STANDARD HORIZON

25 Watt VHF/FM Marine Transceiver

QUANTUM Series GX5000S

SERVICE MANUAL

EM028N90A

Specifications

GENERAL

Channels:	All USA, International, and Canadian
Input Voltage:	13.8 VDC ±20%
Current Drain:	Standby 0.5 A
	Receive 1.5 A
	Transmit 5.0 A (Hi); 1.5 A (Lo)
Dimensions (H x W x D):	3.5″ x 9.1″ x 5.9″ (90 x 230 x 150 mm)
Flush-Mount Dimensions (H x W x D):	2.8″ x 8.1″ x 5.1″ (72 x 205 x 130 mm)
Weight:	3.2 lbs (1.45 kg)

TRANSMITTER

Frequency Range:	156.025 to 157.425 MHz
RF Output:	25 W (Hi); 1 W (Lo)
Conducted Spurious Emissions:	80 dB (Hi); 66 dB (Lo)
Audio Response:	within +1/–3 of a 6 dB/octave pre-emphasis characteristic at 300 to 3000 Hz
Audio Distortion:	5 %
Modulation:	16K0G3E, for DSC 16K0G2B
Frequency Stability:	±0.0005% (–20°C to +60°C)
FM Hum and Noise:	50 dB

RECEIVER

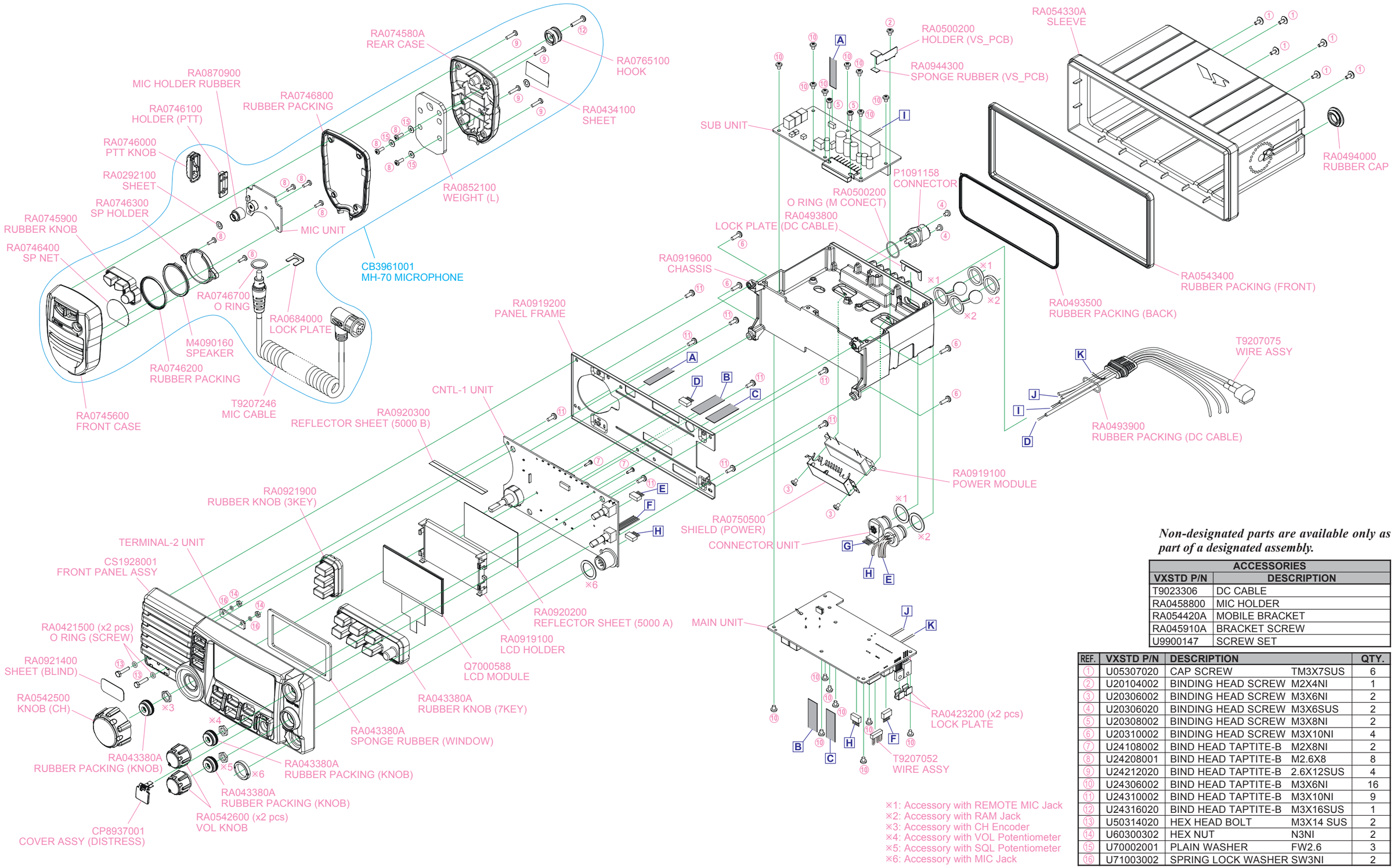
Frequency Range:	156.050 to 163.275 MHz
Sensitivity:	12 dB SINAD 0.30 μV
	Squelch Sensitivity (Threshold) 0.13 μV
Modulation Acceptance Bandwidth:	±7.5 kHz
Selectivity:	better than –80 dB (Spurious and Image Rejection)
	better than –80 dB (Intermodulation and Rejection at 12 dB SINAD)
Audio Output:	4.5 W
Audio Response:	within +1/–3 of a 6 dB/octave de-emphasis characteristic at 300 to 3000 Hz
Frequency Stability:	±0.0005 % (–20°C to +60°C)
Channel Spacing:	25 kHz
DSC Format:	EN 301 025
NMEA Input/Output:	Output - DSC, DSE
	Input - GLL, GGA, RMC, and GNS

Performance specifications are nominal, unless otherwise indicated, and are subject to change without notice.

Measurements are made in accordance with EN301 025. All stated specifications are subject to change without notice or obligation.

Important Note

This transceiver was assembled using Pb (lead) free solder, based on the RoHS specification.
Only lead-free solder (Alloy Composition: Sn-3.0Ag-0.5Cu) should be used for repairs performed on this apparatus. The solder stated above utilizes the alloy composition required for compliance with the lead-free specification, and any solder with the above alloy composition may be used.



※1: Accessory with REMOTE MIC Jack
※2: Accessory with RAM Jack
※3: Accessory with CH Encoder
※4: Accessory with VOL Potentiometer
※5: Accessory with SQL Potentiometer
※6: Accessory with MIC Jack

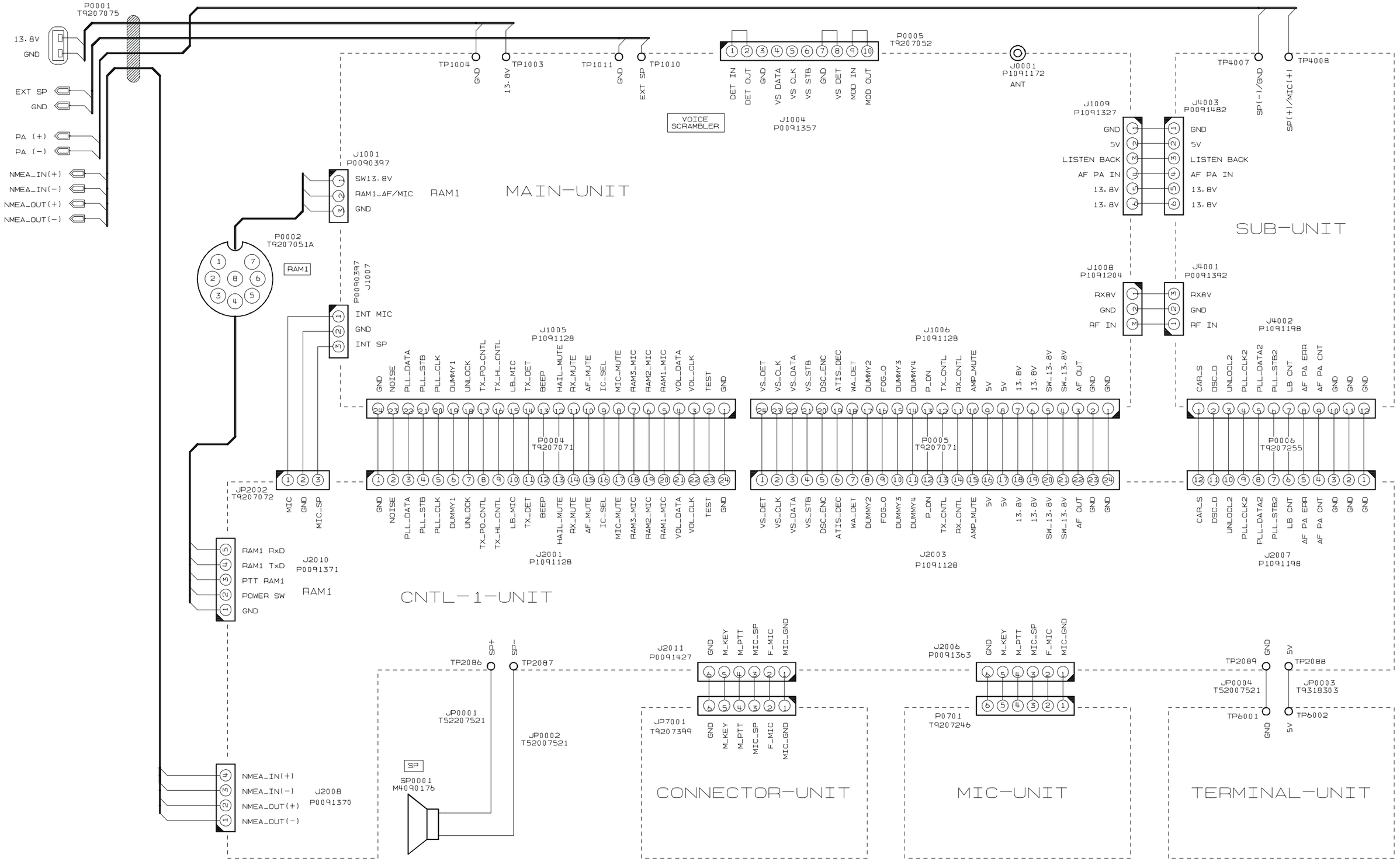
Non-designated parts are available only as part of a designated assembly.

ACCESSORIES	
VXSTD P/N	**DESCRIPTION**
T9023306	DC CABLE
RA0458800	MIC HOLDER
RA054420A	MOBILE BRACKET
RA045910A	BRACKET SCREW
U9900147	SCREW SET

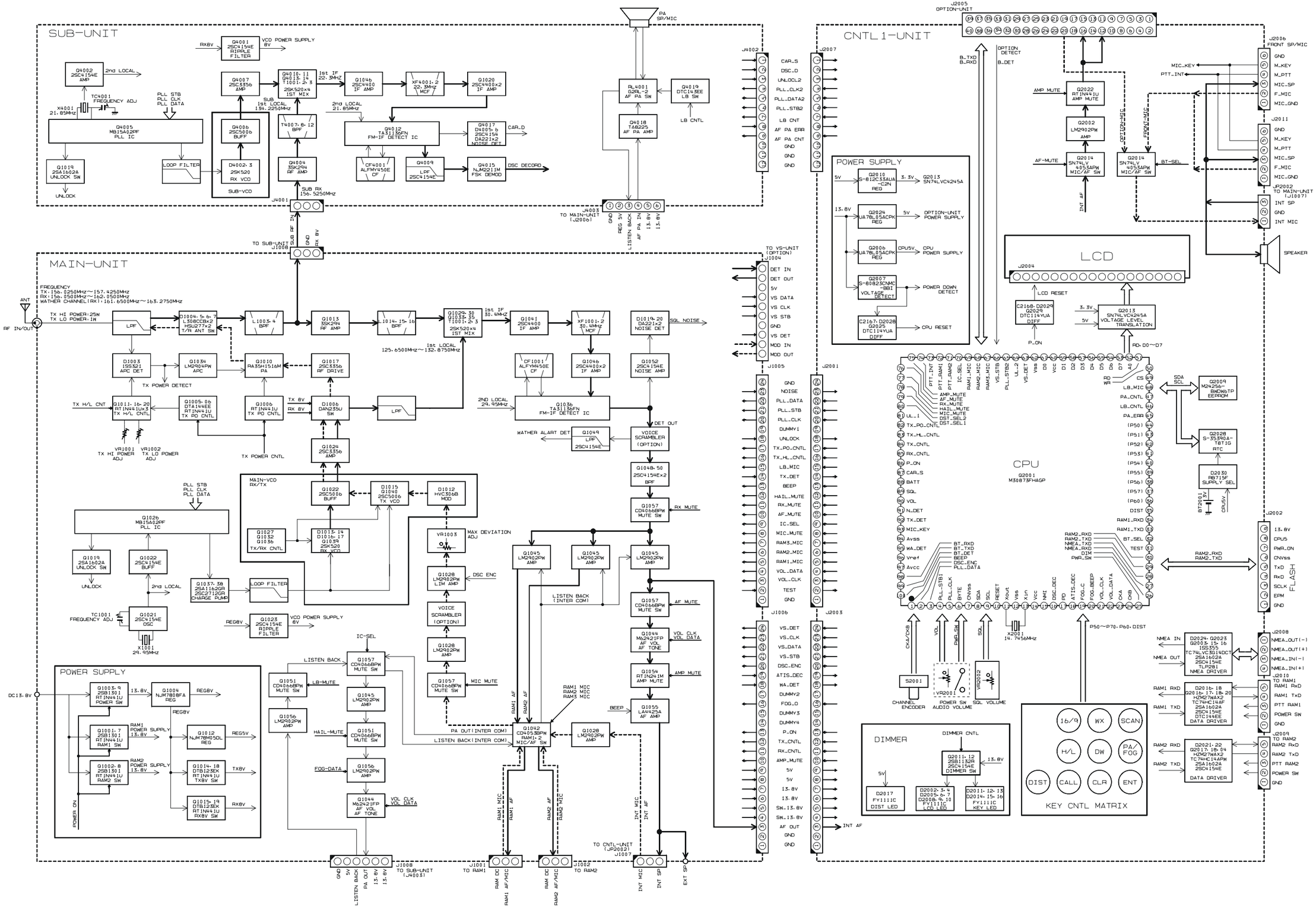
REF.	VXSTD P/N	DESCRIPTION		QTY.
①	U05307020	CAP SCREW	TM3X7SUS	6
②	U20104002	BINDING HEAD SCREW	M2X4NI	1
③	U20306002	BINDING HEAD SCREW	M3X6NI	2
④	U20306020	BINDING HEAD SCREW	M3X6SUS	2
⑤	U20308002	BINDING HEAD SCREW	M3X8NI	2
⑥	U20310002	BINDING HEAD SCREW	M3X10NI	4
⑦	U24108002	BIND HEAD TAPTITE-B	M2X8NI	2
⑧	U24208001	BIND HEAD TAPTITE-B	M2.6X8	8
⑨	U24212020	BIND HEAD TAPTITE-B	2.6X12SUS	4
⑩	U24306002	BIND HEAD TAPTITE-B	M3X6NI	16
⑪	U24310002	BIND HEAD TAPTITE-B	M3X10NI	9
⑫	U24316020	BIND HEAD TAPTITE-B	M3X16SUS	1
⑬	U50314020	HEX HEAD BOLT	M3X14 SUS	2
⑭	U60300302	HEX NUT	N3NI	2
⑮	U70002001	PLAIN WASHER	FW2.6	3
⑯	U71003002	SPRING LOCK WASHER	SW3NI	2

Exploded View & Miscellaneous Parts

Note


P0001
T9207075
13.8V
GND
EXT SP
GND
PA (+)
PA (-)
NMEA_IN(+)
NMEA_IN(-)
NMEA_OUT(+)
NMEA_OUT(-)
TP1004
GND
13.8V
TP1003
TP1011
GND
EXT SP
TP1010
P0005
T9207052
DET IN
DET OUT
GND
VS DATA
VS CLK
VS STB
GND
VS DET
MOD IN
MOD OUT
J1004
P0091357
VOICE SCRAMBLER
J0001
P1091172
ANT
TP4007
SP(-)/GND
TP4008
SP(+)/MIC(+)
J1009
P1091327
GND
5V
LISTEN BACK
AF PA IN
13.8V
13.8V
J4003
P0091482
GND
5V
LISTEN BACK
AF PA IN
13.8V
13.8V
SUB-UNIT
J1001
P0090397
SW13.8V
RAM1_AF/MIC
GND
RAM1
MAIN-UNIT
P0002
T9207051A
RAM1
P0090397
J1007
INT MIC
GND
INT SP
J1005
P1091128
GND NOISE PLL_DATA PLL_STB PLL_CLK DUMMY1 UNLOCK TX_PO_CNTL TX_HL_CNTL LB_MIC TX_DET BEEP HAIL_MUTE RX_MUTE AF_MUTE IC_SEL MIC_MUTE RAM3_MIC RAM2_MIC RAM1_MIC VOL_DATA VOL_CLK TEST GND
P0004
T9207071
J2001
P1091128
J1006
P1091128
VS_DET VS_CLK VS_DATA VS_STB DSC_ENC ATIS_DEC WA_DET DUMMY2 FOG_O DUMMY3 DUMMY4 P_ON TX_CNTL RX_CNTL AMP_MUTE 5V 5V 13.8V 13.8V SW_13.8V SW_13.8V AF OUT GND GND
P0005
T9207071
J2003
P1091128
J1008
P1091204
RX8V
GND
RF IN
J4001
P0091392
RX8V
GND
RF IN
J4002
P1091198
CAR_S DSC_D UNLOCL2 PLL_CLK2 PLL_DATA2 PLL_STB2 LB CNT AF PA ERR AF PA CNT GND GND GND
P0006
T9207255
J2007
P1091198
J2010
P0091371
RAM1 RxD
RAM1 TxD
PTT RAM1
POWER SW
GND
RAM1
JP2002
T9207072
MIC
GND
MIC_SP
CNTL-1-UNIT
J2008
P0091370
NMEA_IN(+)
NMEA_IN(-)
NMEA_OUT(+)
NMEA_OUT(-)
TP2086
SP+
SP-
TP2087
JP0001
T52207521
JP0002
T52007521
SP
SP0001
M4090176
J2011
P0091427
GND M_KEY M_PTT MIC_SP F_MIC MIC_GND
JP7001
T9207399
GND M_KEY M_PTT MIC_SP F_MIC MIC_GND
CONNECTOR-UNIT
J2006
P0091363
GND M_KEY M_PTT MIC_SP F_MIC MIC_GND
P0701
T9207246
MIC-UNIT
TP2089
GND
5V
TP2088
JP0004
T52007521
JP0003
T9318303
TP6001
GND
5V
TP6002
TERMINAL-UNIT

Block Diagram



Reception and transmission are switched by 16-bit MPU IC **Q2001** (**M30873FHAGP**) on the CNTL-1 Unit. The receiver uses double-conversion superheterodyne circuitry, with a 30.4 MHz 1st IF and 450 kHz 2nd IF. The 1st local is produced by a PLL synthesizer, yielding the 30.4 MHz 1st IF. The 2nd local uses a 29.950 MHz crystal oscillator, yielding the 450 kHz 2nd IF. 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 is 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 Main Unit, and pass through a low-pass filter (LPF) consisting of coils L1001 & L1002 and capacitors C1007, C1014, & C1035, and antenna switching diode **D1005** (**L303CCB**) for delivery to the receiver front end.

Signals within the frequency range of the transceiver are passed through a bandpass filter consisting of coils L1003 & L1004 and capacitors C1017, C1019, C1029, C1038, & C1042, before RF amplifier **Q1013** (**3SK294**).

The amplified RF is passed through a bandpass filter consisting of coils L1014, L1015, & L1016 and capacitors C1102, C1104, C1108, C1111, C1112, C1114, & C1117. The pure in-band input signal is delivered to the main 1st mixer which consists of balun transformers (T1001, T1002, and T1003) and FETs **Q1029**, **Q1030**, **Q1033**, and **Q1035** (all **2SK520**).

Buffered output from the MAIN VCO is amplified by **Q1031** (**2SC5006**) and **Q1024** (**2SC3356**) and low-pass filtered by coils L1020 & L1021 and capacitors C1148, C1155, C1165, C1173, & C1175, to provide a pure 1st local signal between 125.65 and 131.625 MHz for delivery to the main 1st mixer.

The 30.4 MHz 1st mixer product is amplified by **Q1041** (**2SC4400**), then passes through monolithic crystal filters XF1001 and XF1002 (±6.5 kHz BW), and is amplified by **Q1046** (**2SC4400**).

After that, it delivered to the input of the FM IF subsystem IC **Q1047** (**TA31136FNG**). This IC contains the 2nd mixer, 2nd local oscillator, limiter amplifier, FM detector, noise amplifier, and squelch gates.

The 2nd local in the FM IF subsystem IC is produced from crystal X1001 (29.950 MHz), and the 1st IF is converted to 450 kHz by the 2nd mixer and stripped of unwanted components by ceramic filter CF1001.

After passing through a limiter amplifier, the signal is demodulated by the FM detector. Demodulated audio from the FM IF subsystem IC is amplified by **Q1048** and **Q1050** (both **2SC4154**). The amplified signal is passed through the AF selector switch **Q1057** (**CD4066BPWR**) to the amplifier **Q1045** (**LM2902PWR**). The amplified signal is passed through the AF mute switch **Q1057** (**CD4066BPWR**) and the electronic volume control IC **Q1044** (**M62421FP**). The adjusted audio signal is passed through the AF mute switch **Q1054** (**RT1N441U**) to the AF power amplifier **Q1055** (**LA4425A**).

The amplified audio signal is delivered to the 8 Ohms internal loudspeaker and external Speaker terminal in the accessory cable.

PLL Synthesizer

The 1st Local signal maintains stability from the PLL synthesizer by using a 29.950 MHz reference signal from crystal X1001. PLL synthesizer IC **Q1026** (**MB15A2PFV1**) consists of a prescaler, reference counter, swallow counter, programmable counter, a serial data input port to set these counters based on the external data, a phase comparator, and applied to the external charge pump which is comprised of **Q1037** (**2SA1162GR**), **Q1038** (**2SC2712GR**) and **D1010** (**HZU5ALL**).

The PLL synthesizer IC divides the 29.950 MHz reference signal by 2396 using the reference counter (12.5 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 consists of **Q1039** (**2SK520**) and varactor diodes **D1013**, **1014**, **1016**, & **1017** (all **HVC306B**), which oscillates at 30.4 MHz below from the receiving frequency. The TX VCO consists of **Q1040** (**2SC5006**) and varactor diode **D1015** (**HVC306B**), which oscillates at the fundamental transmit frequency during a transmit with direct frequency-modulation using varactor diode **D1012** (**HVC306B**). The VCO output passes through buffer amplifier **Q1031** (**2SC5006**) and **Q1024** (**2SC3356**) to obtain stable output, then applied to the main 1st mixer of.

The DC supply for the VCO is regulated by **Q1023** (**2SC4154**).

The SUB VCO (on the SUB Unit) consists of **Q4008** (**2SK520**) and varactor diodes **D4002** and **D4003** (both

Circuit Description

HVC306B), which oscillates at 134.225 MHz for the CH70 receiving. The SUB VCO output passes through buffer amplifier **Q4006** (**2SC5006**) to obtain stable output. The SUB VCO output is passed through another buffer amplifier **Q4007** (**2SC3356**) to the sub 1st mixer which consists of balun transformers (T4001, T4002, and T4003) and FETs **Q4010**, **Q4011**, **Q4013**, and **Q4014** (all **2SK520**) during receiving.

The DC supply for the SUB VCO is regulated by **Q4001** (**2SC4154**).

Transmitter

The voice from the microphone is delivered to the Main Unit via the selector switch **Q2014** (**SN74LV4053APWR**) on the CNTL-1 Unit. After passing through microphone amplifier **Q1028** (**LM2902PWR**), a pre-emphasis network, limiter (IDC: instantaneous deviation control), and low-pass filter network, the audio is adjusted for optimum deviation level.

The voice or DSC (Digital Selective Calling) encoded signal from the low-pass filter network **Q1028** (**LM2902PWR**) is applied to the TX VCO which oscillates at the fundamental transmit frequency with direct frequency-modulation using varactor diode **D1012** (**HVC306B**). The modulated signal is amplified by the buffer amplifier **Q1031** (**2SC5006**) and **Q1024** (**2SC3356**), then passed through the diode switch **D1008** (**DAN235U**) to drive amplifiers **Q1017** (**2SC3356**) and RF power amplifier module **Q1010** (**RA35H1516M**).

The RF energy then passes through antenna switch **D1006** (**HSU277TRF**) and low-pass filter (LPF) consisting of coils L1009 & L1010 and capacitors C1010, C1017, & C1038, and finally to the antenna connector.

RF output power from the RF power amplifier module **Q1010** (**RA35H1516M**) is sampled by C1018 and C1022 and is rectified by **D1003** (**1SS321**). The resulting DC is fed through Automatic Power Controllers **Q1034** (**LM2904PWR**) to RF power amplifier module **Q1010** (**RA35H1516M**), thus providing positive 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. Additional harmonic suppression is provided by a low-pass filter consisting of coils and capacitors, resulting in more than 80 dB of harmonic suppression prior to delivery of the RF energy to the antenna.

DSC Encoder/ Decoder

Encoder

The DSC (Digital Selective Calling) encode signal which D/A converted in the 16-bit MPU **Q2001** (**M30873FHAGP**) on the CNTL-1 Unit is fed through the low-pass filter **Q1028** (**LM2902PWR**) on the Main Unit to the TX VCO **Q1040** (**2SC5006**).

Decoder

The RF modulated in DSC code on the CH70 from the antenna connector are passed through a SUB-RX RF amplifier **Q4004** (**3SK294**) to the bandpass filter consisting of coils L4007, L4008, & L4012 and capacitors C4044, C4047, C4051, C4056, C4060, C4063, & C4069, then the filtered signal deliver to the sub 1st mixer which consists of balun transformers (T4001, T4002, and T4003) and FETs **Q4010**, **Q4011**, **Q4013**, and **Q4014** (all **2SK520**).

Buffered output from the SUB VCO **Q4008** (**2SK520**) is amplified by **Q4007** (**2SC3356**) and **Q4006** (**2SC5006**) and bandpass filtered by coils L4015 & L4017 and capacitors C4081, C4085, C4087, C4089, C4090, & C4094, to provide a pure 1st local signal (134.225 MHz) for delivery to the sub 1st mixer.

The 22.3 MHz 1st mixer product then passes through monolithic crystal filters XF4001 and XF4002 (±6.5 kHz BW) and buffer amplifier **Q4016** and **Q4020** (both **2SC4400**), then deliver to the SUB-RX FM IF subsystem IC **Q4012** (**TA31136FNG**). This IC contains the 2nd mixer, 2nd local oscillator, limiter amplifier, FM detector, noise amplifier, and squelch gates.

The 2nd local is produced by crystal X4001 (21.850 MHz) then deliver to the 2nd mixer in the SUB-RX FM IF subsystem IC **Q4012** (**TA31136FNG**). The 1st IF is converted to 450 kHz by the 2nd mixer and stripped of unwanted components by a ceramic filter CF4001.

Filtered signal from the ceramic filter CF4001 is applied to the limiter amplifier in the SUB-RX FM IF subsystem IC **Q4012** (**TA31136FNG**), and then demodulate by the FM detector in the SUB-RX FM IF subsystem IC **Q4012** (**TA31136FNG**). Demodulated signal from the SUB-RX FM IF subsystem IC **Q4012** (**TA31136FNG**) is passes through the low-pass filter **Q4009** (**2SC4154**) to the DSC Decoder IC **Q4015** (**NJM2211M**). The decoded DCS signal delivered to the 16-bit MPU IC **Q2001** (**M30873FHAGP**).

The SUB-RX 1st Local signal maintains stability from the PLL synthesizer by using a 21.850 MHz reference signal from crystal X4001. PLL synthesizer IC **Q4005** (**MB15A02PFV1**) consists of a prescaler, reference counter, swallow counter, programmable counter, a serial data input port to set these counters based on the external data, a phase comparator, and a charge pump.

The PLL synthesizer IC divides the 21.850 MHz reference signal by 1748 using the reference counter (12.5 kHz comparison frequency). The reference oscillator feeds to the PLL synthesizer IC **Q4005** (**MB15A02PFV1**) for the 2nd local signal.

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.

The SUB VCO consists of **Q4008** (**2SK520**) and varactor diode **D4002** and **D4003** (both **HVC306B**), which oscillates at 134.225 MHz. The SUB VCO output passes through buffer amplifier **Q4006** (**2SC5006**) to obtain stable output.

1050 Hz Weather Alert Decoder

On the Main Unit, 1050 Hz Weather Alert signal from the FM IF subsystem IC **Q1047** (**TA31136FNG**) is filtered by **Q1049** (**2SC4154**), then is applied to 16-bit MPU IC **Q2001** (**M30873FHAGP**) on the CNTL-1 Unit.

PA (Public Address) Circuit

The voice from the microphone is delivered to the Main Unit. This audio is amplified by **Q1028** (**LM2902PWR**), then passes the MIC select switch **Q1042** (**CD4053BPWR**) and the IC/MIC select switch **Q1057** (**CD4066BPWR**) to the buffer amplifier **Q1045** (**LM2902PWR**). The amplified audio passes through the LB/HAIL select switch **Q1051** (**CD4066BPWR**) to the buffer amplifier **Q1056** (**LM2904PWR**). The amplified audio is delivered to the electronic volume control IC **Q1044** (**M62421FP**) for volume control. The adjusted audio is delivered to the audio power amplifier **Q4018** (**TA8225HQ**) on the SUB Unit which is amplified the voice audio up to 30 watts, and then passes through the relay switch RL4001 to the external PA speaker.

LB (Listen Back) Circuit

The listen back audio from the PA speaker is delivered to the SUB Unit. The audio is passed through the relay switch RL4001 and buffer amplifier **Q1056** (**LM2904PWR**) to the LB/HAIL selector switch **Q1051** (**CD4066BPWR**), then passes through the MUTE switch **Q1057** (**CD4066BPWR**) to the buffer amplifier **Q1045** (**LM2902PWR**). The audio then passes through the AF MUTE switch **Q1057** (**CD4066BPWR**) to the electronic volume control IC **Q1044** (**M62421FP**) for volume control. The adjusted audio is delivered to the audio power amplifier **Q1055** (**LA4425A**) which is amplified the voice audio up to 4.5 watts, and then deliver to the internal or external speaker.

A portion of the audio from the **Q1057** (**CD4066BPWR**) is passed through the buffer amplifier **Q1045** (**LM2902PWR**) and MIC select switch **Q1042** (**CD4053BPWR**) to the RAM microphones, if connected.

Fog Horn Circuit

A 400 Hz square wave for foghorn is generated by the microprocessor **Q2001** (**M30873FHAGP**) on the CNTL-1 Unit, then deliver to the Main Unit. A 400 Hz square wave passes through the buffer amplifier **Q1056** (**LM2904PWR**) to the electronic volume control IC **Q1044** (**M62421FP**) for volume control. The adjusted audio is delivered to the audio power amplifier **Q4018** (**TA8225HQ**) which is amplified the voice audio up to 30 watts, and then passes through the relay switch RL4001 to the external PA speaker.

MPU

Operation is controlled by 16-bit MPU IC **Q2001** (**M30873FHAGP**) on the CNTL-1 Unit. This MPU uses a 14.74560 MHz crystal X2001 for the system clock. IC Q2007 and a transistor **Q2025** (**DTC114YUA**) resets the MPU when the power is on, and monitors the voltage of the regulated 5V power supply line.

EEPROM

The EEPROM **Q2009** (**M24256**) on the CNTL-1 Unit retains TX and RX data for all memory channels, prescaler dividing, IF frequency, local oscillator injection side, and reference oscillator data.

Note

The **GX5000S** has been carefully aligned at the factory for the specified performance across the marine 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 Standard Horizon 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 Standard Horizon 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 Standard Horizon 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, Standard Horizon, a division of 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.

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.

Required Test Equipment

- ❒ RF Signal Generator with calibrated output level at 200 MHz
- ❒ Deviation Meter (linear detector)
- ❒ AF Millivoltmeter
- ❒ SINAD Meter
- ❒ Inline Wattmeter with 5% accuracy at 200 MHz
- ❒ Regulated DC Power Supply: 13.8 VDC, 10A
- ❒ 50-ohm Non-reactive Dummy Load: 30W at 200 MHz
- ❒ Frequency Counter: >0.1 ppm accuracy at 200 MHz
- ❒ AF Signal Generator
- ❒ DC Voltmeter: high impedance
- ❒ VHF Sampling Coupler
- ❒ AF Dummy Load: 4 Ohms, 10 W
- ❒ Oscilloscope
- ❒ Spectrum Analyzer
- ❒ CP160 GPS/Chart Plotter
- ❒ GX2360S Marine Transceiver

Alignment Preparation & Precautions

A dummy load and inline wattmeter must be connected to the main antenna jack in all procedures that call for transmission. 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.

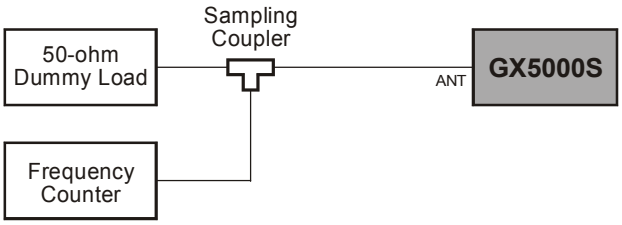
Correct alignment requires that the ambient temperature be the same as that of the transceiver and test equipment, and that this temperature be held constant between 68 °F and 86 °F (20 °C and 30 °C). When the transceiver is brought into the shop from hot or cold air it should be allowed some time for 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.

Note: Signal levels in dB referred to in this procedure are based on 0 dBμ = 0.5 μV (closed circuit).

Alignment

Main Reference Frequency Adjustment

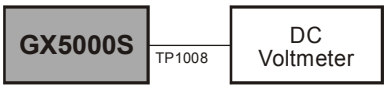
❒ Setup the test equipment as shown below.



❒ Set the channel to CH16.
❒ Use the [**H/L**] key to set the transceiver to "LOW" power.
❒ With the **PTT** switch pressed, adjust **TC1001** so that the Frequency Counter reading is 156.800 MHz ±100 Hz.

Main VCV Adjustment

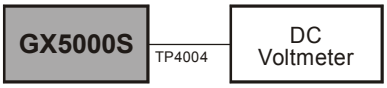
❒ Setup the test equipment as shown below.



❒ Set the channel to CH16.
❒ Set the **SQL** knob fully counter clockwise.
❒ Adjust **TC1002** so that the DC voltmete reading is 1.5 V ±0.1 V.

Sub Reference Frequency Adjustment

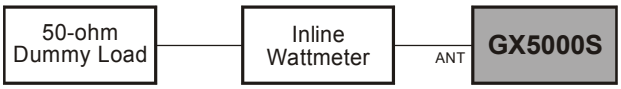
❒ Setup the test equipment as shown below.



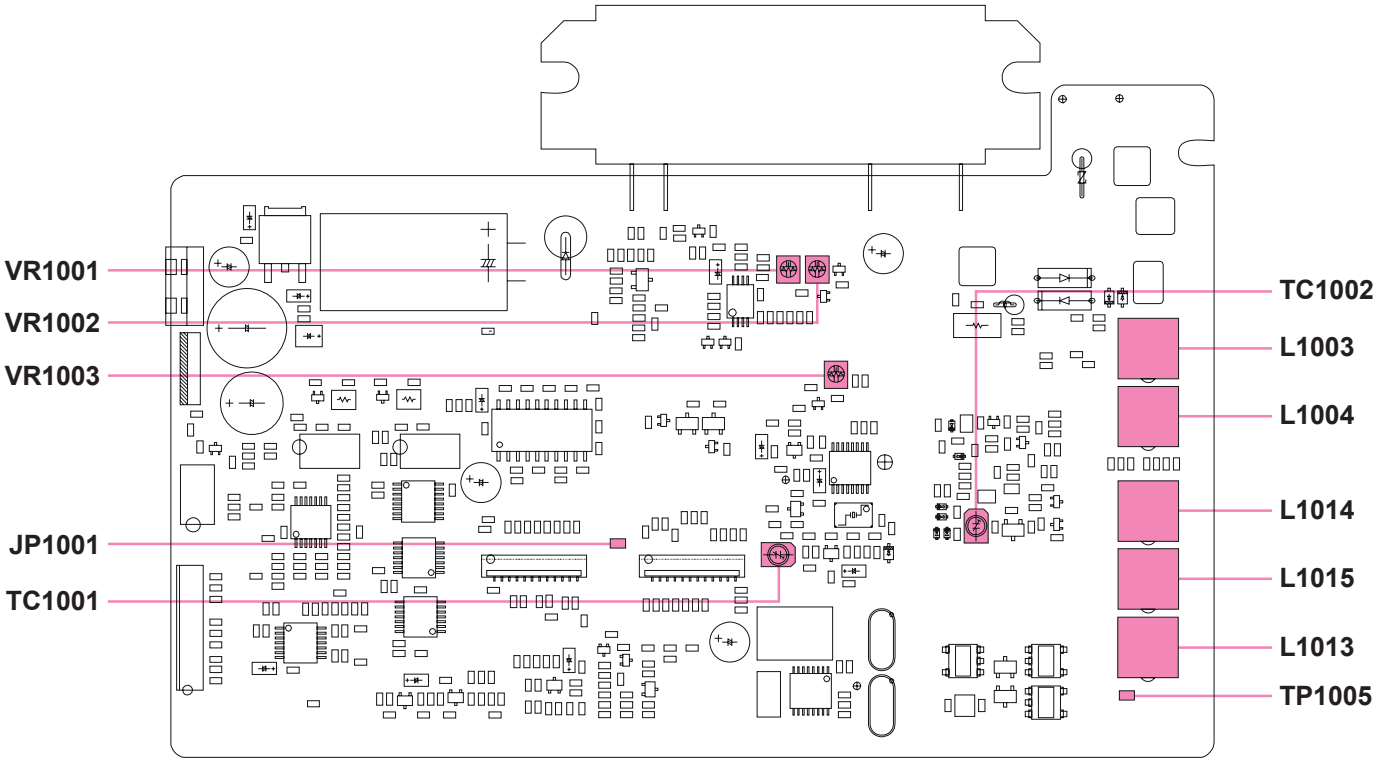
❒ Adjust **TC4001** so that the Frequency Counter reading is 134.225 MHz ±100 Hz.

Transmit Power Adjustment

❒ Setup the test equipment as shown below.



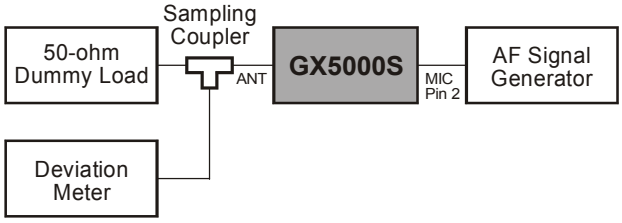
❒ Set the channel to CH16.
❒ Use the [**H/L**] key to set the transceiver to "HI" power.
❒ With the **PTT** switch pressed, adjust **VR1001** so that RF output power is 24 W ±0.3 W.
❒ Release the **PTT** switch, then set the transceiver to "LOW" power by the [**H/L**] key.
❒ With the **PTT** switch pressed, adjust **VR1001** so that RF output power is 0.8 W ±0.1 W.
❒ Release the **PTT** switch.



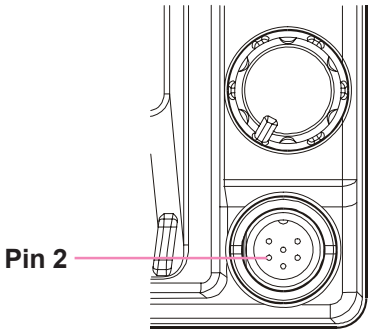
MAIN UNIT ALIGNMENT POINT

TX Deviation Adjustment

❒ Setup the test equipment as shown below.



❒ Set the AF Signal Generator output to 100 mVrms at 1 kHz.
❒ Set the channel to CH16.
❒ With the **PTT** switch pressed, adjust **VR1003** so that the maximum deviation is 4.4 kHz ±0.1 kHz.
❒ Release the **PTT** switch.

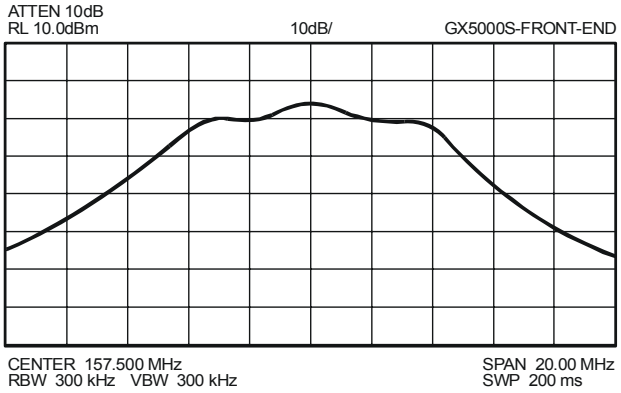


Receiver Front-end Adjustment

❒ Setup the test equipment as shown below.

❒ Set the spectrum analyzer as shown below:
- ❍ CENTER: 157.500 MHz
- ❍ SPAN: 20.000 MHz
- ❍ RBW, VBW: 300 kHz
- ❍ SWP: 200 ms

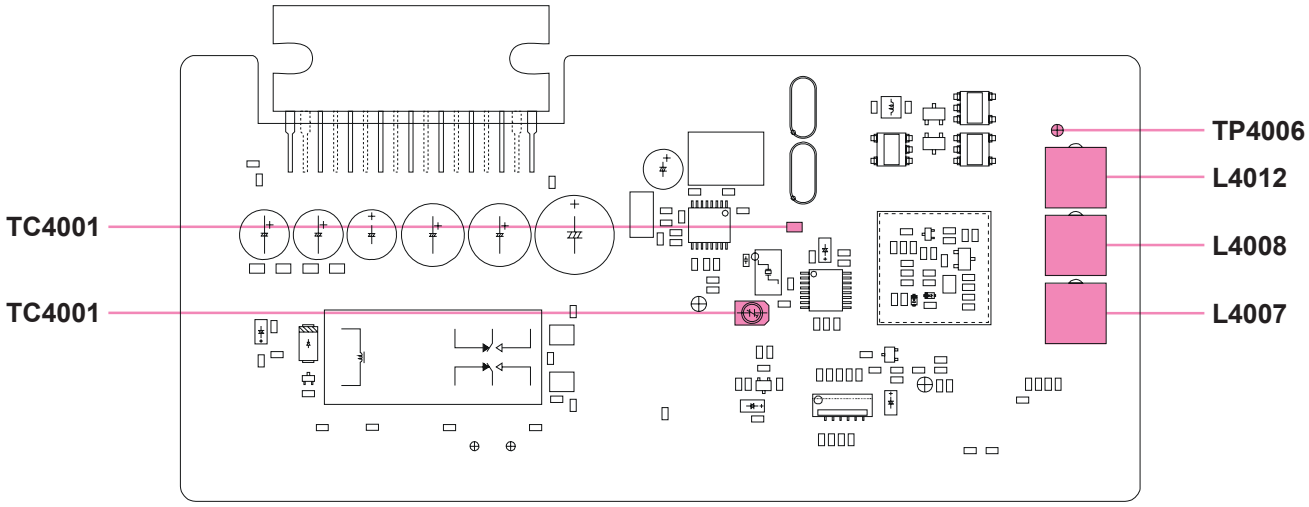
❒ Adjust **L1003**, **L1004**, **L1014**, **L1015**, and **L1016** until the wave form shown in below is obtained.



Sub Receiver Front-end Adjustment

❒ Setup the test equipment as shown below.

❒ Set the RF Signal Generator output to 156.525 MHz, at a level of +10 dBμ ±3.0 kHz deviation with a 1 kHz audio tone.
❒ Adjust **L4012**, **L4008**, and **L4007** for maximu indication on the DC voltmeter.



SUB-RX UNIT ALIGNMENT POINT

Alignment

Software Alignment/Confirmation Mode

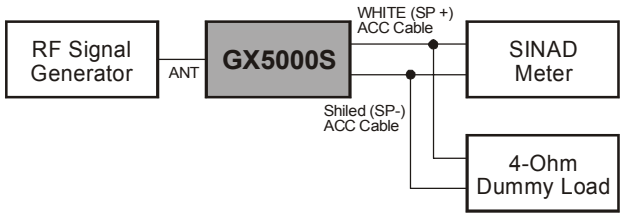
Overview of Software Alignment Mode

The "Software Alignment Mode" has been build in the microprocessor in order to adjust and confirm the performance of transceiver.

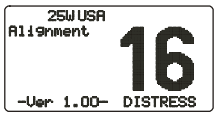
The purpose is to adjust transceiver simply and to confirm the performance of transceiver smoothly.

Starting Software Alignment Mode

- ❒ Confirm that the transceiver's power is turned off.
- ❒ Short the TEST points (**JP1001**).
- ❒ Setup the test equipment as shown below.



- ❒ Press and hold the **PWR** switch until the radio turns on while press and holding the [**CALL**(**MENU**)] and [**DISTRESS**] keys. The LCD will be as shown in the illustration at the right.

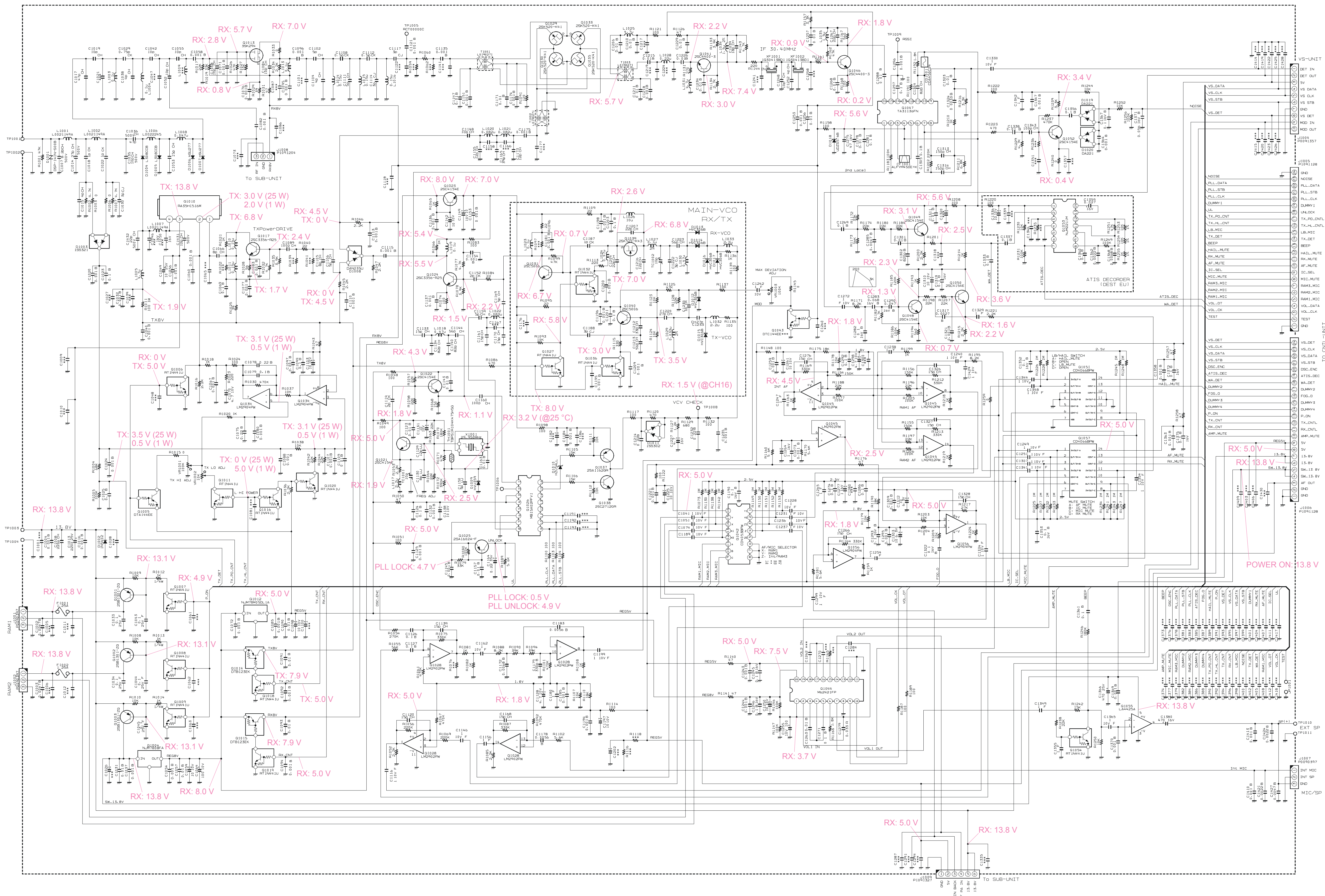


- ❒ Press the [**SCAN**] key to recall the Alignment Item 04: THRESH.
- ❒ Set the RF Signal Generator output to 156.800 MHz, at a level of –8dBμ ±3.0 kHz deviation with a 1 kHz audio tone.
- ❒ Press the [**DW**(**IC**)] key.
- ❒ Press the [**ENT**] key to save the new setting.
- ❒ Press the [**SCAN**] key to recall the Alignment Item 05: TIGHT.
- ❒ Set the RF Signal Generator output to 156.800 MHz, at a level of +2dBμ ±3.0 kHz deviation with a 1 kHz audio tone.
- ❒ Press the [**DW**(**IC**)] key.
- ❒ Press the [**ENT**] key to save the new setting.
- ❒ Press the [**SCAN**] key to recall the Alignment Item 06: CH70SQL.
- ❒ Set the RF Signal Generator output to 156.525 MHz, at a level of –6dBμ ±3.0 kHz deviation with a 1 kHz audio tone.
- ❒ Press the [**DW**(**IC**)] key.
- ❒ Press the [**ENT**] key to save the new setting.
- ❒ Press the [**SCAN**] key to recall the Alignment Item 07: DC VOLT.
- ❒ Press the [**DW**(**IC**)] key.
- ❒ Press the [**ENT**] key to save the new setting.

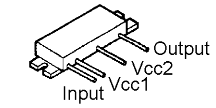
This completes the Software Alignment Mode. To save all settings and exit, press and hold the [**DISTRESS**] key for 2 seconds. Turn the transceiver's power off, then disconnect the Jumper from the TEST points (JP1001).

MAIN Unit

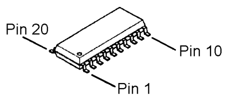
Circuit Diagram



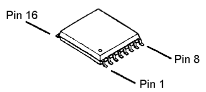
Note



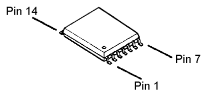
RH35H1516M
(Q1010)



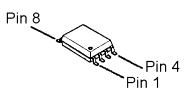
M62421FP
(Q1044)



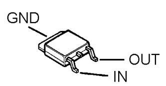
CD4053BPWR
(Q1042)
MB15A02PFV1
(Q1026)
TA31136FN
(Q1047)



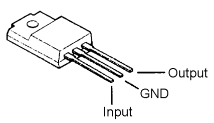
CD4066BPWR
(Q1051, 1057)
LM2902PWR
(Q1028, 1045)



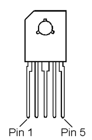
LM2904PWR
(Q1034)



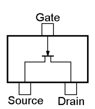
NJM78M05DL1A
(Q1012)



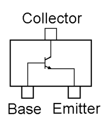
NJM7808FA
(Q1004)



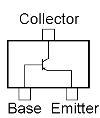
LA4425A
(Q1055)



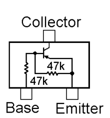
2SK520 (K41)
(Q1029, 1033, 1039)



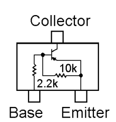
2SC3356 (R24)
(Q1017)
2SC4154 (LE)
(Q1021, 1022, 1048, 1049, 1050, 1052)
2SC5006 (24)
(Q1031, 1040)



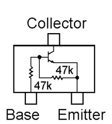
2SA1602A (MF)
(Q1025)
ISA1602AM1 (MF)
(Q1025)



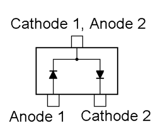
DTA144EE (16)
(Q1005)



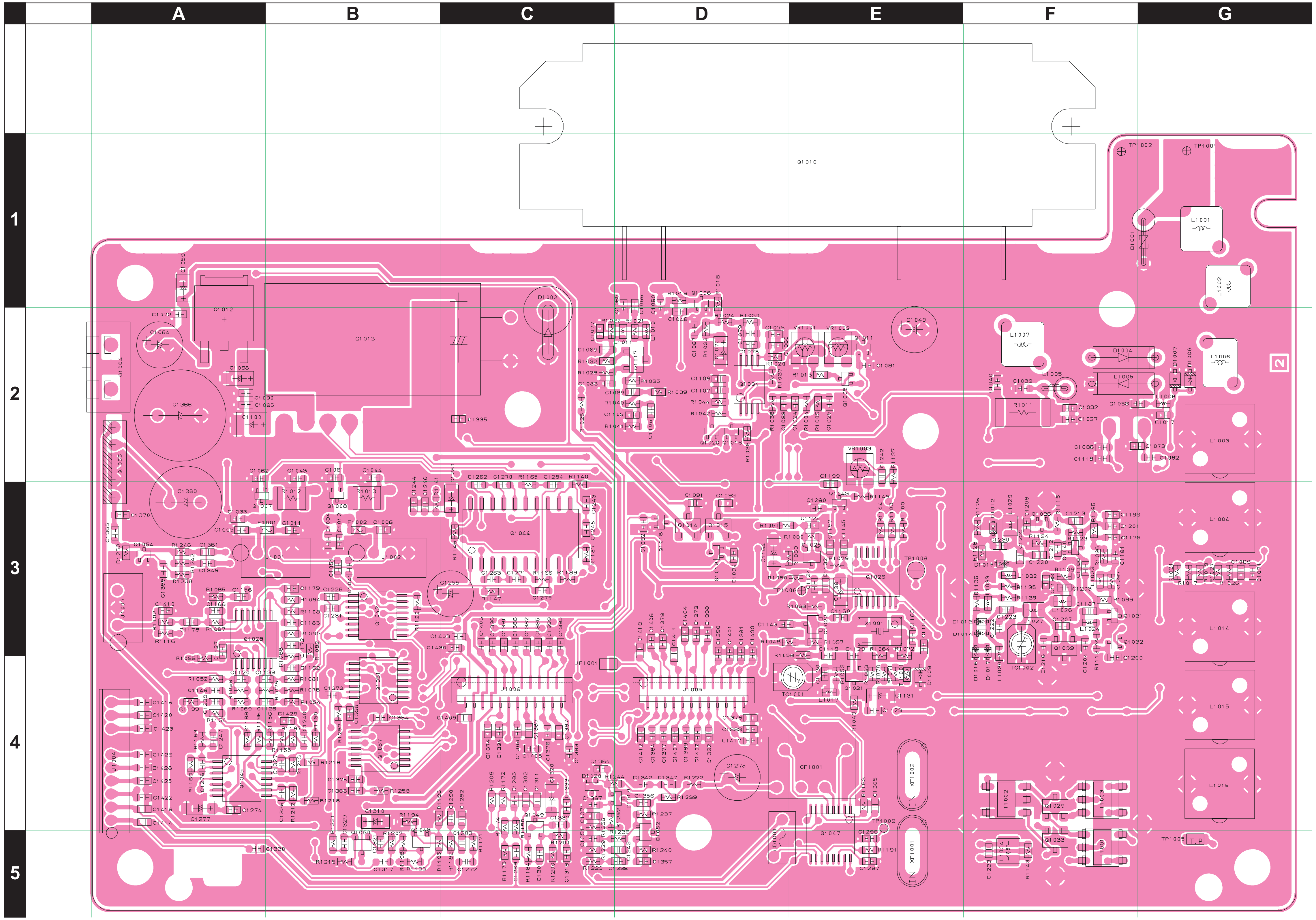
DTB123EK (F52)
(Q1014, 1015)



RT1N441U (N3)
(Q1006, 1007, 1008, 1011, 1016, 1018, 1019, 1020, 1032, 1036, 1054)

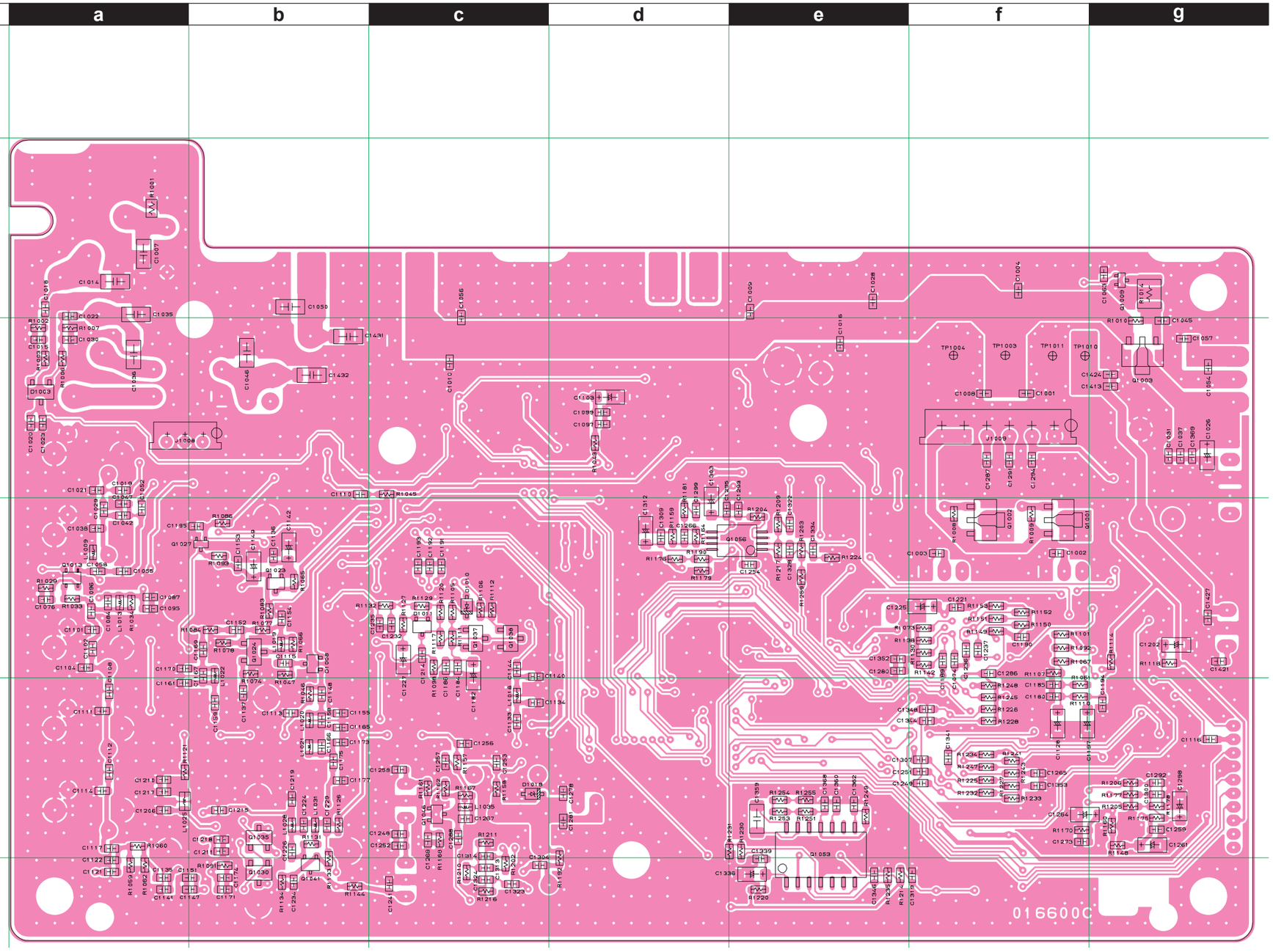


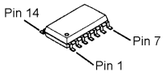
DA221 (K)
(D1019, 1020)



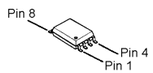
MAIN Unit

Parts Layout (Side B)



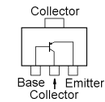


NJM2211M
(Q1053)



LM2904PWR
(Q1056)

2SA1162GR (SG)
(Q1037)



2SB1301 (ZQ)
(Q1001, 1002, 1003)

3SK294 (UV)
(Q1013)

2SK520 (K41)
(Q1030, 1035)

2SC2712GR (LG)
(Q1038)
2SC3356 (R24)
(Q1024)
2SC4154 (LE)
(Q1023)
2SC4400 (RT4)
(Q1041, 1046)

RT1N441U (N3)
(Q1009, 1027)

1SS302 (C3)
(D1011)

1SS321 (F9)
(D1003)
DAN235U (M)
(D1008)

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
	P.C.B. with Components					CB3978001				
	Printed Circuit Board				AM028N000	FR0166000		1-		
C 1002	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-	B	f3
C 1004	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f1
C 1007	CHIP CAP.	8.2pF	500V	CH	1206N8R2D501LT	K22278208		1-	B	a1
C 1008	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	B	f2
C 1013	AL.ELECTRO.CAP.	2200uF	25V		RE3-25V222MI6#	K40149055		1-	A	C2
C 1014	CHIP CAP.	27pF	500V	CH	1206N270J501LT	K22278214		1-	B	a1
C 1015	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	a2
C 1016	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	e2
C 1017	CHIP CAP.	47pF	50V	CH	GRM1882C1H470JA01D	K22174227		1-	A	G2
C 1018	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-	B	a1
C 1019	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	a2
C 1020	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a2
C 1022	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-	B	a1
C 1023	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	a2
C 1024	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E2
C 1025	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	E2
C 1029	CHIP CAP.	0.75pF	50V	CK	GRM1884C1HR75CZ01D	K22174260		1-	B	a3
C 1030	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	B	a2
C 1031	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	g2
C 1032	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	F2
C 1033	CHIP CAP.	0.1uF	25V	F	GRM188F11E104ZA01D	K22145001		1-	A	A3
C 1035	CHIP CAP.	15pF	500V	CH	1206N150J501LT	K22278211		1-	B	a1
C 1036	CHIP CAP.	47pF	500V	CH	1206N470J501LT	K22278217		1-	B	a2
C 1037	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	g2
C 1038	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	a3
C 1040	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	F2
C 1041	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	B3
C 1042	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	a3
C 1043	CHIP CAP.	0.1uF	25V	F	GRM188F11E104ZA01D	K22145001		1-	A	B2
C 1045	CHIP CAP.	0.1uF	25V	F	GRM188F11E104ZA01D	K22145001		1-	B	g2
C 1049	AL.ELECTRO.CAP.	10uF	25V		RC2-25V100ME1#	K40149012		1-	A	E2
C 1051	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	B3
C 1052	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	a3
C 1053	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	F2
C 1054	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	g2
C 1055	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	a3
C 1056	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c1
C 1057	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	g2
C 1058	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a3
C 1059	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	A1
C 1060	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D1
C 1064	AL.ELECTRO.CAP.	100uF	10V		RE2-10V101ME3#	K40109024		1-	A	A2
C 1066	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		1-	A	D1
C 1067	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D2
C 1068	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	A	G3
C 1069	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C2
C 1070	CHIP TA.CAP.	4.7uF	10V		TEMSVA1A475M-8R	K78100022		1-	A	D2
C 1071	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	G3
C 1072	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	A2
C 1074	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f3
C 1075	CHIP CAP.	0.22uF	10V	B	GRM188B11A224KA01D	K22104801		1-	A	D2
C 1076	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a3
C 1077	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	C2
C 1078	CHIP CAP.	0.22uF	10V	B	GRM188B11A224KA01D	K22104801		1-	A	D2
C 1079	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	D2
C 1080	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D2
C 1082	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	G2
C 1083	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	C2
C 1084	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	a3
C 1085	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	A2
C 1088	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D2
C 1089	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	A	D2
C 1090	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	A2
C 1091	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	D3
C 1092	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D3
C 1093	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	D3
C 1094	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D3
C 1095	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a3
C 1096	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a3
C 1097	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d2
C 1098	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	A2

MAIN Unit

Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
C 1099	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d2
C 1102	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-	B	a3
C 1103	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	d2
C 1104	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	a3
C 1105	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		1-	A	D2
C 1106	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-	A	D2
C 1107	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D2
C 1108	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50CZ01D	K22174201		1-	B	a4
C 1109	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	D2
C 1110	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b2
C 1111	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-	B	a4
C 1112	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50CZ01D	K22174201		1-	B	a4
C 1113	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b4
C 1114	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	B	a4
C 1115	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b3
C 1116	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	g4
C 1117	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	B	a4
C 1119	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203		1-	A	E3
C 1120	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	A4
C 1121	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a5
C 1123	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	E4
C 1124	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	E3
C 1125	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E3
C 1126	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	A4
C 1127	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	A3
C 1128	CHIP TA.CAP.	4.7uF	10V		TEMSVA1A475M-8R	K78100022		1-	B	f4
C 1129	CHIP CAP.	12pF	50V	UJ	GRM1883U1H120JZ01D	K22174302		1-	A	E3
C 1130	CHIP CAP.	8pF	50V	UJ	GRM1883U1H8R0DZ01D	K22174308		1-	A	E4
C 1131	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	E4
C 1132	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E3
C 1133	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	c4
C 1134	CHIP CAP.	82pF	50V	CH	GRM1882C1H820JA01D	K22174233		1-	B	c4
C 1135	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a5
C 1136	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b3
C 1137	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b4
C 1138	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	E3
C 1139	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	A4
C 1140	CHIP CAP.	82pF	50V	CH	GRM1882C1H820JA01D	K22174233		1-	B	c3
C 1142	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	b3
C 1143	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	D3
C 1144	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229		1-	B	c3
C 1145	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E3
C 1146	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	A4
C 1147	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	a5
C 1148	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	b4
C 1149	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	b3
C 1150	CHIP CAP.	5pF	50V	UJ	GRM1883U1H5R0CZ01D	K22174305		1-	A	E3
C 1151	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a5
C 1152	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203		1-	B	b3
C 1153	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b3
C 1154	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b3
C 1155	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		1-	B	b4
C 1156	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	A3
C 1157	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	E3
C 1159	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-	B	b4
C 1160	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	A	E3
C 1161	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	a4
C 1162	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	B4
C 1163	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	E3
C 1164	CHIP TA.CAP.	0.22uF	35V		TESVA1V224M1-8R	K78160027		1-	A	D3
C 1165	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225		1-	B	b4
C 1168	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	A3
C 1169	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-	B	b3
C 1170	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	a3
C 1171	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	b5
C 1172	CHIP CAP.	0.0068uF	50V	B	GRM188B11H682KA01D	K22174834		1-	A	B3
C 1173	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		1-	B	b4
C 1174	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b5
C 1175	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b4
C 1178	CHIP CAP.	0.0056uF	50V	B	GRM188B11H562KA01D	K22174818		1-	A	A3
C 1179	CHIP CAP.	330pF	50V	B	GRM188B11H331KD01D	K22174820		1-	A	B3
C 1180	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f4
C 1181	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	F3

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
C 1183	CHIP CAP.	0.0056uF	50V	B	GRM188B11H562KA01D	K22174818		1-	A	B3
C 1184	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c3
C 1185	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f4
C 1187	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-	A	F3
C 1188	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	A	F3
C 1189	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f3
C 1190	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	f3
C 1194	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	g4
C 1195	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b3
C 1196	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	F3
C 1197	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	f4
C 1198	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	F3
C 1199	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	E3
C 1200	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	F3
C 1201	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	F3
C 1203	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	F3
C 1204	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-	A	F3
C 1206	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	a4
C 1207	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-	A	F3
C 1209	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	F3
C 1210	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	a4
C 1211	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	b4
C 1212	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		1-	A	F3
C 1213	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229		1-	A	F3
C 1214	CHIP CAP.	0.22uF	10V	B	GRM188B11A224KA01D	K22104801		1-	B	c3
C 1215	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	b4
C 1216	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		1-	A	F3
C 1218	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b4
C 1220	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221		1-	A	F3
C 1221	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f3
C 1222	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	A	F3
C 1223	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229		1-	A	F3
C 1225	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	f3
C 1226	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	b4
C 1227	CHIP TA.CAP.	4.7uF	16V		TEMSVA1C475M-8R	K78120031		1-	B	c3
C 1228	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	B3
C 1229	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	b4
C 1230	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-	A	F3
C 1231	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	B3
C 1232	CHIP CAP.	0.22uF	10V	B	GRM188B11A224KA01D	K22104801		1-	B	c3
C 1233	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221		1-	A	F3
C 1234	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	b5
C 1235	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c3
C 1236	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f3
C 1237	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f3
C 1238	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	A4
C 1239	CHIP CAP.	24pF	50V	CH	GRM1882C1H240JZ01D	K22174220		1-	A	F5
C 1240	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	B4
C 1242	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	E2
C 1243	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	C3
C 1244	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B3
C 1245	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C3
C 1246	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B3
C 1247	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	A4
C 1248	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	c4
C 1249	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f4
C 1250	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	C3
C 1251	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f4
C 1252	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	c4
C 1253	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c4
C 1254	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	e3
C 1255	AL.ELECTRO.CAP.	100uF	10V		RE2-10V101ME3#	K40109024		1-	A	C3
C 1256	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	c4
C 1257	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	c4
C 1259	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	g4
C 1261	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	g4
C 1263	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	C3
C 1264	CHIP TA.CAP.	1uF	16V		TESVA1C105M1-8R	K78120009		1-	B	f4
C 1265	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f4
C 1266	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	d3
C 1267	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-	B	c4
C 1268	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	c4
C 1269	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C5

MAIN Unit

Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
C 1271	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C3
C 1272	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	C5
C 1273	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f4
C 1274	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	A4
C 1275	AL.ELECTRO.CAP.	47uF	16V		RE2-16V470ME3#	K40129054		1-	A	D4
C 1276	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	A4
C 1277	CHIP TA.CAP.	1uF	16V		TESVA1C105M1-8R	K78120009		1-	A	A4
C 1278	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	d4
C 1279	CHIP CAP.	0.033uF	16V	R	GRM188R11C333KA01D	K22124801		1-	A	C3
C 1281	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d4
C 1282	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C4
C 1283	CHIP CAP.	0.068uF	16V	B	GRM188B11C683KA01D	K22124808		1-	A	C5
C 1285	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-	A	C4
C 1286	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	f3
C 1288	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	c4
C 1290	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804		1-	A	C4
C 1292	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	g4
C 1293	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e3
C 1295	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d3
C 1296	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E5
C 1297	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	E5
C 1298	CHIP TA.CAP.	4.7uF	10V		TEMSVA1A475M-8R	K78100022		1-	B	g4
C 1299	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	d3
C 1301	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	C5
C 1302	CHIP CAP.	820pF	50V	B	GRM188B11H821KA01D	K22174808		1-	A	C4
C 1303	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	d3
C 1304	CHIP CAP.	82pF	50V	CH	GRM1882C1H820JA01D	K22174233		1-	B	c5
C 1305	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	E4
C 1307	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f4
C 1309	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d3
C 1310	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	B4
C 1311	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	C4
C 1312	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	d3
C 1313	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	B	c5
C 1314	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	B	c4
C 1317	CHIP CAP.	0.0027uF	50V	B	GRM188B11H272KA01D	K22174814		1-	A	B5
C 1319	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	f5
C 1321	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B5
C 1322	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e3
C 1323	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	c5
C 1324	CHIP CAP.	0.0056uF	50V	B	GRM188B11H562KA01D	K22174818		1-	B	c5
C 1326	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	B4
C 1327	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	B4
C 1328	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	e3
C 1329	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	B5
C 1330	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	A5
C 1333	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C4
C 1334	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	e3
C 1336	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028	EUROPE	1-	B	e5
C 1337	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805	EUROPE	1-	A	C4
C 1338	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	D5
C 1341	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f4
C 1342	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	D4
C 1343	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	A	D5
C 1344	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f4
C 1347	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D4
C 1348	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	B	f4
C 1349	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	A3
C 1352	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e3
C 1353	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	f4
C 1354	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	B4
C 1355	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	A3
C 1356	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	D4
C 1358	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B4
C 1359	FILM CAP.	0.027uF	16V		ECHU1C273JX5	K57120041	EUROPE	1-	B	e4
C 1360	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805	EUROPE	1-	B	e4
C 1361	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	A3
C 1362	CHIP CAP.	0.0022uF	50V	B	GRM188B11H222KA01D	K22174822	EUROPE	1-	B	e4
C 1363	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B4
C 1364	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	C4
C 1365	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	A3
C 1366	AL.ELECTRO.CAP.	470uF	25V		RE3-25V471MH3#	K40149044		1-	A	A2
C 1367	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C4

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
C 1368	CHIP CAP.	0.0068uF	50V	B	GRM188B11H682KA01D	K22174834	EUROPE	1-	B	e4
C 1369	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	g2
C 1370	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	A3
C 1371	CHIP CAP.	0.033uF	16V	R	GRM188R11C333KA01D	K22124801		1-	A	C4
C 1372	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B4
C 1375	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B4
C 1380	AL.ELECTRO.CAP.	470uF	16V		RE3-16V471MG3#	K40129066		1-	A	A3
C 1410	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	A3
C 1413	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	g2
C 1421	CHIP CAP.	0.0022uF	50V	B	GRM188B11H222KA01D	K22174822		1-	B	g3
C 1424	CHIP CAP.	0.0022uF	50V	B	GRM188B11H222KA01D	K22174822		1-	B	g2
C 1427	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-	B	g3
C 1429	CHIP CAP.	1uF	10V	F	GRM188F11A105ZA01D	K22105001		1-	A	B4
C 1431	CHIP CAP.	10pF	500V	CH	1206N100D501LT	K22278209		1-	B	b2
C 1432	CHIP CAP.	22pF	500V	CH	1206N220J501LT	K22278213		1-	B	b2
CD1001	CERAMIC DISC				CDA450C24	H7901430		1-	A	D5
CF1001	CERAMIC FILTER				ALFYM450E=K	H3900535		1-	A	E4
D 1001	SURGE ABSORBER				DSP-141N-S00B	Q9000586		1-	A	G1
D 1002	DIODE				1N5402	G2090778		1-	A	C2
D 1003	DIODE				1SS321(TE85R.F)	G2070076		1-	B	a2
D 1004	DIODE				L308CCB	G2090792		1-	A	G2
D 1005	DIODE				L308CCB	G2090792		1-	A	F2
D 1006	DIODE				HSU277TRF-E	G2070118		1-	A	G2
D 1007	DIODE				HSU277TRF-E	G2070118		1-	A	G2
D 1008	DIODE				DAN235U TL	G2070176		1-	B	b3
D 1009	DIODE				HVU359 TRF-E	G2070452		1-	A	E4
D 1010	DIODE				HZU5ALL-TRF-E	G2070754		1-	B	c3
D 1011	DIODE				1SS302(TE85R.F)	G2070088		1-	B	c3
D 1012	DIODE				HVC306B TRU-E	G2070918		1-	A	F3
D 1013	DIODE				HVC306B TRU-E	G2070918		1-	A	F3
D 1014	DIODE				HVC306B TRU-E	G2070918		1-	A	F3
D 1015	DIODE				HVC306B TRU-E	G2070918		1-	A	F3
D 1016	DIODE				HVC306B TRU-E	G2070918		1-	A	F3
D 1017	DIODE				HVC306B TRU-E	G2070918		1-	A	F3
D 1018	DIODE				UDZS TE-17 5.6B	G2070910		1-	B	c4
D 1019	DIODE				DA221 TL	G2070178		1-	A	D4
D 1020	DIODE				DA221 TL	G2070178		1-	A	C4
F 1001	CHIP FUSE	1.25A			FCC16 132ABTP	Q0000109		1-	A	B3
J 1001	CONNECTOR				B3B-PH-K-S(LF)(SN)	P0090397		1-	A	A3
J 1004	CONNECTOR				PI28A10M	P0091357		1-	A	A4
J 1005	CONNECTOR				24FLT-SM1-TB(LF)(SN)	P1091128		1-	A	D4
J 1006	CONNECTOR				24FLT-SM1-TB(LF)(SN)	P1091128		1-	A	C4
J 1007	CONNECTOR				B3B-PH-K-S(LF)(SN)	P0090397		1-	A	A3
J 1008	CONNECTOR				9110S-03	P1091204		1-	B	b2
J 1009	CONNECTOR				IMSA-9131S-06	P1091327		1-	B	f2
L 1001	COIL A1				4.5T3.5D0.8UEW R	L0021149A		1-	A	G1
L 1002	COIL A1				4.5T3.5D0.8UEW R	L0021149A		1-	A	G1
L 1003	COIL	0.1uH			#E528SNAS-100075	L0190269		1-	A	G2
L 1004	COIL	0.1uH			#E528SNAS-100075	L0190269		1-	A	G3
L 1005	M.RFC	4.7uH			LAL03NA4R7K	L1190203		1-	A	F2
L 1006	COIL A1				3.5T4.0D0.8UEW R	L0022245		1-	A	G2
L 1007	COIL A1				4.5T3.5D0.8UEW R	L0021149A		1-	A	F2
L 1008	M.RFC	0.047uH			HK1608 47NJ-T	L1690524		1-	A	G2
L 1010	M.RFC	0.15uH			HK1608 R15J-T	L1690938		1-	A	D2
L 1011	M.RFC	0.15uH			HK1608 R15J-T	L1690938		1-	A	D2
L 1013	M.RFC	0.1uH			HK1608 R10J-T	L1690528		1-	B	a3
L 1014	COIL	0.15uH			#E528SNAS-100076	L0190270		1-	A	G3
L 1015	COIL	0.15uH			#E528SNAS-100076	L0190270		1-	A	G4
L 1016	COIL	0.15uH			#E528SNAS-100076	L0190270		1-	A	G4
L 1017	M.RFC	2.2uH			LK1608 2R2K-T	L1690634		1-	A	E4
L 1018	M.RFC	0.47uH			LK1608 R47K-T	L1690414		1-	B	c4
L 1019	M.RFC	0.1uH			HK1608 R10J-T	L1690528		1-	B	b3
L 1020	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	b4
L 1021	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	b4
L 1022	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	b3
L 1023	M.RFC	0.1uH			HK1608 R10J-T	L1690528		1-	A	F3
L 1024	M.RFC	0.47uH			LK1608 R47K-T	L1690414		1-	A	F3
L 1025	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	a4
L 1026	M.RFC	10uH			LK2125 100K-T	L1690331		1-	A	F3
L 1027	M.RFC	0.1uH		2%	C2012C-R10G-RA	L1690776		1-	A	F3
L 1028	M.RFC	0.22uH			HK1608 R22J-T	L1690940		1-	B	b4
L 1029	M.RFC	0.033uH		2%	C2012C-33NG-RA	L1690770		1-	A	F3
L 1030	M.RFC	0.47uH			LK1608 R47K-T	L1690414		1-	A	F3

MAIN Unit

Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
L 1031	M.RFC	4.7uH			LK1608 4R7K-T	L1690688		1-	B	b4
L 1032	M.RFC	2.2uH			LK1608 2R2K-T	L1690634		1-	A	F3
L 1033	M.RFC	2.2uH			LK1608 2R2K-T	L1690634		1-	A	F3
L 1034	CHIP COIL	1.5uH		2%	C2520C-1R5G	L1691311		1-	A	F5
L 1035	M.RFC	1.5uH			LK1608 1R5K-T	L1690846		1-	B	c4
Q 1001	TRANSISTOR				2SB1301-T2 ZQ/ZP	G3213017Q		1-	B	f3
Q 1003	TRANSISTOR				2SB1301-T2 ZQ/ZP	G3213017Q		1-	B	g2
Q 1004	IC				NJM7808FA	G1093640		1-	A	A2
Q 1005	TRANSISTOR				DTA144EE TL	G3070074		1-	A	E2
Q 1006	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	D1
Q 1007	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	A3
Q 1009	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	B	g1
Q 1010	IC				RA35H1516M	G1093695		1-	A	C1
Q 1011	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	E2
Q 1012	IC				NJM78M05DL1A-TE1	G1093660		1-	A	A2
Q 1013	FET				3SK294(TE85L)	G4802948		1-	B	a3
Q 1014	TRANSISTOR				DTB123EK T146	G3070022		1-	A	D3
Q 1015	TRANSISTOR				DTB123EK T146	G3070022		1-	A	D3
Q 1016	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	D2
Q 1017	TRANSISTOR				2SC3356-T2B R25	G3333567E		1-	A	D2
Q 1018	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	D3
Q 1019	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	D3
Q 1020	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	D2
Q 1021	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	A	E4
Q 1022	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	A	E3
Q 1023	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	B	b3
Q 1024	TRANSISTOR				2SC3356-T2B R25	G3333567E		1-	B	b3
Q 1025	TRANSISTOR				2SA1602A-T11-1F	G3116028F		1-	A	E3
Q 1025	TRANSISTOR				ISA1602AM1	G3070380		5-	A	E3
Q 1026	IC				MB15A02PFV1-G-BND-EFE1	G1092541		1-	A	E3
Q 1027	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	B	b3
Q 1028	IC				LM2902PWR	G1094009		1-	A	A3
Q 1029	FET				2SK520-T2B K41	G3805207A		1-	A	F4
Q 1030	FET				2SK520-T2B K41	G3805207A		1-	B	b5
Q 1031	TRANSISTOR				2SC5006-T1	G3350068		1-	A	F3
Q 1032	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	F3
Q 1033	FET				2SK520-T2B K41	G3805207A		1-	A	F5
Q 1034	IC				LM2904PWR	G1094010		1-	A	D2
Q 1035	FET				2SK520-T2B K41	G3805207A		1-	B	b4
Q 1036	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	F3
Q 1037	TRANSISTOR				2SA1162GR TE85R	G3111627G		1-	B	c3
Q 1038	TRANSISTOR				2SC2712GR(TE85R.F)	G3327127G		1-	B	c3
Q 1039	FET				2SK520-T2B K43	G3805207C		1-	A	F3
Q 1040	TRANSISTOR				2SC5006-T1	G3350068		1-	A	F3
Q 1041	TRANSISTOR				2SC4400-3-TL	G3344008C		1-	B	b5
Q 1042	IC				CD4053BPWR	G1093864		1-	A	B3
Q 1044	IC				M62421FP	G1094102		1-	A	C3
Q 1045	IC				LM2902PWR	G1094009		1-	A	A4
Q 1046	TRANSISTOR				2SC4400-3-TL	G3344008C		1-	B	c4
Q 1047	IC				TA31136FNG(EL)	G1091605		1-	A	E5
Q 1048	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	A	B5
Q 1049	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	A	C4
Q 1050	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	A	B5
Q 1051	IC				CD4066BPWR	G1093865		1-	A	B4
Q 1052	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	A	D5
Q 1053	IC				NJM2211M-TE1	G1092943	EUROPE	1-	B	e4
Q 1054	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	A3
Q 1055	IC				LA4425A	G1092241		1-	A	A2
Q 1056	IC				LM2904PWR	G1094010		1-	B	e3
Q 1057	IC				CD4066BPWR	G1093865		1-	A	B4
R 1001	CHIP RES.	47k	1/10W	5%	RMC1/10T 473J	J24205473		1-	B	a1
R 1002	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	a2
R 1003	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	a2
R 1004	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-	A	E2
R 1005	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	E2
R 1006	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	a2
R 1007	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	a2
R 1009	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	f3
R 1010	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	g2
R 1011	CHIP RES.	100	1W	5%	RMC1 101JTE	J24305101		1-	A	F2
R 1012	CHIP RES.	1k	1/4W	5%	RMC1/4 102JATP	J24245102		1-	A	B3
R 1014	CHIP RES.	1k	1/4W	5%	RMC1/4 102JATP	J24245102		1-	B	g1
R 1015	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	E2

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 1016	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	D1
R 1017	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	G3
R 1018	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	D1
R 1019	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	A	G3
R 1020	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	D2
R 1021	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	D2
R 1023	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-	A	D2
R 1024	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	D2
R 1025	CHIP RES.	39	1/16W	5%	RMC1/16 390JATP	J24185390		1-	A	C2
R 1026	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	G3
R 1027	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	G3
R 1028	CHIP RES.	56	1/16W	5%	RMC1/16 560JATP	J24185560		1-	A	C2
R 1029	CHIP RES.	39	1/16W	5%	RMC1/16 390JATP	J24185390		1-	B	a3
R 1030	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	A	D2
R 1031	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	A	G3
R 1032	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	C2
R 1033	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	a3
R 1034	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	a3
R 1035	CHIP RES.	3.9k	1/16W	5%	RMC1/16 392JATP	J24185392		1-	A	D2
R 1036	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	D2
R 1037	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	D2
R 1038	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	D2
R 1040	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	A	D2
R 1042	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	D2
R 1043	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	B	d2
R 1044	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	D2
R 1045	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	c2
R 1046	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	b4
R 1047	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	b3
R 1048	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	D3
R 1049	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	E4
R 1050	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	A	E3
R 1051	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	D3
R 1052	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	A4
R 1053	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	E4
R 1054	CHIP RES.	270k	1/16W	5%	RMC1/16 274JATP	J24185274		1-	A	B4
R 1055	CHIP RES.	56k	1/16W	5%	RMC1/16 563JATP	J24185563		1-	A	A4
R 1056	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-	A	A4
R 1057	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	E3
R 1058	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	E3
R 1060	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	a4
R 1061	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	B	f4
R 1063	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	E4
R 1064	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	E3
R 1065	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	b3
R 1066	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	b3
R 1067	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	B	f3
R 1068	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151		1-	A	E3
R 1069	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-	A	A4
R 1070	CHIP RES.	180k	1/16W	5%	RMC1/16 184JATP	J24185184		1-	A	E4
R 1071	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		1-	A	E4
R 1072	CHIP RES.	390k	1/16W	5%	RMC1/16 394JATP	J24185394		1-	A	E3
R 1073	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f3
R 1074	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	b3
R 1075	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-	A	A4
R 1077	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	b3
R 1078	CHIP RES.	3.9k	1/16W	5%	RMC1/16 392JATP	J24185392		1-	B	b3
R 1079	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	A	E3
R 1080	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	E3
R 1081	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	B4
R 1082	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	B3
R 1083	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	b3
R 1084	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	B	b3
R 1085	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	A3
R 1086	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	b3
R 1087	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-	A	A3
R 1088	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		1-	A	B3
R 1089	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-	A	D3
R 1090	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		1-	A	B3
R 1091	CHIP RES.	120	1/16W	5%	RMC1/16 121JATP	J24185121		1-	B	b5
R 1092	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	B	f3
R 1093	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	b3
R 1094	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		1-	A	B3

MAIN Unit

Parts List

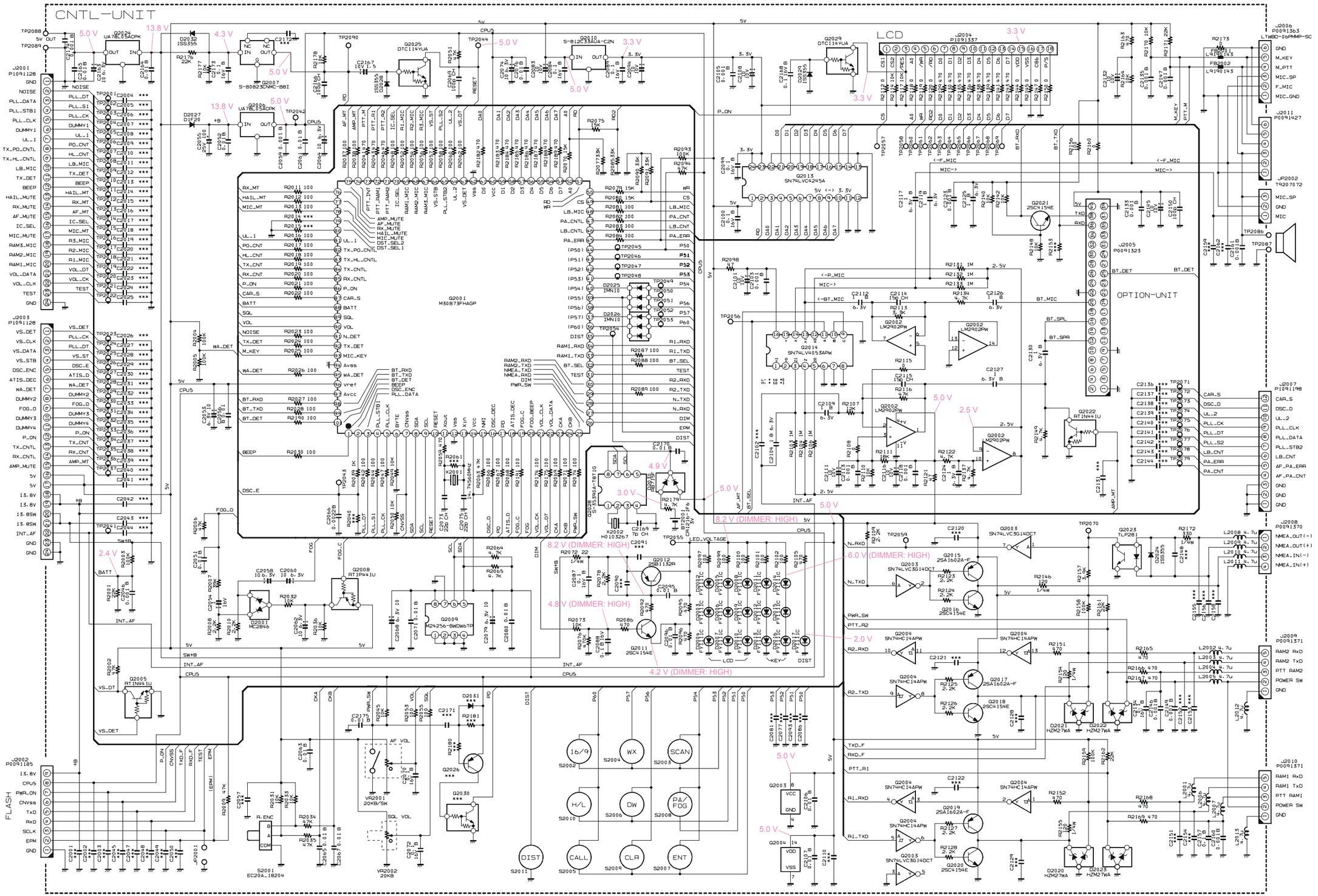
REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 1095	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	A	F3
R 1096	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	A	F3
R 1098	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	c3
R 1099	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	F3
R 1100	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	E3
R 1101	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	B	f3
R 1102	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-	A	A3
R 1103	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	E3
R 1104	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	E3
R 1105	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-	B	c3
R 1106	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-	B	c3
R 1107	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	f3
R 1108	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	B3
R 1109	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	A	F3
R 1110	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-	B	f4
R 1111	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	c3
R 1112	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	c3
R 1113	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-	A	F3
R 1114	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g3
R 1115	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-	A	F3
R 1117	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	c3
R 1120	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	c3
R 1121	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	a4
R 1122	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	B3
R 1123	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	F3
R 1124	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	F3
R 1125	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	F3
R 1126	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	B	b4
R 1127	CHIP RES.	1.2k	1/16W	5%	RMC1/16 122JATP	J24185122		1-	B	c3
R 1128	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	F3
R 1129	CHIP RES.	680	1/16W	5%	RMC1/16 681JATP	J24185681		1-	B	c3
R 1130	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f3
R 1131	CHIP RES.	270	1/16W	5%	RMC1/16 271JATP	J24185271		1-	B	b4
R 1132	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	c3
R 1133	CHIP RES.	3.9k	1/16W	5%	RMC1/16 392JATP	J24185392		1-	B	b4
R 1134	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-	B	b5
R 1135	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	F3
R 1136	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	F3
R 1137	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	E2
R 1138	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f3
R 1139	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	F3
R 1140	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	A	C3
R 1141	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	A	B3
R 1142	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f3
R 1143	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	F5
R 1144	CHIP RES.	390	1/16W	5%	RMC1/16 391JATP	J24185391		1-	B	b5
R 1145	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	E3
R 1146	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	C3
R 1147	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	C3
R 1148	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g4
R 1149	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f3
R 1150	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f3
R 1151	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f3
R 1152	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f3
R 1153	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f3
R 1154	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-	A	A4
R 1155	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-	A	B4
R 1156	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-	A	B4
R 1157	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	c4
R 1158	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	c4
R 1159	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	d3
R 1160	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-	B	g4
R 1161	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		1-	B	c4
R 1162	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	c4
R 1163	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	A4
R 1164	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-	B	d3
R 1166	CHIP RES.	1.8k	1/16W	5%	RMC1/16 182JATP	J24185182		1-	A	C3
R 1167	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		1-	B	c4
R 1168	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	c4
R 1169	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-	A	A4
R 1170	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-	B	f4
R 1171	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		1-	A	C5
R 1172	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	A	C4

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 1173	CHIP RES.	56k	1/16W	5%	RMC1/16 563JATP	J24185563		1-	A	C5
R 1174	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	C4
R 1175	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-	B	g4
R 1176	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	B	d3
R 1177	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	g4
R 1178	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	g4
R 1179	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	d3
R 1180	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	C4
R 1181	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-	B	d3
R 1182	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	C5
R 1183	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	E4
R 1184	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	C5
R 1185	CHIP RES.	120k	1/16W	5%	RMC1/16 124JATP	J24185124		1-	A	B5
R 1186	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	B4
R 1187	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	C3
R 1188	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	A4
R 1189	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	C3
R 1190	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-	B	d3
R 1191	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	E5
R 1192	CHIP RES.	1.8k	1/16W	5%	RMC1/16 182JATP	J24185182		1-	B	d4
R 1193	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	B5
R 1194	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		1-	A	B4
R 1195	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		1-	A	B4
R 1196	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	A4
R 1197	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	B4
R 1198	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	B5
R 1199	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	A4
R 1200	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	C5
R 1201	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	C5
R 1202	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-	B	c5
R 1203	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e3
R 1204	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e3
R 1205	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	g4
R 1206	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	g4
R 1207	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	B5
R 1208	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	C4
R 1209	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e3
R 1210	CHIP RES.	1.5k	1/16W	5%	RMC1/16 152JATP	J24185152		1-	B	c5
R 1211	CHIP RES.	6.8k	1/16W	5%	RMC1/16 682JATP	J24185682		1-	B	c4
R 1212	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-	A	B4
R 1213	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-	A	B4
R 1214	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	e5
R 1215	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	B5
R 1216	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	c5
R 1217	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		1-	B	e3
R 1218	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	B4
R 1219	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	B4
R 1220	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e5
R 1221	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	B5
R 1222	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	D4
R 1223	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	C5
R 1224	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	e3
R 1225	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1226	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1227	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1228	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1229	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	C5
R 1230	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e4
R 1231	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	d4
R 1232	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1233	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1234	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1237	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-	A	D4
R 1238	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	A3
R 1239	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	A	D4
R 1240	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	D5
R 1241	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1242	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-	A	A3
R 1243	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1244	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	C4
R 1245	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1246	CHIP RES.	180k	1/16W	5%	RMC1/16 184JATP	J24185184		1-	A	A3
R 1247	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4

MAIN Unit

Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 1248	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	f4
R 1249	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104	EUROPE	1-	B	e4
R 1250	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	A3
R 1251	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473	EUROPE	1-	B	e4
R 1252	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	C4
R 1253	CHIP RES.	10k	1/16W	1%	RMC1/16 103FTP	J24183103	EUROPE	1-	B	e4
R 1254	CHIP RES.	10k	1/16W	1%	RMC1/16 103FTP	J24183103	EUROPE	1-	B	e4
R 1255	CHIP RES.	1k	1/16W	1%	RMC1/16 102FTP	J24183102	EUROPE	1-	B	e4
R 1256	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	C4
R 1257	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	A	B4
R 1258	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	A	B4
R 1259	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e3
T 1001	BALUN TRANSFOMERS				#617DB-1714=PH3	L0190271		1-	A	F5
T 1002	BALUN TRANSFOMERS				#617DB-1714=PH3	L0190271		1-	A	F4
T 1003	BALUN TRANSFOMERS				#617DB-1714=PH3	L0190271		1-	A	F4
TC1001	TRIMMER CAP.	10pF			ECR-KN010C61X	K91000226		1-	A	E4
TC1002	TRIMMER CAP.	10pF			ECR-KN010C61X	K91000226		1-	A	F3
TH1001	THERMISTOR				TBPS1R104K475H5Q	G9090069		1-	A	E4
TP1005	CHECK TERMINAL				RCT00000C	Q5000103		1-	A	G5
VR1001	POT.	100k			EVN-5ESX50B15	J51811104		1-	A	E2
VR1002	POT.	10k			EVN-5ESX50B14	J51811103		1-	A	E2
VR1003	POT.	100k			EVN-5ESX50B15	J51811104		1-	A	E2
X 1001	XTAL DSX531S	29.95MHz			DSX531S 29.950MHZ	H0103316		1-	A	E3
XF1001	XTAL FILTER				1Q30413BD1	H1102396		1-	A	E5
XF1002	XTAL FILTER				1Q30413BD1	H1102396		1-	A	E4
	SHIELD CASE				(VCO)	RA0517200		1-		
	SHIELD				(VCO2)	RA0751200		1-		


CNTL-UNIT
LCD
OPTION-UNIT
FLASH
Q2001 M50873FHAGP
Q2009 M24256-BWDW6TP
Q2013 SN74LVC4245A
Q2014 SN74LV4053APW
Q2029 DTC114YUA
Q2025 DTC114YUA
Q2024 UA78L05ACPK
Q2026 UA78L05ACPK
Q2007 S-80823CNMC-B8I
Q2010 S-812C33AUA-C2N
Q2012 2SB1132R
Q2011 2SC4154E
Q2021 2SC4154E
Q2022 RTJN441U
Q2023 TLP281
Q2008 RT1P441U
Q2005 RT1N441U
Q2002 LM2902PW
Q2003 SN74LVC3G14DCT
Q2004 SN74HC14APW
Q2019 2SA1602A-F
Q2017 2SA1602A-F
Q2018 2SC4154E
Q2020 2SC4154E
Q2028 S-35340A-T8T1G
Q2030
Q2026
Q2031
Q2027
Q2003
Q2004
Q2001 MC2846
Q2002 M24256-BWDW6TP
D2025 IMN10
D2026 IMN10
D2027 DTZ20
D2020 ISS355
D2021 HZM27WA
D2022 HZM27WA
D2023 ISS355
D2024 ISS355
D2025 HZM27WA
D2030 ISS355
D2031
J2001 P1041128
J2003 P1041128
J2004 P1091337
J2005 P0091323
J2006 P0091363 LTWBD-06PMP-SC
J2007 P1091198
J2008 P0091370
J2009 P0091371
J2010 P0091571
J2011 P0091427
J2002 P0091185
JP2002 T9207072
JP2001
JP2002
JP2003
JP2004
JP2005
JP2006
JP2007
JP2008
JP2009
JP2010
S2001 EC20A_18204
S2002
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S2005
S2006
S2007
S2008
S2009
S2010
S2011
VR2001 20KB/SW
VR2002 20KB
X2001 14.7456MHz
X2002 H0103267
CPU5
P_ON
SW+B
INT_AF
BATT
5V
+B
LED_VOLTAGE
8.2 V (DIMMER: HIGH)
6.0 V (DIMMER: HIGH)
4.8 V (DIMMER: HIGH)
4.2 V (DIMMER: HIGH)
2.0 V
5.0 V
3.3 V
2.5 V
4.9 V
3.0 V
2.4 V
13.8 V
4.3 V
BT_RXD
BT_TXD
BT_DET
BEEP
DSC_ENC
PLL_DATA
PLL_CLK
PLL_STB1
PLL_S1
PLL_S2
PLL_DT
PLL_CK
BT_MIC
BT_SPK
BT_SPL
F_MIC
MIC_GND
M_KEY
M_PTT
MIC_SP
PTT_M
AMP_MT
N_RXD
N_TXD
R1_RXD
R1_TXD
R2_RXD
R2_TXD
RAM1_RXD
RAM1_TXD
RAM2_RXD
RAM2_TXD
NMEA_RXD
NMEA_TXD
PWR_SW
PTT_R1
PTT_R2
RAM1_MIC
RAM2_MIC
RAM3_MIC
R1_MIC
R2_MIC
R3_MIC
IC_SEL
RX_MT
HAIL_MT
MIC_MT
AF_MT
VOL_DT
VOL_CK
VOL_CLK
VOL_DATA
RX_MUTE
HAIL_MUTE
AMP_MUTE
MIC_MUTE
DST_SEL2
DST_SEL1
TX_PO_CNTL
TX_HL_CNTL
TX_CNTL
RX_CNTL
PO_CNT
HL_CNT
LB_MIC
LB_CNT
PA_CNTL
PA_CNT
PA_ERR
PA_AF_CNT
AF_PA_ERR
CAR_S
DSC_D
UL_2
UL_1
TEST
EPM
CNVSS
TXD_F
RXD_F
SCLK
LCD
KEY
DIST
SCAN
ENT
CALL
CLR
DW
WX
H/L
PA/FOG
16/9
AF VOL
SQL VOL
R_ENC
S_ENC
TP2088
TP2089
TP2090
TP2042
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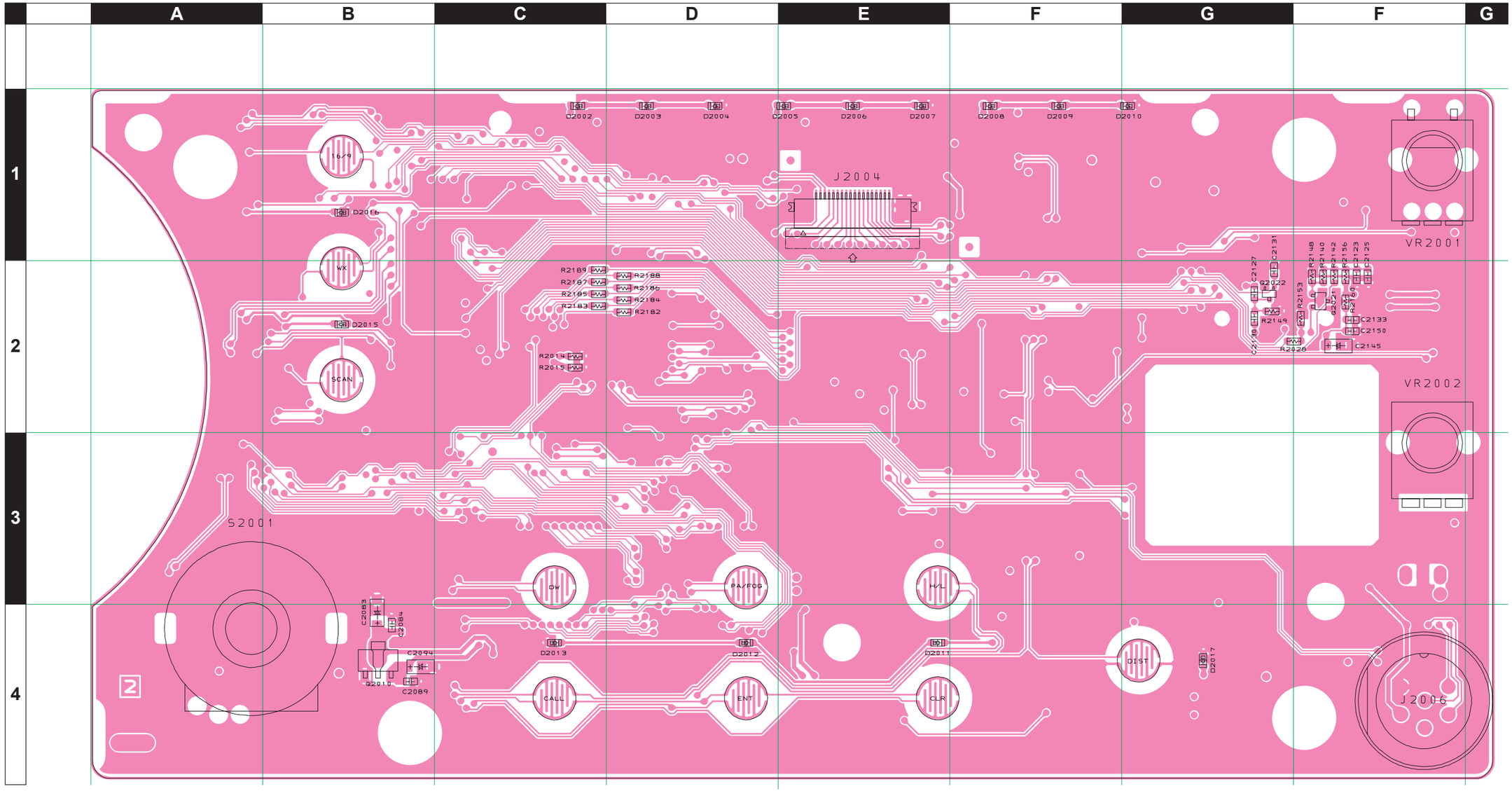
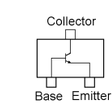
TP2085
TP2086
TP2087

CNTL-1 Unit

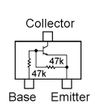
Note

Parts Layout (Side A)

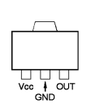




2SC4154 (LE)
(Q2021)



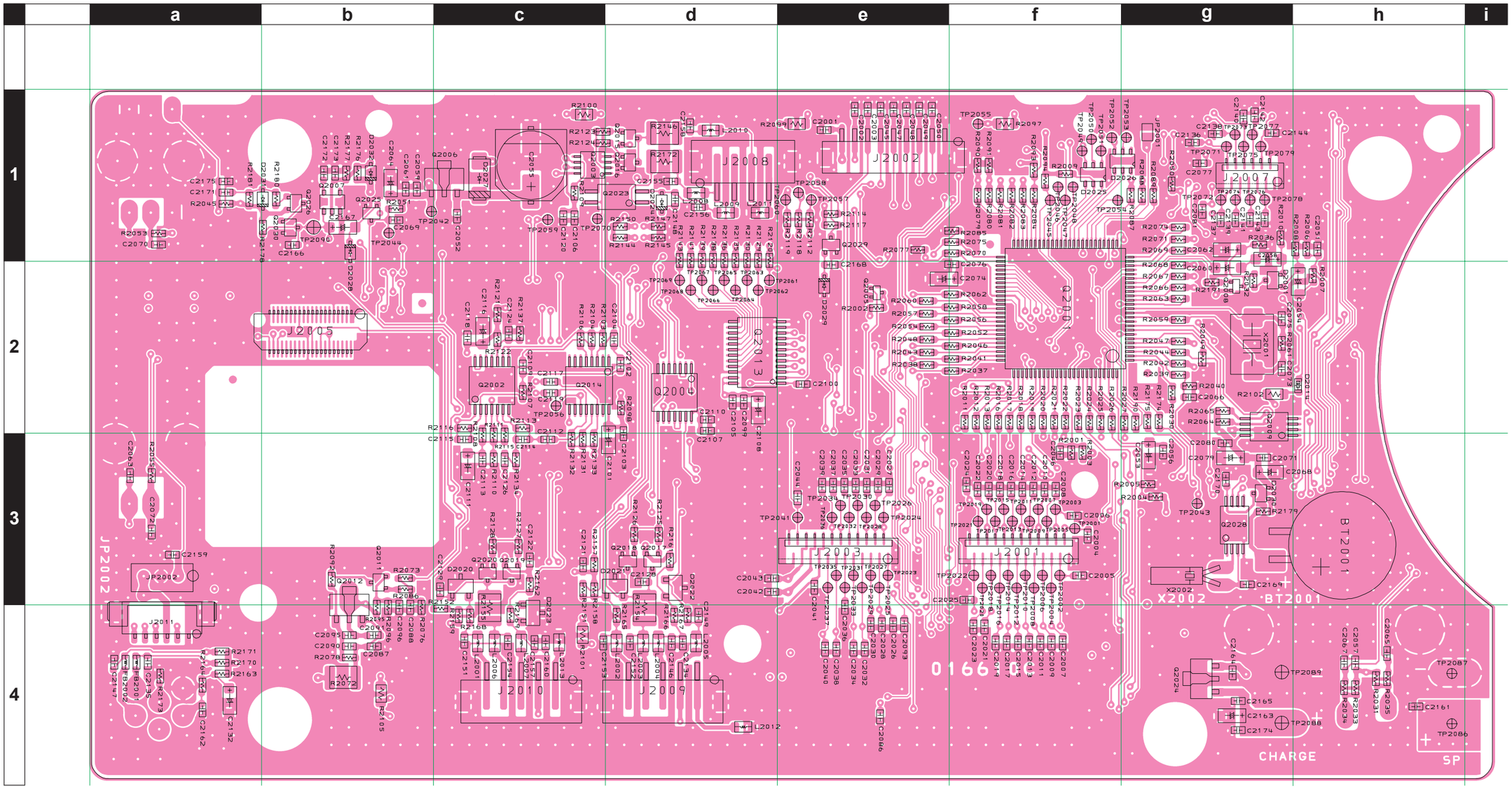
RT1N441U (N3)
(Q2022)



S-812C33AUA
(Q2010)

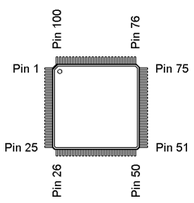
CNTL-1 Unit

Parts Layout (Side B)

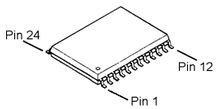


Lithium Battery Included

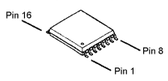
The **BT2001** (CR1216-1F6) is the Lithium Battery. At the end of battery's useful life, under various state and lows, it may be illegal to dispose of Lithium Battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.



M30873FHAGP
(Q2001)



SN74LVC4245APWR
(Q2013)



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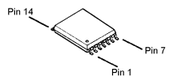
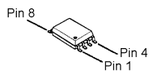
(Q2014)



LM2902PWR
(Q2002)
SN74HC14APW
(Q2004)



SN74LVC3G14DCTR
(Q2003)
M24256
(Q2009)
S-35390A
(Q2028)

2SA1602A (MF)
(Q2015, 2017, 2019)
ISA1602A (MF)
(Q2015, 2017, 2019)

2SB1132 (BA)
(Q2012)

DTC114YUA (64)
(Q2025, 2029)

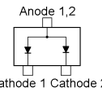
RT1N441U (N3)
(Q2005)

UA78L05 (F5)
(Q2006)
HA178L09UA (8F)
(Q2006)

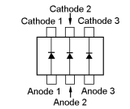
2SC4154 (LE)
(Q2011, 2016, 2018, 2020)

S-80823CNMC
(Q2007)

RT1P441U (P3)
(Q2008)



HZM27WA (27A)
(D2020, 2021, 2022, 2023)
MC2846 (A4)
(D2001)



IMN10 (N10)
(D2025, 2026)

RB715F (3D)
(D2030)

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
	P.C.B. with Components					CS1926001				
	Printed Circuit Board				AM028N000	FR0166100		1-		
BT2001	LITHIUM BATT.		3V		CR1216-1F6	Q9000627		1-	B	h3
C 2046	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174809		1-	B	f3
C 2051	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	h1
C 2052	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	c1
C 2053	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	g3
C 2054	CHIP TA.CAP.	1uF	16V		TESVA1C105M1-8R	K78120009		1-	B	h2
C 2055	AL.ELECTRO.CAP.	100uF	25V		EEE1EA101UP	K48140018		1-	B	c1
C 2056	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	g3
C 2058	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	g1
C 2059	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b1
C 2060	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	g2
C 2061	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	b1
C 2062	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	g1
C 2063	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	a3
C 2064	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	b1
C 2065	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	h4
C 2066	CHIP CAP.	0.0022uF	50V	B	GRM188B11H222KA01D	K22174822		1-	B	g2
C 2067	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	h4
C 2068	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	g3
C 2069	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	B	b1
C 2070	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	a1
C 2071	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	g3
C 2072	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	a3
C 2073	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-	B	g2
C 2074	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	e2
C 2075	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-	B	g2
C 2076	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	f2
C 2079	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	g3
C 2080	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	g3
C 2083	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	B4
C 2084	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B4
C 2087	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	b4
C 2088	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	b4
C 2089	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B4
C 2094	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	B4
C 2095	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	b4
C 2096	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	b4
C 2099	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d2
C 2100	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e2
C 2101	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	d3
C 2103	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d2
C 2104	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	B	d2
C 2105	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d2
C 2106	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	c1
C 2107	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	d2
C 2108	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	d2
C 2109	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	B	c2
C 2111	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	c3
C 2112	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	B	c3
C 2113	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c3
C 2114	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	c3
C 2115	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	c3
C 2116	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	c2
C 2117	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	B	c2
C 2118	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c2
C 2119	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	B	c2
C 2123	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	H2
C 2124	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	B	c2
C 2125	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	A	H2
C 2126	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	B	c3
C 2127	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	A	G2
C 2130	CHIP CAP.	1uF	6.3V	B	GRM188B10J105KA01D	K22084801		1-	A	G2
C 2132	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	a4
C 2133	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	H2
C 2134	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d4
C 2135	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174809		1-	B	a4
C 2145	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	H2
C 2146	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d4
C 2147	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174809		1-	B	a4
C 2149	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d4
C 2150	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	A	H2

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Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
C 2157	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	c4
C 2160	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c4
C 2161	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	h4
C 2163	CHIP TA.CAP.	10uF	6.3V		TEMSVA0J106M-8R	K78080027		1-	B	g4
C 2164	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	g4
C 2165	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	g4
C 2166	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	B	b1
C 2167	CHIP TA.CAP.	1.5uF	10V		TESVA1A155M1-8R	K78100009		1-	B	b1
C 2168	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e2
C 2169	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208		1-	B	g3
C 2170	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	g3
C 2173	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	b1
C 2174	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	g4
C 2175	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	a1
C 2176	CERAMIC CAP.	0.1uF	50V	B	UP050B104K-A-B	K28179098		1-		
D 2001	DIODE				MC2846-T11-1	G2070702		1-	B	g2
D 2002	LED				FY1111C-722-TR	G2070916		1-	A	C1
D 2003	LED				FY1111C-722-TR	G2070916		1-	A	D1
D 2004	LED				FY1111C-722-TR	G2070916		1-	A	D1
D 2005	LED				FY1111C-722-TR	G2070916		1-	A	E1
D 2006	LED				FY1111C-722-TR	G2070916		1-	A	E1
D 2007	LED				FY1111C-722-TR	G2070916		1-	A	E1
D 2008	LED				FY1111C-722-TR	G2070916		1-	A	F1
D 2009	LED				FY1111C-722-TR	G2070916		1-	A	F1
D 2010	LED				FY1111C-722-TR	G2070916		1-	A	G1
D 2011	LED				FY1111C-722-TR	G2070916		1-	A	E4
D 2012	LED				FY1111C-722-TR	G2070916		1-	A	D4
D 2013	LED				FY1111C-722-TR	G2070916		1-	A	C4
D 2014	LED				FY1111C-722-TR	G2070916		1-	B	h2
D 2015	LED				FY1111C-722-TR	G2070916		1-	A	B2
D 2016	LED				FY1111C-722-TR	G2070916		1-	A	B1
D 2017	LED				FY1111C-722-TR	G2070916		1-	A	G4
D 2020	DIODE				HZM27WA TR-E	G2070530		1-	B	c3
D 2021	DIODE				HZM27WA TR-E	G2070530		1-	B	d3
D 2022	DIODE				HZM27WA TR-E	G2070530		1-	B	d3
D 2023	DIODE				HZM27WA TR-E	G2070530		1-	B	c4
D 2024	DIODE				1SS355 TE-17	G2070470		1-	B	d1
D 2025	DIODE				IMN10 T108	G2070078		1-	B	f1
D 2026	DIODE				IMN10 T108	G2070078		1-	B	f1
D 2027	DIODE				D1F20-5063	G2070474		1-	B	c1
D 2028	DIODE				1SS355 TE-17	G2070470		1-	B	b1
D 2029	DIODE				1SS355 TE-17	G2070470		1-	B	e2
D 2030	DIODE				RB715F T106	G2070752		1-	B	g3
D 2032	DIODE				1SS355 TE-17	G2070470		1-	B	b1
DS2001	LCD MODULE				GX5000S	Q7000588		1-		
FB2001	FERRITE BEADS				BLM18BD601SN1D	L9190143		1-	B	a4
FB2002	FERRITE BEADS				BLM18BD601SN1D	L9190143		1-	B	a4
J 2001	CONNECTOR				24FLT-SM1-TB(LF)(SN)	P1091128		1-	B	f3
J 2002	CONNECTOR				B9B-ZR-SM4-TF(LF)(SN)	P0091185		1-	B	e1
J 2003	CONNECTOR				24FLT-SM1-TB(LF)(SN)	P1091128		1-	B	e3
J 2004	CONNECTOR				IMSA9632S-18Y922	P1091337		1-	A	E1
J 2005	CONNECTOR				AXK6S40635P	P0091323		1-	B	b2
J 2006	CONNECTOR				VERBD-06PMMP-SC	P0091363		1-	A	H4
J 2007	CONNECTOR				12FLT-SM2-TB(LF)(SN)	P1091198		1-	B	g1
J 2008	CONNECTOR				B4B-PH-SM4-TB(LF)(SN)	P0091184		1-	B	d1
J 2009	CONNECTOR				B5B-PH-SM4-TB(LF)(SN)	P0091362		1-	B	d4
J 2010	CONNECTOR				B5B-PH-SM4-TB(LF)(SN)	P0091362		1-	B	c4
J 2011	CONNECTOR				53398-0671	P0091427		1-	B	a4
JP2002	WIRE ASSY				AM004N	T9207072		1-	B	a3
L 2001	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	c4
L 2002	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	d4
L 2003	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	d4
L 2004	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	d4
L 2005	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	d4
L 2006	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	c4
L 2007	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	c4
L 2008	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	d1
L 2009	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	d1
L 2010	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	d1
L 2011	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	d1
L 2012	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	d4
L 2013	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	c4
Q 2001	IC				M30873FHAGP	G1094438		1-	B	f2

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
Q 2002	IC				LM2902PWR	G1094009		1-	B	c2
Q 2003	IC				SN74LVC3G14DCTR	G1094258		1-	B	c1
Q 2004	IC				SN74HC14APW(TAPE)	G1094227		1-	B	d2
Q 2005	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	B	e2
Q 2006	IC				UA78L05ACPKE6(TAPE)	G1094229		1-	B	c1
Q 2007	IC				S-80823CNMC-B8I-T2G	G1093635		1-	B	b1
Q 2008	TRANSISTOR				RT1P441U-T11-1	G3070248		1-	B	g2
Q 2009	IC				M24256-BWDW6TP	G1094409		1-	B	g2
Q 2010	IC				S-812C33AUA-C2N-T2G	G1094056		1-	A	B4
Q 2011	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	B	b3
Q 2012	TRANSISTOR				2SB1132 T100 R	G3211327R		1-	B	b3
Q 2013	IC				SN74LVC4245APWR	G1094430		1-	B	d2
Q 2014	IC				SN74LV4053APWR	G1093870		1-	B	c2
Q 2015	TRANSISTOR				2SA1602A-T11-1F	G3116028F		1-	B	d1
Q 2015	TRANSISTOR				ISA1602AM1	G3070380		5-	B	d1
Q 2016	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	B	d1
Q 2017	TRANSISTOR				2SA1602A-T11-1F	G3116028F		1-	B	d3
Q 2017	TRANSISTOR				ISA1602AM1	G3070380		5-	B	d3
Q 2018	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	B	d3
Q 2019	TRANSISTOR				2SA1602A-T11-1F	G3116028F		1-	B	c3
Q 2019	TRANSISTOR				ISA1602AM1	G3070380		5-	B	c3
Q 2020	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	B	c3
Q 2021	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	A	H2
Q 2022	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	G2
Q 2023	PHOTO COUPLER				TLP281(GB-TP)	G0090037		1-	B	d1
Q 2024	IC				HA178L09UA-TL-E	G1094350		1-	B	g4
Q 2025	TRANSISTOR				DTC114YUA T106	G3070298		1-	B	b1
Q 2028	IC				S-35390A-T8T1G	G1094439		1-	B	g3
Q 2029	TRANSISTOR				DTC114YUA T106	G3070298		1-	B	e1
R 2001	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	f3
R 2002	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	e2
R 2003	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	f3
R 2004	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	g3
R 2005	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	g3
R 2006	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	h1
R 2007	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		1-	B	h2
R 2008	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	h1
R 2009	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	f1
R 2010	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	g1
R 2011	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2012	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2013	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2016	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2017	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2018	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2019	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2020	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2021	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2022	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2023	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2024	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2025	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2026	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2027	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2028	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	G2
R 2030	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2031	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	h4
R 2032	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	g2
R 2033	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	h4
R 2034	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	h4
R 2035	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	h4
R 2036	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	g1
R 2037	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2038	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e2
R 2039	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	g2
R 2041	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	f2
R 2042	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2043	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	e2
R 2044	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2045	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	a1
R 2046	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	f2
R 2047	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2048	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e2

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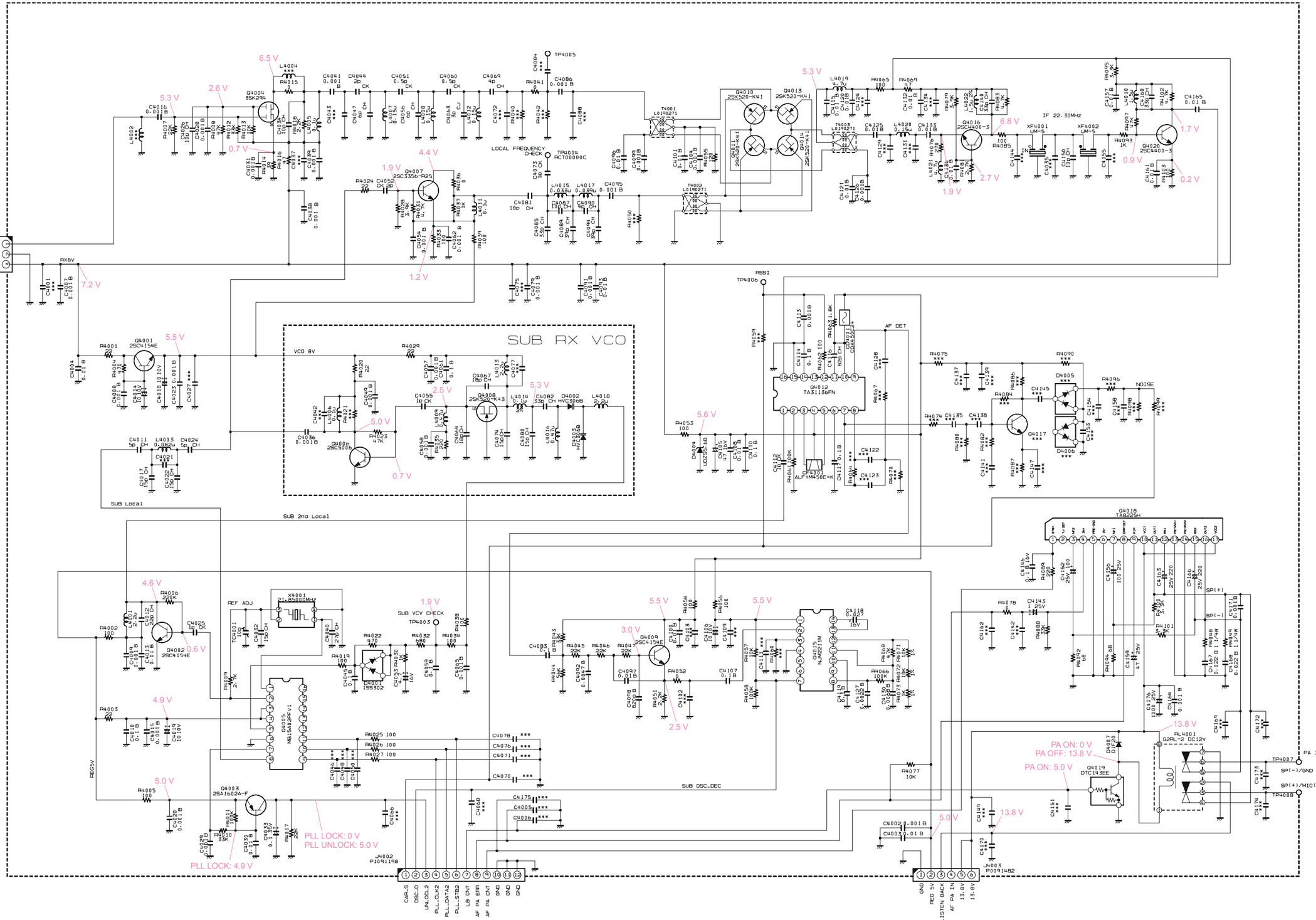
Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 2049	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	g2
R 2050	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	g1
R 2051	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	b1
R 2052	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2053	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	a1
R 2054	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e2
R 2055	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	a3
R 2056	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2057	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e2
R 2058	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2059	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	g2
R 2060	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e2
R 2062	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 2063	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	g2
R 2064	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	g2
R 2065	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	g2
R 2066	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2067	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2068	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2069	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g1
R 2070	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-	B	f1
R 2071	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g1
R 2072	CHIP RES.	22	1/4W	5%	RMC1/4 220JATP	J24245220		1-	B	b4
R 2073	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	b3
R 2074	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g1
R 2075	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-	B	f1
R 2076	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	B	b4
R 2077	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	B	e1
R 2078	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	b4
R 2079	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-	B	f1
R 2080	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-	B	f1
R 2081	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f1
R 2082	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f1
R 2083	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f1
R 2084	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f1
R 2085	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	B	f1
R 2086	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	b3
R 2087	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g1
R 2088	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g1
R 2089	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g1
R 2090	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	B	f1
R 2091	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	B	f1
R 2092	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	b3
R 2093	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	f1
R 2094	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	f1
R 2095	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	b4
R 2096	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	b4
R 2097	CHIP RES.	100	1/10W	5%	RMC1/10T 101J	J24205101		1-	B	f1
R 2098	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	B	d2
R 2099	CHIP RES.	100	1/10W	5%	RMC1/10T 101J	J24205101		1-	B	e1
R 2100	CHIP RES.	100	1/10W	5%	RMC1/10T 101J	J24205101		1-	B	c1
R 2101	CHIP RES.	180	1/10W	5%	RMC1/10T 181J	J24205181		1-	B	c4
R 2102	CHIP RES.	180	1/10W	5%	RMC1/10T 181J	J24205181		1-	B	g2
R 2103	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	c2
R 2104	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	c2
R 2105	CHIP RES.	180	1/10W	5%	RMC1/10T 181J	J24205181		1-	B	b4
R 2106	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	c2
R 2107	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	c2
R 2108	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	c3
R 2109	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	c1
R 2110	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	c3
R 2111	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-	B	c3
R 2112	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e1
R 2113	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	c2
R 2114	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e1
R 2115	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	c3
R 2116	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	c2
R 2117	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e1
R 2118	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e1
R 2119	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e1
R 2120	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	d1
R 2121	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	B	c2
R 2122	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	c2

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 2123	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	c1
R 2124	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	c1
R 2125	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d3
R 2126	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d3
R 2127	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	c3
R 2128	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	c3
R 2129	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d1
R 2130	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d1
R 2131	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	c3
R 2132	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	c3
R 2133	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-	B	c3
R 2134	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	c3
R 2135	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d1
R 2136	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d1
R 2137	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	c2
R 2138	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d1
R 2139	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d1
R 2140	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	H2
R 2141	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d1
R 2142	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	H2
R 2143	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d1
R 2144	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	d1
R 2145	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	d1
R 2146	CHIP RES.	120	1/4W	5%	RMC1/4 121JATP	J24245121		1-	B	d1
R 2147	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	d1
R 2148	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	H2
R 2149	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	G2
R 2150	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	d1
R 2151	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	c3
R 2152	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	c4
R 2154	CHIP RES.	120	1/4W	5%	RMC1/4 121JATP	J24245121		1-	B	d4
R 2155	CHIP RES.	120	1/4W	5%	RMC1/4 121JATP	J24245121		1-	B	c4
R 2156	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	H2
R 2157	CHIP RES.	3.9k	1/16W	5%	RMC1/16 392JATP	J24185392		1-	B	c3
R 2158	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	c3
R 2159	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	c4
R 2161	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	d3
R 2162	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	c3
R 2163	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	a4
R 2164	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	a4
R 2165	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d4
R 2166	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d4
R 2167	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	d4
R 2168	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	c4
R 2169	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	c4
R 2170	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	a4
R 2171	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	a4
R 2172	CHIP RES.	330	1/4W	5%	RMC1/4 331JATP	J24245331		1-	B	d1
R 2173	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	a4
R 2174	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2175	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2176	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	b1
R 2177	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	b1
R 2178	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	a1
R 2179	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	g3
R 2182	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	D2
R 2183	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	C2
R 2184	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	D2
R 2185	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	C2
R 2186	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	D2
R 2187	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	C2
R 2188	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	D2
R 2189	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	C2
R 2190	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
R 2191	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	g2
S 2001	ROTARY ENCODER				EC20A 18204	Q9000809		1-	A	A4
VR2001	POT.				RH96N220A RY-7525 20KB/SW	J60800271		1-	A	H1
VR2002	POT.				RH96N220 RY-7524 20KB	J60800270		1-	A	H3
X 2001	XTAL 94SMX	14.7456MHz			94M147-18(D) 14.74560MHZ	H0103271		1-	B	g2
X 2002	XTAL VT-200				32.768KHZ 20PPM/6PF	H0103267		1-	B	g3

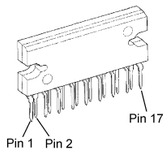
Note


SUB RX VCO
SUB Local
SUB 2nd Local
SUB DSC_DEC
RSSI
AF DET
IF 22.30MHz
LOCAL FREQUENCY CHECK
REF ADJ
SUB VCV CHECK
PLL LOCK: 0 V
PLL UNLOCK: 5.0 V
PLL LOCK: 4.9 V
PA ON: 0 V
PA OFF: 13.8 V
PA ON: 5.0 V
RF IN
GND
RX8V
PA IN/OUT
SP(-)/GND
SP(+)/MIC(+)
CAR_S
DSC_D
UNLOCK
PLL_CLK2
PLL_DATA2
PLL_STB2
LB CNT
AF PA ERR
AF PA CNT
GND
GND
GND
GND
REG 5V
LISTEN BACK
AF PA IN
13.8V
13.8V

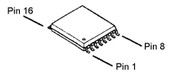
SUB Unit

Note

Parts Layout (Side A)



TA8225HQ
(Q4018)



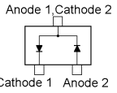
MB15A02PFV1
(Q4005)
TA31136FNG
(Q4012)

2SK520 (K41)
(Q4010, 4008, 4013)

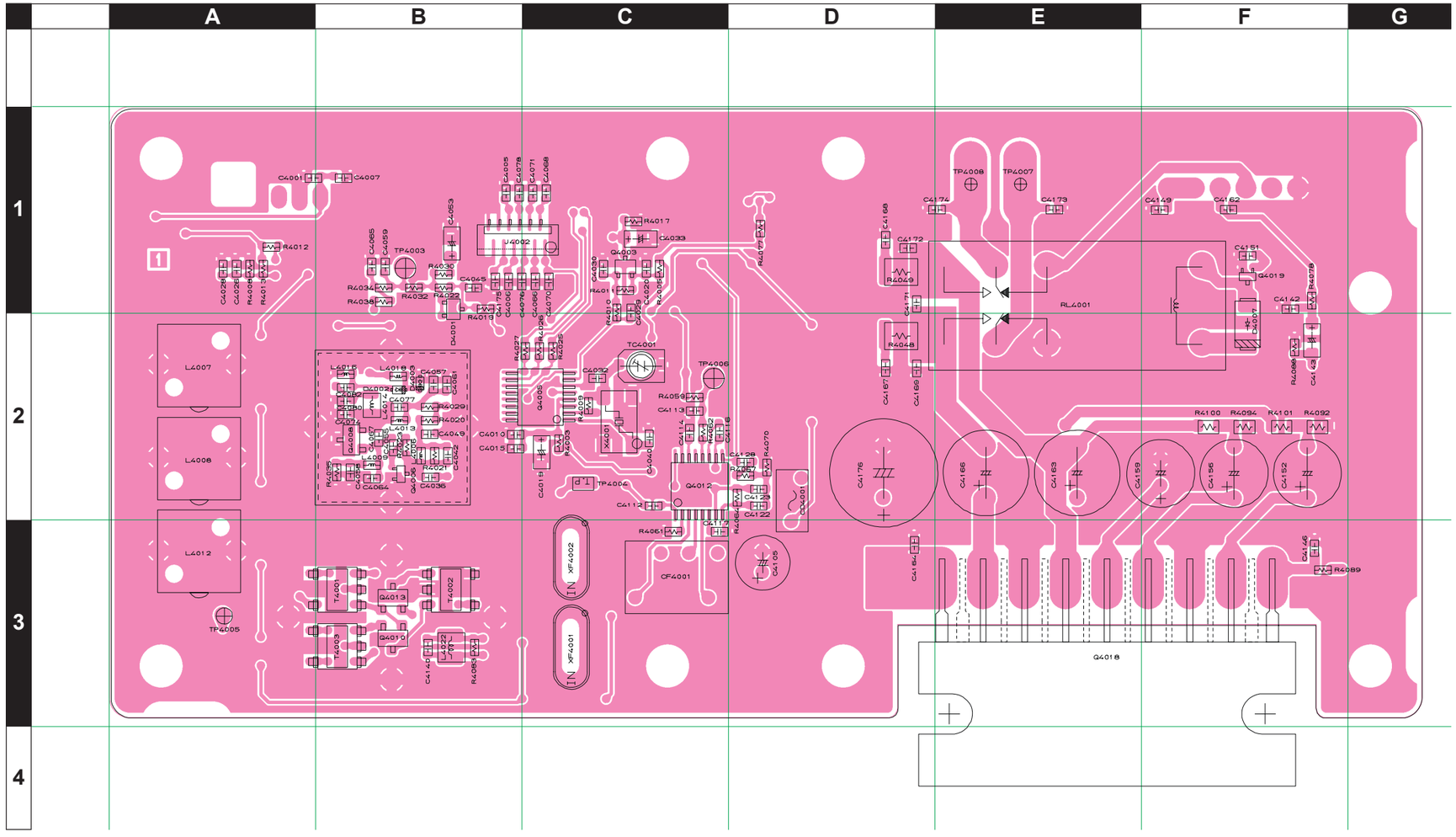
2SA1602A (MF)
(Q4003)
ISA1602AM1 (MF)
(Q4003)

DTC143EE (23)
(Q4019)

2SC5006 (24)
(Q4006)

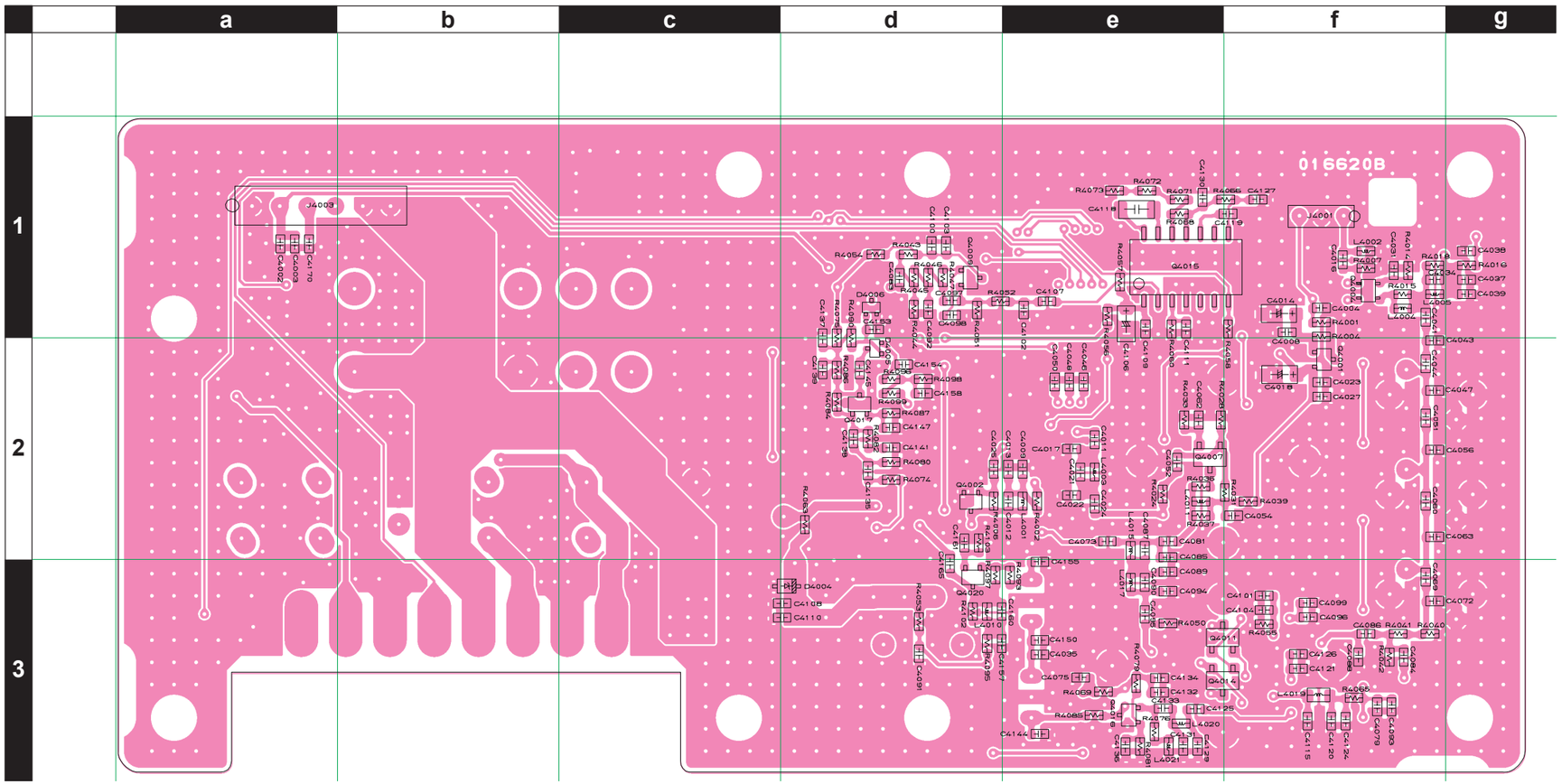


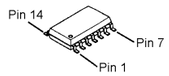
1SS302 (C3)
(D4001)



SUB Unit

Parts Layout (Side B)





NJM2211M
(Q4015)

3SK294 (UV)
(Q2001, 2003)

2SK520 (K41)
(Q4011, 4014)

2SC3356 (R24)
(Q4007)

2SC4154 (E)
(Q4001, 4002, 4009)

2SC4400 (RT4)
(Q4016, 4020)

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
	P.C.B. with Components					CB3981001				
	Printed Circuit Board				AM028N000	FR0166200		1-		
C 4002	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a1
C 4003	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	a1
C 4004	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	f1
C 4007	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B1
C 4008	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f1
C 4009	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	e2
C 4010	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B2
C 4011	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-	B	e2
C 4012	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-	B	e2
C 4013	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	e2
C 4014	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	f1
C 4015	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B2
C 4016	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f1
C 4017	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	e2
C 4018	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	f2
C 4019	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	A	C2
C 4020	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	C1
C 4022	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	e2
C 4023	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f2
C 4024	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-	B	e2
C 4025	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-	B	d2
C 4026	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	A	A1
C 4028	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	A1
C 4029	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	C1
C 4030	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	A	C1
C 4031	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f1
C 4032	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	C2
C 4033	CHIP TA.CAP.	0.1uF	35V		TESVA1V104M1-8R	K78160025		1-	A	C1
C 4034	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	f1
C 4036	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B2
C 4038	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	g1
C 4039	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	g1
C 4040	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221		1-	A	C2
C 4041	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f1
C 4044	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203		1-	B	f2
C 4045	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B1
C 4047	CHIP CAP.	6pF	50V	CH	GRM1882C1H6R0DZ01D	K22174207		1-	B	f2
C 4049	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B2
C 4051	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50CZ01D	K22174201		1-	B	f2
C 4052	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203		1-	B	e2
C 4053	CHIP TA.CAP.	4.7uF	16V		TEMSVA1C475M-8R	K78120031		1-	A	B1
C 4054	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f2
C 4055	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-	A	B2
C 4056	CHIP CAP.	6pF	50V	CH	GRM1882C1H6R0DZ01D	K22174207		1-	B	f2
C 4057	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B2
C 4058	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B2
C 4059	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B1
C 4060	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50CZ01D	K22174201		1-	B	f2
C 4061	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B2
C 4062	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	e2
C 4063	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	B	f2
C 4064	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217		1-	A	B2
C 4065	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B1
C 4067	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217		1-	A	B2
C 4069	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	f3
C 4073	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-	B	e2
C 4074	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	B2
C 4079	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f3
C 4080	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	A	B2
C 4081	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217		1-	B	e2
C 4082	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		1-	A	B2
C 4083	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d1
C 4085	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		1-	B	e2
C 4086	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f3
C 4087	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	e2
C 4089	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225		1-	B	e3
C 4090	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	e3
C 4091	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d3
C 4092	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174817		1-	B	d1
C 4093	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	f3
C 4094	CHIP CAP.	39pF	50V	CH	GRM1882C1H390JA01D	K22174225		1-	B	e3

SUB Unit

Parts List

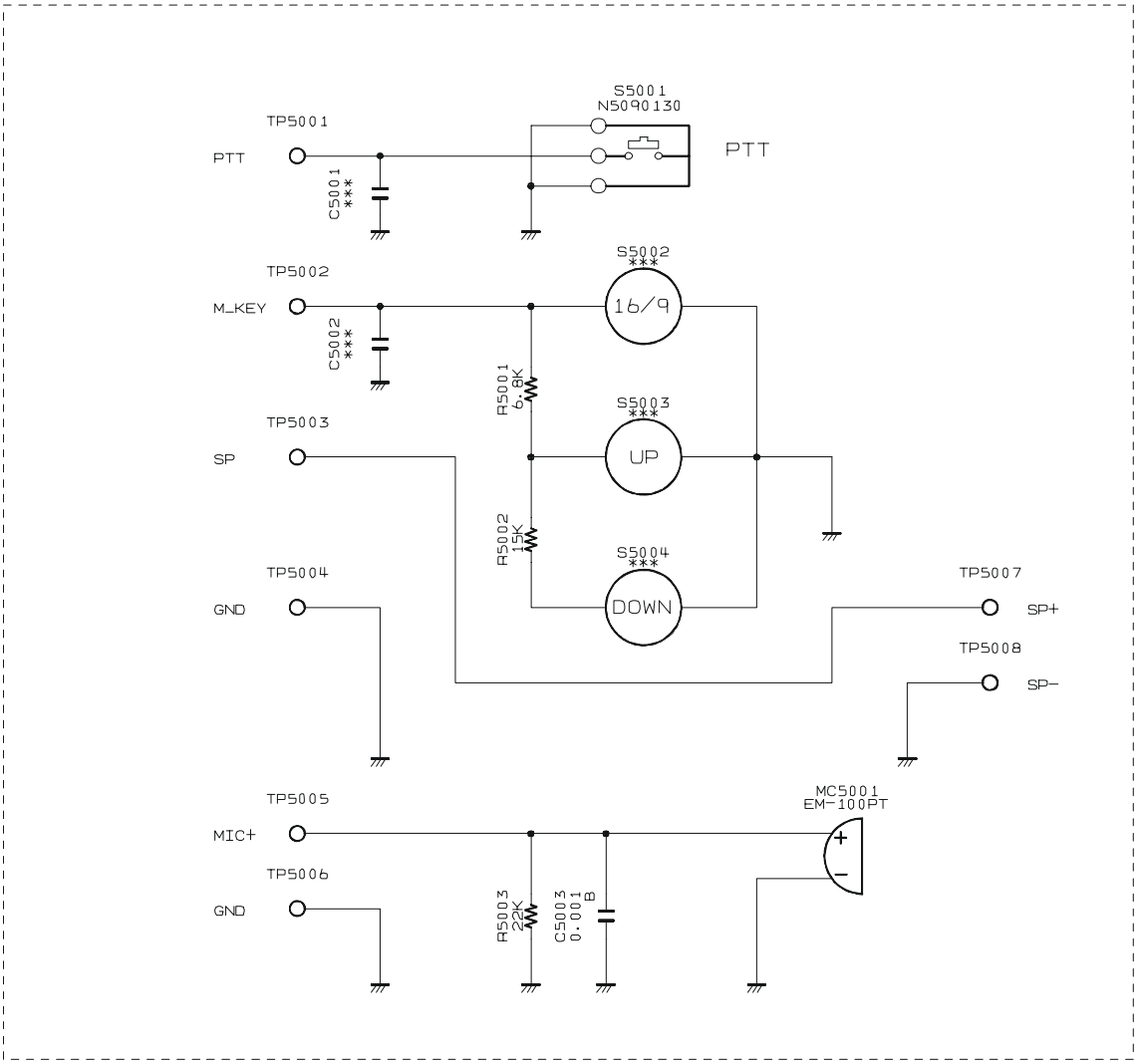
REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
C 4095	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	e3
C 4096	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	f3
C 4097	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	d1
C 4098	CHIP CAP.	820pF	50V	B	GRM188B11H821KA01D	K22174808		1-	B	d1
C 4099	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f3
C 4100	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	d1
C 4101	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	f3
C 4104	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f3
C 4105	AL.ELECTRO.CAP.	47uF	16V		RE2-16V470ME3#	K40129054		1-	A	D3
C 4106	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-	B	e1
C 4107	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e1
C 4108	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	c3
C 4110	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	c3
C 4112	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0CZ01D	K22174202		1-	A	C2
C 4113	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	C2
C 4114	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C2
C 4115	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	f3
C 4116	CHIP CAP.	82pF	50V	CH	GRM1882C1H820JA01D	K22174233		1-	A	C2
C 4117	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C3
C 4118	FILM CAP.	0.027uF	16V		ECHU1C273JX5	K57120041		1-	B	e1
C 4119	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	f1
C 4120	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	f3
C 4121	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	f3
C 4125	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	e3
C 4126	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f3
C 4127	CHIP CAP.	0.0022uF	50V	B	GRM188B11H222KA01D	K22174822		1-	B	f1
C 4130	CHIP CAP.	0.0068uF	50V	B	GRM188B11H682KA01D	K22174834		1-	B	e1
C 4132	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	e3
C 4133	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	e3
C 4136	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	e3
C 4140	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		1-	A	B3
C 4143	CHIP TA.CAP.	1uF	25V		TEMSVA1E105M-8R	K78140013		1-	A	F2
C 4146	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	F3
C 4150	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	e3
C 4152	AL.ELECTRO.CAP.	100uF	25V		RE2-25V101MF3#-T2	K46140005		1-	A	F2
C 4156	AL.ELECTRO.CAP.	100uF	25V		RE2-25V101MF3#-T2	K46140005		1-	A	F2
C 4157	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	d3
C 4159	AL.ELECTRO.CAP.	47uF	25V		RC2-25V470MF1#	K40149023		1-	A	F2
C 4160	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		1-	B	d3
C 4161	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	d2
C 4163	AL.ELECTRO.CAP.	220uF	25V		RE2-25V221MG3#-T2	K46140006		1-	A	E2
C 4164	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D3
C 4165	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		1-	B	d3
C 4166	AL.ELECTRO.CAP.	220uF	25V		RE2-25V221MG3#-T2	K46140006		1-	A	E2
C 4167	CHIP CAP.	0.022uF	25V	B	GRM39B223K25PT	K22144807		1-	A	D2
C 4168	CHIP CAP.	0.022uF	25V	B	GRM39B223K25PT	K22144807		1-	A	D1
C 4171	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D1
C 4176	AL.ELECTRO.CAP.	1000uF	25V		RE3-25V102MH5#	K40149045		1-	A	D2
CD4001	CERAMIC DISC				CDA450C24	H7901430		1-	A	D2
CF4001	CERAMIC FILTER				ALFYM450E=K	H3900535		1-	A	C3
D 4001	DIODE				1SS302(TE85R.F)	G2070088		1-	A	B1
D 4002	DIODE				HVC306B TRU-E	G2070918		1-	A	B2
D 4003	DIODE				HVC306B TRU-E	G2070918		1-	A	B2
D 4004	DIODE				UDZS TE-17 5.6B	G2070910		1-	B	d3
D 4007	DIODE				D1F20-5063	G2070474		1-	A	F2
J 4001	CONNECTOR				IMSA-9210B1-03Z862-PT1	P0091392		1-	B	f1
J 4002	CONNECTOR				12FLT-SM2-TB(LF)(SN)	P1091198		1-	A	B1
J 4003	CONNECTOR				6065B-06Z115-PT1	P0091482		1-	B	a1
L 4001	M.RFC	2.2uH			LK1608 2R2K-T	L1690634		1-	B	e2
L 4003	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	e2
L 4005	M.RFC	0.1uH			HK1608 R10J-T	L1690528		1-	B	f1
L 4006	M.RFC	0.1uH			HK1608 R10J-T	L1690528		1-	A	B2
L 4007	COIL	0.15uH			#E528SNAS-100076	L0190270		1-	A	A2
L 4008	COIL	0.15uH			#E528SNAS-100076	L0190270		1-	A	A2
L 4009	M.RFC	0.47uH			LK1608 R47K-T	L1690414		1-	A	B2
L 4010	M.RFC	1.5uH			LK1608 1R5K-T	L1690846		1-	B	d3
L 4011	M.RFC	0.1uH			HK1608 R10J-T	L1690528		1-	B	e2
L 4012	COIL	0.15uH			#E528SNAS-100076	L0190270		1-	A	A3
L 4013	M.RFC	2.2uH			LK1608 2R2K-T	L1690634		1-	A	B2
L 4014	M.RFC	0.1uH		2%	C2012C-R10G-RA	L1690776		1-	A	B2
L 4015	M.RFC	0.033uH			HK1608 33NJ-T	L1690522		1-	B	e2
L 4016	M.RFC	0.47uH			LK1608 R47K-T	L1690414		1-	A	B2
L 4017	M.RFC	0.039uH			HK1608 39NJ-T	L1690523		1-	B	e3

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
L 4018	M.RFC	2.2uH			LK1608 2R2K-T	L1690634		1-	A	B2
L 4019	M.RFC	4.7uH			LK2125 4R7K-T	L1690327		1-	B	f3
L 4020	M.RFC	0.15uH			HK1608 R15J-T	L1690938		1-	B	e3
L 4021	M.RFC	4.7uH			LK1608 4R7K-T	L1690688		1-	B	e3
L 4022	CHIP COIL	1.5uH		2%	C2520C-1R5G	L1691311		1-	A	B3
Q 4001	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	B	f2
Q 4002	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	B	d2
Q 4003	TRANSISTOR				2SA1602A-T11-1F	G3116028F		1-	A	C1
Q 4003	TRANSISTOR				ISA1602AM1	G3070380		5-	A	C1
Q 4004	FET				3SK294(TE85L)	G4802948		1-	B	f1
Q 4005	IC				MB15A02PFV1	G1092541		1-	A	C2
Q 4006	TRANSISTOR				2SC5006-T1	G3350068		1-	A	B2
Q 4007	TRANSISTOR				2SC3356-T2B R25	G3333567E		1-	B	e2
Q 4008	FET				2SK520-T2B K43	G3805207C		1-	A	B2
Q 4009	TRANSISTOR				2SC4154-T11-1E	G3341548E		1-	B	d1
Q 4010	FET				2SK520-T2B K41	G3805207A		1-	A	B3
Q 4011	FET				2SK520-T2B K41	G3805207A		1-	B	e3
Q 4012	IC				TA31136FNG(EL)	G1091605		1-	A	C2
Q 4013	FET				2SK520-T2B K41	G3805207A		1-	A	B3
Q 4014	FET				2SK520-T2B K41	G3805207A		1-	B	e3
Q 4015	IC				NJM2211M-TE1	G1092943		1-	B	e1
Q 4016	TRANSISTOR				2SC4400-3-TL	G3344008C		1-	B	e3
Q 4018	IC				TA8225HQ	G1093878		1-	A	F3
Q 4019	TRANSISTOR				DTC143EE TL	G3070114		1-	A	F1
Q 4020	TRANSISTOR				2SC4400-3-TL	G3344008C		1-	B	d3
R 4001	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	B	f1
R 4002	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e2
R 4003	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	A	C2
R 4004	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	f1
R 4005	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	C1
R 4006	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-	B	d2
R 4007	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	f1
R 4008	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	A1
R 4009	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-	A	C2
R 4010	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	A	C1
R 4011	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	C1
R 4012	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	A	A1
R 4013	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	A1
R 4014	CHIP RES.	39	1/16W	5%	RMC1/16 390JATP	J24185390		1-	B	f1
R 4015	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	f1
R 4016	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	B	g1
R 4017	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	C1
R 4018	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	f1
R 4019	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	B1
R 4020	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	A	B2
R 4022	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	B1
R 4023	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	B2
R 4024	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	B	e2
R 4025	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	C2
R 4026	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	C2
R 4027	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	C2
R 4028	CHIP RES.	3.9k	1/16W	5%	RMC1/16 392JATP	J24185392		1-	B	e2
R 4029	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	A	B2
R 4030	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	B1
R 4031	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	e2
R 4032	CHIP RES.	680	1/16W	5%	RMC1/16 681JATP	J24185681		1-	A	B1
R 4033	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e2
R 4034	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	B1
R 4035	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-	A	B2
R 4036	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e2
R 4037	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	e2
R 4038	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	B1
R 4039	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f2
R 4041	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	f3
R 4043	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	B	d1
R 4044	CHIP RES.	56k	1/16W	5%	RMC1/16 563JATP	J24185563		1-	B	d1
R 4045	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	d1
R 4046	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	d1
R 4047	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	d1
R 4048	CHIP RES.	1	1/4W	5%	RMC1/4 1R0JATP	J24245010		1-	A	D2
R 4049	CHIP RES.	1	1/4W	5%	RMC1/4 1R0JATP	J24245010		1-	A	D1
R 4051	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d1
R 4052	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	d1

SUB Unit

Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
R 4053	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	d3
R 4054	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	d1
R 4055	CHIP RES.	120	1/16W	5%	RMC1/16 121JATP	J24185121		1-	B	f3
R 4056	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e1
R 4057	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e1
R 4058	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	f1
R 4059	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	C2
R 4061	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	C3
R 4062	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	C2
R 4063	CHIP RES.	1.8k	1/16W	5%	RMC1/16 182JATP	J24185182		1-	B	d2
R 4065	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f3
R 4066	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	f1
R 4068	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	e1
R 4069	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	B	e3
R 4071	CHIP RES.	10k	1/16W	1%	RMC1/16 103FTP	J24183103		1-	B	e1
R 4072	CHIP RES.	10k	1/16W	1%	RMC1/16 103FTP	J24183103		1-	B	e1
R 4073	CHIP RES.	1k	1/16W	1%	RMC1/16 102FTP	J24183102		1-	B	e1
R 4076	CHIP RES.	270	1/16W	5%	RMC1/16 271JATP	J24185271		1-	B	e3
R 4077	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	D1
R 4078	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	F1
R 4079	CHIP RES.	3.9k	1/16W	5%	RMC1/16 392JATP	J24185392		1-	B	e3
R 4081	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-	B	e3
R 4083	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	B3
R 4085	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	e3
R 4088	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	A	F2
R 4089	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-	A	F3
R 4092	CHIP RES.	68	1/10W	5%	RMC1/10T 680J	J24205680		1-	A	F2
R 4093	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	e3
R 4094	CHIP RES.	68	1/10W	5%	RMC1/10T 680J	J24205680		1-	A	F2
R 4095	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	d3
R 4097	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	d3
R 4100	CHIP RES.	3.3k	1/10W	5%	RMC1/10T 332J	J24205332		1-	A	F2
R 4101	CHIP RES.	3.3k	1/10W	5%	RMC1/10T 332J	J24205332		1-	A	F2
R 4102	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	d3
R 4103	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	d2
RL4001	RELAY		DC12V		G2RL-2 DC12V	M1190178		1-	A	F1
T 4001	BALUN TRANSFOMERS				#617DB-1714=PH3	L0190271		1-	A	B3
T 4002	BALUN TRANSFOMERS				#617DB-1714=PH3	L0190271		1-	A	B3
T 4003	BALUN TRANSFOMERS				#617DB-1714=PH3	L0190271		1-	A	B3
TC4001	TRIMMER CAP.	10pF			ECR-KN010C61X	K91000226		1-	A	C2
TP4004	CHECK TERMINAL				RCT00000C	Q5000103		1-	A	C2
X 4001	XTAL TOP-B	21.85MHz			21.85000MHZ	H0103270		1-	A	C2
XF4001	XTAL FILTER				UM-5 22.300MHZ	H1102393		1-	A	C3
XF4002	XTAL FILTER				UM-5 22.300MHZ	H1102393		1-	A	C3
	SHIELD				(VCO2)	RA0570400		1-		
	SHIELD				(VCO2)	RA0751200		1-		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N5090130
TP5001
PTT
PTT
C5001
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S5002
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16/9
C5002
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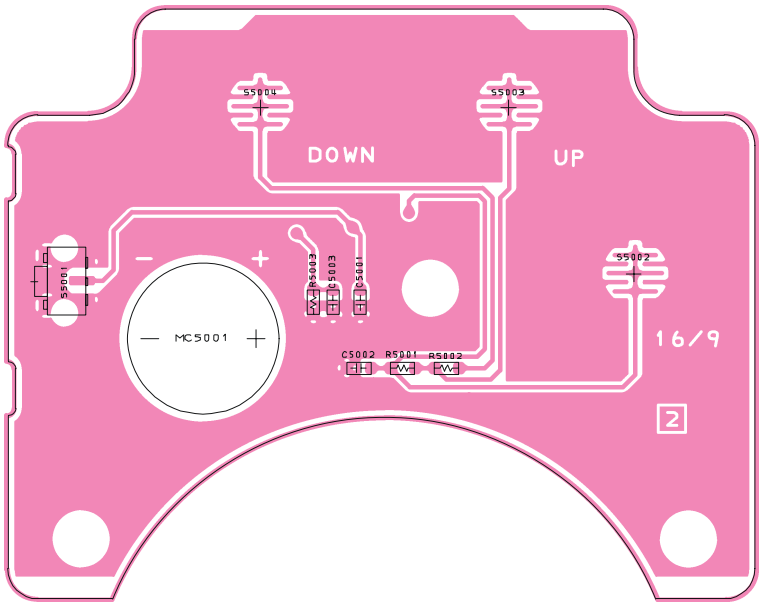
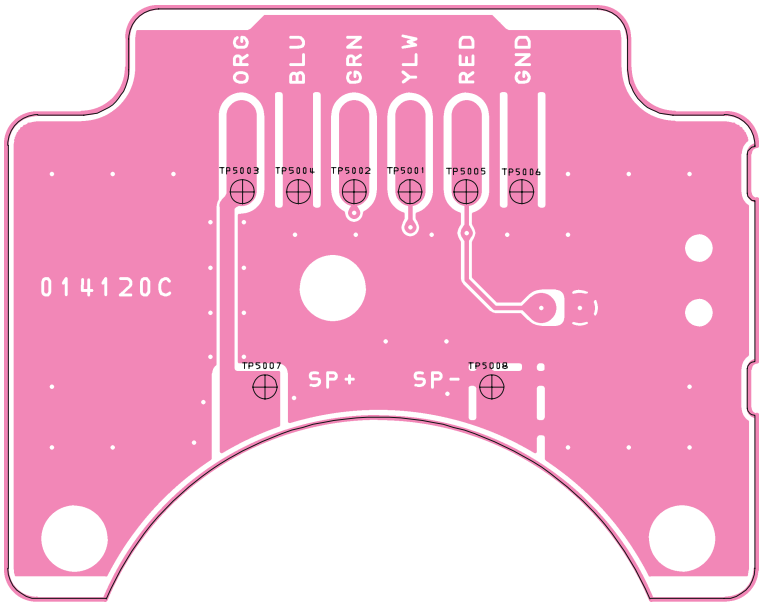
R5001
6.8K
S5003
***
TP5003
SP
UP
R5002
15K
S5004
***
TP5004
GND
DOWN
TP5007
SP+
TP5008
SP-
MC5001
EM-100PT
TP5005
MIC+
TP5006
GND
R5003
22K
C5003
0.001
B

MIC Unit

Parts Layout



(Side A)



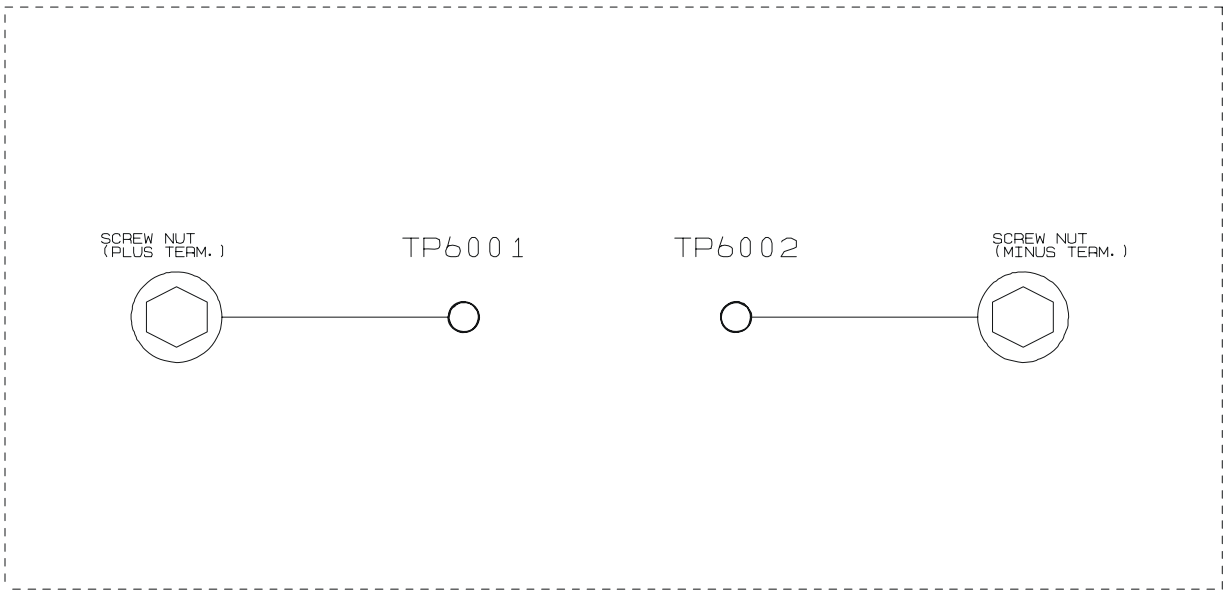
(Side B)

Parts List

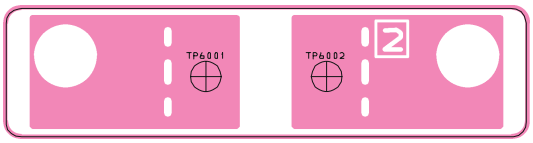
REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
	P.C.B. with Components					CB4046001				
	Printed Circuit Board				AM016N000	FR0141200		1-		
C 5003	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174809		1-		
MC5001	MIC. ELEMENT				EM-100PT	M3290029		1-		
R 5001	CHIP RES.	6.8k	1/16W	5%	RMC1/16 682JATP	J24185682		1-		
R 5002	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-		
R 5003	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-		
S 5001	TACT SWITCH				SKRTLAE010	N5090130		1-		

TERMINAL-2 Unit

Circuit Diagram



Parts Layout



(Side A)

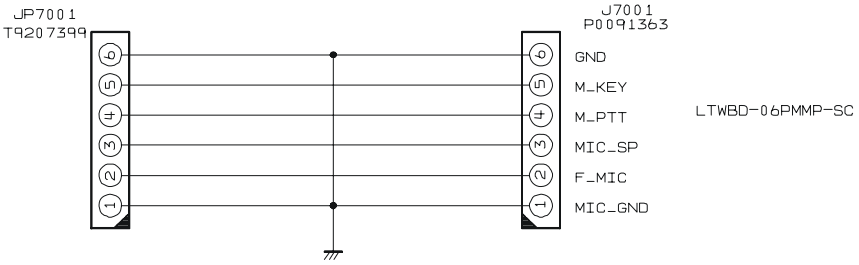
(Side B)

Parts List

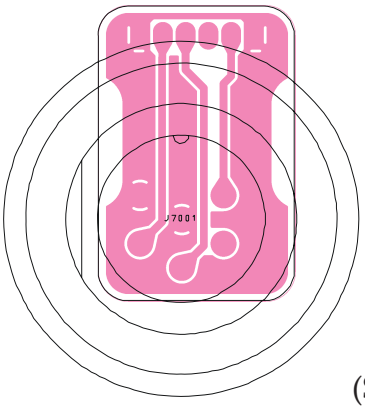
REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
	P.C.B. with Components					CB4009001				
	Printed Circuit Board				AM028N000	FR0167900		1-		

CONNECTOR Unit

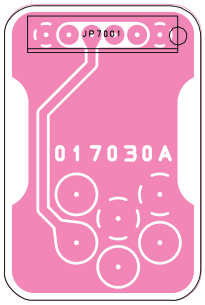
Circuit Diagram



Parts Layout



(Side A)



(Side B)

Parts List

REF	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT	SIDE	LAY ADR
	P.C.B. with Components					CB4052001				
	Printed Circuit Board				AM028N000	FR0170300		1-		
J 7001	CONNECTOR				VERBD-06PMMP-SC	P0091363		1-		
JP7001	WIRE ASSY				EXT MIC 170MM6PS	T9207399		1-