)



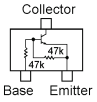
R1150H006B
(Q116)



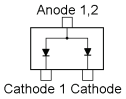
NJM2902V
(Q102)



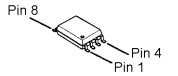
1SS302 (C3)
(D101, 102, 116, 118)



DTC144EU (26)
(Q103, 104, 130, 136, 137)



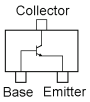
DAP202U (P)
(D104, 105)



NJM2904V
(Q105)



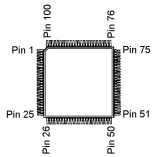
BU4094BCFV
(Q106, 109)



2SC4617R (BR)
(Q110, 111, 115, 130, 132)



CAT24WC64JI
(Q112)



HD6473877H
(Q113)

Note

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
	PCB with Components					CS1806001 CS1806002 CS1806003 CS1806004 CS1806005 CS1806006	TYPE A2 TYPE A1 TYPE A3 TYPE B1 TYPE B2 TYPE B3			
	Printed Circuit Board					S8101505 FR0142500		1- 57-		
C 101	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 102	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 103	CHIP CAP.	0.015uF	50V	B	GRM188B11H153KA01D	S8101391		1-		
C 104	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 105	CHIP CAP.	0.0027uF	50V	B	GRM188B11H272KA01D	K22174829		1-		
C 106	CHIP CAP.	390pF	50V	B	GRM188B11H391KD01D	K22174804		1-		
C 107	CHIP CAP.	0.0068uF	50V	B	GRM188B11H682KA01D	K22174834		1-		
C 108	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 109	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 110	CHIP CAP.	680pF	50V	B	GRM188B11H681KA01D	K22174807		1-		
C 111	CHIP CAP.	0.015uF	50V	B	GRM188B11H153KA01D	S8101391		1-		
C 112	AL.ELECTRO.CAP.	100uF	6.3V		EMV-6R3ADA101MF55G	S8101399		1-		
C 113	CHIP CAP.	0.0068uF	50V	B	GRM188B11H682KA01D	K22174834		1-		
C 114	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 115	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 116	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 117	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 118	CHIP CAP.	0.027uF	16V	R	GRM188R11C273KA01D	K22124802		1-		
C 119	AL.ELECTRO.CAP.	10uF	16V		EMV-160ADA100MD55G	S8101398		1-		
C 120	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 121	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 125	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 126	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217		1-		
C 127	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 128	CHIP CAP.	6pF	50V	CH	GRM1882C1H6R0DZ01D	K22174207		1-		
C 129	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 130	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 131	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 132	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 133	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 134	AL.ELECTRO.CAP.	100uF	6.3V		EMV-6R3ADA101MF55G	S8101399		1-		
C 135	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 136	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 137	AL.ELECTRO.CAP.	100uF	16V		UWX1C101MCL1GB	S8101395		1-		
C 138	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 150	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-		
C 152	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 155	CHIP CAP.	0.1uF			C1608JB1H104KT	S8101503		1-		
C 158	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 159	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-		
C 160	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 161	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 163	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229		1-		
C 164	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 165	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 167	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 168	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		16-		
C 169	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		16-		
C 170	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804		72-		
C 171	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804		72-		
D 101	DIODE				1SS302(TE85R.F)	G2070088		1-		
D 102	DIODE				1SS302(TE85R.F)	G2070088		1-		
D 103	DIODE				MA111-(TX)	G2070338		1-		
D 104	DIODE				DAP202U T106	G2070160		1-		
D 105	DIODE				DAP202U T106	G2070160		1-		
D 106	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 106	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 106	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 107	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 107	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 107	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 108	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 108	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 108	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 109	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 109	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 109	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
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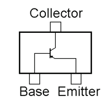
µCOM Unit Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
D 110	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 110	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 111	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 111	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 111	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 112	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 112	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 112	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 113	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 113	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 113	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 114	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 114	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 114	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 115	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 115	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 115	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 116	DIODE				1SS302(TE85R.F)	G2070088		1-		
D 117	DIODE				MA111-(TX)	G2070338		1-		
D 118	DIODE				1SS302(TE85R.F)	G2070088		1-		
D 130	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 130	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 130	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 131	LED				19-215UYC/S530-A2/TR8	S8101421		1-		
D 131	LED				19-215/Y2C-CN1P2/3T	S8101644		41-		
D 131	LED				19-213/Y2C/CN1P2/3T	S8101669		45-		
D 135	DIODE				1SS400 TE61	G2070634		1-		
D 137	DIODE				1SS400 TE61	G2070634		1-		
J 101	CONNECTOR				TKC-M12P-B1	S8101428		1-		
J 109	CONNECTOR				TKC-M12P-B1	S8101428		1-		
J 110	CONNECTOR				MJD0606KX06	S8101431		1-		
J 115	SHIELD FINGER				0G-603070	S5000244	TYPE B1	19-		
J 115	SHIELD FINGER				0G-603070	S5000244	TYPE B2	19-		
L 101	M.RFC	4.7uH			LK1608 4R7K-T	L1690688		1-		
L 102	M.RFC	4.7uH			LK1608 4R7K-T	L1690688		1-		
L 103	M.RFC	4.7uH			LK1608 4R7K-T	L1690688		1-		
L 104	M.RFC	4.7uH			LK1608 4R7K-T	L1690688		1-		
L 105	M.RFC	4.7uH			LK1608 4R7K-T	L1690688		1-		
L 106	M.RFC	4.7uH			LK1608 4R7K-T	L1690688		1-		
Q 101	FET				2SJ144Y(TE85R.F)	G3701447Y		1-		
Q 102	IC				NJM2902V-TE1	G1091679		1-		
Q 103	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 104	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 105	IC				NJM2904V-TE1	G1091677		1-		
Q 106	IC				BU4094BCFV-E2	G1093527		1-		
Q 107	FET				2SJ144Y(TE85R.F)	G3701447Y		1-		
Q 109	IC				BU4094BCFV-E2	G1093527		1-		
Q 110	TRANSISTOR				2SC4617 TL R	G3346178R		1-		
Q 111	TRANSISTOR				2SC4617 TL R	G3346178R		1-		
Q 112	IC				CAT24C64WI-TE13	S8101423		1-		
Q 113	IC				HD6433877B60H	S8101504		1-		
Q 113	IC				HD6433877B65H	G1094163		54-		
Q 115	TRANSISTOR				2SC4617 TL R	G3346178R		1-		
Q 116	IC				R1150H006B-T1	S8101422		1-		
Q 130	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 131	TRANSISTOR				2SC4617 TL R	G3346178R		1-		
Q 132	TRANSISTOR				2SC4617 TL R	G3346178R		1-		
Q 135	FET				2SJ144Y(TE85R.F)	G3701447Y		1-		
Q 136	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 137	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 137	TRANSISTOR				DTC114YUA T106	G3070298		23-		
R 101	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 102	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-		
R 104	CHIP RES.	270k	1/16W	5%	RMC1/16 274JATP	J24185274		1-		
R 105	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 106	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-		
R 107	CHIP RES.	390k	1/16W	5%	RMC1/16 394JATP	J24185394		1-		
R 108	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 109	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-		
R 110	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		1-		
R 111	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-		
R 112	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		1-		
R 113	CHIP RES.	390k	1/16W	5%	RMC1/16 394JATP	J24185394		1-		
R 114	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-		
R 115	CHIP RES.	390k	1/16W	5%	RMC1/16 394JATP	J24185394		1-		
R 116	CHIP RES.	390k	1/16W	5%	RMC1/16 394JATP	J24185394		1-		

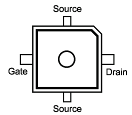
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R 119	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-		
R 120	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-		
R 121	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-		
R 122	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-		
R 123	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-		
R 124	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		1-		
R 126	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		1-		
R 128	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		1-		
R 131	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 132	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 133	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 134	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 135	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 136	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 137	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 138	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 139	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 140	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 141	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 142	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-		
R 143	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-		
R 144	CHIP RES.	100k	1/16W	1%	RMC1/16 104FTP	J24183104		1-		
R 145	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 146	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-		
R 147	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-		
R 148	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-18		
R 148	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223	TYPE A1	19-		
R 148	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223	TYPE A2	19-		
R 148	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473	TYPE A3	19-		
R 148	CHIP RES.	75k	1/16W	5%	RMC1/16 753JATP	J24185753	TYPE B1	19-		
R 148	CHIP RES.	130k	1/16W	5%	RMC1/16 134JATP	J24185134	TYPE B2	19-		
R 148	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224	TYPE B3	19-		
R 149	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 150	CHIP RES.	390k	1/16W	5%	RMC1/16 394JATP	J24185394		1-		
R 151	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-18		
R 151	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473	TYPE A1	19-		
R 151	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473	TYPE A2	19-		
R 151	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224	TYPE A3	19-		
R 151	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224	TYPE B1	19-		
R 151	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224	TYPE B2	19-		
R 152	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 153	CHIP RES.	100k	1/16W	1%	RMC1/16 104FTP	J24183104		1-		
R 158	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 160	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 161	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 162	CHIP RES.	100k	1/16W	1%	RMC1/16 104FTP	J24183104		1-		
R 163	CHIP RES.	100k	1/16W	1%	RMC1/16 104FTP	J24183104		1-		
R 164	CHIP RES.	100k	1/16W	1%	RMC1/16 104FTP	J24183104		1-		
R 165	POT.	20k			XV09211NPV30F15A20K	S8101386		1-		
R 166	POT.	100k			XV09211NPV30F1B100K	S8101387		1-		
R 167	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 180	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 181	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-		
R 182	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 183	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-		
R 183	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		16-		
R 183	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		21-		
R 183	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		69-		
R 184	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 185	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-		
R 186	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-		
R 187	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 188	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-		
R 189	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 190	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 191	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 192	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 193	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 200	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 201	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-		
R 202	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 203	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 204	CHIP RES.	82k	1/16W	5%	RMC1/16 823JATP	J24185823		1-		
R 205	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 206	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 207	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-		

µCOM Unit Parts List

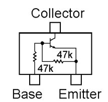
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R 208	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-		
R 209	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-		
R 211	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 211	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		47-		
R 212	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-		
R 220	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 221	CHIP RES.	390k	1/16W	5%	RMC1/16 394JATP	J24185394		1-		
R 223	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 225	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 228	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
S 101	SWITCH				XRE0121PVB30FINB1-2-24PCE	S8101432		1-		
X 101	XTAL				TR-3.5 10.0M(9.8304M)	S8101425		1-		



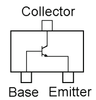
2SB1197K (AH)
(Q303, 307)



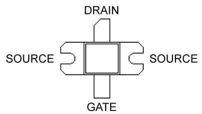
2SK3075
(Q313)



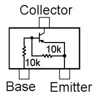
DTC144EU (26)
(Q304, 324)



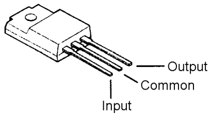
2SC5006 (24)
(Q320, 322, 323)



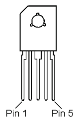
RD70HVF1
(Q306)



DTA114EU (14)
(Q325, 326)



KIA7808API
(Q305)

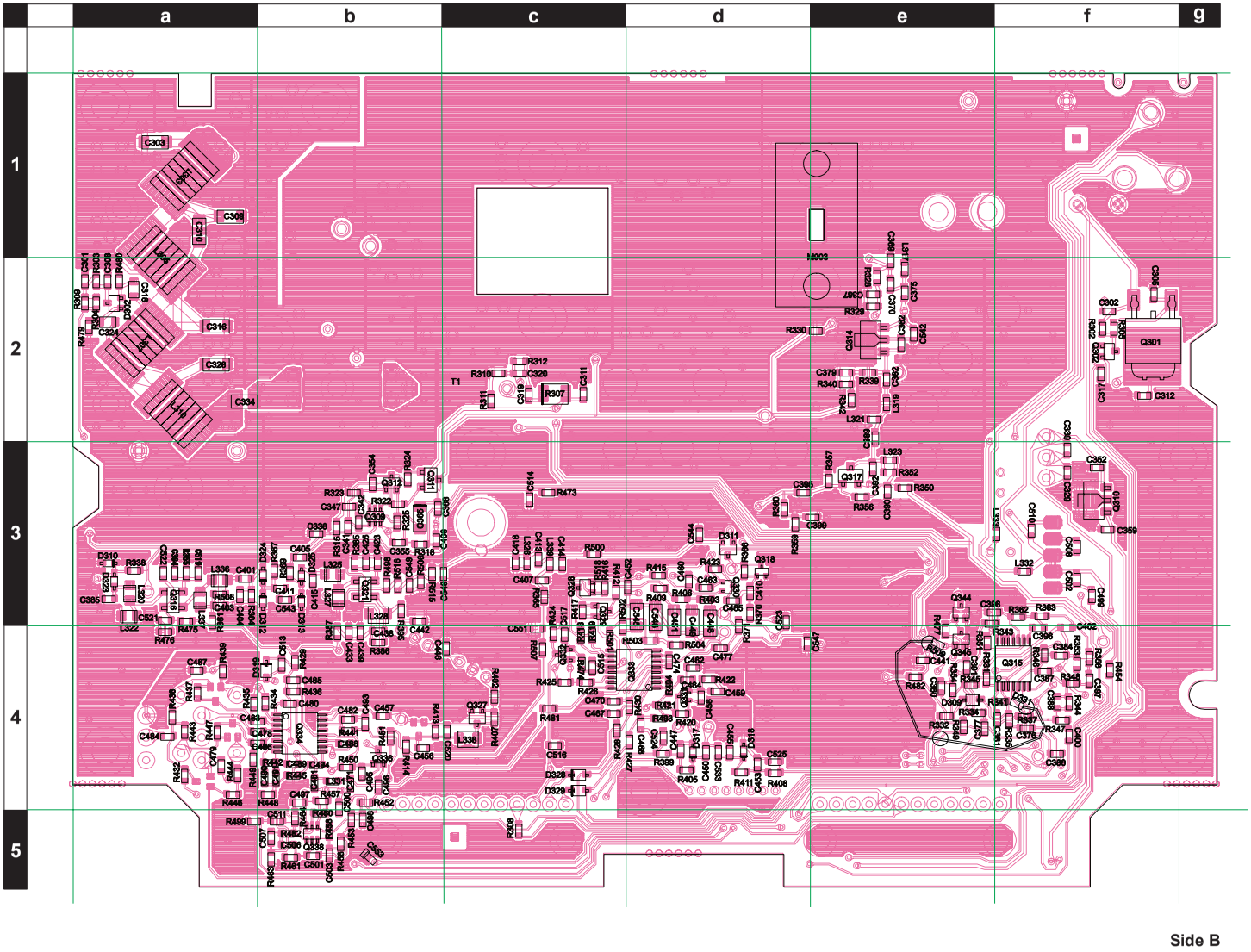


LA4425A
(Q337)

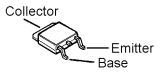


Side A

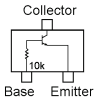
RF Unit Parts Layout (Lot. 1 ~ 15)



Side B



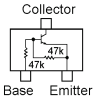
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(Q301)



DTC114TUA (04)
(Q312)



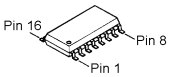
2SA1586GR (SG)
(Q328)
2SA1588Y (ZY)
(Q332, 336)



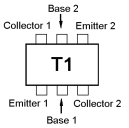
DTC144EU (26)
(Q302, 344, 345)



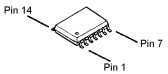
RD00HVS1
(Q314)



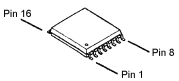
LV2105V
(Q333)



UMT1N (T1)
(Q309)



NJM2902V
(Q315)



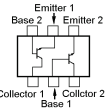
TA31136FN
(Q334)



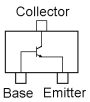
NJM78L05UA (8C)
(Q310)



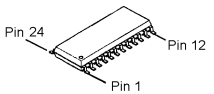
3SK240 (UN)
(Q316, 321)



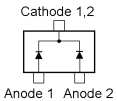
UMX2N
(Q338)



2SB1197K (AH)
(Q311)
2SC3356 (R24)
(Q317)
2SC5006 (24)
(Q318)
2SC4215Y (QY)
(Q327)
2SC4116GR (LG)
(Q329)
2SC4617R (BR)
(Q330, Q331)

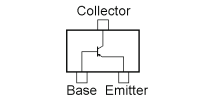


M62364FP
(Q319)

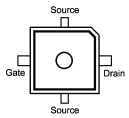


1SS312
(D302, 311)

RF Unit Parts Layout (Lot. 16 ~ 56)



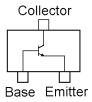
2SB1197K (AH)
(Q303, 307)



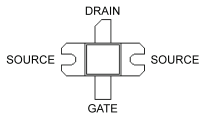
2SK3075
(Q313)



DTC144EU (26)
(Q304, 324)



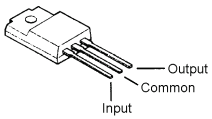
2SC5006 (24)
(Q320, 322, 323)



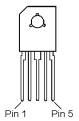
RD70HVF1
(Q306)



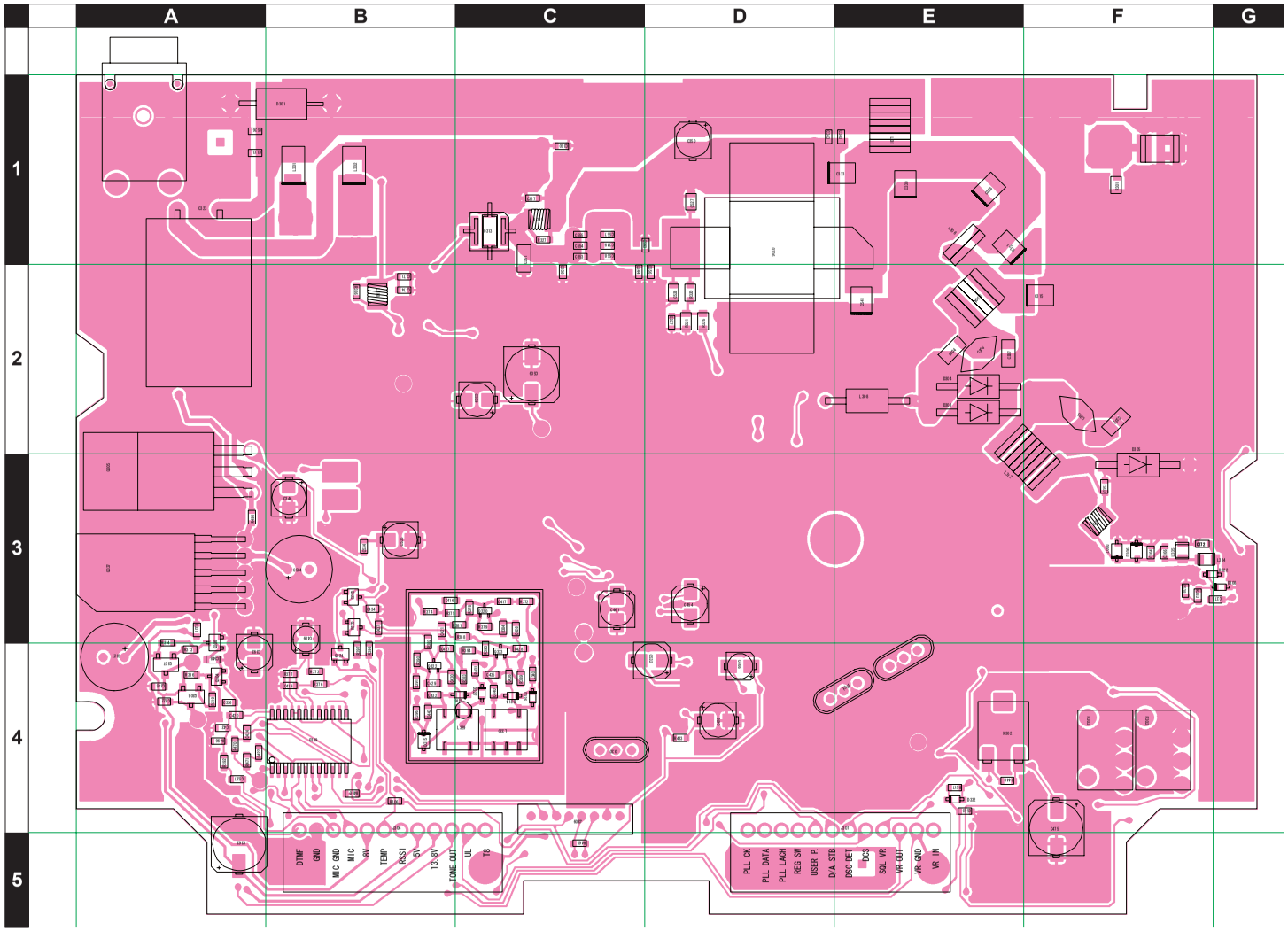
DTA114EU (14)
(Q325, 326)



KIA7808API
(Q305)

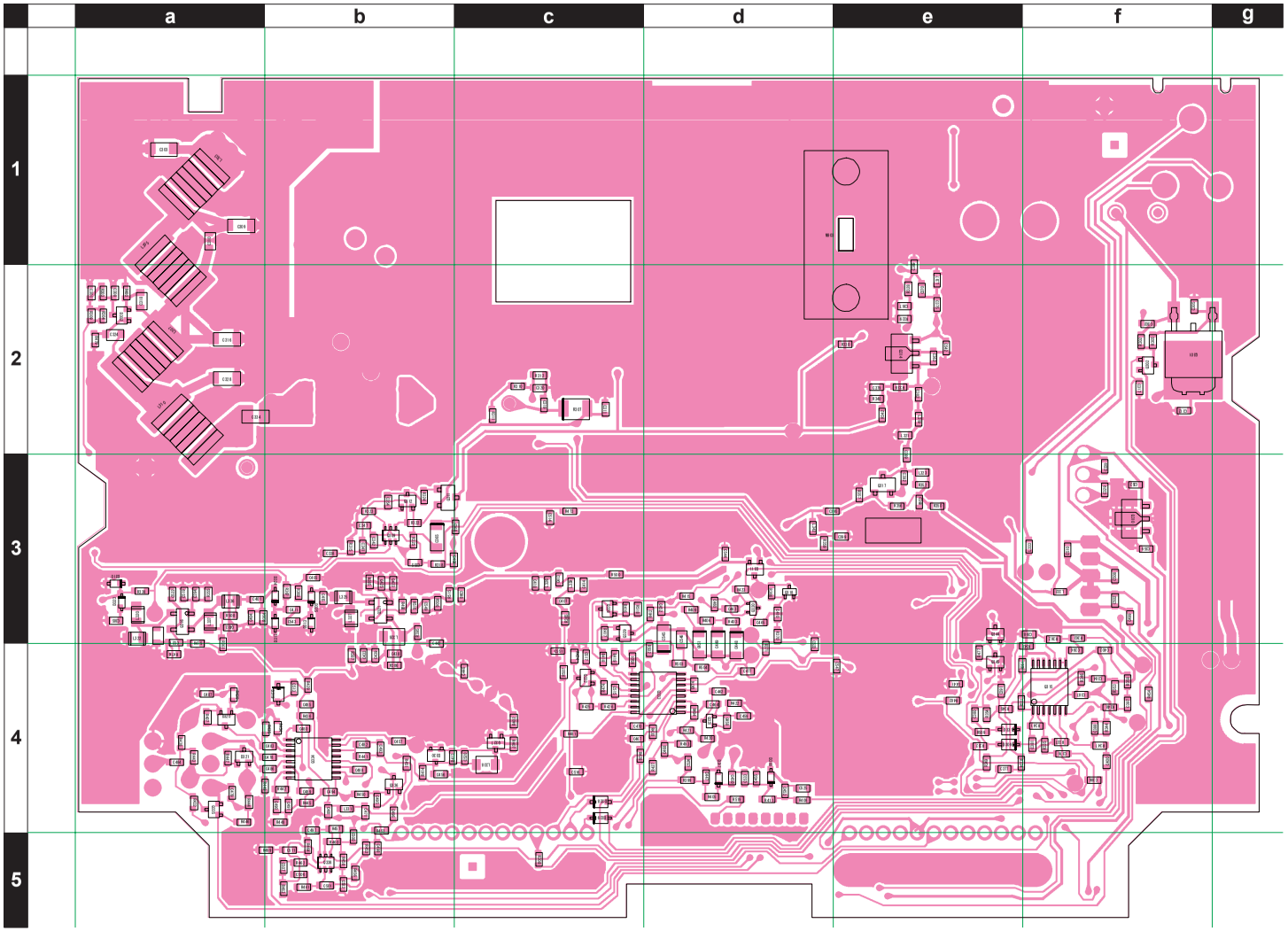


LA4425A
(Q337)

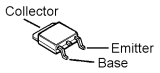


Side A

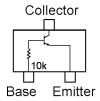
RF Unit Parts Layout (Lot. 16 ~ 56)



Side B



2SB1184
(Q301)



DTC114TUA (04)
(Q312)



2SA1586GR (SG)
(Q328)

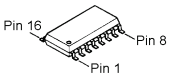
2SA1588Y (ZY)
(Q332, 336)



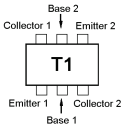
DTC144EU (26)
(Q302, 344, 345)



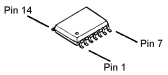
RD00HVS1
(Q314)



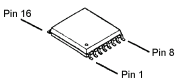
LV2105V
(Q333)



UMT1N (T1)
(Q309)



NJM2902V
(Q315)



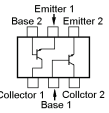
TA31136FN
(Q334)



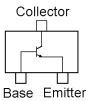
NJM78L05UA (8C)
(Q310)



3SK240 (UN)
(Q316, 321)



UMX2N
(Q338)



2SB1197K (AH)
(Q311)

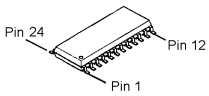
2SC3356 (R24)
(Q317)

2SC5006 (24)
(Q318)

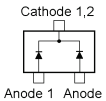
2SC4215Y (QY)
(Q327)

2SC4116GR (LG)
(Q329)

2SC4617R (BR)
(Q330, Q331)

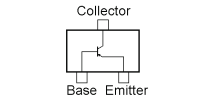


M62364FP
(Q319)

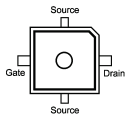


1SS312
(D302, 311)

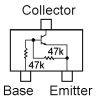
RF Unit Parts Layout (Lot. 57 ~)



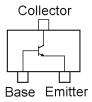
2SB1197K (AH)
(Q303, 307)



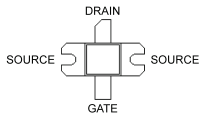
2SK3075
(Q313)



DTC144EU (26)
(Q304, 324)



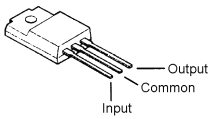
2SC5006 (24)
(Q320, 322, 323)



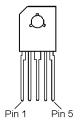
RD70HVF1
(Q306)



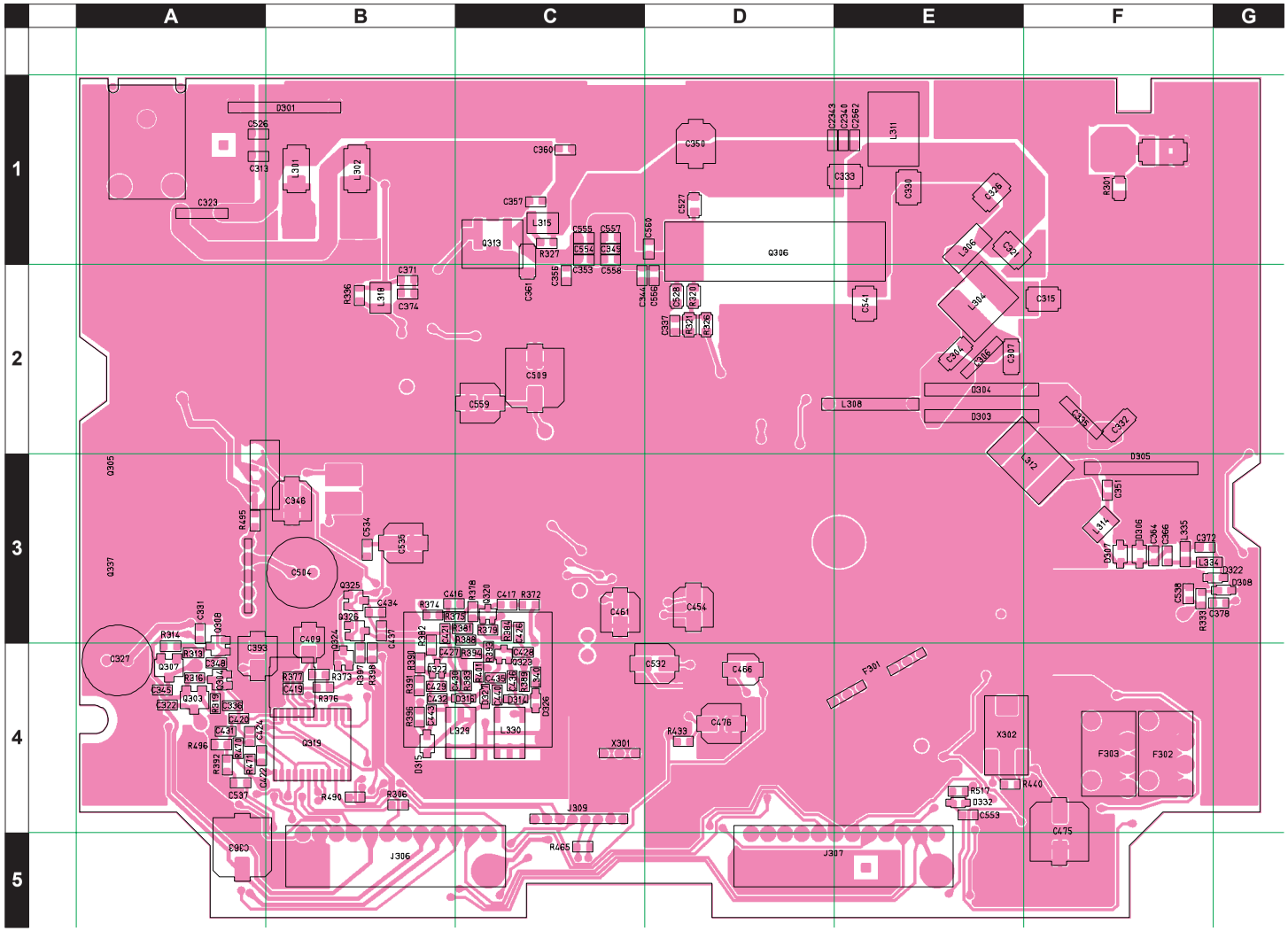
DTA114EU (14)
(Q325, 326)



KIA7808API
(Q305)

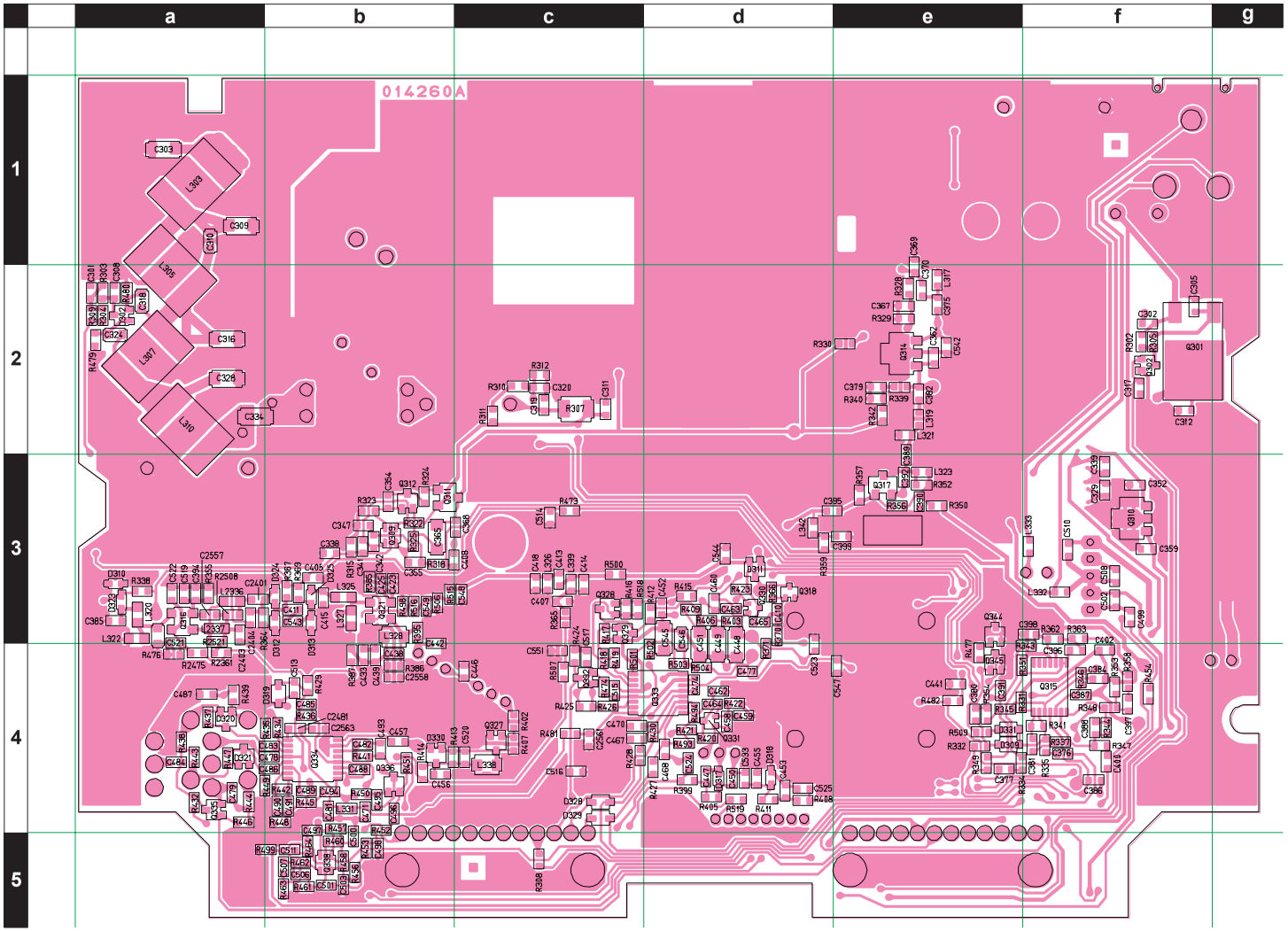


LA4425A
(Q337)

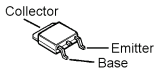


Side A

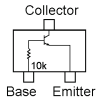
RF Unit Parts Layout (Lot. 57 ~)



Side B



2SB1184
(Q301)



DTC114TUA (04)
(Q312)



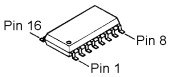
2SA1586GR (SG)
(Q328)
2SA1588Y (ZY)
(Q332, 336)



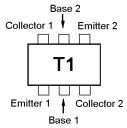
DTC144EU (26)
(Q302, 344, 345)



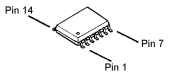
RD00HVS1
(Q314)



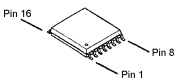
LV2105V
(Q333)



UMT1N (T1)
(Q309)



NJM2902V
(Q315)



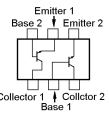
TA31136FN
(Q334)



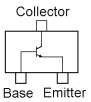
NJM78L05UA (8C)
(Q310)



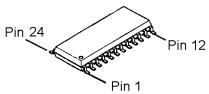
3SK240 (UN)
(Q316, 321)



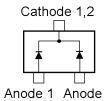
UMX2N
(Q338)



2SB1197K (AH)
(Q311)
2SC3356 (R24)
(Q317)
2SC5006 (24)
(Q318)
2SC4215Y (QY)
(Q327)
2SC4116GR (LG)
(Q329)
2SC4617R (BR)
(Q330, Q331)



M62364FP
(Q319)



1SS312
(D302, 311)

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
	PCB with Components					CS1805001 CS1805002 CS1805003 CS1805005 CS1805006 CS1805007 CS1805008	TYPE A2 TYPE A1 TYPE A3 TYPE B2 (CE) TYPE B3 TYPE B1 (CE) TYPE B1			
	Printed Circuit Board					S8101505 FR0142600		1- 57-		
C 301	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 302	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 303	CHIP CAP.	15pF	500V	CH	GRM42-6CH150J500PT	K22271217		1-		
C 305	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 306	CERAMIC CAP.	0.001uF	500V	B	HM60SJYB102K500	S8101392		1-		
C 307	CHIP CAP.	15pF	500V	CH	GRM42-6CH150J500PT	K22271217		1-		
C 308	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 309	CHIP CAP.	27pF	500V	CH	GRM42-6CH270J500PT	K22271223		1-		
C 310	CHIP CAP.	3pF	50V	CJ	GRM2163C1H3R0CD01D	K22170204		1-		
C 311	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 312	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 313	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 315	FILM CAP.	47pF	500V		UC232H0470J-T	K33279034		1-		
C 316	CHIP CAP.	27pF	500V	CH	GRM42-6CH270J500PT	K22271223		1-		
C 317	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 318	CHIP CAP.	1pF	200V	CK	GRM2194C2D1R0CY21D	K22230208		1-		
C 319	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 320	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 321	FILM CAP.	68pF	500V		UC232H0680J-T	K33279030		1-		
C 322	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 323	AL.ELECTRO.CAP.	3300uF	16V		EKMG160ELL3300MK25S	S8101401		1-		
C 324	CHIP CAP.	1pF	200V	CK	GRM2194C2D1R0CY21D	K22230208		1-		
C 327	AL.ELECTRO.CAP.	470uF	16V		ESMG160ELL471MHB5S	S8101402		1-		
C 328	CHIP CAP.	27pF	500V	CH	GRM42-6CH270J500PT	K22271223		1-		
C 329	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 330	FILM CAP.	27pF	500V		UC232H0270J-T	K33279023		1-		
C 331	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 332	CHIP CAP.	27pF	500V	CH	GRM42-6CH270J500PT	K22271223		1-		
C 333	FILM CAP.	120pF	500V		UC232H1200J-T	K33279049		1-		
C 335	CERAMIC CAP.	0.001uF	500V	B	HM60SJYB102K500	S8101392		1-		
C 336	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 337	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 338	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 339	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 340	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 341	CHIP CAP.	0.22uF	10V	B	GRM188B11A224KA01D	K22104801		1-		
C 342	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 343	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 344	CHIP CAP.	220pF	50V	B	GRM188B11H221KA01D	K22174801		1-50		
C 345	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 346	AL.ELECTRO.CAP.	10uF	16V		EMV-160ADA100MD55G	S8101398		1-		
C 347	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 348	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 350	AL.ELECTRO.CAP.	4.7uF	35V		EMVJ350ADA4R7MD60G	S8101396		1-		
C 351	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225		1-18		
C 351	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225	TYPE A1	19-		
C 351	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225	TYPE A2	19-		
C 351	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225	TYPE A3	19-		
C 351	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225	TYPE B1	19-		
C 351	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225	TYPE B2	19-		
C 351	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223	TYPE B3	19-		
C 352	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 353	CHIP CAP.	150pF	50V	CH	GRM1882C1H151JA01D	K22174239		1-		
C 354	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 355	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 357	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 359	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 360	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 361	CHIP CAP.	27pF	500V	CH	GRM42-6CH270J500PT	K22271223		1-		
C 362	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-		
C 362	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		19-		
C 363	AL.ELECTRO.CAP.	100uF	16V		UWX1C101MCL1GB	S8101395		1-		
C 364	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-		
C 365	CHIP TA.CAP.	4.7uF	16V		F931C475MAA	S8101394		1-		
C 366	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 367	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 368	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		

RF Unit Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
C 369	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-		
C 369	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		19-		
C 370	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 371	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 372	CHIP CAP.	2.5pF	50V	CK	GRM1884C1H2R5CZ01D	K22174259		1-		
C 374	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 375	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 376	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-		
C 377	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 378	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203		1-		
C 379	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 380	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 381	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 382	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 384	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 385	CHIP CAP.	2.5pF	50V	CK	GRM1884C1H2R5CZ01D	K22174259		1-		
C 386	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 387	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 388	CHIP CAP.	150pF	50V	CH	GRM1882C1H151JA01D	K22174239		1-		
C 389	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 390	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 391	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 393	AL.ELECTRO.CAP.				EMV-160ADA100MD55G	S8101398		1-		
C 394	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 395	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-		
C 396	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 397	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 398	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-		
C 399	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 400	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 401	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 402	CHIP CAP.	0.0033uF	50V	B	GRM188B11H332KA01D	K22174831		1-		
C 403	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 404	CHIP CAP.	1.5pF	50V	CK	GRM1884C1H1R5CZ01D	K22174258		1-		
C 405	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 407	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 408	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 409	AL.ELECTRO.CAP.				EMV-250ADA4R7MB55G	S8101397		1-		
C 410	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 410	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		52-		
C 411	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203		1-		
C 413	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-		
C 415	CHIP CAP.	2.5pF	50V	CK	GRM1884C1H2R5CZ01D	K22174259		1-		
C 416	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 417	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 418	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-		
C 419	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 420	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 421	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-		
C 422	CHIP CAP.	0.0015uF	50V	B	GRM188B11H152KA01D	K22174827		1-		
C 423	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 424	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 425	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 426	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-		
C 427	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 428	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 429	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225		1-		
C 430	CHIP CAP.	47pF	50V	CH	GRM1882C1H470JA01D	K22174227		1-		
C 431	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 432	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		1-		
C 433	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 434	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 435	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225		1-		
C 436	CHIP CAP.	47pF	50V	CH	GRM1882C1H470JA01D	K22174227		1-		
C 437	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 438	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 439	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 440	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		1-		
C 441	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 442	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-		
C 443	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-		
C 446	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-		
C 447	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 449	CHIP TA.CAP.	0.1uF	35V		TESVA1V104M1-8R	K78160025		1-		
C 450	CHIP CAP.	47pF	50V	CH	GRM1882C1H470JA01D	K22174227		1-		
C 451	CHIP TA.CAP.	4.7uF	10V		TEMSVA1A475M-8R	K78100022		1-		

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
C 452	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 453	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 454	AL.ELECTRO.CAP.	1uF	50V		UWT1H010MCL1GB	K48170005		1-		
C 455	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		1-		
C 456	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 457	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 458	CHIP CAP.	150pF	50V	CH	GRM1882C1H151JA01D	K22174239		1-		
C 459	CHIP CAP.	150pF	50V	CH	GRM1882C1H151JA01D	K22174239		1-		
C 460	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 461	AL.ELECTRO.CAP.	10uF	16V		EMV-160ADA100MD55G	S8101398		1-		
C 462	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 463	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 464	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-40		
C 464	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	TYPE A1	41-43		
C 464	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	TYPE A2	41-43		
C 464	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	TYPE A3	41-43		
C 464	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	TYPE B1	41-43		
C 464	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	TYPE B2	41-43		
C 464	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	TYPE B3	41-43		
C 464	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		44-		
C 465	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 466	AL.ELECTRO.CAP.	4.7uF	25V		EMV-250ADA4R7MB55G	S8101397		1-		
C 467	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 468	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 470	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 471	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-		
C 474	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 475	AL.ELECTRO.CAP.	47uF	16V		EMV-160ADA470MF55G	S8101400		1-		
C 476	AL.ELECTRO.CAP.	10uF	16V		EMV-160ADA100MD55G	S8101398		1-		
C 477	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-		
C 478	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 479	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805	TYPE B3	19-		
C 480	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 481	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-		
C 482	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 483	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 484	CHIP CAP.	0.01uF	50V	B	GRM188B11H103JA01D	K22174824	TYPE B3	19-		
C 485	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 486	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 488	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-		
C 489	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 490	CHIP CAP.	150pF	50V	CH	GRM1882C1H151JA01D	K22174239		1-		
C 491	CHIP CAP.	150pF	50V	CH	GRM1882C1H151JA01D	K22174239		1-		
C 493	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 494	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 495	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-		
C 496	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 497	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 498	CHIP CAP.	0.068uF	16V	B	GRM188B11C683KA01D	K22124808		1-		
C 499	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 500	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 501	CHIP CAP.	0.027uF	16V	R	GRM188R11C273KA01D	K22124802		1-		
C 502	CHIP CAP.	0.0022uF	50V	B	GRM188B11H222KA01D	K22174822		1-		
C 503	CHIP CAP.	0.0027uF	50V	B	GRM188B11H272KA01D	K22174829		1-		
C 504	AL.ELECTRO.CAP.	470uF	16V		ESMG160ELL471MHB5S	S8101402		1-		
C 506	CHIP CAP.	0.012uF	50V	B	GRM188B11H123KA01D	K22174825		1-		
C 507	CHIP CAP.	0.012uF	50V	B	GRM188B11H123KA01D	K22174825		1-		
C 508	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 509	AL.ELECTRO.CAP.	47uF	16V		EMV-160ADA470MF55G	S8101400		1-52		
C 510	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 511	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 513	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 514	CHIP CAP.	0.1uF			C1608JB1H104KT	S8101503		1-		
C 515	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 516	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 517	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 519	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		29-		
C 520	CHIP CAP.	82pF	50V	CH	GRM1882C1H820JA01D	K22174233		1-		
C 521	CHIP CAP.	0.001uF	50V	CH	GRM1882C1H102JZ01D	S8101389		1-		
C 522	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-		
C 523	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 524	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 525	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-		
C 526	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 527	CHIP CAP.	220pF	50V	B	GRM188B11H221KA01D	K22174801		51-		
C 532	AL.ELECTRO.CAP.	10uF	16V		EMV-160ADA100MD55G	S8101398		1-		

RF Unit Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
C 533	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		1-		
C 534	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 535	AL.ELECTRO.CAP.	10uF	16V		EMV-160ADA100MD55G	S8101398		1-		
C 537	CHIP CAP.	1uF	10V	B	GRM188B11A105KA61D	S8101390		1-		
C 538	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 541	FILM CAP.	27pF	500V		UC232H0270J-T	K33279023		1-		
C 542	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229		1-		
C 543	CHIP CAP.	2.5pF	50V	CK	GRM1884C1H2R5CZ01D	K22174259		1-		
C 544	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		1-		
C 544	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		19-		
C 545	CHIP TA.CAP.	22uF	6.3V		F930J226MAA	S8101393		1-		
C 546	CHIP CAP.	0.033uF	50V	B	GRM40B333K50PT	K22170857		1-		
C 547	CHIP CAP.	0.033uF	16V	B	GRM188B11C333KA01D	K22124812		1-		
C 551	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-		
C 553	CHIP CAP.	0.22uF	10V	B	GRM188B11A224KA01D	K22104801		1-		
C 554	CHIP CAP.	150pF	50V	CH	GRM1882C1H151JA01D	K22174239		1-		
C 555	CHIP CAP.	150pF	50V	CH	GRM1882C1H151JA01D	K22174239		1-		
C 556	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-50		
C 557	CHIP CAP.	0.001uF	50V	B	GRM40B102M50PT	K22170805		23-		
C 558	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		24-		
C 559	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	TYPE B1	41-43		
C 559	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	TYPE B2	41-43		
C 559	AL.ELECTRO.CAP.	10uF	16V		RV2-16V100MB55U-R	K48120014		53-		
C 560	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		44-		
C 560	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		51-		
C 561	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		44-		
C 561	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		57-		
C 562	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		50-		
C 563	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		51-		
C 564	CERAMIC CAP.	0.001uF	50V	B	UP050B102K-A-B	K28179001		70-		
D 301	SURGE ABSORBER				P6KE18A	Q9000630		1-		
D 302	DIODE				1SS312(TE85L.F)	S8101420		1-		
D 303	DIODE				XB15A407A2GB	G2090741		1-		
D 303	DIODE				L407CDB	G2090793		63-		
D 305	DIODE				XB15A308A2GB	G2090742		1-		
D 305	DIODE				L308CCB	G2090792		63-		
D 306	DIODE				MA111-(TX)	G2070338		1-		
D 307	DIODE				MA111-(TX)	G2070338		1-		
D 308	DIODE				HVC350B-TRF-E	G2070596		1-		
D 309	DIODE				MA111-(TX)	G2070338		1-		
D 310	DIODE				HVC350B-TRF-E	G2070596		1-		
D 311	DIODE				1SS312(TE85L.F)	S8101420		1-		
D 312	DIODE				HVC350B-TRF-E	G2070596		1-		
D 313	DIODE				HVC350B-TRF-E	G2070596		1-		
D 314	DIODE				1SV282(TPH3.F)	G2070778		1-		
D 315	DIODE				1SV214(TPH2.F)	G2070356		1-		
D 316	DIODE				1SV282(TPH3.F)	G2070778		1-		
D 317	DIODE				HVC350B-TRF-E	G2070596		1-		
D 318	DIODE				HVC350B-TRF-E	G2070596		1-		
D 319	DIODE				UDZS TE-17 5.6B	G2070910		1-		
D 320	DIODE				DAN202U T106	G2070162	TYPE B3	19-		
D 321	DIODE				DAN202U T106	G2070162	TYPE B3	19-		
D 322	DIODE				HVC350B-TRF-E	G2070596		1-		
D 323	DIODE				HVC350B-TRF-E	G2070596		1-		
D 324	DIODE				HVC350B-TRF-E	G2070596		1-		
D 325	DIODE				HVC350B-TRF-E	G2070596		1-		
D 326	DIODE				1SV282(TPH3.F)	G2070778		1-		
D 327	DIODE				1SV282(TPH3.F)	G2070778		1-		
D 328	DIODE				MA111-(TX)	G2070338		1-		
D 329	DIODE				MA111-(TX)	G2070338		1-		
D 331	DIODE				MA111-(TX)	G2070338		1-		
D 332	DIODE				1SS400 TE61	G2070634		1-		
D 333	SURGE ABSORBER				RCCA-301Q43UA	Q9000756		1-		
F 301	XTAL FILTER				UM-5 21.7MHZ	S8101426		1-		
F 302	CERAMIC FILTER				ALFYM450F=K	H3900531		1-		
F 303	CERAMIC FILTER				ALFYM450G=K	H3900534	TYPE B3	19-		
J 306	CONNECTOR				TKC-M12X-A1	S8101429		1-		
J 307	CONNECTOR				TKC-M12X-A1	S8101429		1-		
J 308	CONNECTOR				JY-3564*01-030	S8101430		1-		
J 309	CONNECTOR				B8B-ZR(LF)(SN)	P0090650		1-		
J 310	SHIELD FINGER				0G-603070	S5000244	TYPE B1	19-		
J 310	SHIELD FINGER				0G-603070	S5000244	TYPE B2	19-		
L 301	FERRITE BEADS				SMB304729	L9190094		1-		
L 302	FERRITE BEADS				SMB304729	L9190094		1-		
L 303	INDUCTOR				1.0PEW3.0D5.5T-E2	S8101405		1-		
L 304	INDUCTOR				1.0PEW3.0D4.5T-E2	S8101406		1-		

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
L 305	INDUCTOR				1.0PEW3.0D5.5T-E2	S8101405		1-		
L 306	INDUCTOR				1.0PEW2.5D1.5T	S8101408		1-		
L 307	INDUCTOR				1.0PEW3.0D5.5T-E2	S8101405		1-		
L 308	INDUCTOR				LAL03KH4R7K	S8101413		1-		
L 310	INDUCTOR				1.0PEW3.0D5.5T-E2	S8101405		1-		
L 311	INDUCTOR				0.8PEW3.2D6.5T-E2	S8101407		1-		
L 312	INDUCTOR				0.8PEW3.2D6.5T-E2	S8101407		1-		
L 314	INDUCTOR				0.35UEW1.6D7.5T-E2	S8101404		1-		
L 315	INDUCTOR				0.35UEW1.6D7.5T-E2	S8101404		1-		
L 317	M.RFC	0.027uH			HK1608 27NJ-T	L1690521		1-		
L 318	INDUCTOR				0.35UEW1.6D7.5T-E2	S8101404		1-		
L 319	M.RFC	0.047uH			HK1608 47NJ-T	L1690524		1-		
L 320	CHIP COIL	0.039uH			LQW2BHN39NJ03L	L1690616		1-		
L 322	M.RFC	0.068uH			LL1608-FS68NJ	L1690919		1-		
L 322	CHIP COIL	0.082uH			LQW2BHN82NJ03L	L1690619		16-		
L 323	M.RFC	0.1uH			HK1608 R10J-T	L1690528		1-		
L 325	CHIP COIL	0.039uH			LQW2BHN39NJ03L	L1690616		1-		
L 327	M.RFC	0.068uH			LL1608-FS68NJ	L1690919		1-		
L 327	CHIP COIL	0.082uH			LQW2BHN82NJ03L	L1690619		16-		
L 328	M.RFC	0.47uH			ELJ-NCR47JF	L1690655		1-		
L 329	INDUCTOR				S-VCO-TX	S8101410		1-		
L 330	INDUCTOR				S-VCO-RX	S8101409		1-		
L 331	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-		
L 332	INDUCTOR				ACB1608M-120-T	S8101414		1-		
L 332	BEADS COIL	120			MMZ1608S121ATA00	L9190153		71-		
L 333	INDUCTOR				ACB1608M-120-T	S8101414		1-		
L 333	BEADS COIL	120			MMZ1608S121ATA00	L9190153		71-		
L 334	CHIP COIL	0.12uH			LQW2BHNR12J03L	L1690621		1-		
L 335	CHIP COIL	0.015uH			LQW2BHN15NJ03L	L1690611		1-		
L 336	CHIP COIL	0.068uH			LQW2BHN68NJ03L	L1690605		1-		
L 337	CHIP COIL	0.068uH			LQW2BHN68NJ03L	L1690605		1-		
L 338	INDUCTOR	0.056uH		5%	NLV25T-R56J-PF	S8101411		1-		
L 339	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-		
L 340	M.RFC	4.7uH			LK1608 4R7K-T	L1690688		1-		
L 342	INDUCTOR				MLF1608DR22KT	S8101412		1-		
L 343	M.RFC	0.0056uH			LL1608-FSL5N6S	L1690858	TYPE B1	19-		
L 343	M.RFC	0.0056uH			LL1608-FSL5N6S	L1690858	TYPE B2	19-		
Q 301	TRANSISTOR				2SB1184F5-Q	S8101415		1-		
Q 302	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 303	TRANSISTOR				2SB1197K T146 Q	S8101416		1-		
Q 304	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 305	IC				KIA7808API	G1093164		1-		
Q 306	FET				RD70HVF1-101	G3090140		1-		
Q 307	TRANSISTOR				2SB1197K T146 Q	S8101416		1-		
Q 308	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 309	TRANSISTOR				UMT1N TR	S8101418		1-		
Q 310	IC				NJM78L05UA-TE1	G1091325		1-		
Q 311	TRANSISTOR				2SB1197K T146 Q	S8101416		1-		
Q 312	TRANSISTOR				DTC114TUA T106	S8101417		1-		
Q 313	FET				2SK3075(TE12L)	G3830758		1-		
Q 313	FET				2SK3075(TE12L.Q)	G3070366		62-		
Q 314	FET				RD00HVS1-T113	S8101419		1-		
Q 315	IC				NJM2902V-TE1	G1091679		1-		
Q 316	FET				3SK240(TE85L)	G4802407		1-		
Q 317	TRANSISTOR				2SC3356-T2B R24	G3333567D		1-		
Q 317	TRANSISTOR				2SC3356-T1B R24	G3333568D		73-		
Q 318	TRANSISTOR				2SC5006-T1	G3350068		1-		
Q 319	IC				M62364FP 600D	G1093033		1-		
Q 320	TRANSISTOR				2SC5006-T1	G3350068		1-		
Q 321	FET				3SK240(TE85L)	G4802407		1-		
Q 322	TRANSISTOR				2SC5006-T1	G3350068		1-		
Q 323	TRANSISTOR				2SC5006-T1	G3350068		1-		
Q 324	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 325	TRANSISTOR				DTA114EUA T106	G3070083		1-		
Q 326	TRANSISTOR				DTA114EUA T106	G3070083		1-		
Q 327	TRANSISTOR				2SC4215Y(TE85R.F)	G3342157Y		1-		
Q 328	TRANSISTOR				2SA1586GR(TE85R.F)	G3115867G		1-		
Q 329	TRANSISTOR				2SC4116GR(TE85R.F)	G3341167G		1-		
Q 329	TRANSISTOR				2SC4116GR(TE85L.F)	G3341168G		73-		
Q 330	TRANSISTOR				2SC4617 TL R	G3346178R		1-		
Q 331	TRANSISTOR				2SC4617 TL R	G3346178R		1-		
Q 332	TRANSISTOR				2SA1588-Y(TE85L.F)	G3115888Y		1-		
Q 333	IC				LV2105V-TLM	G1093191		1-		
Q 334	IC				TA31136FNG(EL)	G1091605		1-		
Q 335	TRANSISTOR				DTC144EUA T106	G3070041	TYPE B3	19-		
Q 336	TRANSISTOR				2SA1588-Y(TE85L.F)	G3115888Y		1-		

RF Unit Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
Q 337	IC				LA4425A	G1092241		1-		
Q 338	TRANSISTOR				UMX2N TR	G3070254		1-		
Q 344	TRANSISTOR				DTC144EUA T106	G3070041		1-		
Q 345	TRANSISTOR				DTC144EUA T106	G3070041		1-		
R 301	CHIP RES.	47k	1/10W	5%	RMC1/10T 473J	J24205473		1-		
R 302	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 303	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 304	THERMISTOR				TBPS1R473J475H5Q	S8101388		1-		
R 305	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-		
R 306	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 307	CHIP RES.	100	1/4W	5%	RMC1/4 101JATP	J24245101		1-		
R 308	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 309	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-		
R 310	THERMISTOR				TBPS1R473J475H5Q	S8101388		1-		
R 311	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-		
R 312	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-		
R 313	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 314	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 315	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 316	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 318	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 319	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-		
R 320	CHIP RES.	220	1/10W	5%	RMC1/10T 221J	J24205221		1-		
R 321	CHIP RES.	2.2k	1/10W	5%	RMC1/10T 222J	J24205222		1-		
R 322	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-		
R 323	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-		
R 324	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 325	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 326	CHIP RES.	2.2k	1/10W	5%	RMC1/10T 222J	J24205222		1-		
R 326	CHIP RES.	1.5k	1/10W	5%	RMC1/10T 152J	J24205152		44-		
R 326	CHIP RES.	2.2k	1/10W	5%	RMC1/10T 222J	J24205222		52-		
R 328	CHIP RES.	56	1/16W	5%	RMC1/16 560JATP	J24185560		1-		
R 329	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-		
R 330	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-		
R 331	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 332	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 333	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-		
R 334	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-		
R 335	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-		
R 336	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-		
R 337	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 338	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-		
R 339	CHIP RES.	56	1/16W	5%	RMC1/16 560JATP	J24185560		1-		
R 340	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 341	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-18		
R 341	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104	TYPE A1	19-		
R 341	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104	TYPE A2	19-		
R 341	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104	TYPE A3	19-		
R 341	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154	TYPE B1	19-		
R 341	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104	TYPE B1	53-		
R 341	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154	TYPE B2	19-		
R 341	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104	TYPE B2	53-		
R 341	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154	TYPE B3	19-		
R 341	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104	TYPE B3	53-		
R 342	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-		
R 343	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-		
R 344	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-		
R 345	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 346	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 347	CHIP RES.	390k	1/16W	5%	RMC1/16 394JATP	J24185394		1-		
R 348	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-		
R 349	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 350	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-		
R 351	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 352	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-		
R 353	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-		
R 354	CHIP RES.	33k	1/16W	5%	RMC1/16 303JATP	J24185303		1-		
R 355	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-		
R 356	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		1-		
R 357	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 358	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 359	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-		
R 361	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-		
R 362	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 363	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-		
R 364	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-		

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 365	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-		
R 366	CHIP RES.	56k	1/16W	5%	RMC1/16 563JATP	J24185563		1-		
R 367	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-		
R 369	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-		
R 370	CHIP RES.	15	1/16W	5%	RMC1/16 150JATP	J24185150		1-		
R 371	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-		
R 372	CHIP RES.	15	1/16W	5%	RMC1/16 150JATP	J24185150		1-		
R 373	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 374	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-		
R 375	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-		
R 376	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-		
R 377	CHIP RES.	680	1/16W	5%	RMC1/16 681JATP	J24185681		1-		
R 378	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-		
R 379	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 381	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 382	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-		
R 383	CHIP RES.	270	1/16W	5%	RMC1/16 271JATP	J24185271		1-		
R 384	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 385	CHIP RES.	56	1/16W	5%	RMC1/16 560JATP	J24185560		1-		
R 386	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 387	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-		
R 388	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-		
R 389	CHIP RES.	270	1/16W	5%	RMC1/16 271JATP	J24185271		1-		
R 390	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-		
R 391	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 392	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 393	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-		
R 394	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 395	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 396	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 397	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-		
R 398	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-		
R 399	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 401	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-		
R 402	CHIP RES.	1.5k	1/16W	5%	RMC1/16 152JATP	J24185152		1-		
R 403	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-		
R 405	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 406	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-		
R 407	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-		
R 408	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-		
R 409	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-		
R 411	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 412	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 413	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-18		
R 413	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102	TYPE A1	19-		
R 413	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102	TYPE A2	19-		
R 413	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102	TYPE A3	19-		
R 413	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102	TYPE B1	19-		
R 413	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102	TYPE B2	19-		
R 414	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 415	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-		
R 416	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 417	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-		
R 418	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 419	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-		
R 420	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-		
R 421	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-		
R 422	CHIP RES.	1.8k	1/16W	5%	RMC1/16 182JATP	J24185182		1-		
R 423	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 424	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 425	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-		
R 426	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-		
R 427	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 428	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 429	CHIP RES.	270	1/16W	5%	RMC1/16 271JATP	J24185271		1-		
R 430	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 432	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222	TYPE B3	19-		
R 433	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 435	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123	TYPE B3	19-		
R 436	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-		
R 437	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-18		
R 437	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE A1	19-		
R 437	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE A2	19-		
R 437	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE A3	19-		
R 437	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE B1	19-		
R 437	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE B2	19-		

RF Unit Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 438	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123	TYPE B3	19-		
R 439	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123	TYPE B3	19-		
R 440	CHIP RES.	1.2k	1/16W	5%	RMC1/16 122JATP	J24185122		1-		
R 441	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 442	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-		
R 443	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123	TYPE B3	19-		
R 444	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123	TYPE B3	19-		
R 445	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-		
R 446	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471	TYPE B3	19-		
R 447	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-18		
R 447	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE A1	19-		
R 447	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE A2	19-		
R 447	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE A3	19-		
R 447	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE B1	19-		
R 447	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE B2	19-		
R 448	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-		
R 449	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123	TYPE B3	19-		
R 450	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-		
R 451	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 452	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 453	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		1-		
R 454	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-		
R 456	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		1-		
R 457	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 458	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-		
R 460	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-		
R 461	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 462	CHIP RES.	3.9k	1/16W	5%	RMC1/16 392JATP	J24185392		1-		
R 463	CHIP RES.	390k	1/16W	5%	RMC1/16 394JATP	J24185394		1-		
R 464	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 465	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-		
R 470	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 471	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 473	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 474	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-		
R 475	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 475	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		37-		
R 476	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 477	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 479	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 480	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 481	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-40		
R 481	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	TYPE A1	41-43		
R 481	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	TYPE A2	41-43		
R 481	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	TYPE A3	41-43		
R 481	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221	TYPE B1	41-43		
R 481	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221	TYPE B2	41-43		
R 481	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	TYPE B3	41-43		
R 481	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		44-		
R 482	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 490	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-		
R 493	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 494	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 495	CHIP RES.				SR731JTDR330F	S8101385		1-		
R 496	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-		
R 498	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-		
R 500	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-18		
R 500	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE A1	19-		
R 500	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE A2	19-		
R 500	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE A3	19-		
R 500	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	TYPE B3	19-		
R 501	CHIP RES.	270	1/16W	5%	RMC1/16 271JATP	J24185271		1-		
R 501	CHIP RES.	120	1/16W	5%	RMC1/16 121JATP	J24185121		69-		
R 502	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151		1-		
R 503	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-		
R 504	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-		
R 507	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-18		
R 507	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	TYPE A1	19-		
R 507	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	TYPE A2	19-		
R 507	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	TYPE A3	19-		
R 507	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471	TYPE B1	19-		
R 507	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471	TYPE B2	19-		
R 507	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	TYPE B3	19-		
R 508	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-		
R 509	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-		
R 515	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-		

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 516	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-		
R 517	CHIP RES.	2.2M	1/16W	5%	RMC1/16 225JATP	J24185225		1-		
R 518	THERMISTOR				TBPS1R473J475H5Q	S8101388		1-		
R 519	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-		
R 520	CHIP RES.	560k	1/10W	5%	RMC1/10T 564J	J24205564		1-		
R 521	CHIP RES.	1k	1/16W	5%	RMC1/16S 102JTH	J24189025		41-		
X 301	XTAL				UM-5.2S 21.25MHZ	S8101424		1-		
X 302	CERAMIC DISC				CDBCB450KCAY24-R0	H7901340		1-		

Note



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