Contents

KNG-Series

Digital Version

Digital Portable Radios

Service Manual

Models: P150, P400, P400 and P800
includes CMD Models

P/N KAA 0001 REV. 0512 REF #0300-31052-800

BK RADIO

CONTENTS

SECTION I
GENERAL INFORMATION

SECTION II
OPERATION AND PROGRAMMING

SECTION III
THEORY OF OPERATION

SECTION IV
MAINTENANCE

SECTION V
ILLUSTRATED PARTS LIST

Contents

SECTION I
GENERAL INFORMATION

1.1 INTRODUCTION

This manual contains information about the physical, mechanical, and electrical characteristics of the BK Radio KNG Series APCO Project 25 portable digital radios. KNG Portable radios are available in VHF, UHF and 800 MHz models.

Models	Frequency
KNG-P150	136 - 174 MHz
KNG-P400	308 - 470 MHz
KNG-P150	440 - 520 MHz
KNG-P800	763 - 870 MHz

1.2 DESCRIPTION

The KNG is a handheld FM transceiver designed for use in domestic and foreign Land Mobile services. The radio supports standard analog FM and digital C4FM modulation pursuant to TIA-102.BAAD (Project 25 Common Air Interface Description for Conventional Channels) et al. The radio can be configured for as many as 2048 channels that can be arranged into channel zones. Each channel specifies unique receive and transmit RF frequencies, sub-audible squelch, digital control parameters, etc.

Top panel controls include on/off/volume, channel rotary selector, a concentric two-position switch, an orange momentary switch, and two toggle switches with dealer programmable function. The side panel contains a PTT switch, and two programmable push buttons. Connectors are provided via the side connector for external antenna, speaker, microphone, programming, and options. Some models include a front panel LCD display for status information, four programmable push buttons, and a keypad for tailoring radio operation.

1.3 TECHNICAL CHARACTERISTICS

OPERATIONAL FEATURES: Programmable Switches, Per Channel Analog/Digital/Mixed-Mode, RX and TX Dual Priority Scan, Frequency Display, Transmit Time-Out Timer, User Selectable Scan, Scan Delay, Busy Channel Indicate / Lockout, Tone Code Guard (CTCSS), DTMF/ANI Encode, Digital Code Guard (CDCSS), Nuisance Channel Delete, Talkback Scan and User Selectable Code Guard.

CHANNELS WITH VARIABLE ZONE SIZE:	2048	
OPERATING VOLTAGE:	12 VDC Nominal	
PHYSICAL DIMENSIONS:	Weight:	9 oz. (15 oz. with battery)
	Width:	2.5 in. (63.5 millimeters)
	Depth:	1.8 in. (45.7 mm.)
	Height:	5.5 in. (139.7 mm.)
CHANNEL SPACING:	25/12.5 kHz	
CHANNEL INCREMENTS:	1.25 kHz	
ANTENNA TYPE:	Helical wound molded rubber flex (standard)	

General Information

MAX CURRENT DRAIN: ..... Transmit High Power: 1.5 amps
Receive: 255 mA
Standby: 20 mA (battery save on)
Standby: 100 mA (battery save off)

OPERATING TEMPERATURE: ..... -30° to +60° C
Receive: 2 A
Standby: 150 mA

OPERATING TEMPERATURE: ..... -30° to +60° C

Specification	M-150	M-400	M-500	M-800
Frequency Range	136 - 174 MHz	380 - 470 MHz	440 - 520 MHz	763 - 870 MHz
FCC ID				
Receiver				
Sensitivity: 12db SINAD	-121 dBm	-119 dBm	-121 dBm	-119 dBm
P25 Sensitivity: 5% BER	-121 dBm	-119 dBm	-121 dBm	-119 dBm
Adjacent Channel Rejection Per TIA/EIA-603 2.1.6	80 (70) dB	78 (67) dB	79 (67) dB	72 (63) dB
P25 Adjacent Channel Rejection	60 dB	60 dB	60 dB	60 dB
Spurious and Images	80 dB	80 dB	85 dB	75 dB
Intermodulation Rejection	78 dB	75 dB	77 dB	75 dB
Audio Response	+1dB / -3dB	+1dB / -3dB	+1dB / -3dB	+1dB / -3dB
Audio Distortion at 5W	2 %	2 %	2 %	2 %
RX Current Draw	2 A	2 A	2 A	2 A
Transmitter				
RF Power (Watts)	10-50 or 50-100	10-40 or 40-100	10-40	10-35
Frequency Stability	1.5 ppm	1.5 ppm	1.5 ppm	1.5 ppm
Modulation Deviation	5 (2.5) kHz	5 (2.5) kHz	5 (2.5) kHz	5 (2.5) kHz
Audio Distortion	3 %	3 %	3 %	3 %
FM Hum & Noise	50 (45) dB	50 (45) dB	50 (45) dB	50 (45) dB
Spurious and Harmonics	75 dB	75 dB	75 dB	75 dB
Current Draw @ High Power	15 A @ 50 W 20 A @ 100 W	15 A @ 40 W 20 A @ 100 W	15 A	15 A
Audio Response	+1dB / -3dB	+1dB / -3dB	+1dB / -3dB	+1dB / -3dB
Modulation	16K0F3E (11K0F3E) 8K10F1E (8K10F1D)			

1.4 FACTORY OPTIONS

Factory installed options are referenced on the back of the radio.
The following list includes options available at the time of printing.

KZA0558	Intrinsically Safe
KZA0570	Over-the-Air Rekeying (OTAR)
KZA0577	AES and DES Encryption
KZA0579	Project 25 Digital Trunking
KAA0582	Over-the-Air Programming (OTAP)
KZA0583	Vote Scan Operation

1.5 ACCESSORIES

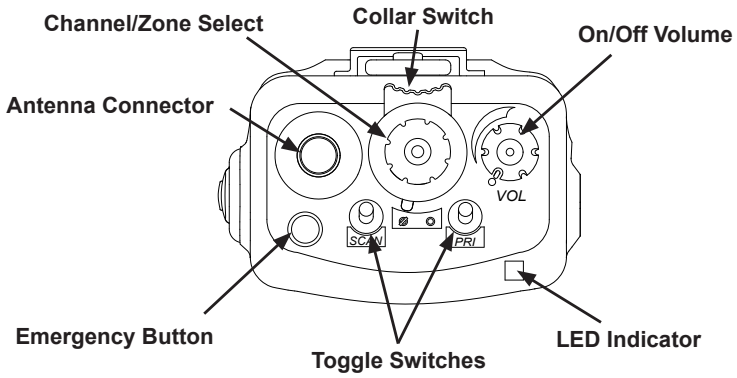
Use only BK Radio approved supplied or replacement antennas, batteries, and accessories. Use of non-BK Radio approved antennas, batteries, and accessories may exceed the FCC RF exposure guidelines. For a list of BK Radio approved accessories visit the following web site: http://www.relm.com.

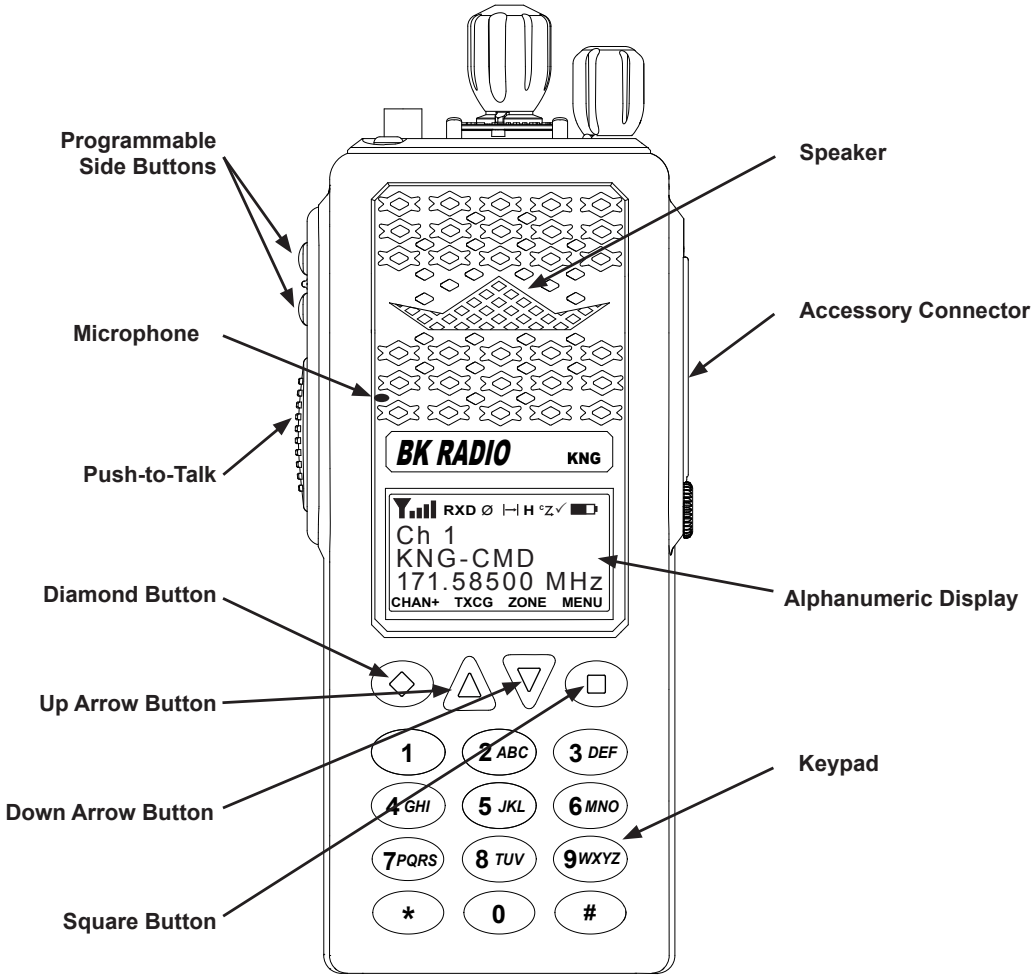
1.6 LICENSE REQUIREMENTS

This equipment must be licensed by the Federal Communications Commission (FCC) before it may be used. Your BK Radio dealer can assist you in filing the appropriate application with the FCC and program each radio with your authorized frequencies and signaling codes.

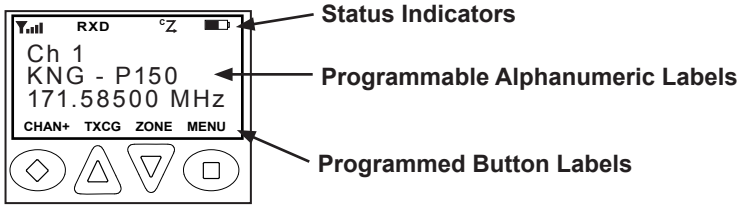
General Information

1.7 RADIO CONTROLS





1.8 LCD DISPLAY



The KNG display can be programmed for a variety of options and functionality. Check with your RELM/BK Radio dealer or communications officer for information on the programmed functions of your radio.

NOTE: The KNG display can be programmed to display different information when a trunking or conventional channel is selected.

STATUS INDICATORS	
	Receiver Signal Strength
RXD, RXA	Receive Digital, Receive Analog, Hold Time Active
TXD, TXA	Transmit Digital, Transmit Analog
H/L	High/Low Transmit Power
	Selected channel Tx is encrypted or Rx incoming signal is encrypted
	Battery Level Indicator
P1, P2	Priority 1 Channel, Priority 2 Channel
	Scanned Channel
	Channel Scan On
	Dual Mode Scan On
	Zone Scan On
	Priority Scan On
	Repeater Talkaround Enabled
	Monitor Mode
	Flashing indicates Normal Mode in digital operation
	Open Audio
	Voice Mute Enabled

General Information

ALPHANUMERIC LABEL OPTIONS	
NOTE: Three channel information lines are programmable with PC Radio Editor.	
Channel Number	Channel Number of Currently Selected Channel or Active Scanned Channel
Channel Label	Alphanumeric Label of Currently Selected Channel or Active Scanned Channel
Channel Number and Zone Label	Currently Selected Channel number and Currently Selected Zone Label
Frequency*	Operating Frequency of Currently Selected Channel or Active Scanned Channel
Unit ID	Shows your P25 Unit ID While receiving, the ID of the radio transmitting the message is displayed If the received ID is programmed in your radio's Call List, the corresponding label will be displayed
Received Talk Group ID	P25 Talk Group ID of the radio transmitting the message currently being received
Pick List Selection*	NAC, TGID or Code Guard currently selected from the programmable Pick Lists
Zone Label	Label of Currently Selected Zone
Zone # and Channel #	Currently Selected Zone and Channel Numbers
Zone Number	Currently Selected Zone Number
RX/TX Key	Currently selected encryption key
Subaudible*	Displays CxCSS value of received signal
DTMF*	Displays the numeric DTMF tones of received signal
MDC*	Displays the numeric MDC ID of received signal

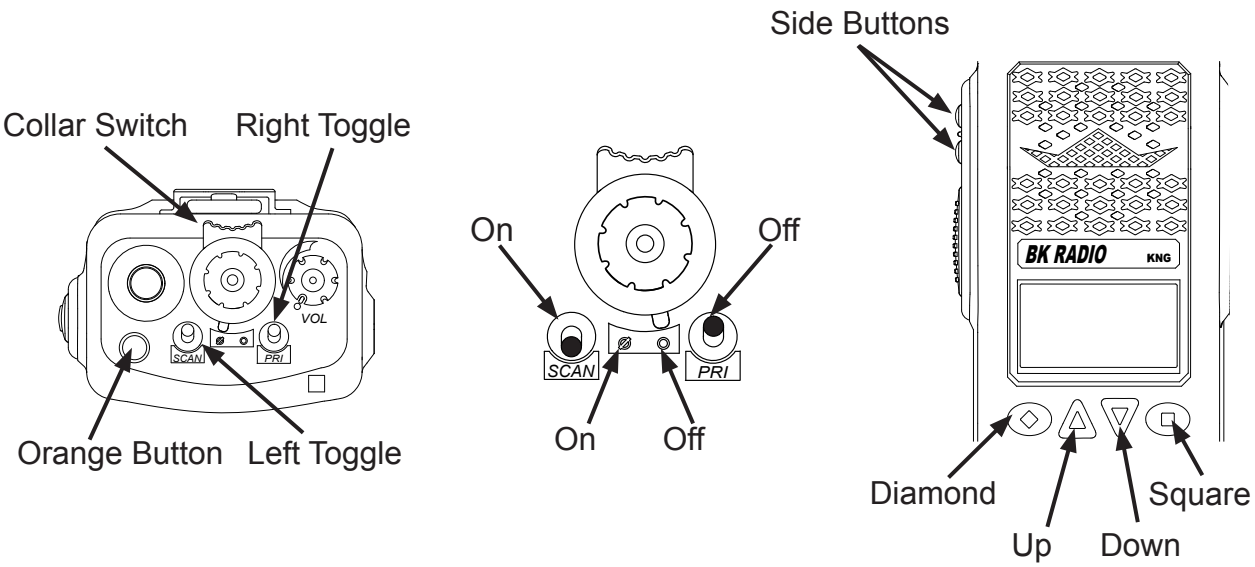
*Conventional Channels Only

1.9 PROGRAMMABLE SWITCHES AND BUTTONS

The KNG portable radio is equipped with seven programmable control buttons and three programmable switches. Switch and button functions are assigned via PC programming.

NOTE: Switches, buttons and menu items can be programmed for different functions when a trunking or conventional channel is selected.

The Diamond, Up Arrow, Down Arrow, and Square buttons are programmable with PC Radio Editor Software. The programmed functions are activated by pressing the associated button. Active functions are indicated by a highlighted background.
SCN = Active, SCN = Inactive.



OPTIONS AND LABELS

	Menu	Switch	Button	Label	Trunk	Conv.
Backlight	x	x	x	**LITE**	x	x
Channel Scan	x	x	x	**SCAN**		x
Channel Scan List	x		x	**SCN+**		x
Channel Select	x		x	**CHAN**	x	x
Cloning	x			**-**		x
Contrast	x			**-**	x	x
Control Lock	x			**LCK**	x	x
Dual Mode Scan	x	x	x	**DSCN**	x	x
Emergency[1]			x	**-**	x	x
Menu			x	**MENU**	x	x
Monitor	x	x	x	**MON**		x
Nuisance Channel Delete			x	**DEL**		x
Picklist - Rx CxCSS	x		x	**RXCG**		x
Picklist - Rx NAC	x		x	**RXNC**		x
Picklist - Talkgroup ID	x		x	**TGID**		x
Picklist - Tx CxCSS	x		x	**TXCG**		x
Picklist - Tx NAC	x		x	**TXNC**		x
Picklist-KEY*	x		x	**KEY**		x
Picklist-KEYSET*	x		x	**KSET**	x	

(cont.)

General Information

	Menu	Switch	Button	Label	Trunk	Conv.
Priority Channel Select	x		x	**PRI**		x
Priority Scan	x	x	x	**PSCN**	x	x
Radio Info	x			**-**		
Rekey Request	x		x	**RKEY**	x	x
Repeater Talkaround	x	x	x	**T/A**		x
Squelch Adjust	x		x	**SQL**		x
Surveillance Mode	x	x	x	**SURV**	x	x
System Test	x			**-**		
Tx Digital/Analog	x	x	x	**TXAD**		x
Tx Power	x	x	x	**PWR**	x	x
Tx Secure	x	x	x	**SEC**	x	x
Unit Call	x		x	**UNIT**	x	x
User Status	x		x	**STS**		x
Version	x			**-**		
Voice Mute	x		x	**MUTE**		x
Zeroize Keys*	x		x	**ZERO**	x	x
Zone Scan	x	x	x	**ZSCN**		x
Zone Scan List	x		x	**ZSC+**		x
Zone Select	x		x	**ZONE**	x	x
Call Alert**	x		x	**ALRT**	x	
Site Display**	x		x	**STDS**	x	
Site Lock**	x		x	**STLK**	x	
Site Search**	x		x	**STSR**	x	

Emergency button can only be assigned to the orange button.
* Requires Encryption option.
** Trunking Channels Only. Requires P25 Trunking option.

1.10 SERVICE INFORMATION

If you need service, contact your local BK Radio dealer equipped to service your radio. If you find it impractical to have service performed by your local dealer, contact BK Radio at the address below:

BK Radio Attention: Customer Service
7100 Technology Drive
West Melbourne, FL 32904
Voice (800) 422-6281
FAX (321) 953-7986

SECTION II
OPERATION AND PROGRAMMING

2.1 GENERAL INFORMATION

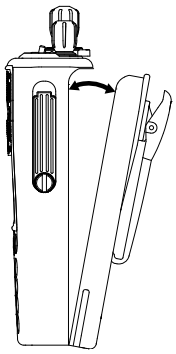
This section contains information concerning the installation and programming of the BK Radio KNG APCO Project 25 digital radios.

UNPACKING AND INSPECTING EQUIPMENT

Exercise extreme care when unpacking the equipment. Make a visual inspection of the unit for evidence of damage incurred during shipment. If a claim for damage is to be made, save the shipping container to substantiate the claim. The claim should be promptly filed with the transportation company. It would be advisable to retain the container and packaging material after all equipment has been removed in the event that equipment storage or reshipment should become necessary.

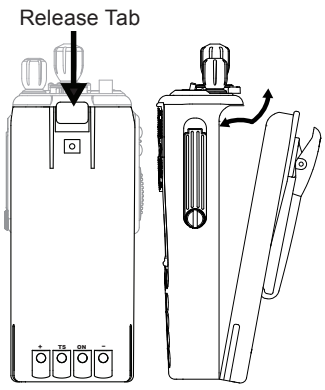
BATTERY INSTALLATION

Installing the Battery



1. Turn the radio off.
2. Align the tabs on the bottom of the battery with the slots on the radio.
3. Push the top of the battery toward the radio until release tab “clicks” into place.

Removing the Battery



1. Slide the release tab toward the bottom of the radio.
2. Pull the top of the battery out. (Approximately 30°)
3. Pull up to remove the battery pack.

NOTE: All information programmed into the radio is maintained even when the battery pack is removed.

BK Radio battery packs are available in a variety of capacities and types for special applications. Rechargeable battery packs can be charged separately or while attached to a radio.

Periodically check the contacts on the battery pack for dirt that could prevent a good electrical contact with the charging base.

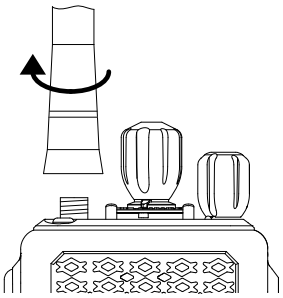
Operation and Programming

ANTENNA INSTALLATION

NOTE: Transmitting without an antenna could result in damage to your radio.

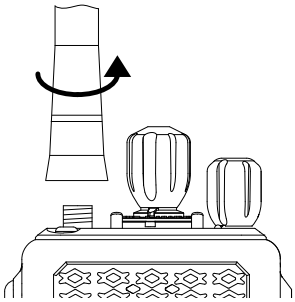
Use RELM/BK Radio approved antennas only. Use of non-qualified or mismatched antennas could result in diminished radio operation. Published radio specifications cannot be guaranteed with non-approved antennas. Bent, broken or damaged antennas should be replaced.

INSTALLING THE ANTENNA



Insert the radio's antenna connector into the threaded connector of the antenna and turn it clockwise until it is firmly seated.

REMOVING THE ANTENNA

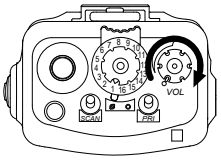


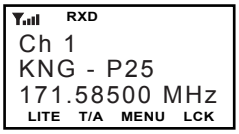
Holding the base, turn the antenna counterclockwise until released.

2.2 BASIC RADIO OPERATION

Turn power on by turning the Volume knob clockwise. A beep sounds, indicating the radio is operational. The LCD display shows the programmed display information of the currently selected channel.

RECEIVE



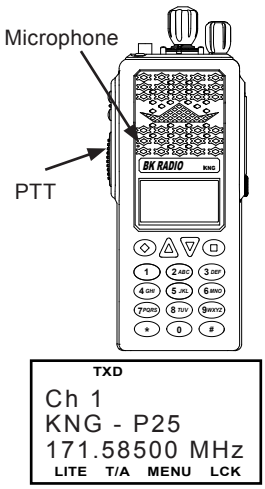


Set the volume knob to approximately 50-60%.

When a signal is received, the unprogrammable top line of the display indicates the signal strength and operating mode of the incoming transmission. RXA = analog, RXD = digital.

The check radio volume when no signal is being received, put the Monitor mode in "Open Squelch" (see "Monitor") and adjust the volume to a comfortable level.

TRANSMIT



1. Press the PTT (Push-To-Talk) switch. When the radio is transmitting the indicator LED glows red and TXD or TXA appears in the display.

2. Talk in a normal voice with the microphone one to two inches from your mouth.

3. Release the PTT switch to stop transmitting.

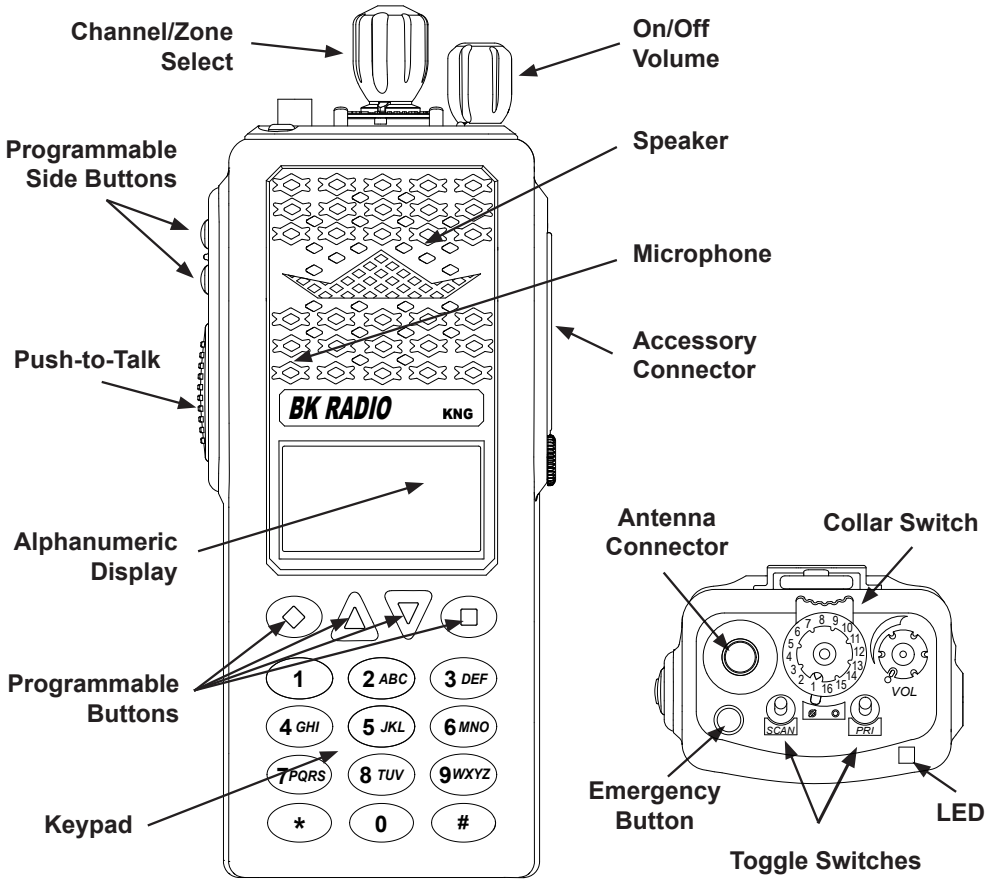
If the length of your message is nearing the programmed Time-Out Timer setting, a tone sounds indicating 5 seconds left to transmit. At the end of the programmed time, the transmitter automatically shuts off and an alert tone sounds. To continue transmission, release the PTT switch, then press it again and continue talking.

If the Transmit Indicator does not glow and a tone sounds, you are on a receive-only channel or the channel is busy (see Busy Channel Lockout). Select an authorized transmit channel.

NOTE: When using a channel programmed for mixed mode transmit the signal will be transmitted in the mode selected by the TX Digital selection. Or if programmed for Mixed Mode Talkback, the radio will transmit in the mode of the last received channel while the “RX” icon is displayed. (See Mixed Mode Operation.)

2.3 RADIO FUNCTIONS AND SETUP

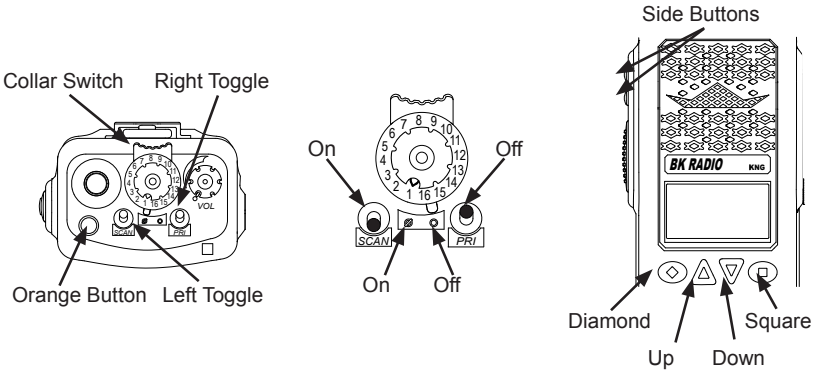
RADIO CONTROLS



Operation and Programming

Button Options and Labels

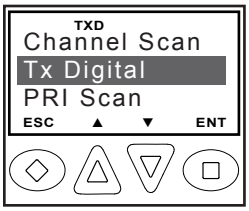
The Diamond, Up Arrow, Down Arrow, and Square buttons are programmable with PC Radio Editor Software. The programmed functions are activated by pressing the associated button. Active functions are indicated by a highlighted background.
SCN = Active, SCN = Inactive.



Keypad Menu Operation

One button can be programmed as “Menu”. Items shown in the Options and Labels table can be programmed and arranged via PC programming. These items can then be accessed with the Menu button.

To select from the menu:



1. Press the programmed “Menu” button.
2. Scroll to the desired menu item with the up/down buttons △▽.
3. Press the button marked ENT ⊡ to open the item.

Options and Labels	Menu	Switch	Button	Label	Trunk	Conv.
Backlight	x	x	x	**LITE**	x	x
Call Alert	x		x	**ALRT**	x	x
Channel Add/Delete			x	**CHAN+/-**		x
Channel Scan	x	x	x	**SCAN**		x
Channel Scan List	x		x	**SCN+**		x
Channel Select	x		x	**CHAN**	x	x
Cloning	x			**-**		x
Contrast	x			**-**	x	x
Control Lock	x	x	x	**LCK**	x	x
Dual Mode Scan	x	x	x	**DSCN**	x	x
Emergency[1]			x	**-**	x	x
Inhibit	x		x	**INH**		x
Menu			x	**MENU**	x	x
Monitor	x	x	x	**MON**		x
Nuisance Delete			x	**DEL**		x
Picklist - Rx CxCSS	x		x	**RXCG**		x

(cont.)

Options and Labels (cont.)	Menu	Switch	Button	Label	Trunk	Conv.
Picklist - Rx NAC	x		x	**RXNC**		x
Picklist - Talkgroup ID	x		x	**TGID**		x
Picklist - Tx CxCSS	x		x	**TXCG**		x
Picklist - Tx NAC	x		x	**TXNC**		x
Picklist-KEY*	x		x	**KEY**		x
Picklist-KEYSET*	x		x	**KSET**	x	x
Priority Channel	x		x	**PRI**		x
Priority Scan	x	x	x	**PSCN**	x	x
Radio Check	x	x	x	**RCHK**		x
Radio Info	x			**-**	x	x
Rekey Request	x		x	**RKEY**	x	x
Repeater Talkaround	x	x	x	**T/A**		x
Site Display	x		x	**STDS**	x	
Site Lock	x		x	**STLK**	x	
Site Search	x		x	**STSR**	x	
Squelch Adjust	x		x	**SQL**		x
Surveillance Mode	x	x	x	**SURV**	x	x
System Test	x			**-**		
Text Message	x		x	**TXT**		x
Tx Digital/Analog	x	x	x	**TXAD**		x
Tx Power	x	x	x	**PWR**	x	x
Tx Secure	x	x	x	**SEC**	x	x
Unihibit	x		x	**UNINH**		x
Unit Call	x		x	**UNIT**	x	x
User Status	x		x	**STS**		x
Version	x			**-**	x	x
Voice Mute	x		x	**MUTE**		x
Zeroize Keys*	x		x	**ZERO**	x	x
Zone Scan	**x**	x	x	**ZSCN**		x
Zone Scan List	**x**		x	**ZSC+**		x
Zone Select	**x**		x	**ZONE**	x	x

1Emergency button can only be assigned to the orange button.

* Requires Encryption option.

Channel/Zone Selection Options

The KNG can be programmed with up to 2048 individual channels. These channels can be divided into zones of one or more channels. Accessing a channel or zone depends on radio programming.

Channels or zones can be selected using the channel/zone select knob, by an assigned button or menu item or by direct keypad entry. More than one selection mode can be programmed.

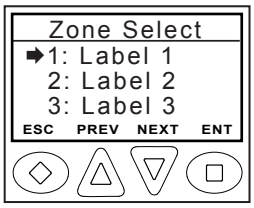
Operation and Programming

Channel/Zone Selector Knob

When programmed with the default setting, the channel/zone knob is used to select a channel (1-16) from the active zone. If programmed to select zones, zones (1-16) will be selected with the knob.

Channels or zones above sixteen can only be accessed via button, menu or keypad selection. See below.

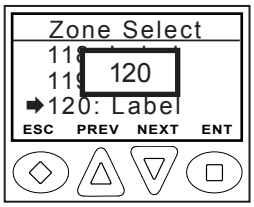
Button/Menu Item Selection



If programmed to a button, pressing the button will display the list of available channels or zones. If programmed as a menu item, the lists can be displayed by selecting Zone or Channel select from the menu list. (See “Keypad Menu Operation”)

Use the Prev/Next buttons △▽ to scroll to the desired selection.

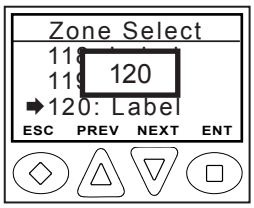
Alternatively, the number keys can be used to jump directly to the desired channel or zone.



Press the square button ⊡ marked ENT to go to the highlighted zone or channel.

Direct Keypad Entry

The numeric keypad may also be programmed to directly select channels or zones. Pressing a number will activate the zone or channel list.



Select the desired channel or zone and press the square button ⊡ marked ENT to go to the highlighted location.

Press the diamond button ◇ marked ESC to cancel the selection and return to the currently operating zone or channel.

Using Knob and Button Operations Together

When selected via the button, menu or keypad method, the entered channel or zone becomes active regardless of the knob position.

When the knob is turned, the radio leaves the keypad selected channel and goes to the selection indicated by the knob position.

Example: With the channel select knob on channel 1, selecting channel 12 from the keypad will switch the operating channel to channel 12.

Turning the channel knob to channel 2, switches the operating channel to channel 2.

Setup

Buttons and Switches

NOTE: Button and switch functions for conventional and trunking channels are programmed independently.

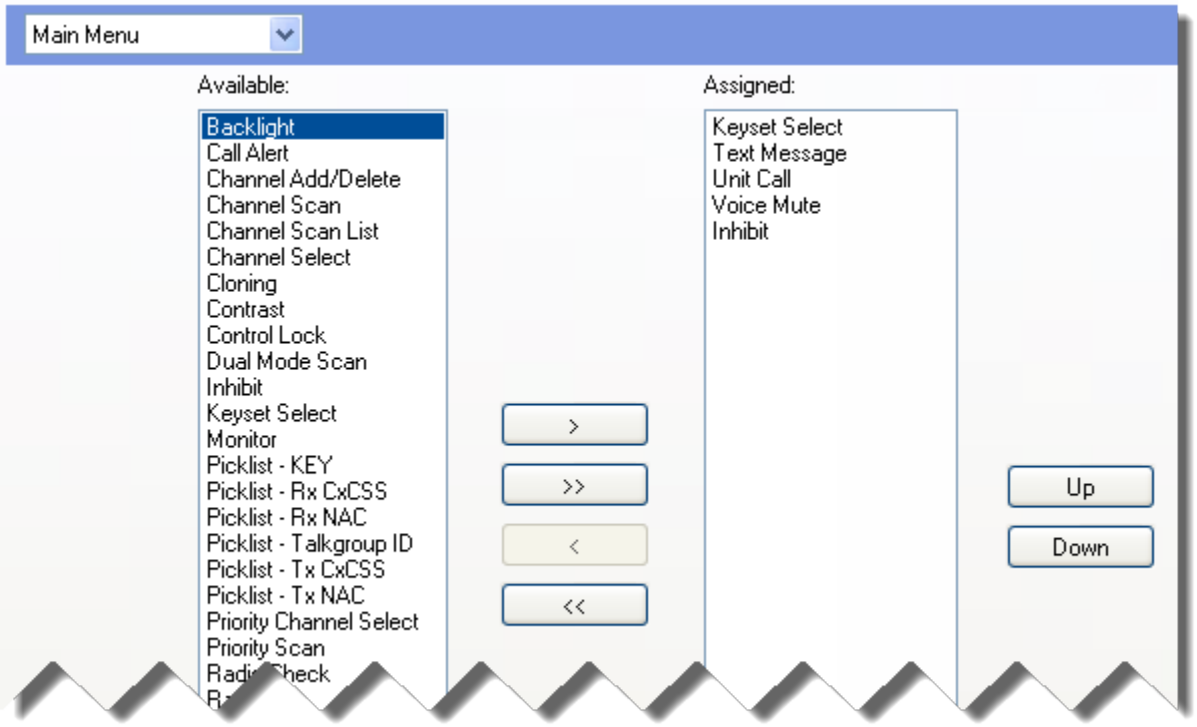
To assign button and switch functions for conventional channels:

1. Select the Global/Conventional/Buttons tab.
2. Point the cursor at the button or switch to be programmed.
3. Select the desired function from the drop down list.

To assign button and switch functions for conventional channels:

1. Select the Global/Trunking/Buttons tab.
2. Point the cursor at the button or switch to be programmed.
3. Select the desired function from the drop down list.

Menu Items



To assign the list of items that are accessed by pressing the “MENU” Button:

Select the Global/Conventional/Menus or Global/Trunking/Buttons tab.

1. Select “Main Menu” from the drop box at the upper left of the menu window.
2. Highlight the desired menu items from the “Available” box.
3. Click “>” to add to the list. (Click “>>” to add all available items.)

To arrange the order in which the menu items will be displayed:

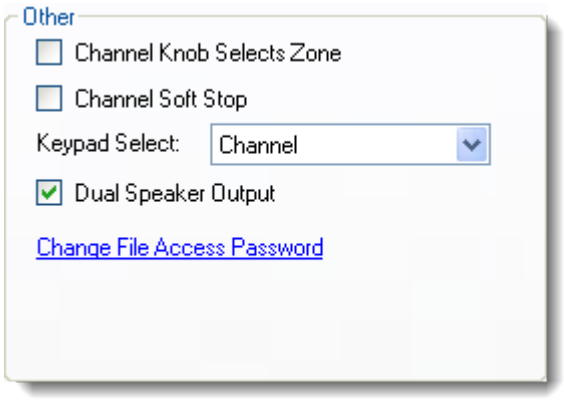
1. Highlight the desired item in the “Assigned” box.
2. Use the “Up/Down” buttons to move the selected item.

To remove items from the list:

1. Highlight the desired item in the “Assigned” box.
2. Click “<” to remove. (Click “<<” to remove all programmed items.

Operation and Programming

Channel/Zone Knob and Keypad Select Options



Knob and keypad options are found in the “Other” box under the “Global/Common/General” tab.

Channel Knob Selects Zone
Check to use the Channel Knob as a Zone Select Knob.

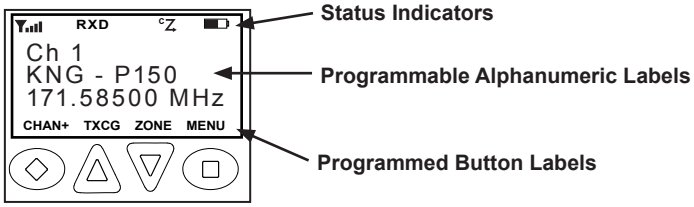
Channel Soft Stop (CMD Models Only)
When checked, radios with a continuous channel select switch will stop on the highest or lowest programmed channel.

If unchecked the radio will return to lowest programmed channel after reaching the highest channel or vice-versa.

Keypad Select
Select “Channel” or “Zone” for direct keypad entry.
Select “None” for no direct entry keypad select functions.

Dual Speaker Output
If selected, the radios internal speaker will function with accessories attached.

DISPLAY OPTIONS



The KNG display can be programmed for a variety of options and functionality.

NOTE: The KNG display can be programmed to display different information when a trunking or conventional channel is selected.

Status Indicators	
	Receiver Signal Strength
RXD, RXA	Receive Digital, Receive Analog, Hold Time Active
TXD, TXA	Transmit Digital, Transmit Analog
L, H	Low or High transmit power
∅	Selected channels Tx is encrypted or when Rx incoming signal is encrypted
	Battery Level Indicator
P1, P2	Priority 1 Channel, Priority 2 Channel
✓	Scanned Channel
CZ	Channel Scan On

(cont.)

Status Indicators	
DZ	Dual Mode Scan On
ZZ	Zone Scan On
PZ	Priority Scan On
	Repeater Talkaround Enabled
	Monitor Mode
	Flashing indicates Normal Mode in digital operation
	Open Audio
	Voice Mute Enabled

Alphanumeric Label Options	
NOTE: Three channel information lines are programmable with PC Radio Editor.	
Channel Number	Channel Number of Currently Selected Channel or Active Scanned Channel
Channel Label	Alphanumeric Label of Currently Selected Channel or Active Scanned Channel
Channel Number and Zone Label	Currently Selected Channel number and Currently Selected Zone Label
Frequency*	Operating Frequency of Currently Selected Channel or Active Scanned Channel
Unit ID	Shows your P25 Unit ID While receiving, the ID of the radio transmitting the message is displayed If the received ID is programmed in your radio's Call List, the corresponding label will be displayed
Received Talk Group ID	P25 Talk Group ID of the radio transmitting the message currently being received
Pick List Selection*	NAC, TGID or Code Guard currently selected from the programmable Pick Lists
Zone Label	Label of Currently Selected Zone
Zone # and Channel #	Currently Selected Zone and Channel Numbers
Zone Number	Currently Selected Zone Number
RX/TX Key	Currently selected encryption key

Alphanumeric Label Options	
Subaudible*	Displays CxCSS value of received signal
DTMF*	Displays the numeric DTMF tones of received signal
MDC*	Displays the numeric MDC ID of received signal

*Conventional Channels Only

Setup

To assign displayed line information:

1. Select the “Global/Conventional/General” or “Global/Trunking/General” tab.
2. Use the drop boxes to assign the desired information.

NOTE: On encrypted channels, the top line may alternate between the assigned display and active encryption key.

COMMAND ZONES

The KNG portable radio allows construction of Command Zones drawn from any of the programmed channels in standard operating zones. Each zone is designated as a Standard Operating Zone or a Command Zone with the PC radio editor software.

Building a Command Zone [CHAN+]

To build a Command Zone the “Channel Add/Delete” function must be assigned to a programmable button.

While operating in a standard zone press the “CHAN+” button to add the currently selected channel to a command zone. The list of available command zones will be displayed. Use the up/down arrows to select the zone to add the channel or use the number keys to move directly to the desired zone.

Pressing the “Enter” button copies the channel information to the first available channel slot in the selected command zone.

Example: If the command zone has three channels, the newly added channel will be channel four.

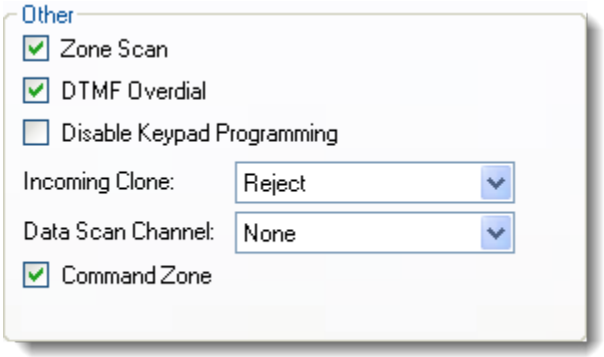
Editing a Command Zone [CHAN-]

When operating in a Command Zone, press the “CHAN-” button to remove the selected channel from the zone.

When a channel is deleted, the display momentarily shows “Channel Deleted”, and the following channels move up in the list. For example, if channel 5 is deleted, channel 6 becomes the new channel 5, channel 7 becomes the new channel 6, etc.

NOTE: Modifications to a command zone channel, such as User Selected Tones, do not affect the original standard zone channel.

Setup



To designate a zone as a Command Zone:

1. Open the “Zone” tab.
2. Under “Other”, check the Command Zone box.

NOTE: “Allow Clone” is automatically set to “Reject”. Cloning to a Command Zone will redesignate the zone as a standard zone.

CODE GUARD AND NETWORK ACCESS CODES

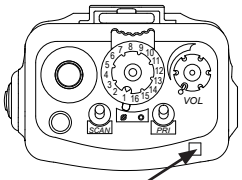
Conventional Channels

Code Guard Receive

Analog channels programmed with a receive code guard will be heard only when the proper carrier frequency and Code Guard value is received. Analog and mixed mode receive channels will also unmute when the radio is in monitor mode.

Code Guard Transmit

Whenever transmitting on an analog channel, any programmed sub-audible Code Guard is transmitted. Depending on radio programming, the Code Guard can be the default tone assigned to the channel or a tone selected from the Code Guard Picklist (see Pick List Options).



Busy Channel/Transmit Indicator

The frequency must be clear prior to transmitting on a Code Guarded channel. If the LED Indicator is yellow do not transmit. Busy Channel Lockout can be programmed to disallow transmitting while a channel is busy.

1. Press the PTT switch. When the transmitter is on, the LED Indicator glows red and TX appears in the display.
2. Talk in a normal voice with the microphone one to two inches from your mouth.
3. Release the PTT switch to stop transmitting.

Analog Squelch Control

Sub-audible signaling (CTCSS/CDCSS) is used to allow a group of radios to be selectively called in an analog system. Programming the receive code guard equal to zero allows for Carrier Squelch operation, where the radio will unmute whenever a carrier is detected regardless of the transmitted Code Guard.

APCO Project 25 Digital Squelch Control

Network Access Codes (NACs) provide the digital equivalent of analog sub-audible signaling (CTCSS/CDCSS) allowing a group of radios to be selectively called within a system.

Users in the same area (using the same NAC) can be further divided into Talk Groups, with each group having its own Talk Group ID (TGID). Group Calls are made by designating both the users’ NAC and TGID.

Each radio also has an individual P25 unit ID. A Unit-to-Unit call contains the addressee’s NAC, and uses the addressee’s P25 unit ID instead of the TGID.

Operation and Programming

When operating in Digital Mode, each channel can be programmed to use either Normal squelch or Selective squelch.

Normal squelch is used to mimic analog operation. Signals are only qualified with the programmed NAC. TGIDs and P25 Unit IDs are ignored. Each digital channel is programmed with a receive NAC and a transmit NAC. When an incoming signal's NAC matches the channel's programmed receive NAC, the radio unmutes. The default NAC is 0659 ($293 hex).

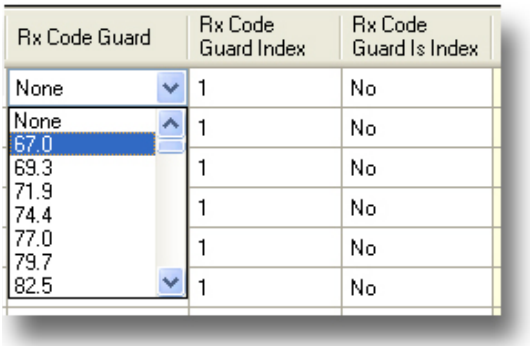
The digital equivalent of carrier squelch is achieved by programming the receive NAC = $F7E (3966 decimal). The radio will unmute when a digital signal with any NAC is detected. The $F7E (3966 decimal) NAC is reserved for receivers and is not allowed as a transmit NAC.

Selective squelch is used for processing Group Calls and Unit-to-Unit Calls. TGIDs are assigned on a per-channel basis. Users can be separated into Talk Groups with each group having its own TGID. Then, on channels programmed for Selective squelch, the incoming signal's NAC and TGID must match the channels programmed receive NAC and TGID for the radio to unmute. The default TGID is 1.

The TGID value 65535 ($FFF hex) is used to effect an "All Call". If the radio receives a signal with a matching NAC and the TGID = 65535 ($FFF hex), it will unmute. Also, if the radio's programmed TGID is 65535 ($FFF hex), it will open on any signal with a matching NAC, ignoring the incoming TGID. A TGID = 0 means "no one". If the radio is programmed with the TGID = 0, it will accept incoming group calls containing the "All Call" TGID, and correctly addressed Unit-to-Unit calls only.

Setup

Individual Channels



To assign Code Guard functions:

1. Select the "Zone" tab.
2. Under "Rx Code Guard" or "Tx Code Guard" use the drop box to select the desired Code Guard value.

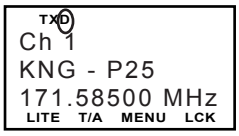
See also "Code Guard Picklist"

MIXED MODE

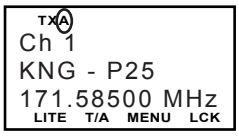
The receiver and transmitter are capable of operating in analog wide-band (25 kHz channel spacing), analog narrow-band (12.5 kHz channel spacing) and APCO Project 25 Digital Mode.

Each channel's Receive and Transmit Mode can be set independently as follows:

Mode	RX	TX
Analog	Receive qualified analog signals only	Transmit analog signals only
Digital	Receive qualified digital signals only	Transmit digital signals only
Mixed	Automatically receive qualified analog or digital signals	Transmit analog or digital signal, depending on the status of "TX Digital" switch



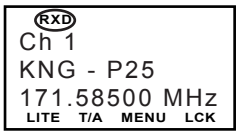
Digital receptions and transmissions will be indicated by illuminating the D annunciator in addition to the RX or TX annunciator.



Analog receptions and transmissions will be indicated by illuminating the A annunciator in addition to the RX or TX annunciator.

Mixed Mode Talkback

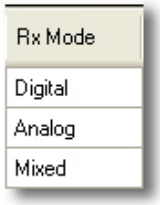
If Mixed Mode Talkback is enabled, transmissions initiated while hold time remains will be in the same mode as the received signal, if the signal was received on the Ready to Transmit (RTX) channel. Depending on programming, the RTX channel can be the main channel, a held scan or priority channel if Talkback Scan is enabled, or the Priority 1 channel if “TX on PR1” is enabled. TX Mode on the RTX channel must be set to MIXED.



Press the PTT while the RX indicator is shown

While hold time after a reception remains, transmissions will be in the same mode as the received signal, regardless of the status of the TX Digital switch. As in Talkback Scan, the RTX channel and receive annunciators will be displayed for the duration of the timer.

Setup



To assign Channel Modes:

1. Select the “Zone” tab.
2. Under “Rx Mode” use the drop box to select “Analog”, “Digital” or “Mixed”.
3. Under the “Tx Mode” use the drop box to select “Analog”, “Digital” or “Selectable”.

SCAN OPTIONS

Channel Scan [SCAN]

Conventional Channels

When on, Channel Scan monitors activity on the scan list channels in the currently operating zone. Scan operates only while the radio is not transmitting.

Channels designated as scan channels are identified by the ✓ symbol at the top of the LCD display. If allowed, the scan list can be edited by the radio user. (See Channel Scan List).

When Channel Scan is on, the CZ symbol will be shown at the top of the LCD display.

When a signal is detected, scanning stops and the message is received. The received channel is shown in place of the selected channel.

Once the signal ends, the radio continues to monitor the channel for the preset scan delay time before it resumes scanning.

Channel Scan operation can be a switch or as a button or menu list item.

Channel Scan may be used in conjunction with Priority Scan operation (see Priority Scan).

Operation and Programming

Scanning Code Guarded Channels

Conventional Analog Channels

When a signal is detected, scanning stops while the radio checks for the proper Code Guard value. If the signal contains the proper Code Guard value, the radio receives the message. Otherwise, the radio resumes scanning immediately.

Transmitting with Scan On

The radio transmits on the channel selected by the Channel Selector knob unless Talkback Scan is enabled (see Talkback Scan) or Priority Scan is on and Transmit on Priority 1 is enabled (see Priority Scan).

Channel Scan List [SCN+]

Conventional Channels

The Channel Scan List allows the radio user to add or remove channels from the list of channels to be monitored while channel scanning.

Channels designated as scan channels are identified by the ✓ symbol at the top of the LCD display.

The Scan List operation can be assigned as a button or menu list item.

When Channel Scan List is assigned to a button, press the button to add or remove the selected channel from the scan list.

When assigned as a menu item, open the menu and select the channel you wish to add or remove from the scan list. Press “+/-” to add or remove. Channels in the scan list will be indicated with the ☑ symbol.

Talkback Scan

Conventional and Trunking Channels

If your radio is programmed for Talkback Scan, press PTT while a channel is active or while scan delay time remains, you will be responding on the transmit frequency of the received channel. The ‘RX’ indicator will be shown in the display while scan delay time remains.

Talkback Scan will not work if Priority Scan is on and your radio is also programmed to transmit on the Priority 1 channel (see Priority Scan).

Vote Scan [Requires Option KZA0581]

Conventional Channels

Channels in a multicast conventional systems can be added to the scan list and designated as “voted” channels. When a signal is received on a voted channel the radio checks all voted channels and selects the channel with the best signal.

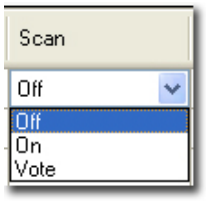
If enabled, vote scanning takes place whenever the channel scan switch in on.

NOTE: Channel voting occurs only with Channel Scan and is disabled when Zone Scanning. Channels programmed as Vote channels are treated as normal scan list channels during Zone Scan operation.

See also Priority Scan and Zone Scan.

Setup

Scan List

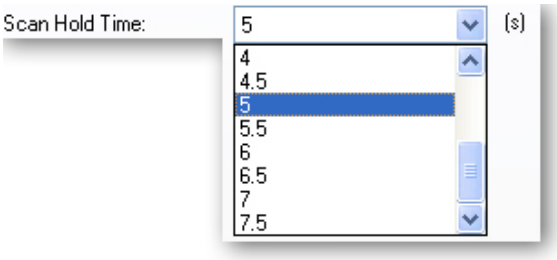


To add a channel to the a Zone's scan list:

1. Open the Zone tab.
2. In the channels Scan selection, select "On" for scanned channels, "Off" for non-scanned channels.

For radios with optional Vote Scan, selecting "Vote" adds the channel to the list of channels to polled for the best received signal strength. Voted channels follow the rules below.

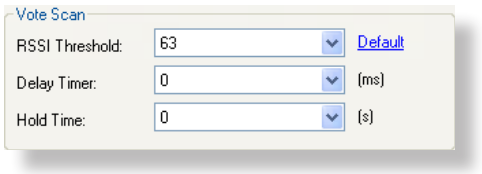
Scan Hold Time



To set the time the radio stays on a normal scanned channel before resuming scan:

1. Open the "System/Conventional/General" tab.
2. Under "Other" select the desired hold time form the drop box.

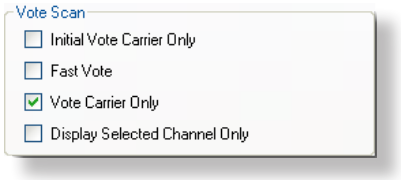
Vote Scan Settings



System Settings

In the "Vote Scan" box, under the "System/Conventional/General" tab:

1. RSSI Threshold - Select the signal strength for a voted channel to be considered active. (Default - 63.)
2. Delay Timer - Select the time delay to begin the channel voting process after an active vote channel is detected. This time allows for all repeaters in a multicast system to be come active before the voting process begins.
3. Hold Time - Set the time the radio stays on a voted channel before resuming scan.



Zone Settings

In the "Vote Scan" box, under the "Zone" tab:

1. Initial Vote Carrier Only - Begins voting process whenever carrier is present on a voted channel.
2. Fast Vote - Voting stops on the first voted channel with a signal strength higher than the RSSI Threshold setting.
3. Vote Carrier Only - If checked, all vote scan channels will be voted solely on the basis of carrier and RSSI. If not checked, all vote scan channels must be fully qualified before they can be voted, and the vote is based on full qualification and RSSI.
4. Display Selected Channel - If checked only the knob channel will be displayed when vote scan is active.

Operation and Programming

DUAL MODE SCAN [DSCN]

Conventional and Trunking Channels

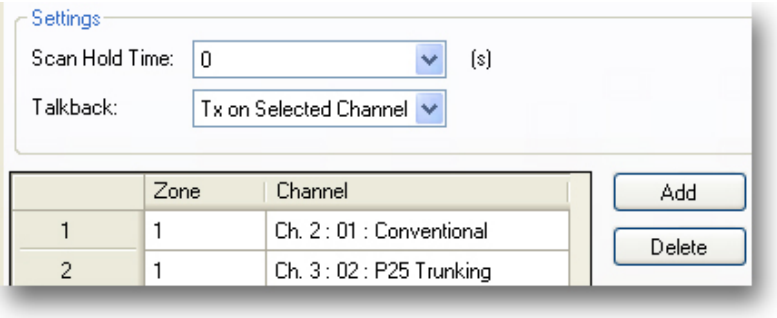
Dual Mode scan provides the ability to scan trunking and conventional channels simultaneously.

NOTE: The Dual Mode Scan list must be setup using the PC radio editor and cannot be changed by the radio user.

When Dual Mode Scan is turned on the DZ icon is displayed and the radio scans all channels in the dual mode scan list.

Dual Mode Scan can be assigned to a switch or as a button or menu list item. For best operation, Dual Mode Scan should be assigned in both conventional and trunking global settings with the PC editor.

Setup



To add or delete channels from the Dual Mode Scan List:

1. Open the “Global/Common/ Dual Mode Scan” tab.
2. Select the desired “Scan Hold Time”.
3. Select “Tx on Active Channel” to use the talkback scan feature.
4. Use the “Zone” and “Channel” columns to select the channels to be scanned when Dual Mode Scan is activated.

PRIORITY SCAN [PSCN]

Conventional Channels

Two channels can be designated as priority channels. When Priority Scan is on, these channels are monitored for incoming traffic. When a qualified signal is detected the speaker is opened to listen to the message.

If a message is detected on the channel designated as Priority 2, the radio will continue to monitor Priority 1 channel for activity. If activity is detected the radio will switch to the Priority 1 channel.

When used in conjunction with Channel Scan, the radio monitors the Priority channels and will switch from a scanned channel to the Priority channel if a qualified signal is detected.

Depending on radio setup, priority channels can be tied to the currently operating zone or can be assigned to a specific channel regardless of the operating zone.

Channels designated as Priority channels are identified by the P1 or P2 symbol at the top of the LCD display. When Priority Scan is on, the PZ symbol will be shown.

Priority Scan operation can be a switch or as a button or menu list item.

Trunked Channels

When on trunked channels, Priority Scan is used to turn system scanning on or off.

PRIORITY CHANNEL SELECT [PRI]

Conventional Channels

Depending on programming, priority channels can be radio-wide (System) or zone specific (Zone).

Radio-wide priority channels are monitored regardless of the current operating zone. (See Priority Scan for more details.)

If enabled the user can use the keypad to change the priority channels. Priority Channel Select can be assigned to a switch or as a button or menu list item.

Selecting a System Priority Channel

Open the menu and select the System Priority channel you wish to change.

Press “ENTER” to open System Priority Channel menu.

Options:

Off - Disables the priority channel.

Use Main - Uses the selected channel as the priority channel.

Select - Assigns a specific channel as the priority channel.

To assign a specific channel as a System Priority Channel, highlight “Select” and press the “ENTER” button.

The Zone selection menu will be displayed.

Highlight the zone of the desired priority channel and press the “ENTER” buttons.

The Channel selection menu will then be displayed.

Highlight the desired channel and press the “ENTER” button to set the priority channel.

The display will return to the main Priority Channel Select menu.

Selecting a Zone Priority Channel

Open the menu and select the Zone Priority channel you wish to change.

Press “ENTER” to open Priority Channel menu.

Options:

Off - Disables the priority channel.

Use Main - Uses the selected channel as the priority channel.

Select - Assigns a specific channel as the priority channel.

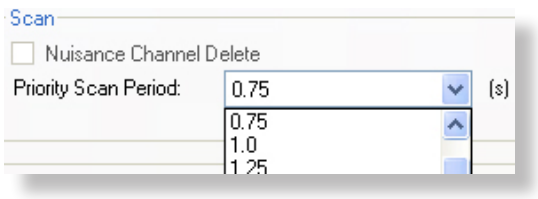
To assign a specific channel as a Zone Priority Channel, highlight “Select” and press the “ENTER” button.

The Channel selection menu will be displayed.

Highlight the desired channel and press the “ENTER” button to set the priority channel.

The display will return to the main Priority Channel Select menu.

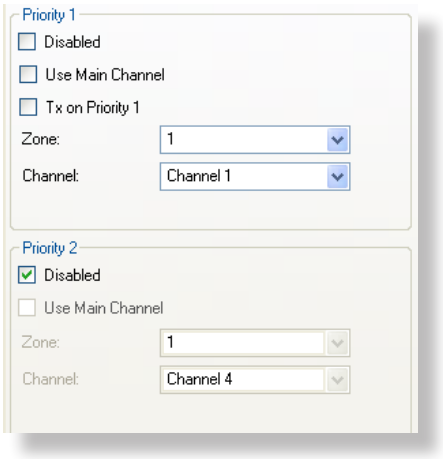
Setup



Priority Scan Rate

To set the priority sample rate:

1. Open the “Global/Conventional/Features” tab.
2. Under “Scan” use the drop box to select the desire interval.



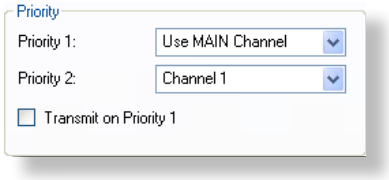
System Wide Priority Channels

To assign system wide priority channels:

1. Open the “System/Common/General” tab.
2. Under “Priority 1” or “Priority 2” uncheck the Disable box.
3. Select the “Use Main Channel” box to use the knob selected channel as the priority channels or...
4. Use the Zone and Channel drop boxes to designate a specific channel.

NOTE: Selecting “Tx on Priority 1” will cause the radio to always transmit on the programmed Priority 1 channel regardless of the knob setting.

NOTE: To use Zone assigned priority channels, check the “Disabled” box.



Zone Priority Channels

To assign zone priority channels:

1. Open the “Zone” tab.
2. Under “Priority” use the drop boxes to the priority channels.
3. Selecting “Transmit on Priority1” causes the radio to transmit on the priority 1 channel when “Priority Scan” is on, regardless of the knob selected channel.

NOTE: If system wide priority channels are enabled, Zone priority boxes will be grayed out.

ZONE SCAN [ZSCN]

Conventional Channels

When Zone Scan and Channel Scan are on, the radio scans all programmed scan channels in zones designated as Zone Scan zones.

If allowed, the scanned zone list can be edited by the radio user. (See Zone Scan List).

When Zone Scan is on, the ᶻZ symbol will be shown at the top of the LCD display.

Zone Scan operation can be a switch or as a button or menu list item and may be used in conjunction with Priority Scan operation.

Setup

To assign a zone as a Zone Scan zone:

1. Open the “Zone” tab.
2. Under “Other” check the “Zone Scan” box.

ZONE SCAN LIST [ZSC+]

Conventional Channels

The Zone Scan List allows the radio user to add or remove zones from the list of zones to be scanned.

The Zone Scan List operation can be assigned as a button or menu list item.

When Zone Scan List is assigned to a button [ZSC+], press the button to add or remove the currently operating zone from the scan list.

When assigned as a menu item, open the menu and select the Zone you wish to add or remove from the scan list. Press “ENTER” to add or remove. Zones in the scan list will be indicated with the ☑ symbol.

PICKLIST OPTIONS

The KNG provides users the ability to select and assign Pick List functions to specific channels. Pick List Options can be assigned to a programmed button or as menu list items.

Available Pick List options include:

Transmit Code Guards

Receive Code Guards

Transmit Network Access Codes

Receive Network Access Codes

Talk Group IDs

Encryption Keys (see Encryption Operation)

Encryption Keysets (see Encryption Operation)

TX/RX CXCSS PICKLIST [TXCG] [RXCG]

Conventional Analog or Mixed Mode Channels

Selecting a CTCSS/CDCSS Code Guard from the Pick List will assign the tone to the currently select analog or mixed-mode channel.

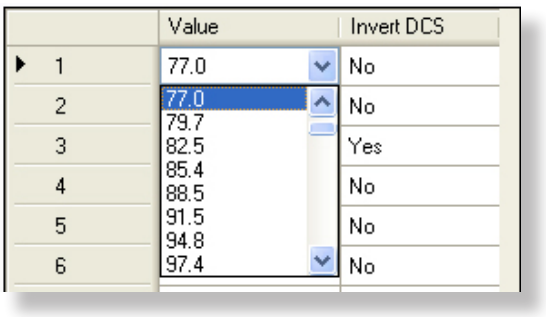
User assigned Transmit and Receive Code Guards are selected independently.

To change a Code Guard, open the RXCG or TXCG menu, select the desired tone and press “ENTER”.

To return the tone to the pre-programmed value select “Default”.

If allowed, picklist values can be changed through keypad programming.

Setup



To create a Code Guard Picklist:

1. Open the “System/Conventional/Code Guard Picklist” tab.
2. Use the drop box to select the desire value.
3. Use the “Invert DCS” box to invert digital code guards as necessary.

Allow Code Guard Selection on All Channels

If unchecked, only channels with a programmed value of “None” will be selectable.

Channels with a programmed Code Guard will be locked to that value.

TX/RX NETWORK ACCESS CODE PICKLIST [TNAC] [RNAC]

Conventional Digital or Mixed Mode Channels

Selecting a Network Access Code (NAC) from the Pick List will assign the NAC to the currently select digital or mixed-mode channel.

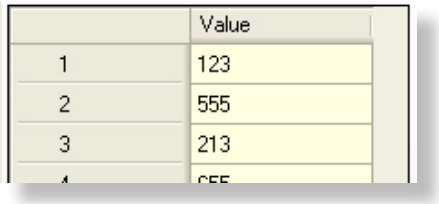
User assigned Transmit and Receive NACs are selected independently.

To change a NAC, open the RXNAC or TXNAC menu, select the desired NAC and press “ENTER”.

To return the NAC to the pre-programmed value select “Default”.

If allowed, picklist values can be changed through keypad programming.

Setup



To create a Network Access Code Picklist:

1. Open the “System/Conventional/NAC Picklist” tab.
2. Enter the hexadecimal value of the NAC.

TALK GROUP ID PICKLIST [TGID]

Conventional Digital Channels

Selecting a Talk Group ID from the Pick List will assign the TGID to the currently select channel. All other channels are unaffected.

User selectable menu access can be assigned to a button or menu list item.

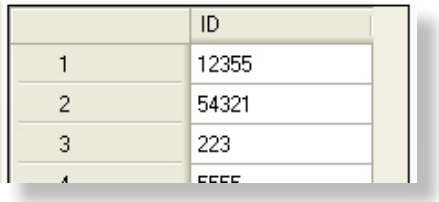
Open the menu of available TGIDs.

Select the desired Talk Group ID or, to return the TGID to the pre-programmed value, select “Default”.

Press “ENTER” to set the selection.

If allowed, picklist values can be changed through keypad programming.

Setup



To create a P25 Talkgroup Picklist:

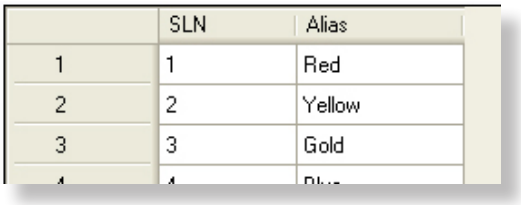
1. Open the “System/Conventional/Talkgroup Picklist” tab.
2. Enter the desired TGID value.

ENCRYPTION KEY PICKLIST [KEY]

Digital or Mixed Mode Channels
Encryption equipped radios only.

Selecting an Encryption Key from the Pick List will assign the key to all encrypted channels that do not have 'Key Lock' programmed. Locked key channels will continue to use the pre-programmed key.
(See Encryption Operation)

Setup



To create an Encryption Key Picklist:

1. Load the keys into the radio using KVL300Plus.
2. Open the "Global/Common/Keys" tab.
3. In the "SLN "column, enter the SLN number for the loaded key.
4. In the "Alias" common enter a label to be associated with the key.

KEYSET PICKLIST [KSET]

Digital or Mixed Mode Channels
OTAR equipped radios only.

Selecting a Keyset from the Pick List will cause the radio to use encryption keys from the selected Keyset. (See Encryption Operation)

Setup

Keysets are generated from a key management facility (KMF) via OTAR.

UNIT CALL OPTIONS

Individual Unit Call [UNIT]

Conventional Digital and Trunking Channels

P25 Unit IDs allow for Unit-To-Unit calls when the radio is operating in Digital Mode. The function must be enabled by radio programming to allow this mode of operation.

Channels programmed for analog only operation will not be able to transmit or receive Unit calls.

Conventional Channels

Placing an Individual Unit Call

1. Open the Unit Call menu and select the desired "Unit Call" option.
2. Last Call = Use the P25 ID of the last Call.
3. Call List = Use the programmed P25 ID List.
4. Enter ID = Enter a numeric P25 ID.
5. Press Enter to enter Unit Call Mode.
6. The LCD displays the ID number or associate label of the targeted radio.
7. Press the PTT button to send the unit-to-unit call.
8. To exit the Individual Call mode press "Exit".

If there is no response to the call after 60 seconds, the radio exits the Unit-to-Unit mode and returns to normal operation.

Receiving an Individual Unit Call

When a properly addressed unit call is received, an alert tone sounds and the LCD displays the ID number or associate label of the radio placing the call.

Accept the call

To accept the call and respond in unit-to-unit mode, press “ACPT” and transmit as normal.

To exit the Individual Call mode, press “Exit”

Ignore the call

To ignore the call and continue operating in normal mode, press “INGR”.

Call List Programming

If enabled with the PC radio editor, the P25 Call List for conventional channels can edited via the radio’s keypad programming function.

Trunking Channels

Limitations on unit-to-unit calls may be programmed in trunking systems. Options include disallowing unit-to-unit operation, limiting operation to only the programmed unit call list or ‘response only’ which allows the user to respond to incoming calls only.

Placing a Call

When placing a unit-to-unit call on a trunking channel, a telephone-type ring tone will be emitted until the targeted radio acknowledges or responds to the call.

Receiving a Call

When receiving a unit call, an alert tone will be emitted and the LCD will display the Unit ID of the radio sending the call.

Press “Accept” to respond to the call or “Ignore” to remain in normal operation.

Setup

To allow Unit Call operation assign “Unit Call” to a button or as a menu item.

EMERGENCY SIGNALLING

Conventional Digital and Trunking Channels

The KNG portable radio supports P25 Emergency Operation. When Emergency Operation is engaged the radio will transmit the P25 ID of the radio along with the required P25 Emergency bit. Emergency operation applies only to channels programmed for Digital or Mixed Mode transmissions.

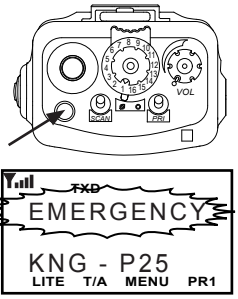
On channels programmed for analog transmissions, pressing PTT in Emergency Mode will result in a normal analog transmission.

On channels programmed for Mixed Mode transmissions, pressing PTT will result in a digital transmission, regardless of the position of the ‘TX Digital’ switch.

All scanning and priority functions will be disabled during Emergency operation.

Depending on the radio’s PC programmable settings, emergency signal will be sent automatically or with each Push-to-Talk.

Placing an Emergency Call



To place an emergency call, press and hold the programmed emergency button until the radio beeps and the display flashes “EMERGENCY”.

Radio automatically sends the emergency signal on the pre-programmed emergency channel.

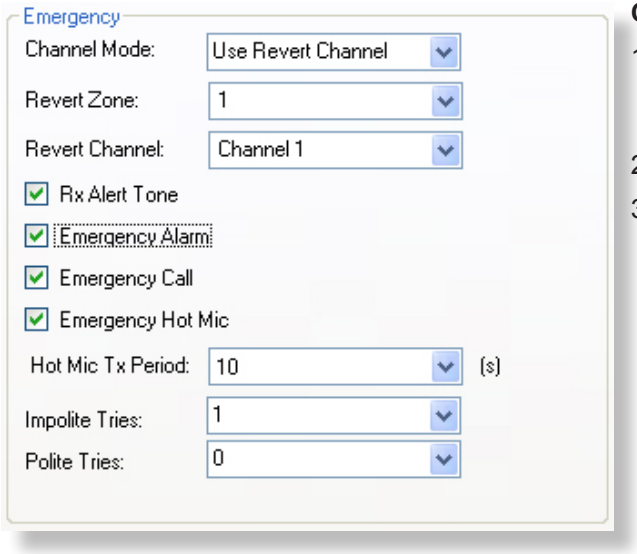
To return to normal operation press and hold the Emergency button or cycle radio power.

Receiving an Emergency Signal

To receive an emergency call, the radio’s receive mode must be programmed to Digital or Mixed.

When receiving a qualified emergency call, the radio will beep. The the display will flash the word “EMERGENCY” and the P25 ID of the radio sending the signal for the duration of the reception, and during any hold time. The RXD icon will also be lit.

Setup



Conventional System

1. Open the “Global/Conventional/Buttons” tab and assign “Emergency” to the orange button.
2. Open the “System/Conventional/General”
3. In the “Emergency” box select the desired emergency options.

Channel Mode

Main Channel - Emergency signals are sent on the currently active channel.

Revert Channel - Emergency signals are sent on designated revert channel.

Revert Zone/Channel - Select the desired emergency channel.

Rx Alert Tone - Audible notification of incoming emergency signal. (P25 Digital Only)

Emergency Alarm - Sends emergency alarm bit only. (P25 Digital Only)

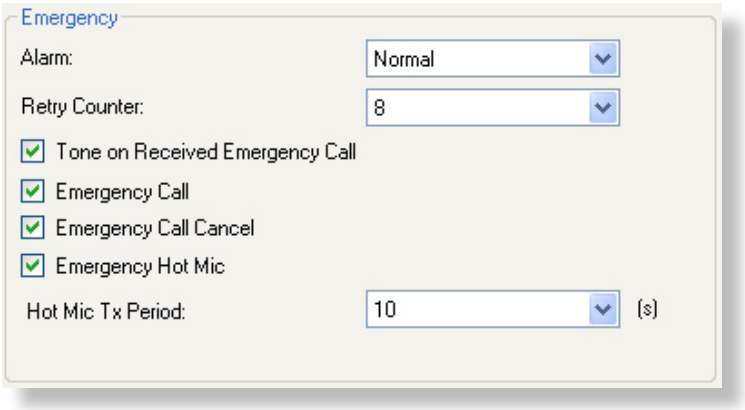
Emergency Call - Sends all pertinent radio and emergency information.

Not Mic/Tx Period - If checked, when an emergency is declared the radio mic is open for the programmed period of tries.

Tries - Number of time the emergency information is sent.

Polite - Obeys busy channel lockout rules.

Impolite - Transmits regardless of busy channel status.



Trunking System

1. Open the “Global/P25 Trunking/ Buttons” tab and assign “Emergency” to the orange button.
2. Open the “System/P25 Tunking/ General”
3. In the “Emergency” box select the desired emergency options.

Alarm

None - No emergency alarm.

Normal - Alarm will inform a console and other radio users of emergency transmission.

Silent - Alarm is sent with no audible signal.

Retry Counter - Number of time the emergency information is sent without receiving acknowledgment.

Rx Alert Tone - Audible notification of incoming emergency signal. (P25 Digital Only)

Emergency Call - Sends all pertinent radio and emergency information.

Not Mic/Tx Period - If checked, when an emergency is declared the radio mic is open for the programmed period of tries.

MESSAGING

Digital Conventional P25 channels can be programmed to send and receive text messages and radio status messages.

Text messages can be selected from a pre-programmed list or manually entered using the radio keypad.

Status messages are pre-programmed only.

Text Messaging [TXT]

Conventional Digital Channels

Message types include predefined messages, manually entered messages or locally stored messages.

Predefined messages - Predefined messages are programmed into the radio memory using the radio editor software.

Manually Entered Messages - Text messages can be manually entered via the radio’s keypad.

Locally Stored Messages - Up to five manually entered messages can be stored in individual radios.

Sending a Message

To initiate a text message press the “TXT” button or select “Text Message” from the menu.

Select “Send” from the menu and press “ENTER”.

Select Message Type

From the “Select Entry Type” menu, choose the type of message to send and press “ENTER”.

Predefined List or Manual Entry List

When “Predefined List” or “Manual Entry List” is selected, a list of available messages is displayed.

Select the message to be sent and press “ENTER”.

NOTE: When sending a predefined message the message ID is transmitted. The receiving radio will display the message programmed with the corresponding ID. If the receiving radio has no programmed message with the transmitted ID, “Text Message X” is displayed, where “X” is the received ID number.

Manual Entry

When “Manual Entry” is selected use the keypad to enter the desired message (see keypad character table). Press “ENTER” to select the target radio.

Select Target Radio

Last Call - Select “Last Call” to send the message to same radio you last sent a text message.

Press “Send” to send the message.

Call List - Selecting “Call List” opens a list alias’ for the pre-programmed Unit IDs. Select the desired target radio and press “Send” to send the message.

Unit ID - Select “Unit ID” to enter the P25 ID of the target radio.

Use the keypad to enter the ID then press “Send” to send the message

Broadcast - Select “Broadcast” to send the text message to all text enabled radios regardless of unit ID. Press “Send” to send the message.

Message Acknowledgement

When the text message has been received by the targeted radio, an alert tone will sound and the acknowledgment message will be displayed.

Press “OK” or wait for five seconds to return to normal radio operation.

If the targeted radio is unavailable, an alert tone will sound and the failed acknowledgement message will be displayed.

Press “RTRY” to resend the message.

Press “OK” or wait for five seconds to return to normal radio operation.

When sending a “Broadcast” message, no “text received” notification is shown. Only confirmation that the text has been broadcast will be displayed.

Receiving a Message

When an incoming text message is received an alert tone is sounded and the Text Message Received message is momentarily displayed.

The top programmed display line will alternate between the programmed setting and “Text Message” until the message is read.

Reading the message

To read the message press the “TXT” button or select ‘Text Message” from the menu.

Select “Read” to view the message

Operation and Programming

Stored Messages

Up to five messages can be programmed into the “Manual Entry List” and are accessed from the “Select Entry Type” menu.

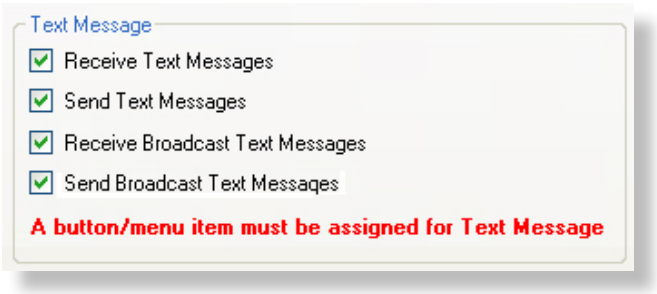
To store a manually entered text message press the “TXT” button or select “Text Message” from the menu.

Select “Store” from the menu an press “Enter”.

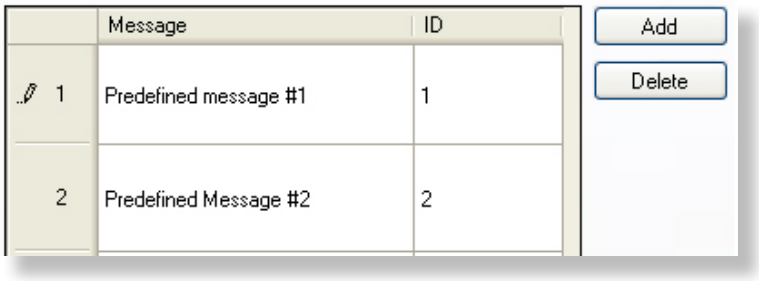
Use the keypad to enter the desired message then press “Enter”.
(See keypad character table)

Select the storage slot for the message and press “Enter” to store the message.

Setup



1. Assign “Text Message” to a button or as a menu item.
2. Open the “System/Conventional/ General”
3. In the “Text Message” box select the desired message options.



4. Open the “System/Conventional/ Text Messages” tab.
5. Click “Add” to add a stored message.
6. In the “Message” column, enter the text to be displayed when message is read. (128 characterise, max.
7. In the “ID” column, enter the numeric ID associated with the message

User Status Messaging [STS]

Conventional Digital Channels

Sending a Status Update

NOTE: When sending a message the message ID is transmitted. The receiving radio will display the message programmed with the corresponding ID. If the receiving radio has no programmed message with the transmitted ID “Status: Status X” is displayed, where “X” is the received ID number.

1. Select Status Message

Press the “STS” button or select “Status Update” from the menu.

From the “Select Status” menu, select the programmed message to send and press “Enter”.

2. Select Message Type

From the “Select Target Type” select the type of message to be sent.

Unit - Send the message to an individual radio ID.

Group - Send message to a group of radios using the Talk Group ID.

Dispatch - Send the message to a dispatch console.

Press “Enter”.

Unit Call

Select Target Radio

Last Call

Select “Last Call” to send the message to the same radio you last sent a status message.

Press “Send” to send the message.

Call List

Selecting “Call List” opens a list alias’ for the pre-programmed Unit IDs.

Select the desired target radio and press “Send” to send the message.

Unit ID

Select “Unit ID” to enter the P25 ID of the target radio.

Use the keypad to enter the ID then press “Send”.

Group Call

Select Target Group ID

Selecting “Group” opens the menu to send a status message to a group of radios with matching talk group ID.

Select “Enter” to manually enter the ID or “Select” to choose and ID from the pre-programmed talk group pick list.

Dispatch Call

Select “Dispatch” to send a status message to a dispatch console.

3. Message Acknowledgement

If the message has been received by the targeted radio, an alert tone will sound and the acknowledgment message will be displayed.

If the targeted radio is unavailable, an alert tone will sound and the failed acknowledgement message will be displayed.

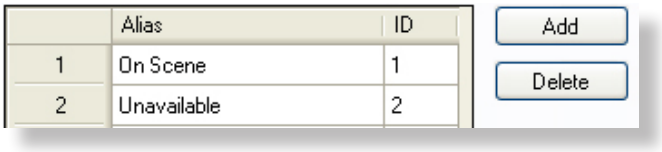
Press “OK” or wait for five seconds to return to normal radio operation.

Receiving a Status Update

When an incoming status update is received an alert tone is sounded and the status message is momentarily displayed before returning to normal operation.

Operation and Programming

Setup



1. Assign “User Status” to a button or as a menu item.
2. Open the “System/Conventional/User Status” tab.
3. Click “Add” to add a stored message.
4. In the “Alias” column, enter the text to be displayed when message is read.
5. In the “ID” column, enter the numeric ID associated with the message

PAGING AND CALL ALERT

Conventional Two-Tone/DTMF/MDC1200 Paging [MUTE]

Conventional Analog Channels

The KNG can be programmed to receive two-tone, DTMF or MDC1200 pages on conventional analog channels.

Receiving a page

Select an analog or mixed-mode receive channel.

Turn on “Voice Mute” from the programmed button or menu item.

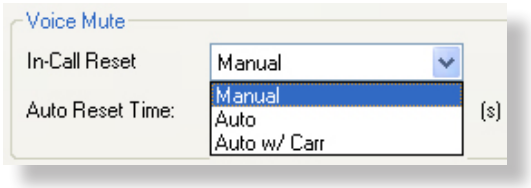
When voice mute is activated the icon is displayed.

The radio ignores all voice traffic until the proper tone sequence is received.

When a proper signal is received the radio will emit an alert tone and allow the audio to pass.

If Auto Reset is programmed, the radio will return to the muted standby mode when the time conditions have been met.

Setup



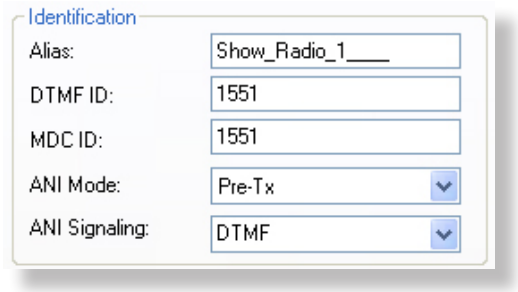
Mute Setup

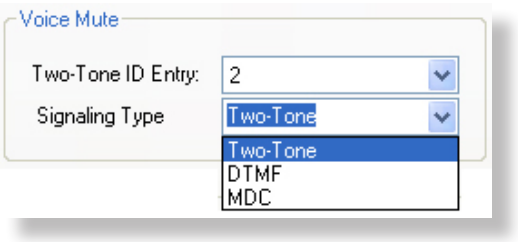
1. Assign “Voice Mute” to a button or as a menu item.
2. Open the “System/Conventional/General”
3. In the “Voice Mute” box select the desired mute reset options.

   Manual - Requires user to reset mute after a page has been received.

   Auto - After a page has been detected the radio re-mutes after the programmed time.

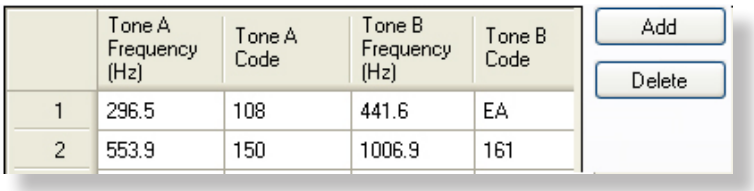
   Auto with Carrier - After a page has been received and carrier is no long present, the radio re-mutes after the programmed time.

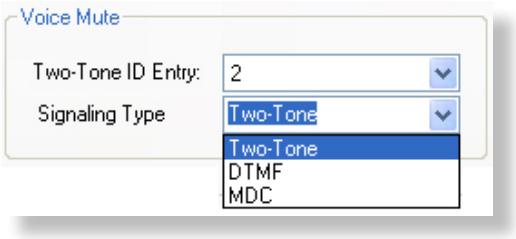




MDC/DTMF

4. Open the “Zone” tab.
5. In the “Identification” box, enter the DTMF or MDC radio ID.
6. In the “Voice Mute” box, select DTMF or MDC signaling type.





Two-Tone

7. Open the “System/Conventional/ Two-Tone Call ID List”
8. Click “Add” to assign a two-tone frequency pair.
9. In the “Tone A Code” and “Tone B Code” boxes, use the drop boxes to assign the tone.
10. Open the “Zone” tab.
11. In the “Voice Mute” box, use the drop boxes to select the signal pair and “Two-Tone” signaling type.

Call Alert Paging [ALRT]

Conventional Digital and Trunking Channels

The KNG can be programmed to send and receive Call Alert messages on digital channels.

Sending a Call Alert

Press the “ALRT” button or open “Call Alert” from the menu.

Select Target Radio

Last Call
Select “Last Call” to send the message to radio which you last sent or received a call alert.
Press “Enter” to send the message.

Call List
Selecting “Call List” opens a list alias’ for the pre-programmed Unit IDs.
Select the desired target radio and press “Enter” to send the Call Alert.

Unit ID
Select “Unit ID” to enter the ID of the target radio.
Use the keypad to enter the ID then press “Enter” to send the Call.

Operation and Programming

Receiving a Call Alert

When a Call Alert is received, an alert tone will sound and the incoming unit ID or alias is displayed for approximately 5 seconds.

The top display line will alternate between the programmed display information and a Call Alert Received message.

Select “Call Alert” to reset.

Setup

To enable the Call Alert function, assign “Call Alert” to a button or as a Menu item.
NOTE: Call Alert must be assigned for Conventional and/or Trunking operation independently.

Radio Check [RCHK]

Conventional Digital Channels

The KNG can be programmed to check the availability of a KNG radio with a specific P25 ID.

Requesting a Radio Check

Press the “RCHK” button or open “Radio Check” from the menu.

Select Target Radio

Last Call

Select “Last Call” to send the request to the radio which you last sent a radio check request. Press “Enter” to send the query.

Call List

Selecting “Call List” opens a list alias’ for the pre-programmed Unit IDs.

Select the desired target ID and press “Enter” to send the query.

Unit ID

Select “Unit ID” to enter the P25 ID of the target radio.

Use the keypad to enter the ID then press “Enter” to send the query.

If a successful handshake is performed, an alert tone will sound and the “Unit Available” message will be displayed for approximately five seconds.

If no validation is received from the targeted radio, an alert tone will sound and the “No Response” message will be displayed for approximately five seconds.

Setup

1. Assign “Radio Check” to a button or as a menu item.

To enable “Radio Check” for Conventional Channels:

2. Open the “System/Conventional/General” tab.
3. In the “Other” box select “Enable Radio Check”.

RADIO INHIBIT/UNIHIBIT [INH][UNIH]

Conventional Digital Channels

With “Inhibit” is assigned to a button or menu function, a KNG Radio can temporarily disable other KNG radios using the targeted radio’s unit ID number.

The disabled radio can only be re-enabled by sending an “Uninhibit” command.

NOTE: Inhibited radios cannot be read with the Neovision radio editor.

Sending a command

To initiate an inhibit/unihibit message press the programmed button or select from the menu.

Use the keypad to enter the User or Administrator password.

Press “ENTER” to open the menu.

Select Target Radio

Last Call
Select “Last Call” to send the message to same radio you last sent an inhibit or unihibit message.
Press “SEND” to send the message.

Call List
Selecting “Call List” opens a list alias’ for the pre-programmed Unit IDs.
Select the desired target radio and press “SEND” to send the message.

Unit ID
Select “Unit ID” to enter the P25 ID of the target radio.
Use the keypad to enter the ID and press “SEND” to send the message.

Message Acknowledgement

When the message has been received by the targeted radio, an alert tone will sound and the acknowledgment message will be displayed.

Press “OK” or wait for three seconds to return to normal radio operation.

If the targeted radio is unavailable, an alert tone will sound and the failed acknowledgement message will be displayed.

Press “RTRY” to resend the message.

Press “OK” or wait for three seconds to return to normal radio operation.

Setup

To allow the radio to be inhibited over-the-air:

1. Open the “System/Conventional/General” tab.
2. In the “Other” box select “Radio Inhibit”.

To allow a radio to send “Inhibit/Uninhibit” commands:

1. Assign “Inhibit’ and/or “Uninhibit” to a button or as a menu item.
1. Open the “System/Conventional/General” tab.
2. In the “Other” box select “Radio Inhibit”.

Operation and Programming

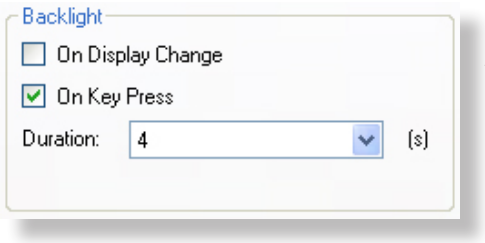
OTHER RADIO FUNCTIONS

Backlight [LITE]

Conventional and Trunked Channels

Backlight on/off control can be assigned to a switch, button or as a menu item. In addition, backlighting may be programmed to illuminate when any key is pressed.

Setup



1. Open the “Global/Common/General” tab.
2. In the “Backlight” box select the desired operation.

Busy Channel Operation

Conventional Channels

The radio can be programmed for different behavior when a conventional channel is busy.

How the radio reacts to a busy channel is programmed with the following operation options:

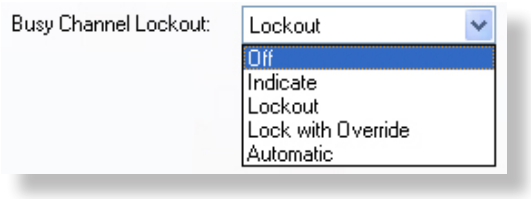
Indicate - When a channel is busy the LED will flash green.

Lockout - When a channel is busy the LED flashes and Push-to-talk will be disabled. When PTT is pressed a Busy message will show in the display and an alarm will sound.

Override - LED flashes and first PTT displays the Busy message. Release and press the PTT again to override the lockout and allow transmitting.

Automatic - When a channel is busy the LED flashes and Push-to-talk will be disabled. When PTT is pressed a Busy message will show in the display momentarily, then return to standby mode.

Setup



1. Open the “System/General/Other” tab.
2. In the “Other” box select the desired busy channel operation.

Busy Channel Conditions

With the PC radio editor, each channel is programmed for the conditions under which the channel is considered busy.

Conditions include:

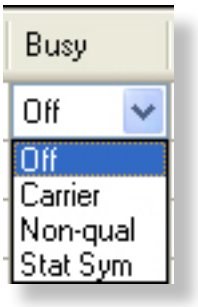
Off - Channel is never declared busy.

Carrier - A busy condition is declared when carrier is present on the selected Rx frequency.

Non-Qualified - A busy condition is declared when a non-qualified signal is present on the Rx frequency. (Non-qualified = Incorrect CTCSS/CDCSS, talk group or NAC)

Status Symbol - Digital Channels Only. A busy condition is declared if the P25 busy status symbol is present on the Rx frequency.

Setup



1. Open the “Zone” tab.
2. In the “Channel Listing” section, under “Busy”, select the busy channel condition for each conventional channel.

Control Lock [LOCK]

Conventional and Trunking Channels

The KNG portable offers a variety of control lock options. Control lock can be assigned to a toggle switch, collar switch or as a button or menu item.

Switch Assignment

When assigned to a toggle switch, toggling the switch on locks all controls except the toggle switches, PTT and volume/off.

When assigned to the collar switch, toggling the switch on locks all controls except the collar switch, PTT and volume/off.

Button/Menu Assignment

When assigned as a button or menu item, users can select from two lockout settings, “Lock Keypad Only” and “Lock All Controls”.

“Lock Keypad Only” locks only front panel button operations.

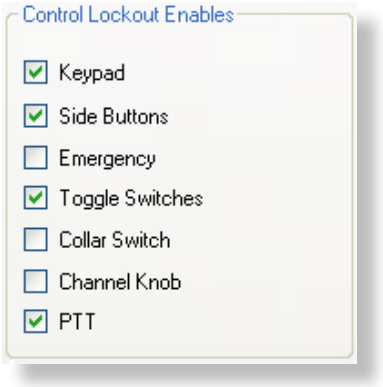
“Lock All Controls” locks all buttons and switches as determined by radio programming. Any or all of the following function may be locked when “Lock All Controls” is selected: Front keypad, side top buttons, toggle switches, channel knob, collar switch and push-to-talk.

To enable the lock function press the assigned button or open the menu and select Control Lock from the list.

Select the desired lockout setting and press “ENTER”

To disable Control Lock press the diamond button twice, then the square button twice.

Setup



1. Open the “Global/Common/General” tab.
2. In the “Control Lockout Enables” box select operation to be locked when “All Control Lock” is on.

Operation and Programming

Monitor [MON]

Conventional Channels

There are four settings available for monitoring traffic on a selected channel. “Monitor” can be assigned to a button or as a menu item.

Monitor Modes and Indicators

Selective - Digital channels only. Required for Unit-to-Unit calls and Talkgroup use. (No indicator)

Normal - Requires NAC or Tone. Ignores Talkgroup and Unit-to-Unit information on digital channels. Flashing on.

Monitor - Monitors activity on selected channel. Steady on.

Open - Open Squelch. Solid on.

Button Operation

Press the button to cycle to the next mode. Press and hold for Open Squelch. Availability of “Selective” or “Normal” is determined by each channel’s programmed Squelch Operation setting.

Menu Operation

Open the Monitor menu, select the desired operation and press “Enter”.

Setup

1. Open the “Zone” tab.
2. In the “Channel Listing” section, under “Squelch”, select “Normal” or “Selective” for digital channel squelch type.

Nuisance Channel [NUIS]

Conventional Channels

If enabled, a nuisance channel can be temporarily removed from the scan list. Nuisance Channel Delete can only be assigned to a button.

To temporarily remove a channel from the scan list, press the assigned button while the nuisance channel is being received.

To revert to the programmed scan list, turn off Scan, cycle radio power or select another zone or channel.

Setup

Assign “Nuisance Channel Delete” to a button or as a menu item.

Radio Information

Conventional and Trunking Channels

Radio information can be assigned as a menu item.

When selected, the LCD displays programmed radio settings.

Setup

Radio information can be assigned as a menu item.

Repeater Talkaround [T/A]

Conventional Channels

In Repeater Talkaround mode, the radio will transmit on the programmed receive frequency of the selected channel. When T/A is enabled the |→| icon will be displayed on the top line of the LCD.

NOTE: Channels programmed as receive only are not affected by the Talkaround selection.

Talkaround selection can be assigned to a switch, button or as a menu list item.

Setup

“Repeater Talkaround” can be assigned as a button, switch or menu item.

Squelch Adjust [SQL]

Conventional Channels

Squelch Adjust is used to change the signal strength required for the radio’s speaker to unmute.

Squelch can be assigned as a button or menu list item.

To adjust the squelch setting, open the squelch menu. Select the desired threshold using the -/+ buttons.

Press “ENTER” to set the level.

Setup

“Squelch Adjust” can be assigned as a button or menu item.

Site Display [STDS]

Trunking Channels

When selected, the Site Display functions shows information for the currently operating site.

Displayed information includes: Site ID, Site Alias and RSSI.

Site Display can be assigned as a button or menu list item.

Setup

“Site Display” can be assigned as a button, switch or menu item.

Site Lock [STLK]

Trunking Channels

Site lock prevents the radio from searching for other sites by locking it to the currently selected site.

Site Lock can be assigned as a button or menu list item.

Setup

“Site Lock” can be assigned as a button, switch or menu item.

Operation and Programming

Site Search [STSR]

Trunking Channels

Site Search automatically searches and selects the best available trunking site.

Site Lock can be assigned as a button or menu list item.

Setup

“Site Lock” can be assigned as a button, switch or menu item.

Surveillance Mode [SUR]

Conventional and Trunking Channels

When Surveillance Mode is on, all audible indicators (beeps etc.) and lighting functions (LEDs and Display) are disabled.

1. Assign “Surveillance Mode” to a switch, button or as a menu list item.
2. Open the “Zone” tab.
3. In the “Channel Listing” section, under “Surv”, choose the surveillance mode for each channel.

   Off - No surveillance mode operation.
   On - Always in surveillance mode.
   Selective - Surveillance mode is activated with the assigned button, switch or menu selection.

Transmit Digital [TXD/A]

Conventional Mixed-Mode Transmit Channels

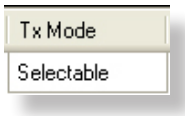
When Transmit Digital is on, channels programmed for mixed-mode transmit will transmit in digital mode. When off, mixed-mode channels transmit in analog mode.

When transmitting in digital mode the display shows ‘D’ behind the TX indicator. In analog transmit, ‘A” will follow the indicator.

Transmit Digital selection can be assigned as a button, switch or menu list item.

When assigned as a button function, the “TXAD” button will be highlighted when in the Transmit Digital mode.

Setup



1. Assign “Tx Mode” to a switch, button or as a menu list item.
2. Open the “Zone” tab.
3. In the “Channel Listing” section, under “Tx Mode”, choose the mode for each channel.

   Analog - Always transmit analog.
   Digital - Always transmit digital.
   Selective - Transmit mode is selected with the assigned button, switch or menu selection.

Transmit Power [PWR]

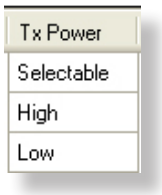
Conventional and Trunking Channels

Transmit Power can be selected between the programmed high and low settings. The power output of the settings depend on radio options, model and editor settings.

When operating in the high power mode, “H” will be displayed on the top line of the LCD. In low power mode, “L” is displayed.

Power selection can be assigned as a button, switch or menu list item.

Setup



1. Assign “Tx Power” to a switch, button or as a menu list item.
2. Open the “Zone” tab.
3. In the “Channel Listing” section, under “Tx Mode”, choose the mode for each channel.

   High - Always transmit high power.
   Low - Always transmit low power.
   Selective - Transmit power is selected with the assigned button, switch or menu selection.

2.4 PROGRAMMING OPTIONS

There are three different ways to program BK Radio radios:

• BY COMPUTER With a computer, KNG programming software, and an interface cable. Contact BK Radio for the required programming cable and software.

• BY KEYPAD A radio can be programmed with its keypad providing the keypad programming functions have been enabled via PC. That procedure is described in this section.

• BY CLONING You can transfer the programmed settings to another radio of the same frequency band by using a cloning cable. See “Radio Cloning”.

COMPUTER PROGRAMMING

KNG radios can be programmed via PC using the KAA0732 NeoVision Radio Editor software and the KAA0700 programming cable kit. The programming kit includes a mini USB cable and a KNG Portable to USB adapter.

The KAA0732 NeoVision Radio Editor requires a system key to edit P25 trunking settings.

Visit www.relm.com for the latest version. Refer to the NeoVision help files for details.

KEYPAD PROGRAMMING

Radio programming is to be performed only by authorized personnel. Any or all functions may be password protected to prevent unauthorized access.

NOTE: Trunking channels and systems cannot be programmed via the radio keypad.

Keypad programmable categories include individual Channel, Zone and Global radio parameters, individual P25 ID Quick Call/Receive List, User Tone List, User NAC List and User Talk Group ID List.

Operation and Programming

KEYPAD PROGRAMMING NAVIGATION

While in programming mode the diamond, arrow up, arrow down and square buttons are used navigate the programming functions. The following table shows possible button functions:

Keypad Programming Buttons	
ENT	Opens the highlighted function or enters the displayed information
ESC	Press once to go back to previous screen or hold to exit programming mode and return to normal radio operation
NEXT	Move to the next item in a displayed list or the next character in a displayed value
PREV	Move to the previous item in a displayed list
EDIT	Used to select and edit individual characters in a displayed value
BACK	Move to the previous character in a displayed value
CLR	Clears the displayed value
EDIT	Used to edit individual characters in a displayed value
INV	Inverts a displayed digital tone value (CDCSS)

Entering Keypad Programming Mode

To enter programming mode open the menu list by pressing the assigned “Menu” button and select “Keypad Prog” from the menu list.

Use the keypad to enter the six-digit user or master password and press the Enter button.

Select the item to program and press Enter.

Available programmable functions are:

Keypad - Used to edit individual channel and zone information such as labels, frequencies, operating modes, etc.

Call List - Used to edit the P25 ID Call List entries.

User Tones - Used to edit the user selectable Code Guard entries.

User NACs - Used to edit user selectable Network Access Codes.

User TGIDs - Used to edit user selectable P25 Talk Groups

NOTE: Depending on PC programming, not all functions may be accessible for keypad programming.

Global, System, Zone and Channel Parameters

The “Keypad” programming menu consists of four sub-menus for editing global, system, zone and channel parameters (see table).

Keypad Programming Sub-Menus				
Global	**System**	**Zone**	**Channel**	
Display Top	Sys Pri 1	Add/Delete	Add/Delete	Rx/Tx NAC
Display Middle	Tx on Pri 1	Label	Label	Sq Mode
Display Bottom	Sys Pri 2	Zone Pri 1	Rx/Tx Freq	Bandwidth
User Password		Tx on Pri 1	Rx/Tx Mode	Tx Power
		Zone Pri 2	Rx/Tx Guard	TGID

GLOBAL SETTINGS

To edit the programmable Global settings, select “Keypad” from the programing menu then select “Global” from the sub-menu.
Select the item you wish to edit from the Global menu.

Displayed Information Lines

The three main display lines can be programmed to display radio information. Select top, middle or bottom line to change it’s displayed information. Then select the desired setting from the list (see table).

NOTE: Display changes do not affect the display on trunked channels.

Conventional Display Line Options	
None	No information is displayed.
Channel Label	Programmed label of current channel.
Frequency	Current operating frequency.
Channel Number	Channel number of currently operating channel.
Rx’d Unit ID	P25 ID of a received digital signal. If the incoming ID is programmed in your Unit ID Call List list, the associated label will be displayed. During standby you radio ID number is displayed.
Rx’d TGID	Talk Group ID of a received digital signal.
Rx Picklist Selections	Current user selected receiver Code Guard, Network Access Code and Talkgroup.
Tx Picklist Selections	Current user selected transmit Code Guard, Network Access Code and Talkgroup.
Zone Label	Programmed label of current operating zone.
Zone and Channel #	Current operating zone and channel numbers.
Zone Number	Zone number of currently operating zone.

User Password

Select “User Password” from the “Global” menu to edit the keypad programming password. Enter a six-digit numeric.

NOTE: Changing the user password does not affect the power-up or administrator password.

SYSTEM SETTINGS

To edit the programmable System settings, select “Keypad” from the programing menu then select “System” from the sub-menu.

Select the item you wish to edit from the System menu.

System Priority 1 or 2 Channel

Priority channels can be assigned on a system wide basis. If assigned, a system priority channel will be monitored during priority scan regardless of the currently operation zone priority channel.

When set to “Off”, the Priority 1 or Priority 2 Channel is designated by the selected zone setting.

When set to “Use Main” the channel selected by the channel knob operates as the priority channel.

To designate a specific priority channel choose “Select” from the priority channel menu.

Select the Zone and Channel.

Tx on Priority 1 Channel

If on, the radio will transmit on the System Priority 1 channel whenever Priority Scan is on.

Operation and Programming

ZONE SETTINGS

To edit the programmable Zone settings, select “Keypad” from the programing menu then select “Zone” from the sub-menu.

Select Add, Delete or Edit Zone from the Zone menu.

Add Zone

When selected, a new zone is added in the next available slot.

Example: If there are seven zones in the radio, the added zone will be zone eight.

Delete Zone

When selected the list of available zones is displayed. Choose the zone you wish to delete.

When a zone is removed all subsequent zones move up one spot. Example: If there are seven zones in the radio and zone five is deleted, zone six now becomes zone five and zone seven becomes zone six.

Edit Zone

Select “Edit Zone” to change the programmable zone information.

Zone Label

Use the keypad to enter a label of up to sixteen characters.
(See keypad character table)

Zone Priority 1 or 2 Channel

NOTE: If system priority channels are programmed, zone priority settings are ignored.

When set to “Off”, the Priority 1 or Priority 2 Channel is designated by the selected zone setting.

When set to “Use Main” the channel selected by the channel knob operates as the priority channel.

To designate a specific priority channel choose “Select” from the priority channel menu and choose from the channel list.

Zone Tx Priority 1 Channel

If on, the radio will transmit on the Zone Priority 1 channel whenever Priority Scan is on and there is no system priority 1 programmed.

CHANNEL SETTINGS

To edit the programmable Channel settings, select “Keypad” from the programing menu then select “Channel” from the sub-menu.

Select Add, Delete or Edit Channel from the Channel menu.

NOTE: REFER TO THE COMMAND ZONE OPERATIONS SECTION FOR ADDING OR DELETING COMMAND ZONE CHANNELS.

DO NOT ADD OR DELETE COMMAND ZONE CHANNELS VIA THE KEYPAD PROGRAMMING METHOD.

Add Channel

Select to add a new channel.

Choose the zone to which the channel is to be added.

Enter a valid channel index number of 1-2048.

NOTE: To access channels about channel sixteen on radios with a sixteen position channel switch,

the radio must be programmed via PC for keypad channel select or “Channel Select” must be assigned as a button or menu item.

Delete Channel

When selected the list of programmed zones is displayed. Choose the zone of the channel you wish to delete.

Select the channel from the list.

Edit Channel

Select “Edit Channel” to change the programmable channel information.

Select the zone and channel to be edited.

Channel Label

Use the keypad to enter a label of up to sixteen characters.
(See keypad character table)

Rx Frequency

Enter a valid receive frequency in MHz. Frequencies must be divisible by 1.25kHz.

Rx Mode

Select Analog, Digital or Mixed Mode.

Rx Guard

Analog or Mixed Mode Receive Channels Only

Select “Off” for analog signals to operate in carrier squelch mode.

Select “Tone” to enter a CTCSS tone,

Select “Digital” to enter a DCS value.

Use “INV” to invert a DCS tone.

RX NAC

Analog or Mixed Mode Receive Channels Only

Select “Enter” to program a receive NAC via the keypad.

Enter the desired value in hexadecimal (000 - FFF).

NOTE: $F7F is an invalid receiver NAC.

Choose “Select” to use a receiver NAC from the programmed pick list.

Squelch Mode

Digital or Mixed Mode Receive Channels Only

Normal - Requires carrier and NAC only to unmute digital signals.

Selective - Required for Individual Calls and use of Talkgroup IDs.

Operation and Programming

Bandwidth

Analog or Mixed Mode Channels Only

Narrowband - 12.5kHz spacing when operating in analog.

Wideband - 25kHz spacing when operating in analog.

Tx Power

Low Power - Lock channel in low power mode.

High Power - Lock channel in high power mode.

Selectable - Allow high/low transmit power selection form assigned button, switch or menu item.

Tx Frequency

Enter a valid receive frequency in MHz. Frequencies must be divisible by 1.25kHz.

Tx Mode

Select Analog, Digital or Selectable.

Tx Guard

Analog or Mixed Mode Receive Channels Only

Select “Off” for analog signals to operate in carrier squelch mode.

Select “Tone” to enter a CTCSS tone,

Select “Digital” to enter a DCS value.

Use “INV” to invert a DCS tone.

Tx NAC

Analog or Mixed Mode Transmit Channels Only

Select “Enter” to program a transmit NAC via the keypad.

Enter the desired value in hexadecimal (000 - FFF).

NOTE: $F7E and $F7F are invalid transmit NACs.

Choose “Select” to use a transmit NAC from the pick list.

TGID

Analog or Mixed Mode Channels Only

Select “Enter” to program a transmit Talk Group ID via the keypad.

Enter the desired value (1- 65535).

NOTE: 0 is an invalid transmit Talk Group ID.

Choose “Select” to use a TGID from the pick list.

P25 ID UNIT CALL/RECEIVE LIST

The KNG can be pre-programmed with up to 100 Project 25 IDs and labels. If 'RX'd Unit ID' is designated as a display line, the P25 ID of the radio sending the call will be shown when receiving a digital signal. If the P25 ID of the received call is programmed in the Call List, the alphanumeric label associated with the ID will be displayed. If the P25 ID is not in the Call List, the numeric P25 ID will be displayed.

Select "Call List" from the programing menu.

Select the P25 ID you wish to edit.

The display shows the label and P25 ID of the selected ID.

Select "Label" to edit or add an alphanumeric label

Select "Dest ID" to change the P25 ID

USER SELECTABLE CODE GUARDS

The KNG can be pre-programmed with up to 32, user selectable, CTCSS or CDCSS subaudible tones. Tones are selected via a programmed button or menu item (see TX/RX CxCSS Picklist). If enabled, the tones can be programmed via the radio's keypad

Select "User Tones" from the programing menu.

Select the tone to edit.

To enter a CTCSS tone select "Tone" and enter the desired frequency in Hertz (67.0 - 254.1 Hz).

To enter a CDCSS (digital) tone select "Digital" then enter the three digit code. Use the INV button to invert the code.

Valid Code Guard Tone Values

Group A		Group B		Group C
67.0 (XZ)	*151.4 (5Z)	71.9 (XA)	146.2 (4B)	74.4
77.0 (XB)	162.2 (5B)	82.5 (YZ)	156.7 (5A)	79.7
88.5 (YB)	173.8 (6A)	94.8 (ZA)	167.9 (6Z)	85.4 (YA)
*100.0 (1Z)	186.2 (7Z)	103.5 (1A)	*179.9 (6B)	91.5 (ZZ)
107.2 (1B)	203.5 (M1)	110.9 (2X)	192.8 (7A)	
114.8 (2A)	218.1 (M3)	*118.8 (2B)	210.7 (M2)	
123.0 (3Z)	233.6	127.3 (3A)	225.7 (M4)	
131.8 (3B)	250.3	136.5 (4Z)	241.8	
141.3 (4A)				

* 50/60 Hz power distribution systems could cause falsing.

The assignments in a given area should be made from within one of the Groups: A, B, or C.

Valid Digital Code Guard Values

23	25	26	31	32	43	47	51	54	65
71	72	73	74	114	115	116	125	131	132
134	143	152	155	156	162	165	172	174	205
223	226	243	244	245	251	261	263	265	271
306	311	315	331	343	346	351	364	365	371
411	412	423	431	432	445	464	465	466	503
506	516	532	546	565	606	612	624	627	631
632	654	662	664	703	712	723	731	732	734
743	754								

Operation and Programming

USER SELECTABLE NETWORK ACCESS CODES

The KNG can be pre-programmed with up to 32, user selectable NACs. NACS are selected via a programmed button or menu item (see TX/RX Network Access Code Picklist). If enabled, the tones can be programmed via the radio's keypad.

Select "User NACs" from the programing menu.

Select the NAC to edit.

Enter the desired value in hexadecimal (000 - FFF).

NOTE: $F7E and $F7F are invalid as user selectable NAC values.

USER SELECTABLE TALKGROUP IDS

The KNG can be pre-programmed with up to 32, user selectable TGIDs. TDIDs are selected via a programmed button or menu item (see Talk Group ID Picklist). If enabled, the TGIDs can be programmed via the radio's keypad.

Select "User TGIDs" from the programing menu.

Select the Talk Group ID to edit.

Enter the desired value (1 - 65535).

NOTE: A Talk Group ID value of 0 is not allowed.

KEYPAD PROGRAMMING CHARACTERS

1	1	7 PQRS	P, Q, R, S, p, q, r, s, 7
2 ABC	A, B, C, a, b, c, 2	8 TUV	T, U, V, t, u, v, 8
3 DEF	D, E, F, d, e, f, 3	9 WXYZ	W, X, Y, Z, w, x, y, z, 9
4 GHI	G, H, I, g, h, i, 4	0	0, Blank Space
5 JKL	J, K, L, j, k, l, 5	*	*, ., ,, ;, :, ", ', !, ?, %, &, ', ~, @, _
6 MNO	M, N, O, m, n, o, 6	#	#, $, +, -, =, ^, /, \, |, <, >, {, }, [,]

2.5 RADIO CLONING

If “Cloning” is programmed as a menu item, any Source radio (a KNG with the desired radio frequencies and settings) is capable of transferring its program to another KNG of the same frequency range.

In addition, information between a KNG-P150 and certain other BK Radio models radio can be cloned. (See “KNG to Legacy Radio Cloning” below.)

The KAA0701 Cloning Cable offers radio users to ability to share programmed information between KNG portable and mobile radios and/or other BK Radio legacy models.

OPERATION

The Source radio is a radio programmed with the desired radio frequencies and settings you wish to transfer to another radio of the same frequency range.

In order to clone radio information the Source radio must have a menu item programmed, via PC Radio Editor, to allow cloning. (Refer to the “Menus/Controls” section of the radio editor.)

The radio receiving the program is referred to as the Target.

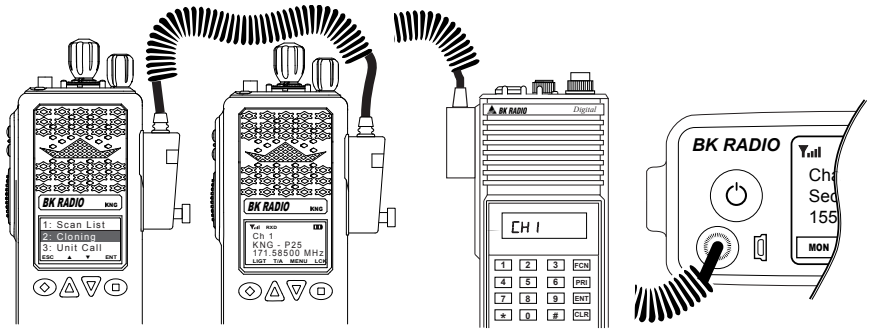
Target radios can be programmed to block incoming cloning information on a zone by zone basis.

The KAA0701 Cloning Cable requires the use of a KNG or KNG-S model as either the Source or Target radio.

KNG AS SOURCE RADIO

Connect the KAA0701 Cloning Cable to the side connector of the Source and Target radios and power up both radios.

NOTE: Insure that all scan functions are turned off prior to cloning.
MOBILE NOTE: Microphone must be attached at power-up prior to cloning.



KNG Source | KNG Target | Legacy Target | KNG Mobile Target

On the source radio select the zone with the information to be cloned by pressing the Zone button, or selecting “Zone Select” from the menu, then entering the number of the desired zone.

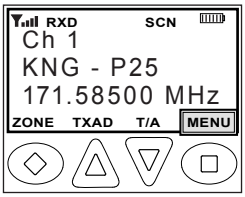
On the target radio select the Zone or Group to which the information is to be sent.

For Legacy radio models select a target group by pressing the [#] key and entering the number of the desired group.

Some zones may be blocked by PC programming to prevent them from being overwritten. Only unlocked groups will accept incoming clones.

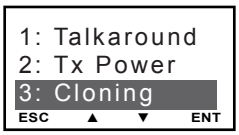
Operation and Programming

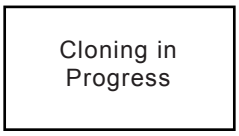
Sending Information



On the source radio:

1. Press the Menu button.
2. Use the up/down buttons to select “Cloning”.
3. Press the [ENT] button to send the cloning information.





While sending information “Cloning in Progress” will be shown on the source radio display.

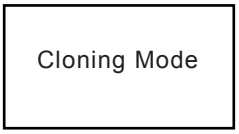
After successful radio data transfer, “Source Clone Complete” is briefly displayed on the source radio.

Receiving Information

Target radios display a message to indicate receiving incoming information.

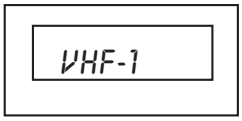
KNG portable and mobile target radios display “Destination Clone Start” during the cloning process.

KNG Target



KNG-S Target

KNG-S model portable display “Cloning Mode”.



Legacy Target

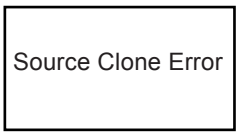
Most Legacy target radios display “VHF-1” during the cloning process.

When the cloning process is successfully completed KNG radios will automatically shut down and reset.
NOTE: Upon reset the radio reverts to Zone 1.

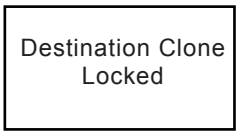
NOTE: After cloning a KNG Mobile, the microphone must be connected and radio power cycled to return to normal operation.

KNG-S and Legacy models return to normal operation in the active zone or group upon successful cloning.

Error Notifications



KNG Source



KNG Target

If the targeted zone is blocked from cloning, or the clone is not successful any other reason, the KNG Source radio will display “Source Clone Error” and require radio power to be cycled.

If a KNG targeted zone is blocked from cloning the target will display the “Destination Clone Locked” message and requires radio power to be cycled.

KNG-S and Legacy target radios do not display any error messages.

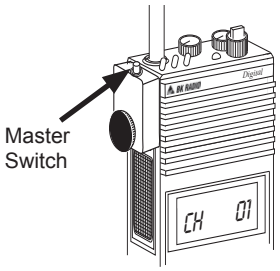
LEGACY RADIO CLONING

Information programmed in some older BK Radio models can be cloned to KNG models.

Cloning compatible models include: DPHX5102X, GPH5102XP, DPHX-CMD, GPH-CMD, DMH, GMH Plus and most GPH portable models.

NOTE: E-Series portables are not cloning compatible with KNG models.

NOTE: Earlier BK Radio models use the term “Group” instead of “Zone”.



1. Connect the KAA0701 Cloning Cable to the side connector of the Source and Target radios and power up both radios.
2. On the KNG Target radio, select the zone to receive the incoming information.

On the Legacy Source radio:

3. Select the source group/zone by pressing the [#] key and entering the number of the desired zone.
4. Press and hold the master switch then press and hold the [FCN] key until the display shows “- - - ID.”
5. Enter the password of the selected zone.

The display shows “PRG CH 00.”

6. Press the [*] key on the Source radio.

The display will flash “PROG” signifying that the radio is ready to download its program to the target.

7. Press the [FCN] key send the cloning information.

While sending information “CLONE” will be displayed on the source radio.

If the cloning process fails or the target radio’s zone is blocked form accepting an incoming clone, A fail message will appear on the Source radio.

To stop the ‘FAIL’ Mode, press [CLR], .

Operation and Programming

Command Radio Model Target Selection

When using a DPH-CMD or GPH-CMD radio as a cloning source you must designate the target as a G/DPH-CMD not a standard G/DPH. Press and hold the [*] key to select “PRG | D/GPH”.

NOTE: The KNG will refuse the clone if PRG|D/GPH-CMD is not selected

CLONING INFORMATION

A KNG Source Radio sends only information the Target Radio requires. For example, digital settings such as Network Access Codes will not be transferred to analog only models like the GPH.

Channel Capacity Considerations

When a KNG Source zone is programmed with less channels than a Legacy Target radio, channels about the highest programmed Source channel will be set to inactive.

A KNG Target zone will assume the channel structure of the Source radio. Example: Cloning from a DPHX5102X will enable sixteen channels in the targeted KNG. Cloning from a KNG with a five channel zone will enable only five channels in the target radio.

KNG radios do not allow a receive frequency of 0. When a Legacy Source radio channel has no programmed receive frequency, the KNG Target will substitute 136MHz.

Picklist Capable Target Radio Considerations

If picklist selections are assigned in the source radio, and the target radio is capable of picklist selections, the associated picklist reference will be cloned to the target radio. For example, if a channel has a picklist selection of Tone 3 then a picklist reference of 3 will be sent to the target radio and the target radio will use the value stored in the 3 position of the radios picklist. The target radio picklists will not be affected.

Cloned Picklist Values

KNG Source	D & G Standard	D & G CMD	KNG-S/ KNG
Tone selected	Default values	TX Default set to 0, Picklist reference # and RX default value	Default values and Picklist references
No tone selected	Default values	Default values	Default values

D/GPH-CMD Source	KNG
Tone selected	TX Default set to 0, picklist reference # and RX default value
No tone selected	Default values

If the cloning process fails or the target radio's zone is blocked from accepting an incoming clone, a fail message will appear on the Source radio.

Failure of downloading can be due to:

- Zone programmed to block clone
- Improper connection
- Failure to turn on the Target radio
- Legacy Target radio in programming Mode
- Incompatible Target radio
- Cable unplugged

KNG as Source Radio

	Target Radio Type								
	DPHX 5102X	GPH 5102XP	DPHX CMD	GPH CMD	DMH	GMHP	GPH	KNG	KNG-S
Channel and Zone Labels	✓	✓	✓	✓	✓	✓	✓	✓	✓
RX/TX Frequencies	✓	✓	✓	✓	✓	✓	✓	✓	✓
Digital/Analog/ Mixed Mode	✓		✓		✓			✓	✓
Code Guards (CG)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Network Access Codes (NAC)	✓		✓		✓			✓	✓
Digital Squelch Operation	✓		✓		✓			✓	✓
Talk Groups	✓		✓		✓			✓	✓
Scan Lists	✓	✓	✓	✓	✓	✓	✓	✓	✓
Analog Bandwidth	✓	✓	✓	✓	✓	✓	✓	✓	✓
High/Low Power	✓	✓	✓	✓			✓	✓	✓
OTAR/Data Channel	✓				✓			✓	✓
DTMF ID								✓	
MDC ID								✓	
Signaling								✓	
Zone Priority Settings	✓	✓			✓	✓	✓	✓	✓
Scan Hold Time	✓	✓			✓	✓	✓		
Tx Timeout Timer	✓	✓			✓	✓	✓		
Picklist References			✓	✓				✓	✓
Squelch Operation	✓		✓		✓			✓	✓
Busy Lockout	✓	✓			✓	✓		✓	✓
User Password	Set to 000000				Set to 000000				

Encryption Parameters

Encryption Parameters	DPHX/DMHX	KNG	KNG-S
Encrypted/Clear/Switchable	Set to Clear	✓	✓
Encryption Key/Key Lock	✓	✓	✓
SLN			"Entire Radio Cloning" only.

Operation and Programming

KNG as Target Radio

	Source Radio Type								
	DPHX 5102X	GPH 5102XP	DPHX CMD	GPH CMD	DMH	GMHP	GPH	KNG	KNG-S
Channel and Zone Labels	✓	✓	✓	✓	✓	✓	✓	✓	✓
RX/TX Frequencies	✓	✓	✓	✓	✓	✓	✓	✓	✓
Digital/Analog/ Mixed Mode	✓		✓		✓			✓	✓
Code Guards (CG)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Network Access Codes (NAC)	✓		✓		✓			✓	✓
Digital Squelch Operation	✓		✓		✓			✓	✓
Talk Groups	✓		✓		✓			✓	✓
Scan Lists	✓	✓	✓	✓	✓	✓	✓	✓	✓
Analog Bandwidth	✓	✓	✓	✓	✓	✓	✓	✓	✓
High/Low Power	✓	✓	✓	✓			✓	✓	✓
OTAR/Data Channel	✓				✓			✓	✓
DTMF ID								✓	
MDC ID								✓	
Zone Priority Settings	✓	✓			✓	✓	✓	✓	✓
Scan Hold Time	✓	✓			✓	✓	✓		
Tx Timeout Timer	✓	✓			✓	✓	✓		
Picklist References			✓	✓				✓	✓
Squelch Operation	✓		✓		✓			✓	✓
Busy Lockout	✓	✓			✓	✓		✓	✓
Signaling								✓	
User Password	Set to 000000				Set to 000000				

Encryption Parameters

Encryption Parameters	DPHX/DMHX	KNG	KNG-S
Encrypted/Clear/Switchable	Unaffected	✓	Set to Clear
Encryption Key/Key Lock	✓	✓	✓
SLN			“Entire Radio Cloning” only.

SECTION III
THEORY OF OPERATION

3.1 INTRODUCTION

This section contains a description of equipment and a theory of operation for the BK Radio KNG Series APCO Project 25 digital radio. To aid in understanding the operation of the equipment, schematic diagrams are found in Section 5 of this manual.

3.2 EQUIPMENT DESCRIPTION

The BK Radio KNG Series radio comprises the following major sub-assemblies:

SYSTEM BOARD

This sub-assembly consists of core microprocessor, voltage regulation, audio power amp and baseband signal processor. Sheet metal shields are used to shield the digital and regulator sections.

RF BOARD

This sub-assembly consists of the receiver circuitry from the front-end through the digital IF, the transmitter power amplifier, harmonic filter, antenna switch, power control, synthesizer, and VCO's. Sheet metal shields are used to shield the receiver, synthesizer and the VCO's.

3.3 THEORY OF OPERATION

SYSTEM BOARD

System board functional blocks include:

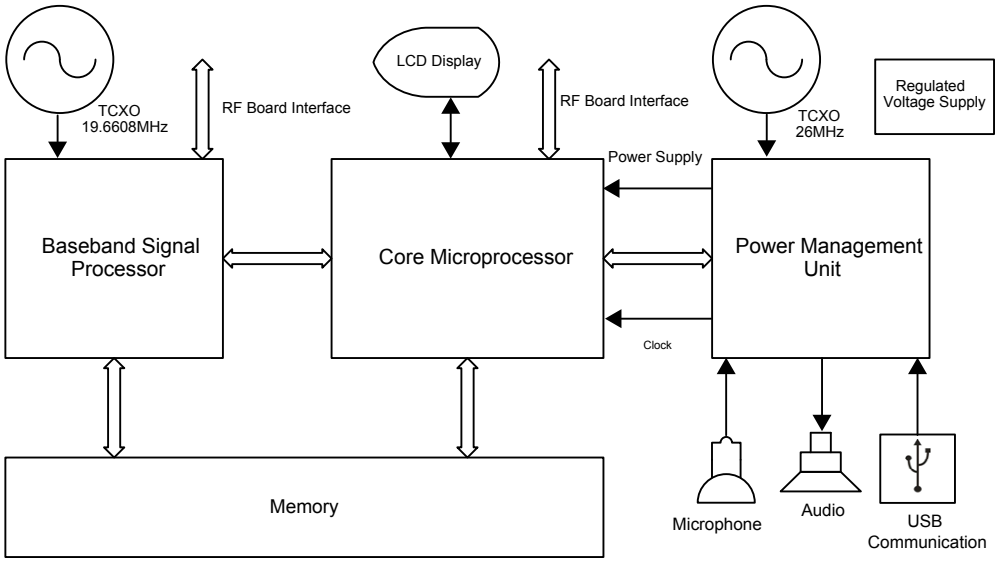
Core Microprocessor

Power Management Unit

Voltage Regulators

Baseband Signal Processor

Audio Power Amplifiers



System Board functional diagram

Theory of Operation

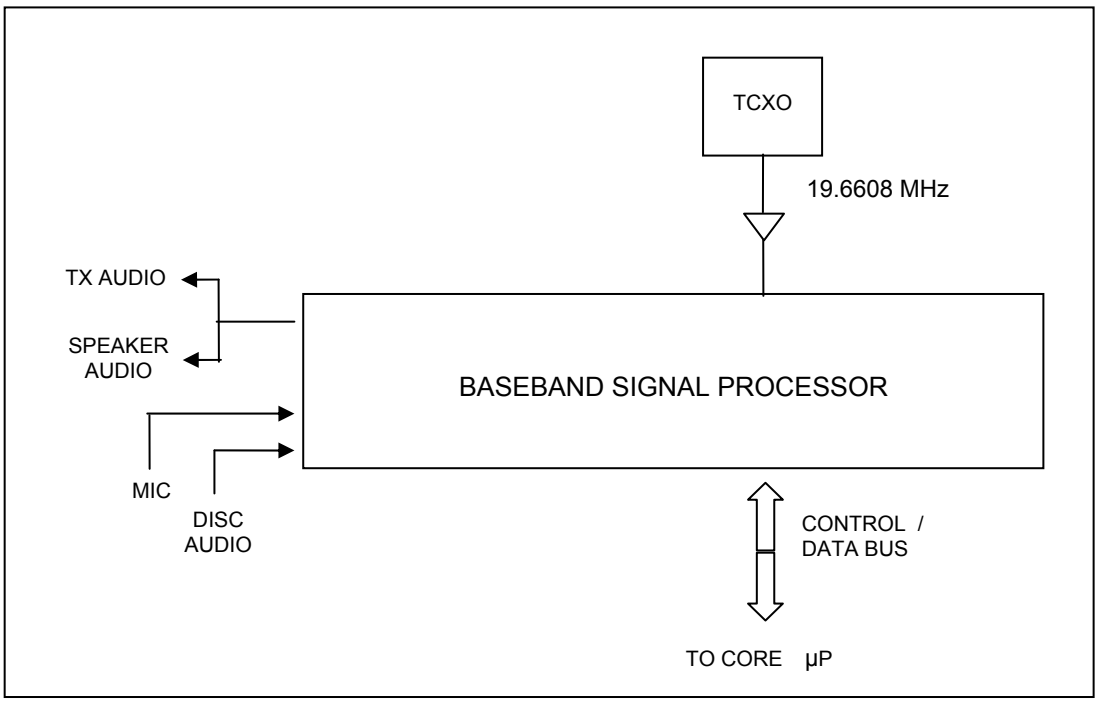
Core Microprocessor

The core microprocessor communicates with the baseband signal processor, the LCD display and the battery. It controls radio functions such as adjusting the deviation and receiver tuning. The microprocessor communicates with the EEPROM on the RF board to access the stored calibration and tuning data that is unique to each radio.

Voltage Regulators

Multiple voltage regulators provide power for the circuitry located on the System Board.

Baseband Signal Processor



The Baseband Signal processor implements filters, tone generators and other signal processing algorithms required for analog and digital modes of operation. A 19.6608MHz TCXO provides a stable operating frequency reference to the Baseband Signal Processor.

Power Management Unit

The Power Management Unit supports the power and clock requirements of the microprocessor. The device also provides peripheral interfaces including audio, USB communication, microphone, keypad and display to the microprocessor.

Audio Power Amplifiers

Two Class-D amplifiers provide audio power amplification to drive the internal and external speakers.

RF BOARD

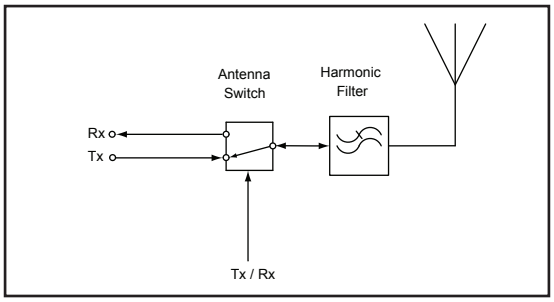
The RF board functions include:

- RF input / output
- Synthesizer / VCO
- Transmitter
- Transmitter

The RF input / output circuits deliver power from the Transmitter section to the antenna or from the antenna to the Receiver section; this section also provides filtering. The receiver section filters and amplifies the input signal and then creates a digitized version of the received signal to send to the radio's digital signal processor. The transmitter delivers a modulated and amplified transmission signal to the RF input / output section. The Synthesizer and VCOs create and maintain stable frequency signals that are used for modulation and demodulation of RF signals.

RF Input/Output

The RF input / output section consists of the Harmonic Filter and the Antenna Switch.



RF Input/Output Block Diagram

The Harmonic Filter provides low-pass filtering for both the transmitter and the receiver. For the receiver, the filter rejects undesired image/spurious frequencies. For the transmitter, the filter attenuates harmonics of the RF signal which would otherwise be transmitted.

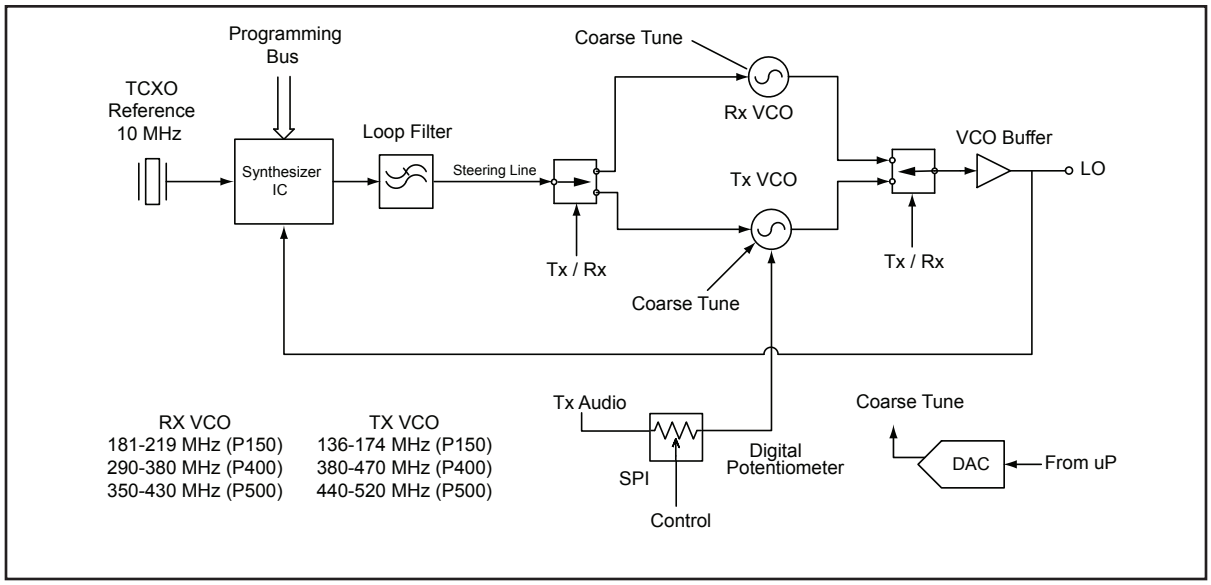
The Antenna Switch is a low loss RF switch that normally connects the antenna to the receiver input. It connects the antenna to the transmitter section whenever the push-to-talk (PTT) button is pressed. It also isolates the TX signal from the receiver to prevent damage to the lower power receiver circuits.

Synthesizer

The Synthesizer section has circuits that perform many functions including frequency generation, modulation and buffering. The main functional blocks in the transmitter are:

- TCXO frequency reference
- Synthesizer IC
- Loop Filter
- Rx VCO
- Tx VCO
- Digital Potentiometer
- VCO Buffer

Theory of Operation



Synthesizer Block Diagram

The temperature compensated crystal oscillator (TCXO) serves as a stable frequency reference over the operating temperature of the radio.

The Synthesizer IC contains programmable counters to divide and compare the VCO frequency from the feedback loop to the TCXO reference frequency and adjust the VCO control voltage in such a way that the VCO maintains a stable output frequency.

The Loop Filter smooths the output of the Synthesizer IC in order to reduce undesired modulation of the VCO frequency.

The Rx VCO is normally in operation, as the PTT is normally de-activated. The Coarse Tune and Steering inputs serve as the control voltages for this device.

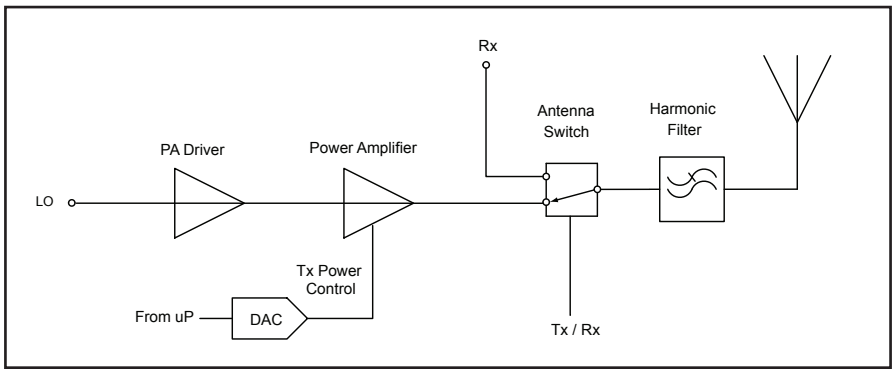
The Tx VCO is in operation whenever the PTT is activated. Its frequency bias point is controlled by the Coarse Tune and Steering inputs, and its frequency varies with the amplitude of the Tx Audio input signal. The Coarse Tune control signal comes from the DAC. The Tx Audio signal is, in the case of analog transmission, an analog audio signal. If the radio is set for digital transmission, the Tx Audio signal is a baseband digital signal. Because the modulation sensitivity of the VCO varies over its RF bandwidth, the Digital Potentiometer is used to adjust the level of the Tx Audio signal so that constant modulation sensitivity is maintained throughout the RF bandwidth.

The VCO buffer provides the necessary signal power to drive the LO input of the 1st IF mixer and the PA driver of the transmitter.

Transmitter

The transmitter section has circuits that perform many functions including frequency generation, modulation, buffering, and amplification. The main functional blocks in the transmitter are:

- PA Driver
- PA
- Antenna Switch
- Harmonic Filter



Transmitter Block Diagram

The PA driver is first stage of the transmitter's output. It outputs the RF signal with the power necessary to drive the final Power Amplifier.

The final PA module is designed to produce sufficient RF output to meet the radio's rated transmit power. This FET-based module operates as a class C output stage.

The Tx Power Control signal comes from the DAC and is stepped to allow three power levels (High, Medium, and Low) as chosen by the user. The control voltage is adjusted by the microprocessor to ensure constant output power over the bandwidth of the radio.

The Antenna Switch routes the RF signal from the transmitter to the Harmonic Filter and antenna while the radio is in transmit mode. When in receive mode, the antenna port is routed to the receiver. In Transmit Mode, both pin diodes in the Antenna Switch are turned on, completing a signal path to the Transmitter and shunting the Receiver path to ground. In Receive Mode, both pin diodes are turned off, allowing RF signals to flow to the Receiver with the Transmitter output port removed from the circuit.

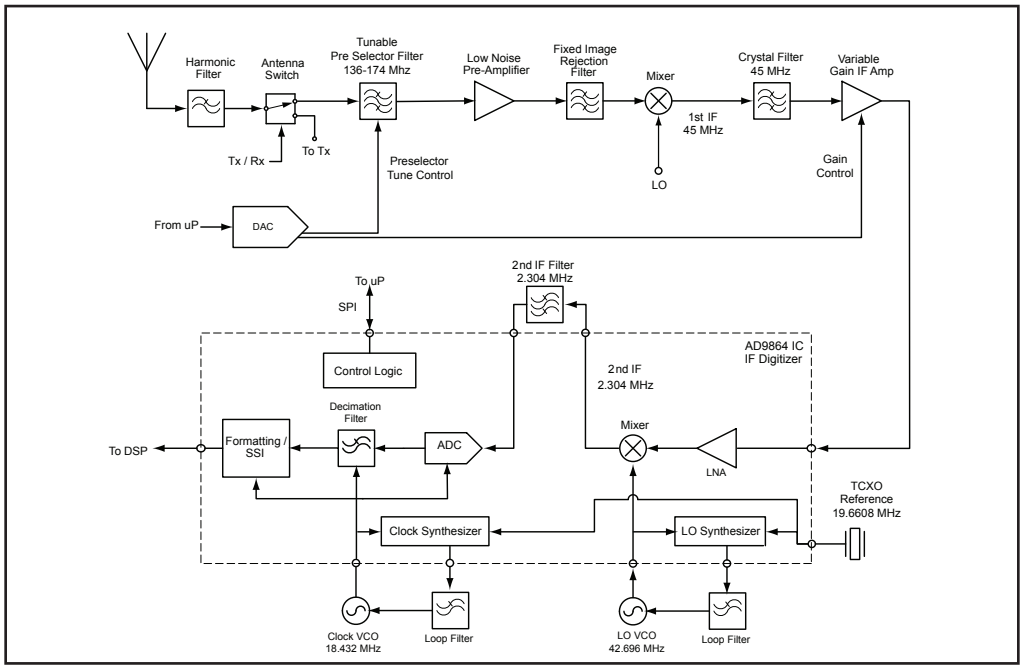
The Harmonic Filter attenuates the harmonics created by the Power Amplifier to meet or exceed the transmit spurious and harmonic specification. The passband input and output impedances of the filter are 50 Ohms.

Theory of Operation

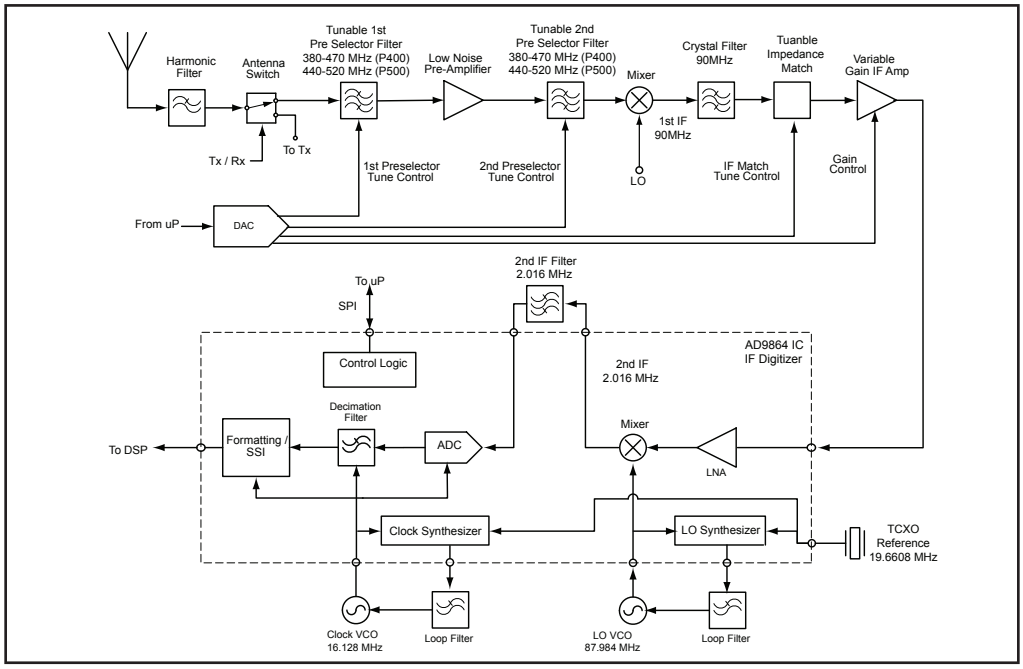
Receiver

The receiver section consists of many circuits which perform a variety of tasks including filtering, impedance matching, mixing, and analog-to-digital conversion. The main blocks of the receiver are:

- Tunable Preselector
- Low Noise Preamplifier
- Fixed Image Rejection Filter (VHF Models)
- 2nd Tunable Preselector (UHF Models)
- Mixer
- Crystal Filter
- Tunable Impedance Match (UHF Models)
- Variable Gain IF Amp
- AD9864 IF Integrated Circuit



VHF Receiver Block Diagram



UHF Receiver Block Diagram

The Tunable Preselector Filters are varactor-tuned bandpass filters that pass the receive frequency and reject images and out of band signals. The varactor control voltages vary in the range of about 0 V to 4 V. The tuning control voltage is supplied by a digital-to-analog converter (DAC) which receives control signals from the radio's microprocessor.

The Low Noise Preamplifier in VHF models operates linearly and uses a BJT as the gain element. This block provides the necessary signal drive for the Mixer input.

The Fixed Image Rejection Filter is a bandpass type that serves the dual purpose of filtering spurious signals such as image frequencies and providing an impedance match between the Low Noise Preamplifier and the Mixer.

The LT5526 IC is employed as the mixer in UHF models. It uses the receiver's local oscillator (LO) to down-convert the RF input signal to the 1st intermediate frequency (IF) of 90 MHz.

In VHF models a discrete, FET-based mixer uses the receiver's local oscillator (LO) to down-convert the RF input signal to the 1st intermediate frequency (IF) of 45 MHz.

The Crystal Filter provides frequency selectivity for the IF signal at 45 MHz for VHF models or 90 MHz for UHF models.

The tunable impedance match in UHF models provides an optimum impedance match between the Crystal Filter and the Variable Gain IF Amp. The DAC provides the tuning control voltage.

The Variable Gain IF Amp is normally operated at a constant gain. However, this amplifier is shut off when the radio is in alignment mode. The gain control signal for this dual FET amplifier comes from the DAC and goes to one of the FET gates.

The AD9864 integrated circuit from Analog Devices accomplishes several important tasks for the receiver's backend. The device's onboard LO Synthesizer compares the input LO voltage controlled oscillator (VCO) frequency and the reference frequency provided by the TCXO and adjusts the LO VCO control voltage so that the VCO maintains a stable frequency. The Clock Synthesizer also uses the TCXO reference to create a clock signal for the IC's digital functions. The input Low Noise Amplifier (LNA) provides the necessary signal drive for the mixer. The mixer mixes the LO and the RF input signals to down-convert the RF signal to the 2nd IF. This signal is then filtered and input into the analog-to-digital converter (ADC). This converter samples the signal at a very high rate, but it is followed by a series decimation filters. The bits are then formatted and stored in a buffer in preparation for transfer via the SSI to the radio's microprocessor. Ultimately, the sampled data is transferred to the microprocessor at 19.2 k samples per second with 16 bits of data per sample.

SECTION IV
MAINTENANCE

*** * * * * * * * NOTICE * * * * * * * ***

KNG Portable radios are manufactured to meet IP67 specifications for dust and water protection. Disassembly of the radio may compromise the integrity of this protection. The KNG's IP67 rating cannot be guaranteed on radios serviced by non-factory personnel.

*** ***

4.1 INTRODUCTION

This maintenance section contains troubleshooting and assembly/disassembly procedures. An understanding of the theory of operation is recommended before maintenance is attempted.

4.2 OVERHAUL

VISUAL INSPECTION

Physical defects resulting from wear, physical damage, deterioration, or other causes can cause a decrease in radio performance.

1. Prior to disassembling the radio, check the external connections for signs of damage or improper installation.
2. When inspecting inside the radio check for loose, improperly soldered, broken or corroded terminal connections. Inspect the flex-connections for damage and proper connection. Check other components for cracks, chips, bad solder connections or other damage.

DISASSEMBLY

BATTERY REMOVAL

1. Slide the release tab on the battery toward the bottom of the radio.
2. Pull the top of the battery out. (Approximately 30°)
3. Pull up to remove the battery pack.

ANTENNA REMOVAL

1. Holding the base of the antenna turn counter clockwise to remove.

RX/TX BOARD ASSEMBLY

1. Remove the gasket from around the assembly.
2. Remove the slot nuts from the channel and volume switches.
3. Remove the seven screws holding the heatsink to the Rx/Tx Board.

SYSTEMS BOARD ASSEMBLY

1. Disconnect the flex circuits connecting the Systems Board to the side connector and display assembly.
2. Disconnect the speaker.
3. Remove the two screws holding the Systems board to the housing.
4. Lift the board from the top to remove.

Maintenance

SHIELDS

Most shield on the KNG are press on type and can be removed by gently prying the lid.

Some require unsoldering before removal.

CLEANING

1. Using a clean, lint-free cloth, lightly moistened with soap and water only, and remove the foreign matter from the equipment case and unit front panel. Wipe dry using a clean, dry, lint-free cloth.
2. Using a hand controlled dry-air jet (not more than 15 psi), blow the dust from inaccessible areas. Care should be taken to prevent damage by the air blast.
3. Clean the receptacles and plugs with a hand-controlled dry-air jet (not more than 25 psi), and a clean, lint-free cloth lightly moistened with soap and water only. Wipe dry with a clean, dry, lint-free cloth.

REPAIR

Refer to the proper parts list, schematics and parts placement diagrams in the Illustrated Parts Lists section of this manual when replacing damaged components.

When replacing components it is recommended that only parts supplied from RELM Wireless be used. The use of some non-approved active components is considered an unauthorized modification voiding any remaining factory warranty.

Use proper grounding technics and ‘best practice’ when soldering.

4.4 RADIO TEST PROCEDURES

All alignment functions in KNG radios are performed electronically at the factory. There are no field tunable radio alignment functions. The following information is for performance tests only.

TEST SETUPS

Mount the radio in a suitable fixture containing an adapter for supplying 13.8 VDC from a negative ground power supply.

Recommended Equipment

- RF Signal Generator: HP8640B or equivalent
- Distortion Analyzer: HP334A or equivalent
- RF Voltmeter (optional): Boonton 92C or equivalent
- RF Power Meter: NRT-Z14 or HP435B or equivalent
- Service Monitor: HP8920A Service Monitor or equivalent
- Digital Multimeter: Fluke 8012A or equivalent

Transmit Setup

When testing transmit functions, connect a suitable 50Ω load to the antenna output of the radio.

Receive Setup

Connect an RF signal generator to the radio antenna input. Set the generator FM modulation to a frequency of 1 kHz and a deviation of ±3 kHz for wide band measurements, or ±1.5 kHz for narrow band measurements. Measurements should be made across an 8Ω load.

Equipment Setup Diagrams

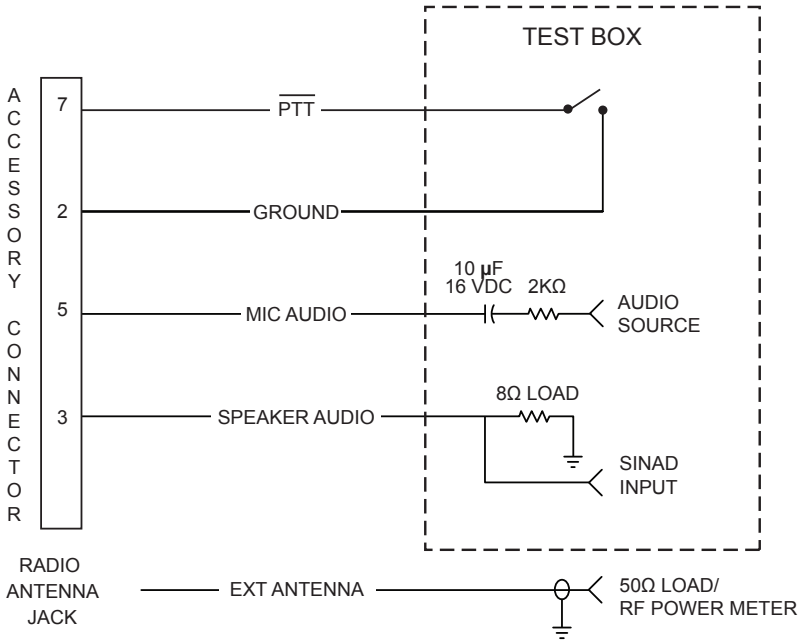


Figure 4-1 Test Box Setup

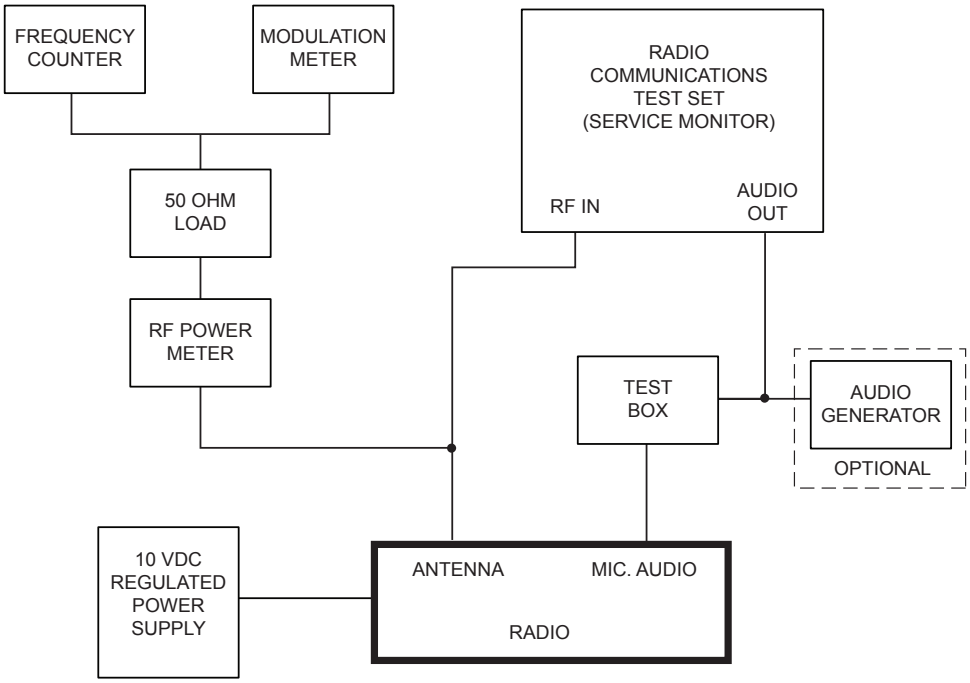


Figure 4-2 Transmitter Tests Setup

Maintenance

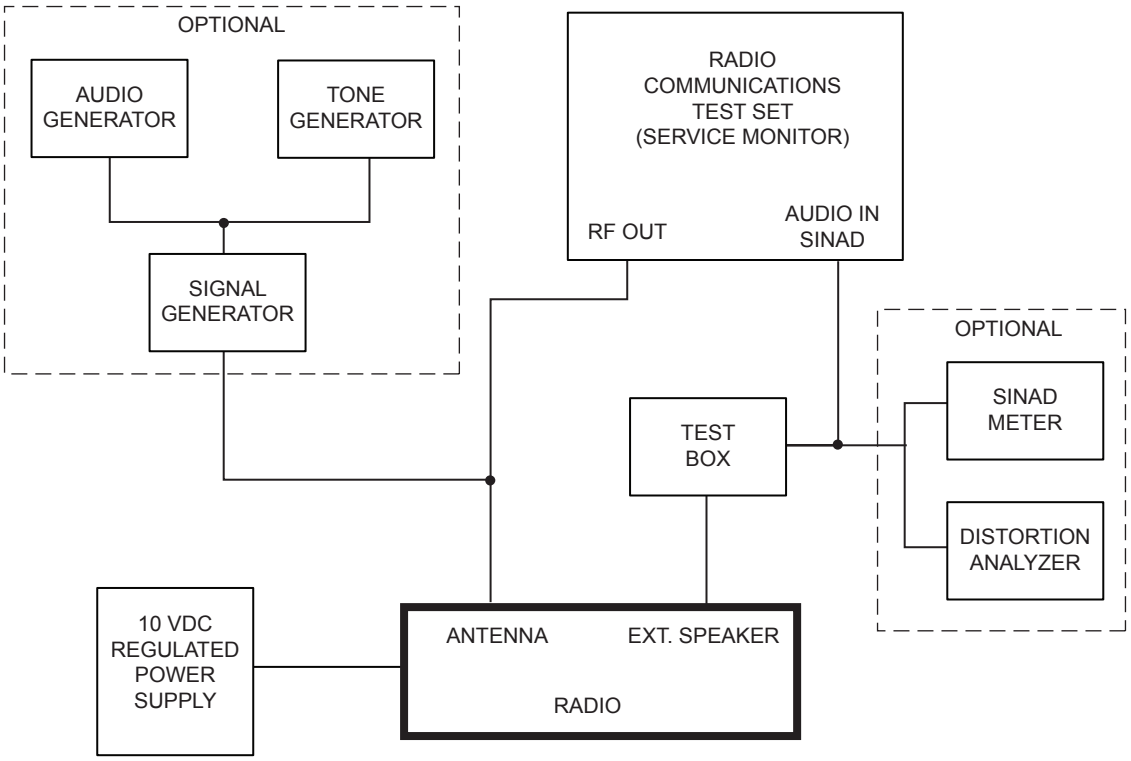


Figure 4-3 Receiver Tests Setup

SECTION V
ILLUSTRATED PARTS LIST

5.1 INTRODUCTION

This section helps you identify parts used in BK Radio's KNG Portabl radios. It includes Replacement Parts Lists for all major assemblies arranged from the Final Assembly down to an individual part level. Each List is followed by the corresponding Assembly Drawing (if required), Schematic Diagram and Parts Placement. Parts itemized in the various lists meet BK Radio's design specifications and are the recommended replacement parts.

5.2 PARTS LIST DESCRIPTION

Replacement Parts Lists contain specific information on each part in the corresponding Assembly Drawing and Schematic Diagram. Sub-assemblies are also listed by a part number, helping you find the correct sub-assembly parts. Each part and Sub-assembly has a 12-digit number that is unique. Parts are usually identified by their schematic reference number or, in the case of an assembly, their item number.

5.3 ASSEMBLY DRAWING SYMBOLS

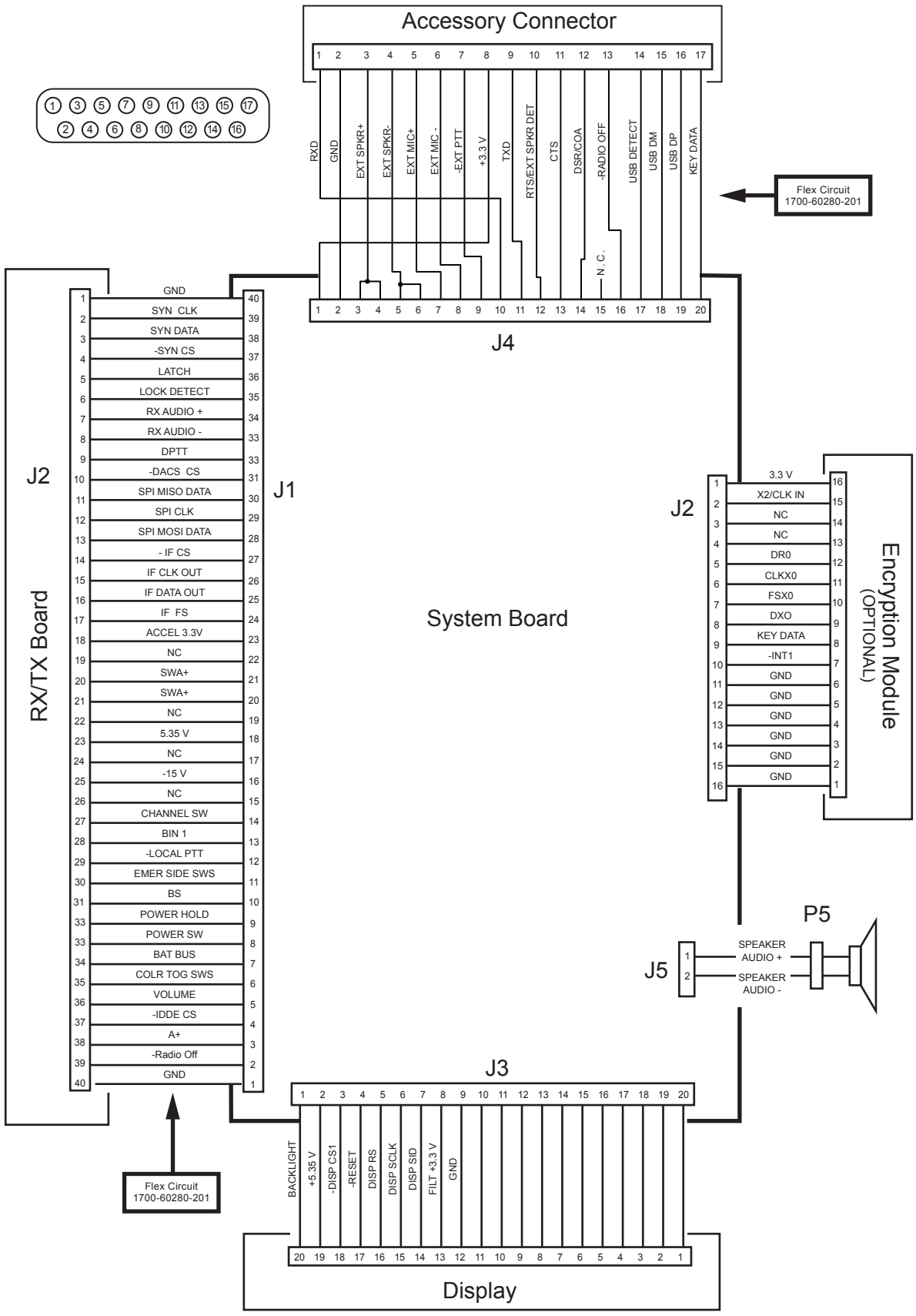
Several symbols are used in the Assembly Drawings. One symbol helps to identify parts (or items) that are listed in the Drawing's corresponding Parts List. Another symbol references a specific Note that is on the Drawing.

The symbols are (with examples):

(32)	— Refers to Item 32 in the Replacement Parts Lists
ITM 32	— also refers to Item 32 in the Replacement Parts Lists
<6>	— Refers to Drawing's Note No. 6
L1	— Refers to Part L1 (also its Schematic Reference No.)
J14	— Refers to Part J14 (also its Schematic Reference No.)
2 REQ'D	— Indicates two of the Items are required in the Assembly

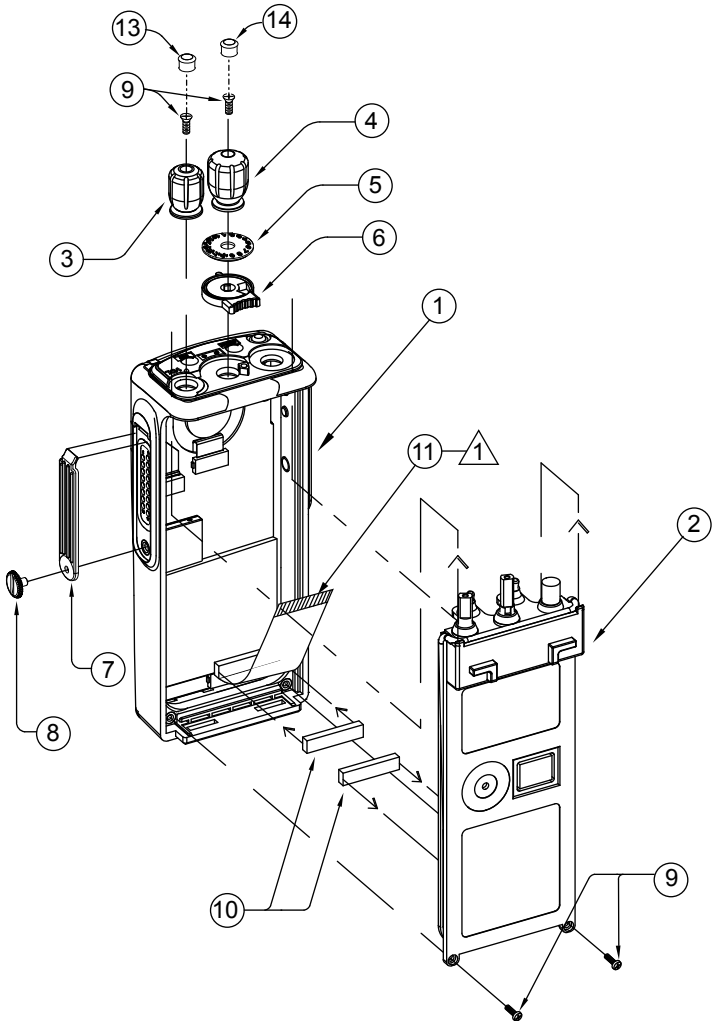
Illustrated Parts Lists

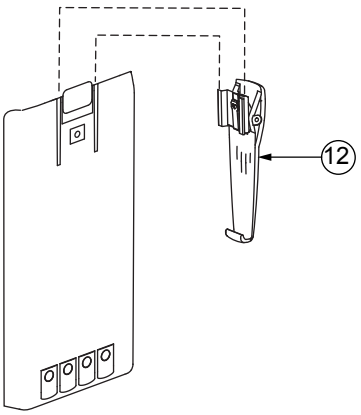
5.4 INTERCONNECT DIAGRAM



5.5 FINAL ASSEMBLY

Parts List, Final Assembly, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
1	Assy 1	FRONT ASSEMBLY	
2	Assy 2	BACK ASSEMBLY	
3	2402-30985-600	KNOB, VOLUME	
4	2402-30984-900	KNOB, CHANNEL-SELECT	
5	1411-30985-300	BEZEL, SWITCH, CHANNEL SELECT, 16-CH	
5	1411-30985-301	BEZEL, SWITCH, CH-SELECT, CMD	
6	2402-30986-000	KNOB, COLLAR, P150	
7	1411-30985-500	COVER, SID E-CONNECTOR	
8	2123-30991-900	SCREW, THUMB, COVER, SIDE-CONNECTOR	QTY 4
9	2820-30603-034	SCREW-METRIC MACHINE, M2x.4 x4.5 , PH, T, SS	QTY 4
10	1602-31004-500	TAPE-FOAM, B-B FLEX CONNECTOR	
11	1700-60284-200	FLEX CIRCUIT, BOARD TO BOARD	
12	KAA0400	BELT CLIP ASSY, KNG	
13	1411-31003-000	PLUG-KNOB, RUBBER	
14	1411-31003-001	PLUG-KNOB, RUBBER, CH-SELECT	





Battery Pack

NOTES:

1. Flex Strip connects to J1 on RX/TX Board

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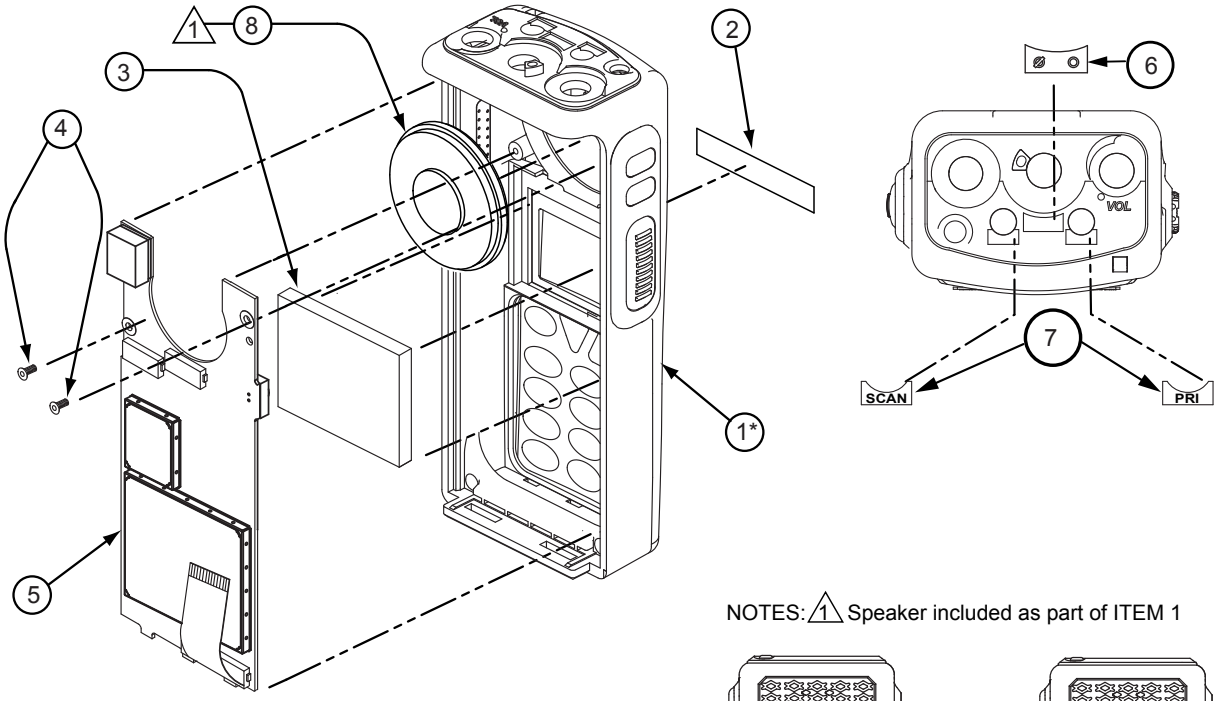
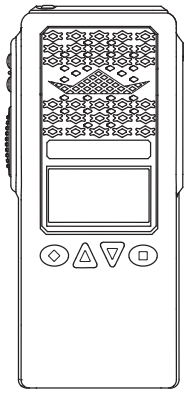
5.5 FRONT ASSEMBLY

Parts List, Front Assembly, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
ITM 1*	xxxx-xxxxx-xxx	Assembly, Front, KNG, Tier 1	
ITM 1*	7011-31006-901	Assembly, Front, KNG, Tier 2	
ITM 1*	7011-30994-501	Assembly, Front, KNG, Tier 3	
ITM 2	2509-30990-500	Inlay, P150	
ITM 2	2509-30990-501	Inlay, P400	
ITM 2	2509-30990-502	Inlay, P500	
ITM 3	2509-30990-501	Inlay, P800	
ITM 4	1411-30985-300	LCD Display	
ITM 5	Assy1	Assembly, Systems Board	
ITM 6	2509-30985-900	Inlay, Colar	
ITM 7	2513-30992-200	Inlay,Toggle-Switch	
ITM 8	Included in ITM 1	Speaker, 40mm, 8 Ohms	

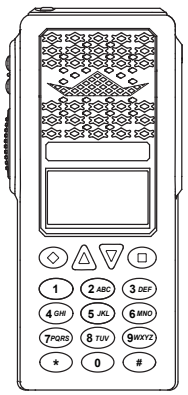


NOTES: 1 Speaker included as part of ITEM 1

*Front case assemblies includes:
Display lense and keypad, on applicable models, speaker and orange top button



Tier 2 7011-31006-901



Tier 3 7011-30994-501

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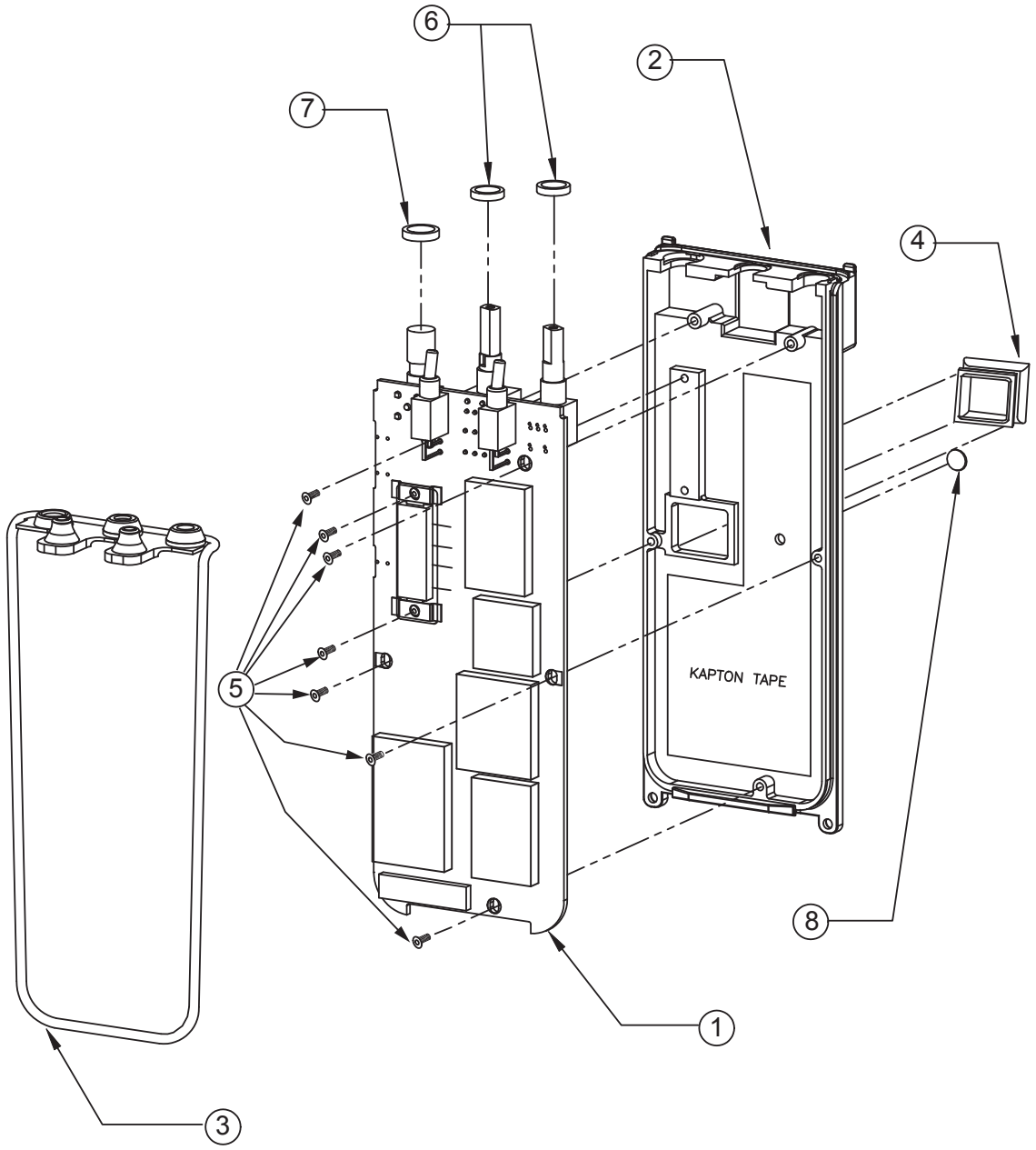
5.6 BACK ASSEMBLY

Parts List, Back Assembly, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
1	xxxx-xxxxx-xxx	RX/TX Assembly	
2	1411-30989-900	Chassis, Cast, Aluminum	
3	2512-30989-400	Gasket, Main	
4	2512-30986-200	Seal, Connector, Battery	
5	2811-30995-500	SCR, METAL THREAD ROLLIN, M2x4, 4MM, 3.5mm	QTY 7
6	2856-20003-303	Nut, Spanner, M6x0.75 (.350 x .080)	QTY 2
7	2858-20003-403	Nut, Spanner, 1/4-36 (.350 x .080)	
8	1406-30995-200	GORTEX-VENT, Gore VE40308	



5.7 SYSTEMS ASSEMBLY

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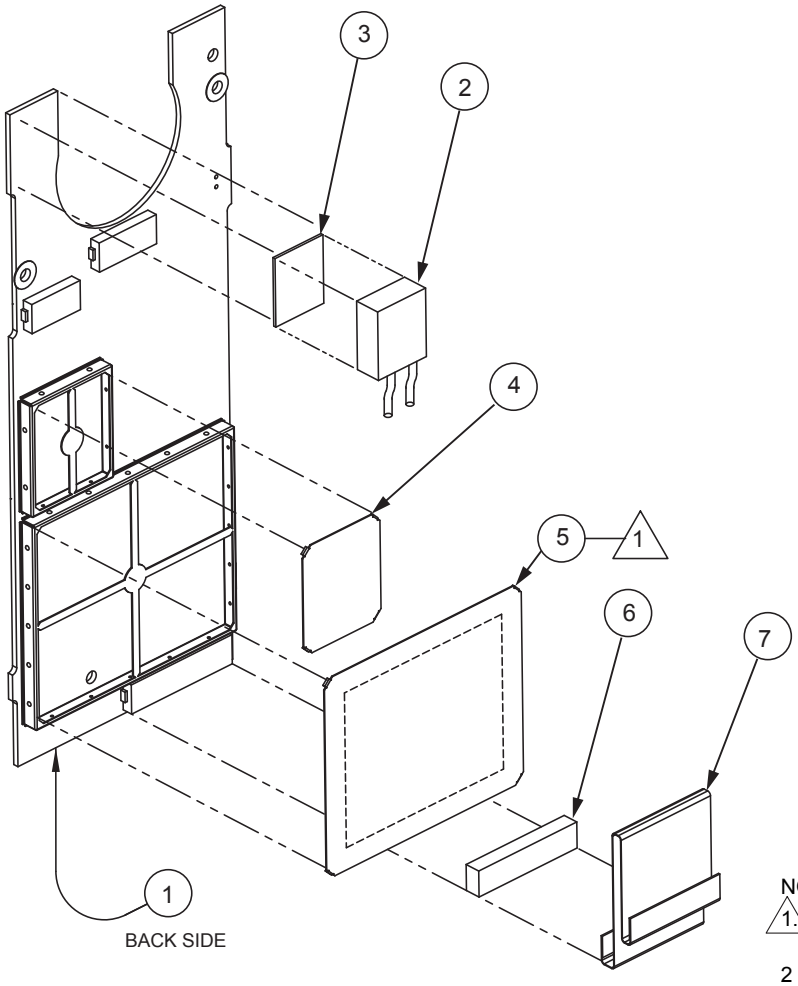
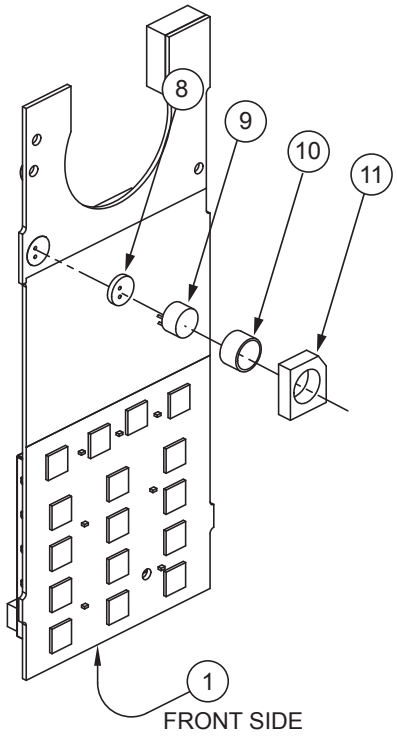
Parts List, System Assembly, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
1	7031-30976-400	KNG-PXXX, SYSTEMS BD, SMD	
2	1569-30526-500	CAP.SUPER,.047F+80/-20%,5.50V	C145
3	1602-31000-900	TAPE, 2-SIDED, SUPER CAP	
4	2508-30988-801	SHIELD LID, AUDIO, FLAT MU-80	
5	2508-30989-101	SHIELD LID, DIGITAL, FLAT MU-80	
6	1602-31004-500	TAPE-FOAM, FLEX CONN, KNG	
7	1700-60284-200	FLEX CIRCUIT, BOARD TO BOARD, P-150	
8	2800-31000-500	SPACER, MIC, KNG-P SERIES	
9	1310-20000-500	MIC, ELEMENT, POM-3542P-R, KNG	W1
10	1411-40001-800	BUSHING, MIC, MOLDED, EP	
11	1411-40001-800	GASKET, FOAM, MIC, KNG-P SERIES	





NOTES:

1. On Item 5, Kapton tape must be installed on the underside to protect from shorting.
2. tems 4 & 5 Must be soldered to the their respective fences.
3. Item 7 must be installed before installing Item 6 to the connector.
4. Item 7 must be properly aligned to the board-to-board connector to avoid damage to the board during installation.

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5.8 RX/TX ASSEMBLY

Parts List, Rx/Tx Assembly, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
1	xxxx-xxxxx-xxx	RX/TX Board	
2	5114-50574-302	SWITCH, TOGGLE, SUB-MINI, 3 POS	S1
3	5114-50574-302	SWITCH, TOGGLE, SUB-MINI, 3 POS	S5
3	5114-50574-305	SWITCH, TOGGLE, EXTENDED (CMD)	S5
4	2105-30969-100	CONN. SMA, JACK, RT ANGEL	J4
5	5111-30942-503	SWITCH, ROTARY, 16 POS, GRAY CODE	S6
5	5111-30942-504	SWITCH, ROTARY, ENDLESS ROTATING (CMD)	S6
6	4750-20025-700	RES, VAR, 50K. A TAPER, HOR, SPST	R31
7	2105-64455-300	CONN, BATTERY	J3
8	8021-30988-300	STRAP, GROUND, NICKEL SILVER	
9	2508-30987-000	SHIELD-LID, FRONT END	
10	2508-30987-600	SHIELD-LID, MIXER	
11	2508-30987-301	SHIELD LID, IF, FLAT NI-AG	
12	2508-30988-200	SHIELD-LID, VCO	
13	2508-30987-900	SHIELD-LID, SYNTH	
14	2508-30988-200	SHIELD-LID, VCO	
15	2508-30987-900	SHIELD-LID, SYNTH	
16	2508-30987-000	SHIELD-LID, FRONT END	
17	2508-30987-600	SHIELD-LID, MIXER	
18	2508-30987-301	SHIELD LID, IF, FLAT NI-AG	
19	1601-30999-000	TAPE, FOAM, 3/4”	
20	2508-31005-801	Shield Can, PA Module, UHF-P400	
21	2508-31005-901	Shield Bridge, PA Module, UHF-P400	
22	2540-40000-202	Finger-Stk,3-Fingers	

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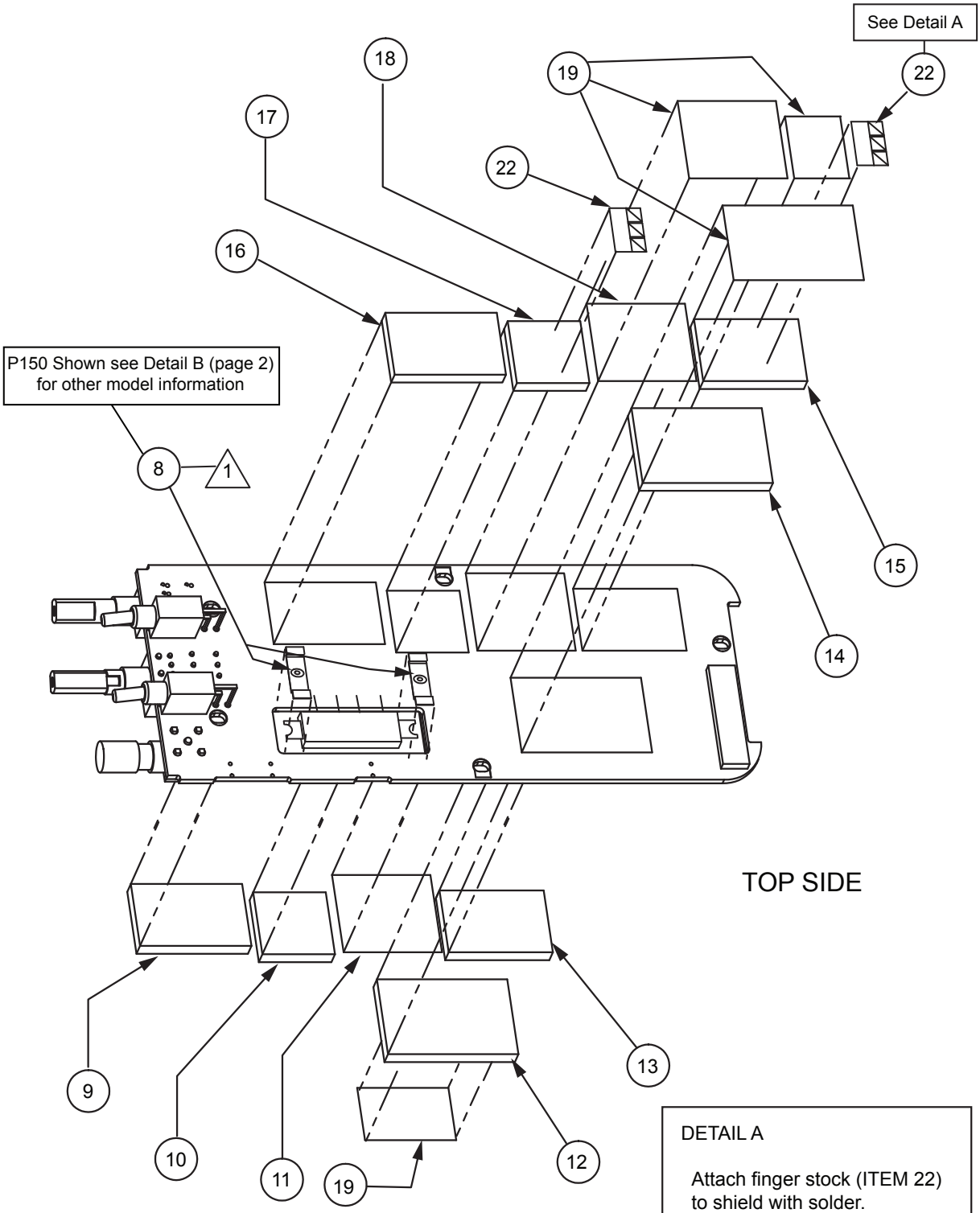

Systems Board Assembly
Page 1 of 2

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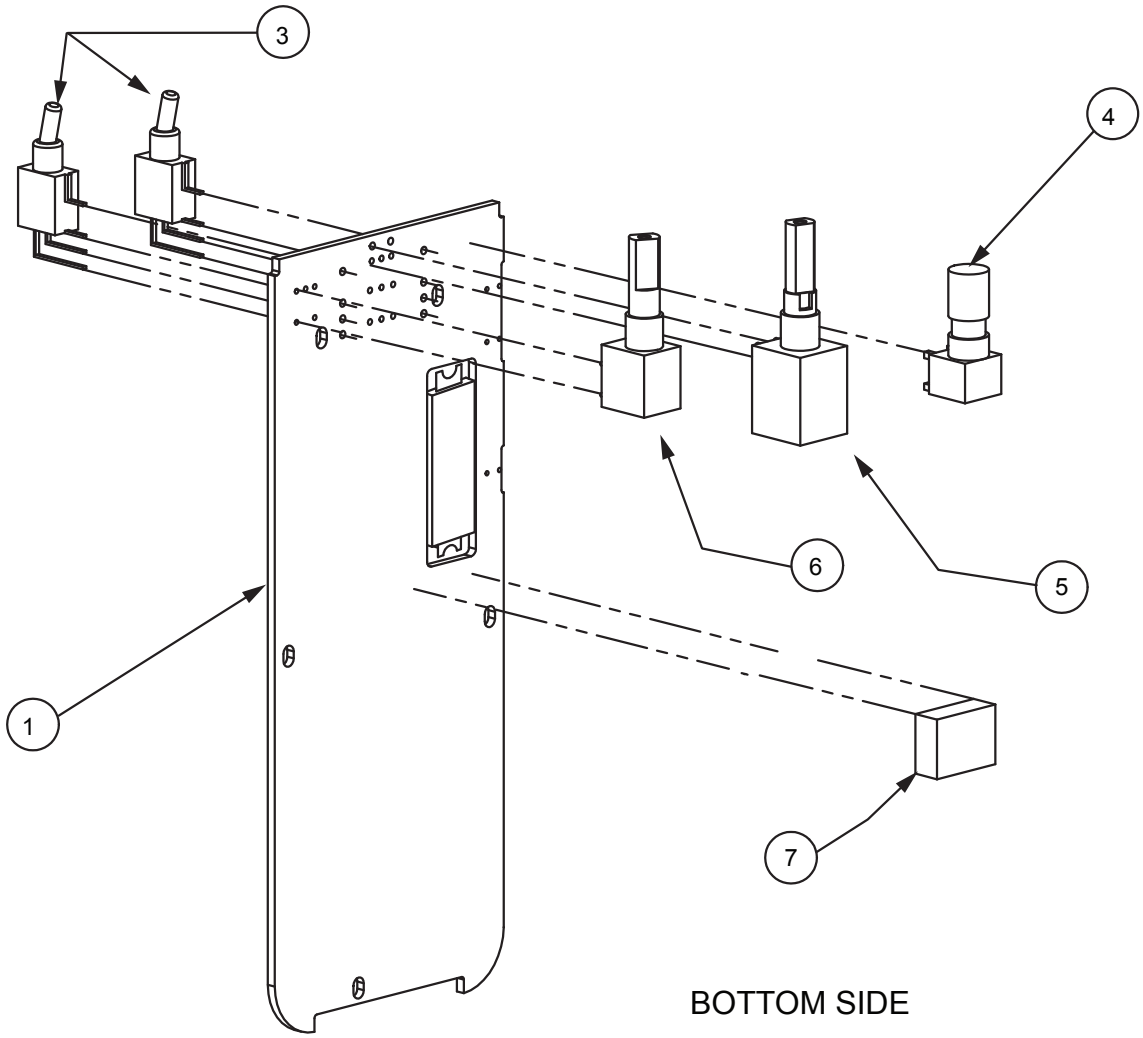
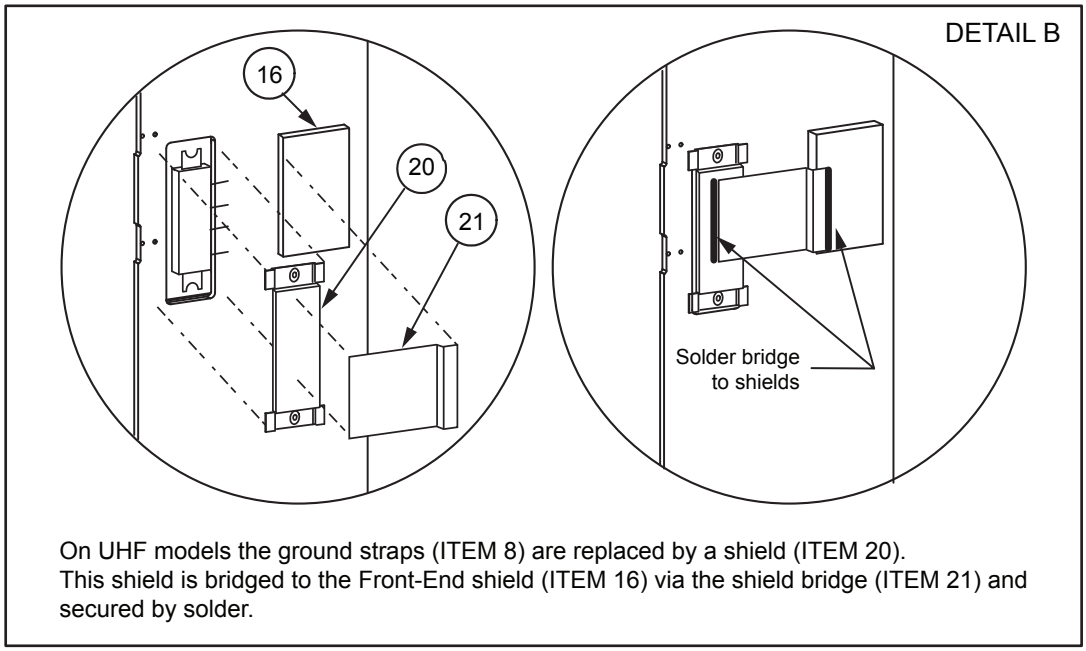


BOTTOM SIDE



On UHF models the ground straps (ITEM 8) are replaced by a shield (ITEM 20).
This shield is bridged to the Front-End shield (ITEM 16) via the shield bridge (ITEM 21) and secured by solder.

Systems Board Assembly
Page 2 of 2

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5.9 SYSTEM BOARD

Parts List, System Board, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
C1	1570-00475-788	Cp,Cp,4.7uF,X5R,20%,6.3V,0603	
C2	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C3	1570-00475-788	Cp,Cp,4.7uF,X5R,20%,6.3V,0603	
C4	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C5	1570-00106-788	CAP,CP,10uF,20%,X5R,6.3V,0603	
C6	1570-00225-277	Cap,Cp,2.2uF,X7R,10%,10V,0603	
C7	1570-00225-277	Cap,Cp,2.2uF,X7R,10%,10V,0603	
C8	1570-00225-277	Cap,Cp,2.2uF,X7R,10%,10V,0603	
C9	1570-00225-277	Cap,Cp,2.2uF,X7R,10%,10V,0603	
C10	1570-00106-788	CAP,CP,10uF,20%,X5R,6.3V,0603	
C11	1570-00106-788	CAP,CP,10uF,20%,X5R,6.3V,0603	
C12	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C13	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C14	1570-03225-788	Cap,Cp,2.2uF,X5R,20%,6.3V,0402	
C15	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C16	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C17	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C18	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C19	1570-03104-277	Cap,Cp,0.1uF,X7R,10%,10V,0402	
C20	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C21	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C22	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C23	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C24	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C25	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C26	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C27	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C28	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C29	1570-00104-272	Cap,Cp,.1uF,10%,X7R,25V,0603	
C30	1570-00475-788	Cp,Cp,4.7uF,X5R,20%,6.3V,0603	
C31	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C32	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C33	1570-00475-788	Cp,Cp,4.7uF,X5R,20%,6.3V,0603	
C34	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C35	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C36	1570-02475-272	Cap,Cp,4.7uF,X7R,10%,25V,1206	
C37	1570-03104-277	Cap,Cp,0.1uF,X7R,10%,10V,0402	
C38	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C39	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C40	1570-02106-271	Cap,Cp,10uF,X7R,10%,16V,1206	

Illustrated Parts Lists

Parts List, System Board, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
C41	1570-03104-277	Cap,Cp,0.1uF,X7R,10%,10V,0402	
C42	1570-02106-271	Cap,Cp,10uF,X7R,10%,16V,1206	
C43	1570-02106-271	Cap,Cp,10uF,X7R,10%,16V,1206	
C44	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C45	1570-02106-271	Cap,Cp,10uF,X7R,10%,16V,1206	
C46	1570-03104-277	Cap,Cp,0.1uF,X7R,10%,10V,0402	
C47	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C48	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C49	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C50	1570-02106-271	Cap,Cp,10uF,X7R,10%,16V,1206	
C51	1570-03225-788	Cap,Cp,2.2uF,X5R,20%,6.3V,0402	
C52	1570-02106-271	Cap,Cp,10uF,X7R,10%,16V,1206	
C53	1570-00106-788	CAP,CP,10uF,20%,X5R,6.3V,0603	
C54	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C55	1570-02106-271	Cap,Cp,10uF,X7R,10%,16V,1206	
C56	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C57	1570-02225-272	Cap,Cp,2.2uF,X7R,10%,25V,1206	
C58	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C59	1570-02475-272	Cap,Cp,4.7uF,X7R,10%,25V,1206	
C60	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C61	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C62	1570-00106-788	CAP,CP,10uF,20%,X5R,6.3V,0603	
C63	1570-00106-788	CAP,CP,10uF,20%,X5R,6.3V,0603	
C64	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C65	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C66	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C67	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C68	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C69	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C70	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C71	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C72	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C73	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C74	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C75	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C76	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C77	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C78	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C79	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C80	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C81	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	

Parts List, System Board, KNG Portable

Reference	Part Number	Description	Notes
C82	1570-00225-771	Cp,Cp,2.2uF,X5R10%,16V,0603	
C83	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C84	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C85	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C86	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C87	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C88	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C89	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C90	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C91	1570-00106-788	CAP,CP,10uF,20%,X5R,6.3V,0603	
C92	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C93	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C94	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C95	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C96	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C97	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C98	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C99	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C100	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C101	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C102	1570-00104-272	Cap,Cp,.1uF,10%,X7R,25V,0603	
C103	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C104	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C105	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C106	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C107	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C108	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C109	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C114	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C115	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C116	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C117	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C118	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C119	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C120	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C121	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C122	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C123	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C125	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C126	1570-00105-772	Cap, Cp, 1uF, X5R ,10%, 25V, 0603	
C127	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	

Illustrated Parts Lists

Parts List, System Board, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
C128	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C129	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C130	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C131	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C132	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C133	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C134	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C135	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C136	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C137	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C138	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C139	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C140	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C141	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C142	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C143	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C144	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C145	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C146	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C147	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C148	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C149	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C150	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C151	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C152	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C153	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C154	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C155	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C156	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C157	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C158	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C159	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C160	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C161	1570-02226-781	Cap,Cp,22uF,20%,X5R,1206	
C163	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C164	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C165	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C166	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C167	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C168	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C169	1570-00106-788	CAP,CP,10uF,20%,X5R,6.3V,0603	

Parts List, System Board, KNG Portable

Reference	Part Number	Description	Notes
C170	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C171	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C172	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C173	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C174	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C175	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C176	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C177	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C178	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C179	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C180	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C181	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C182	1570-00105-772	Cap, Cp, 1uF, X5R ,10%, 25V, 0603	
C183	1570-00105-772	Cap, Cp, 1uF, X5R ,10%, 25V, 0603	
C184	1570-00105-772	Cap, Cp, 1uF, X5R ,10%, 25V, 0603	
C185	1570-00105-772	Cap, Cp, 1uF, X5R ,10%, 25V, 0603	
C186	1570-00105-772	Cap, Cp, 1uF, X5R ,10%, 25V, 0603	
C187	1570-00105-772	Cap, Cp, 1uF, X5R ,10%, 25V, 0603	
C188	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C189	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C190	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C192	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C193	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C194	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C195	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C196	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C197	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C198	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C200	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C201	1570-02475-272	Cap,Cp,4.7uF,X7R,10%,25V,1206	
C203	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C204	1570-02475-272	Cap,Cp,4.7uF,X7R,10%,25V,1206	
C205	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C206	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C208	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C209	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C210	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C211	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C212	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C213	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C214	1570-00106-788	CAP,CP,10uF,20%,X5R,6.3V,0603	

Illustrated Parts Lists

Parts List, System Board, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
C215	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C216	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C217	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C218	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C219	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C220	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C221	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C222	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C223	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C224	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C225	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C226	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C227	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C228	1570-03471-163	Cp,Cp,470pF,NPO,5%,50V,0402	
C229	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C230	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C231	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C232	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C233	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C234	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C235	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C236	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C237	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C238	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C239	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C240	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C241	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C242	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C243	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C244	1570-02106-271	Cap,Cp,10uF,X7R,10%,16V,1206	
C245	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C246	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C247	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C248	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C249	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C250	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C251	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C252	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C253	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C254	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C255	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	

Parts List, System Board, KNG Portable

Reference	Part Number	Description	Notes
C256	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C257	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C258	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C259	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C260	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C261	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C262	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C263	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C264	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C269	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C272	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C273	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C274	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C275	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C276	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C277	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C278	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C279	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C280	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C300	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C301	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C302	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C303	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C304	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C305	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C306	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C307	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C308	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C309	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C310	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C311	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C312	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C313	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C314	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C315	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C316	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C317	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C318	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
D1	4810-30900-206	LED,3-Colors, RBG	
D2	4824-20021-901	Di., Schottky, 40V, BAT54KFILM, SOD-523	

Illustrated Parts Lists

Parts List, System Board, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
D3	4824-20021-901	Di., Schottky, 40V, BAT54KFILM, SOD-523	
D4	4824-20021-901	Di., Schottky, 40V, BAT54KFILM, SOD-523	
D5	4824-20021-901	Di., Schottky, 40V, BAT54KFILM, SOD-523	
D6	4810-30900-205	LED,Single Color,CL280YG	
D7	4810-30900-205	LED,Single Color,CL280YG	
D8	4810-30900-205	LED,Single Color,CL280YG	
D9	4810-30900-205	LED,Single Color,CL280YG	
D10	4810-30900-205	LED,Single Color,CL280YG	
D11	4810-30900-205	LED,Single Color,CL280YG	
D12	4810-30900-205	LED,Single Color,CL280YG	
D13	4828-30513-304	Di,ESD,PESD15VS1UB,SOD-523	
D14	4824-30533-552	Di,Sil,Switch-Dual,DAN222M,VMD3	
D15	4824-20021-902	Di,Schottky,20V,2A,MSS2P2,microSMP	
D16	4828-30513-204	DI,ESD,ESD5Z6.0T1, SOD-523	
D17	4828-30513-204	DI,ESD,ESD5Z6.0T1, SOD-523	
D18	4828-30513-204	DI,ESD,ESD5Z6.0T1, SOD-523	
D20	4824-20021-901	Di., Schottky, 40V, BAT54KFILM, SOD-523	
D21	4824-20021-902	Di,Schottky,20V,2A,MSS2P2,microSMP	
D22	4828-30513-204	DI,ESD,ESD5Z6.0T1, SOD-523	
D23	4828-30513-204	DI,ESD,ESD5Z6.0T1, SOD-523	
D25	4824-20047-401	Di, Barrier Rect., 1A, SBR1A40S3, SOD-323	
FB1	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB2	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB3	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB4	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB5	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB6	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB7	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB8	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB9	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB10	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB11	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB12	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB13	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB14	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB15	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB16	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB17	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB18	2503-02601-456	Bead, Fer., 600_Ohms, 1A, 0603	
FB19	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	

Parts List, System Board, KNG Portable

Reference	Part Number	Description	Notes
FB20	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB22	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB24	2503-02601-557	Bead, Fer, 600_Ohm,300ma,BLM15HG601SN1	
FB25	2503-02601-557	Bead, Fer, 600_Ohm,300ma,BLM15HG601SN1	
FB26	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB27	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB28	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB29	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB30	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB31	2503-02601-456	Bead, Fer., 600_Ohms, 1A, 0603	
FB32	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB33	2503-02121-555	Bead,Fer.,120_Ohms, 1.3A BLM15PD121SN1	
FB34	2503-02601-456	Bead, Fer., 600_Ohms, 1A, 0603	
FB35	2503-02601-456	Bead, Fer., 600_Ohms, 1A, 0603	
J2	2105-50575-700	CONN,Low Profile,2-PIN, 1.25mm,SMD	
J3	2105-50575-603	CONN,20-PIN,HOR.,0.5mm,SMD	
J4	2105-50575-603	CONN,20-PIN,HOR.,0.5mm,SMD	
J5	2105-50575-602	CONN,40-PIN,HOR.,0.5mm,SMD	
L1	1812-15015-371	Ind,Cp,15uH,20%,LPS4018-153ML	
L2	1812-15015-371	Ind,Cp,15uH,20%,LPS4018-153ML	
L3	1812-15015-371	Ind,Cp,15uH,20%,LPS4018-153ML	
L4	1812-15015-371	Ind,Cp,15uH,20%,LPS4018-153ML	
L5	1812-33115-371	Ind,Cp,33uH,20%,LPS4018-333ML	
L6	1812-33915-371	Ind,Cp,3.3uH,20%,LPS4018-332ML	
L7	1812-10014-251	IND,Fxd,Pwr,10 uH,10%,LQH31CN100K01	
L8	1812-33915-371	Ind,Cp,3.3uH,20%,LPS4018-332ML	
L9	2504-03371-106	Filter, EMI, 370_Ohms, DLW21SN371SQ2	
L11	1812-33115-371	Ind,Cp,33uH,20%,LPS4018-333ML	
L13	1812-10915-461	Ind,Cp,1.0uH,20%, BRL2518T1R0M	
L14	1812-10915-461	Ind,Cp,1.0uH,20%, BRL2518T1R0M	
L15	1812-10915-461	Ind,Cp,1.0uH,20%, BRL2518T1R0M	
L22	4828-30513-107	Di,ESD_EMI, ECLAMP2422N, SLP1510N6	
L23	4828-30513-107	Di,ESD_EMI, ECLAMP2422N, SLP1510N6	
MK1	1310-20000-500	Mic, Element, POM-3542P-R, KNG	
Q1	4823-30680-205	Xstr,Dig,NPN,4.7K/4.7K,VMT3	
Q2	4823-30680-205	Xstr,Dig,NPN,4.7K/4.7K,VMT3	
Q3	4823-30680-211	Xstr,Dig,NPN,10K/none,VMT3	

Illustrated Parts Lists

Parts List, System Board, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
Q4	4823-30680-211	Xstr,Dig,NPN,10K/none,VMT3	
Q5	4823-30939-100	Xstr,MOSFET, N-Ch, 2SK3541,VMT3	
Q6	4823-30680-211	Xstr,Dig,NPN,10K/none,VMT3	
Q7	4823-30680-211	Xstr,Dig,NPN,10K/none,VMT3	
Q8	4823-30595-804	Xstr, N-Ch, MOSFET, Si8402DB, BGA	
Q12	4823-30939-100	Xstr,MOSFET, N-Ch, 2SK3541,VMT3	
Q13	4823-30599-700	Xstr, NPN, LP, 100ma, 30V, SOT23	
Q14	4823-30578-704	Xstr, N-Ch, 1.8V, MFET,RUM003N02, VMT3	
Q15	4823-30680-205	Xstr,Dig,NPN,4.7K/4.7K,VMT3	
Q16	4823-30578-704	Xstr, N-Ch, 1.8V, MFET,RUM003N02, VMT3	
R1	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R2	4734-01502-311	Res,CP,15K,1%,1/16W,0402,	
R3	4734-01502-311	Res,CP,15K,1%,1/16W,0402,	
R4	4734-01502-311	Res,CP,15K,1%,1/16W,0402,	
R5	4734-01502-311	Res,CP,15K,1%,1/16W,0402,	
R6	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R7	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R8	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R9	4734-04701-311	Res,Cp,4.7K,1%,1/16W,0402	
R10	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R11	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R12	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R13	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R14	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R15	4734-03011-311	Res,CP,3.01K,1%,1/16W,0402	
R16	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R17	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R18	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R19	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R20	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R21	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R22	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R23	4734-01503-311	Res,CP,150K,1%,1/16W,0402	
R24	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R25	4734-06043-311	Res,CP,604K,1%,1/16W,0402	
R26	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R27	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R28	4734-04222-311	Res,Cp,42.2K,1%,1/16W,0402	
R29	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R30	4734-01003-311	Res,CP,100K,1%,1/16W,0402	

Parts List, System Board, KNG Portable

Reference	Part Number	Description	Notes
R31	4734-05902-311	Res,CP,59K,1%,1/16W,0402	
R32	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R33	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R34	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R35	4735-20101-231	Res,Cp,8 X 100_Ohms,Ntwrk,5%,1/16W	
R37	4734-04422-311	Res,Cp,44.2K,1%,1/16W,0402	
R38	4734-01272-311	Res,Cp,12.7K,1%,1/16W,0402	
R40	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R41	4735-20101-231	Res,Cp,8 X 100_Ohms,Ntwrk,5%,1/16W	
R42	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R43	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R44	4735-10102-431	Res,Cp,4 X 1K Ntwrk,5%,1/16W	
R45	4735-10102-431	Res,Cp,4 X 1K Ntwrk,5%,1/16W	
R46	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R47	4734-03011-311	Res,CP,3.01K,1%,1/16W,0402	
R48	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R49	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R50	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R51	4734-03321-311	Res,Cp,3.32 K,1/16W,1%,0402	
R52	4734-04701-311	Res,Cp,4.7K,1%,1/16W,0402	
R54	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R55	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R56	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R58	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R59	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R60	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R61	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R62	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R66	4735-10102-431	Res,Cp,4 X 1K Ntwrk,5%,1/16W	
R67	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R68	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R69	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R70	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R71	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R72	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R73	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R74	4735-10102-431	Res,Cp,4 X 1K Ntwrk,5%,1/16W	
R75	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R76	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R77	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R78	4734-03093-311	Res,Cp,309K,1%,1/16W,0402	

Illustrated Parts Lists

Parts List, System Board, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
R79	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R80	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R81	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R82	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R83	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R84	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R85	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R86	4734-03093-311	Res,Cp,309K,1%,1/16W,0402	
R87	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R88	4734-01743-311	Res,Cp,174K,1%,1/16W,0402	
R89	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R90	4734-03093-311	Res,Cp,309K,1%,1/16W,0402	
R91	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R92	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R93	4734-03093-311	Res,Cp,309K,1%,1/16W,0402	
R94	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R95	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R96	4734-05493-311	Res,Cp,549K,1%,1/16W,0402	
R97	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R98	4734-01823-311	Res,CP,182K,1%,1/16W,0402	
R99	4734-02493-311	Res,Cp,249K,1%,1/16W,0402	
R100	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R101	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R102	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R103	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R104	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R105	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R107	4734-02673-311	Res,Cp,267k,1/16W,1%,0402	
R108	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R109	4734-04751-311	Res,CP,4.75K,1%,1/16W,0402	
R110	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R112	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R113	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R114	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R115	4734-02003-311	Res,Cp,200K,1%,1/16W,0402	
R116	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R117	4734-04751-311	Res,CP,4.75K,1%,1/16W,0402	
R118	4734-04751-311	Res,CP,4.75K,1%,1/16W,0402	
R119	4734-04701-311	Res,Cp,4.7K,1%,1/16W,0402	
R120	4734-04701-311	Res,Cp,4.7K,1%,1/16W,0402	
R121	4734-03011-311	Res,CP,3.01K,1%,1/16W,0402	

Parts List, System Board, KNG Portable

Reference	Part Number	Description	Notes
R122	4734-04701-311	Res,Cp,4.7K,1%,1/16W,0402	
R123	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R124	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R125	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R126	4734-00519-331	Res,Cp,5.1_Ohms,5%,1/16W,0402	
R127	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R128	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R129	4734-03011-311	Res,CP,3.01K,1%,1/16W,0402	
R130	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R131	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R132	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R133	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R134	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R135	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R136	4734-02431-311	Res,Cp,2.43K,1%,1/16W,0402	
R137	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R138	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R139	4734-02431-311	Res,Cp,2.43K,1%,1/16W,0402	
R140	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R141	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R142	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R143	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R144	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R145	4734-02801-311	Res,Cp,2.8K,1%,1/16W,0402	
R147	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R148	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R149	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R150	4734-01509-311	Res,Cp,15_Ohms,1%,1/16W,0402	
R151	4734-01509-311	Res,Cp,15_Ohms,1%,1/16W,0402	
R152	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R153	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R154	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R155	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R156	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R157	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R165	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R166	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R167	4734-01210-311	Res,Cp,121_Ohms,1%,1/16W,0402	
R168	4734-01210-311	Res,Cp,121_Ohms,1%,1/16W,0402	
R169	4734-01210-311	Res,Cp,121_Ohms,1%,1/16W,0402	
R170	4734-03240-311	Res,Cp,324_Ohms,1%,1/16W,0402	

Illustrated Parts Lists

Parts List, System Board, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
R171	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R172	4734-04751-311	Res,CP,4.75K,1%,1/16W,0402	
R173	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R174	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R175	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R176	4734-01332-311	Res,Cp,13.3K,1/16W,1%,0402	
R177	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R178	4734-04122-311	Res,Cp,41.2K,1%,1/16W,0402	
R179	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R180	4734-04701-311	Res,Cp,4.7K,1%,1/16W,0402	
R181	4734-04701-311	Res,Cp,4.7K,1%,1/16W,0402	
R182	4732-01207-313	Res,Cp,0.12_Ohm,1%,1/10W, 0603	
R183	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R184	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R185	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R186	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R187	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R188	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R193	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R195	4734-02002-311	Res,Cp,20K,1%,1/16W,0402	
R196	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R197	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R199	4732-01207-313	Res,Cp,0.12_Ohm,1%,1/10W, 0603	
R200	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R201	4734-05760-311	Res,Cp,576_Ohms,1%,1/16W,0402	
R202	4734-05760-311	Res,Cp,576_Ohms,1%,1/16W,0402	
R203	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R204	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R207	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R208	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R209	4734-01005-331	Res,Cp,10M,1/16W,5%,0402	
RT1	5302-30958-203	Thermistor, NTC,100K, 5%,0402	
S2	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S4	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S5	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S6	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S7	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S8	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S9	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	

Parts List, System Board, KNG Portable

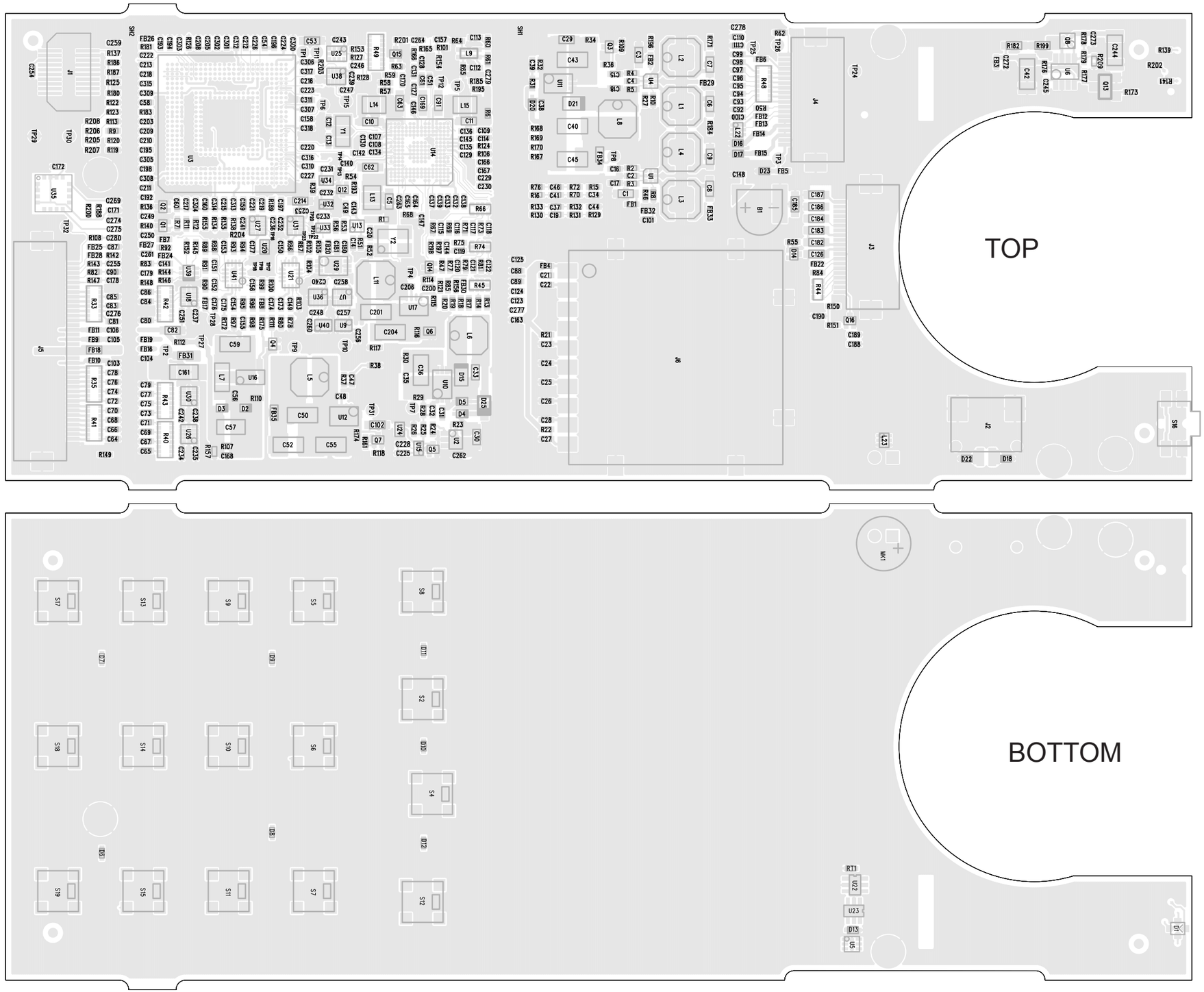
Reference	Part Number	Description	Notes
S10	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S11	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S12	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S13	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S14	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S15	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S16	5112-50399-935	Switch,Tact,Side-Act.,SMD	
S17	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S18	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
S19	5112-50399-937	SWITCH,.35mm,WATERPROOF,LS18B2,SMD	
SH1	2508-31009-500	Shld-Fence, Audio, Ni-Ag, Cottonwood, KNG-P	
SH2	2508-30988-900	Shield-Fence, Digital	
U1	3134-30927-202	IC,BTL_AUD_AMP,2.65W,NCP2820,FLP-CHP	
U2	3134-30950-302	IC,REG,ADJ,LDO,50ma,TPS71501,SC70	
U3	3134-20082-451	IC,OMAP,330 MHz,OMAP2531BZAC330,PBGA	
U4	3134-30927-202	IC,BTL_AUD_AMP,2.65W,NCP2820,FLP-CHP	
U5	4828-30513-108	Di, TVS, Array, RClamp3654P, SLP1616P6	
U6	3134-60097-301	IC, Ctrlr, HOTSWAP, 16.5V,ADM1172, 8-TS0T	
U7	3134-30735-008	IC, Level_Xlator, 4Bit, NLSV4T244, UQFN12	
U9	3134-30735-006	IC,Level_Xlator_NONINV,NLSV2T244,UDFN8 UQFN12	
U10	3134-30950-408	IC, Reg, SW, Stp-Dwn ,1A, LT3503, 6-DFN	
U11	3134-30950-408	IC, Reg, SW, Stp-Dwn ,1A, LT3503, 6-DFN	
U12	3134-30950-409	IC, SW, REG, BUCK, 200ma, LT3470A,8-DFN	
U13	3134-30950-315	IC, Reg., LDO, 200ma, 2.5V, 5-DSBGA	
U14	3134-20082-450	IC,Integ_Power_Management	
U15	3134-30670-627	IC, SEQ/SUP, MAX6896A, 6-uDFN	
U16	3134-30950-402	IC,DC/DC,Invert,LT1617ES5-1,SOT23-5	
U17	3134-30950-409	IC, SW, REG, BUCK, 200ma, LT3470A,8-DFN	
U18	3134-30735-008	IC, Level_Xlator, 4Bit, NLSV4T244, UQFN12	
U20	3134-30735-009	IC, Inverter, SCHM_TRIG, NLU1G14, ULLGA6	
U21	3134-30670-703	IC, MUX, 8-Ch, DG4051AEN, 16miniQFN	
U22	4828-30513-105	Di, TVS, Array, RClamp0504F, SC-70 6L	
U23	4828-30513-105	Di, TVS, Array, RClamp0504F, SC-70 6L	
U24	3134-30735-009	IC, Inverter, SCHM_TRIG, NLU1G14, ULLGA6	
U25	3134-30670-628	IC, 2-BIT Signal Xlators, FXL2TD245L10X	
U26	3134-30735-008	IC, Level_Xlator, 4Bit, NLSV4T244, UQFN12	
U27	3134-30735-008	IC, Level_Xlator, 4Bit, NLSV4T244, UQFN12	
U29	3134-30911-102	IC, OP_AMP, R/R,1.8V, LT6000CDCB,6-DFN	

Illustrated Parts Lists

Parts List, System Board, KNG Portable			
Reference	**Part Number**	**Description**	**Notes**
U30	3134-30735-008	IC, Level_Xlator, 4Bit, NLSV4T244, UQFN12	
U31	3134-30735-007	IC, Level_Xlator_INV, NLSV4T240, UQFN12	
U32	3134-30735-009	IC, Inverter, SCHM_TRIG, NLU1G14, ULLGA6	
U33	3134-30735-009	IC, Inverter, SCHM_TRIG, NLU1G14, ULLGA6	
U34	3134-30735-009	IC, Inverter, SCHM_TRIG, NLU1G14, ULLGA6	
U35	3135-50346-501	IC, MEMS Inertial Sensor,LIS344ALH, LGA-16L	
U36	3134-30735-008	IC, Level_Xlator, 4Bit, NLSV4T244, UQFN12	
U38	3134-30735-008	IC, Level_Xlator, 4Bit, NLSV4T244, UQFN12	
U39	4823-50533-601	Xstr, Array, NPN/NPN, DMC904F0, SSMINI-6	
U40	3134-30735-006	IC,Level_Xlator_NONINV,NLSV2T244,UDFN8 UQFN12	
U41	3134-30670-703	IC, MUX, 8-Ch, DG4051AEN, 16miniQFN	
U99	3134-30949-802	IC, NAND Flash, TOSHIBA, VFBGA	
Y1	2384-30918-104	Xtal, 32.768KHz,12.5pF. ABS07, SMD	
Y2	2390-30957-105	TCXO, 26.0MHz,+/-2.5PPM,2.5x3.2mm,SMD	

Illustrated Parts List

Systems Board



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KNG-Portable Systems Board

Sheet 1 of 1 Rev. C

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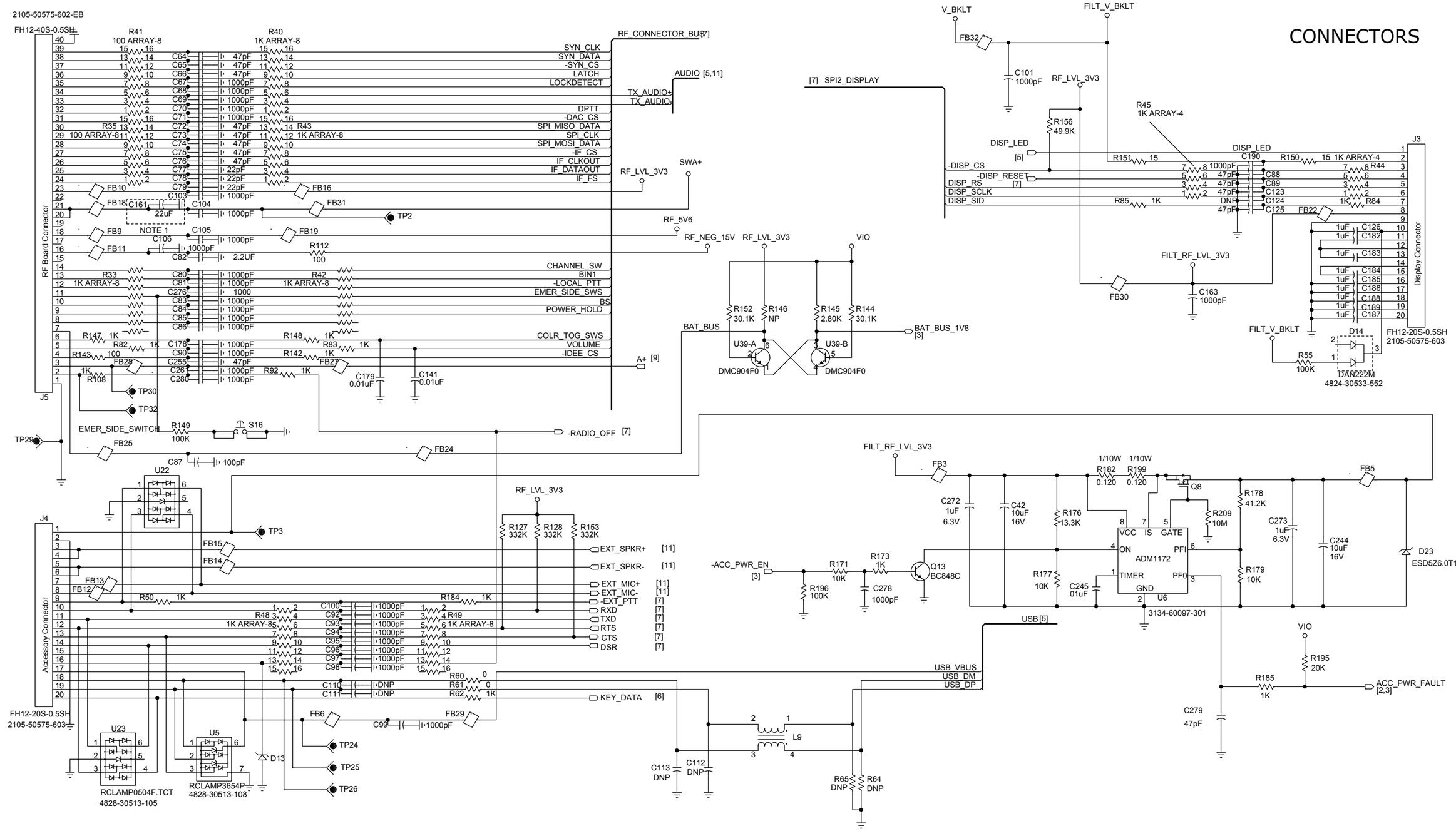
Illustrated Parts List

Systems Board



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KNG-P Sytems Board
Sheet 1 of 10 Rev. C

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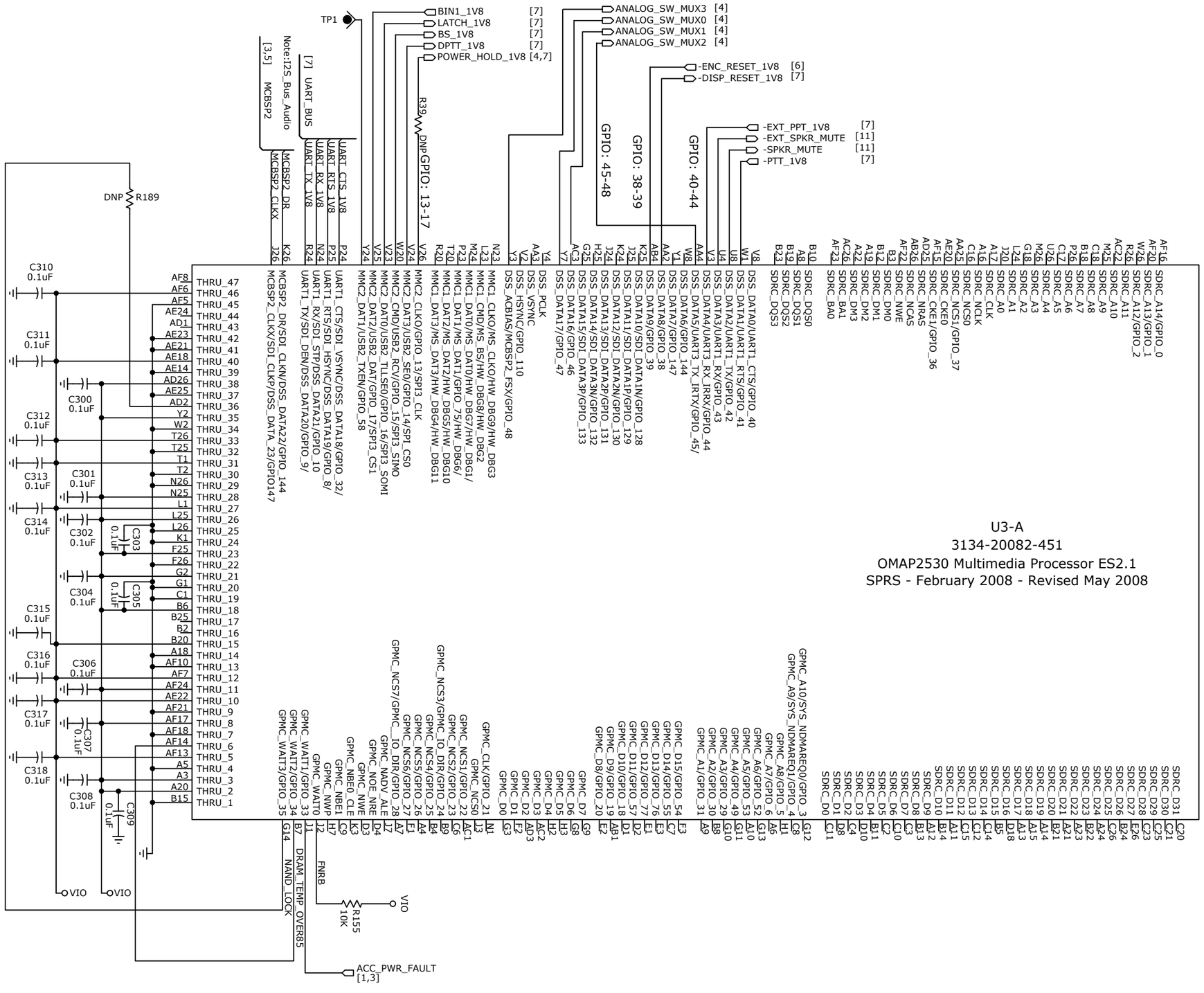
Illustrated Parts List

Systems Board



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KNG-P Sytems Board

Sheet 2 of 10 Rev. C

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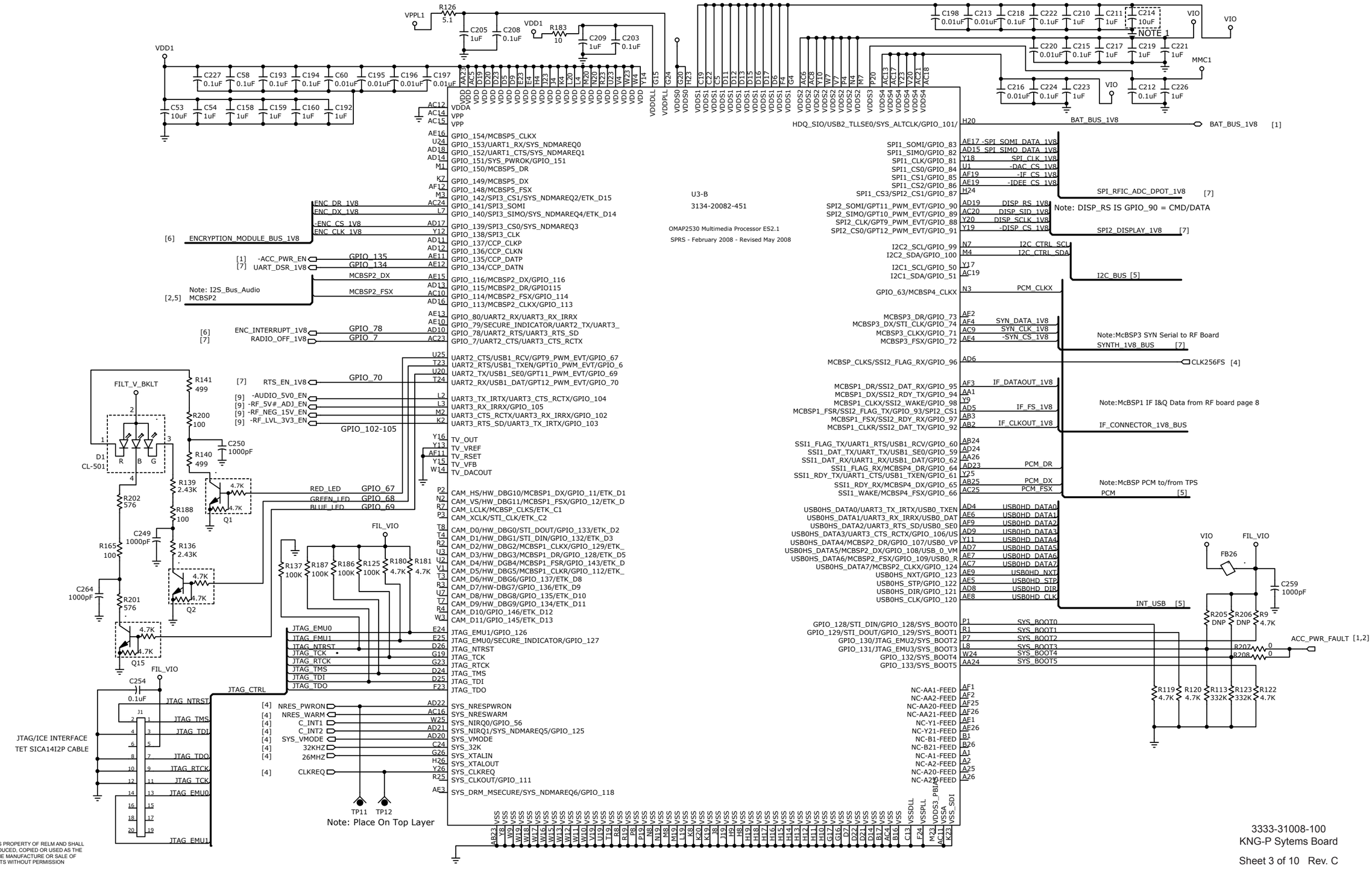
Illustrated Parts List

Systems Board



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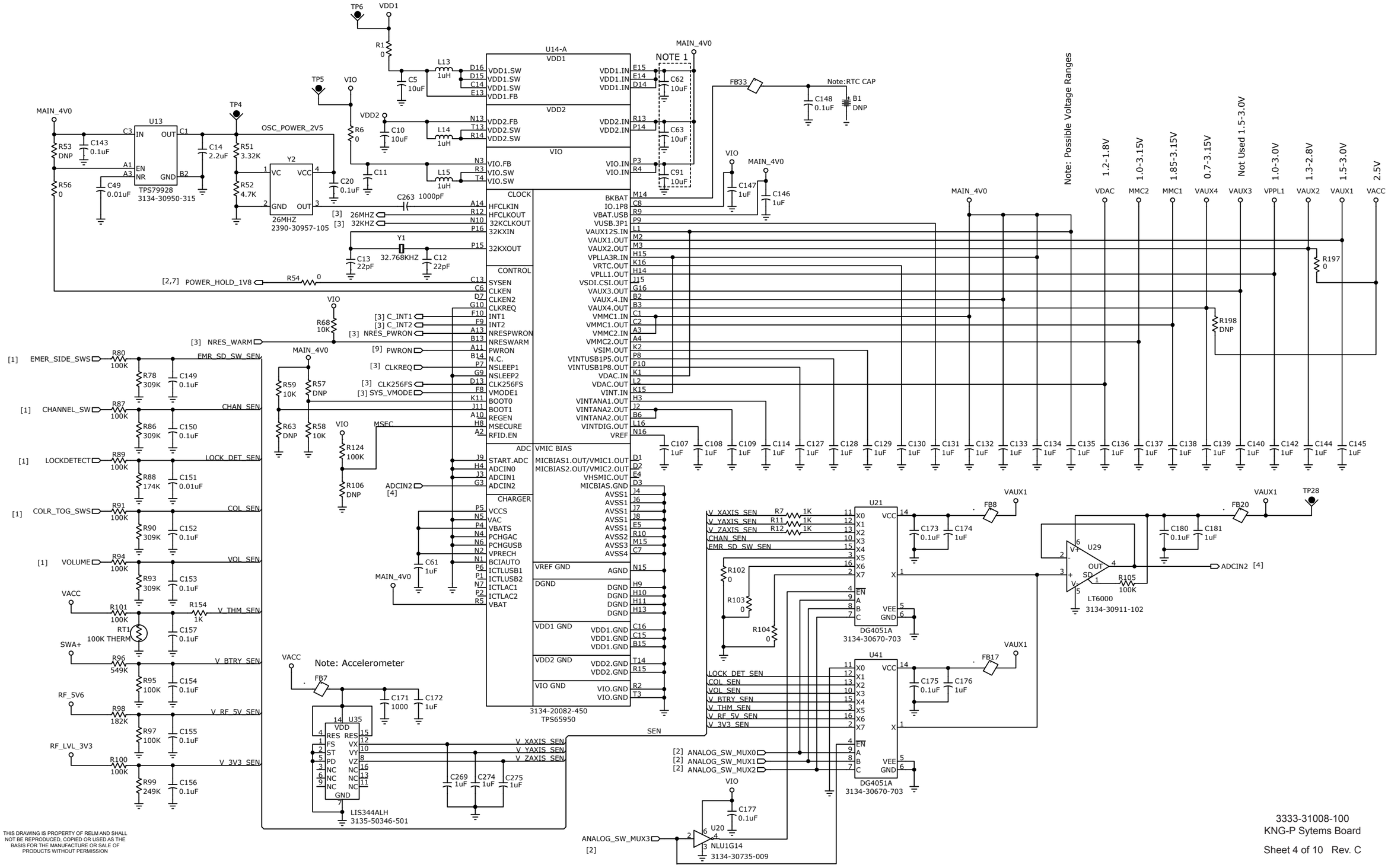
Illustrated Parts List

Systems Board



3333-31008-100
KNG-P Sytems Board

Sheet 4 of 10 Rev. C

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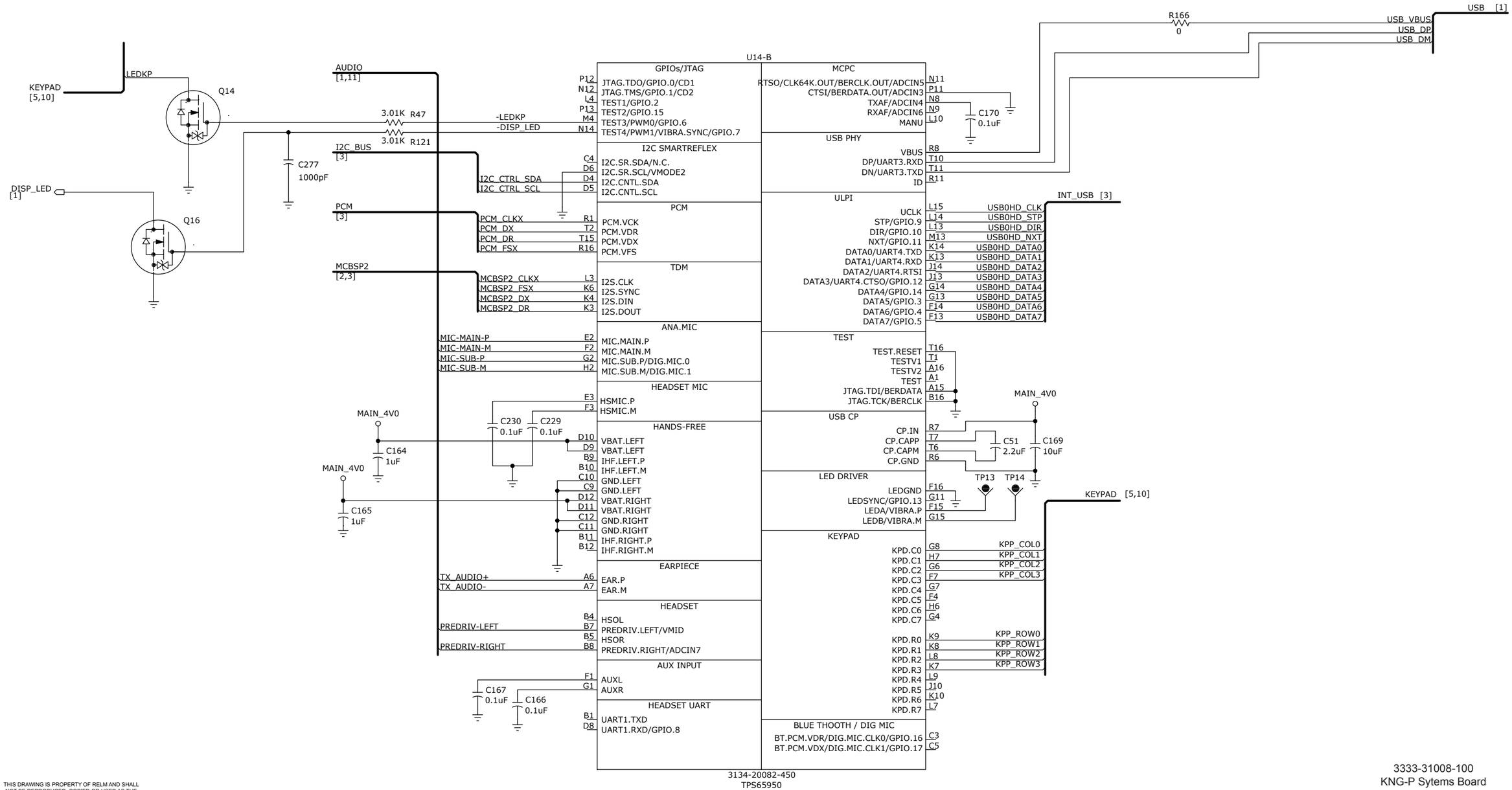
Illustrated Parts List

Systems Board



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KNG-P Sytems Board

Sheet 5 of 10 Rev. C

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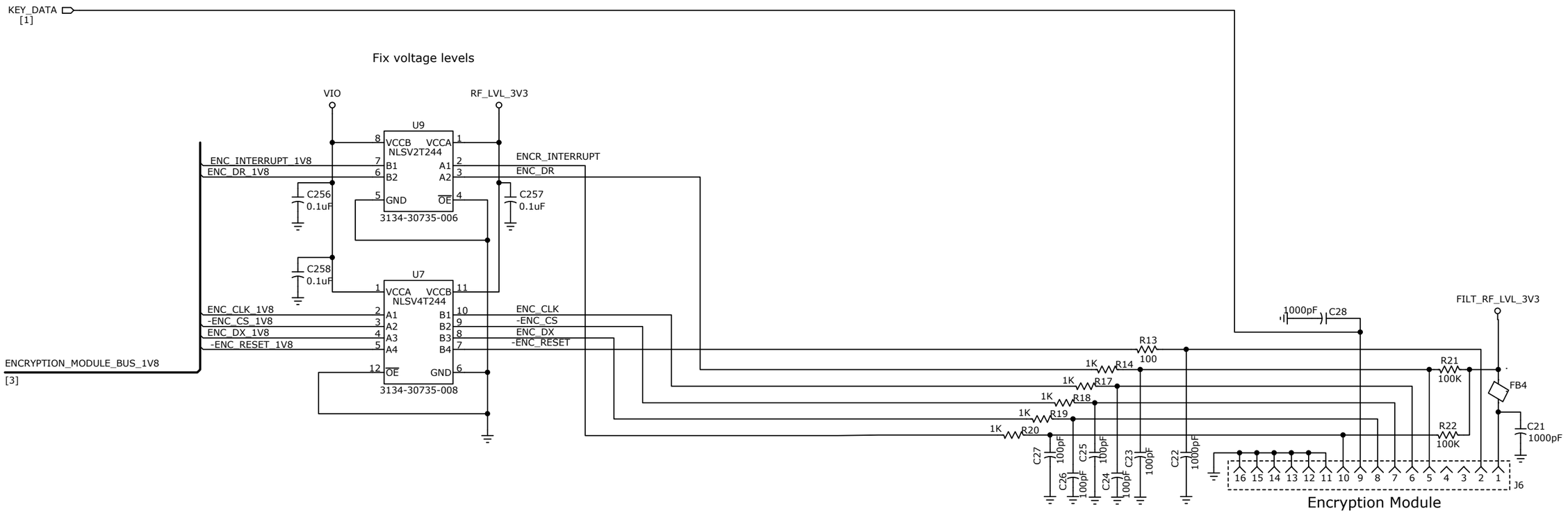

3333-31008-100
KNG-P Sytems Board

Sheet 6 of 10 Rev. C

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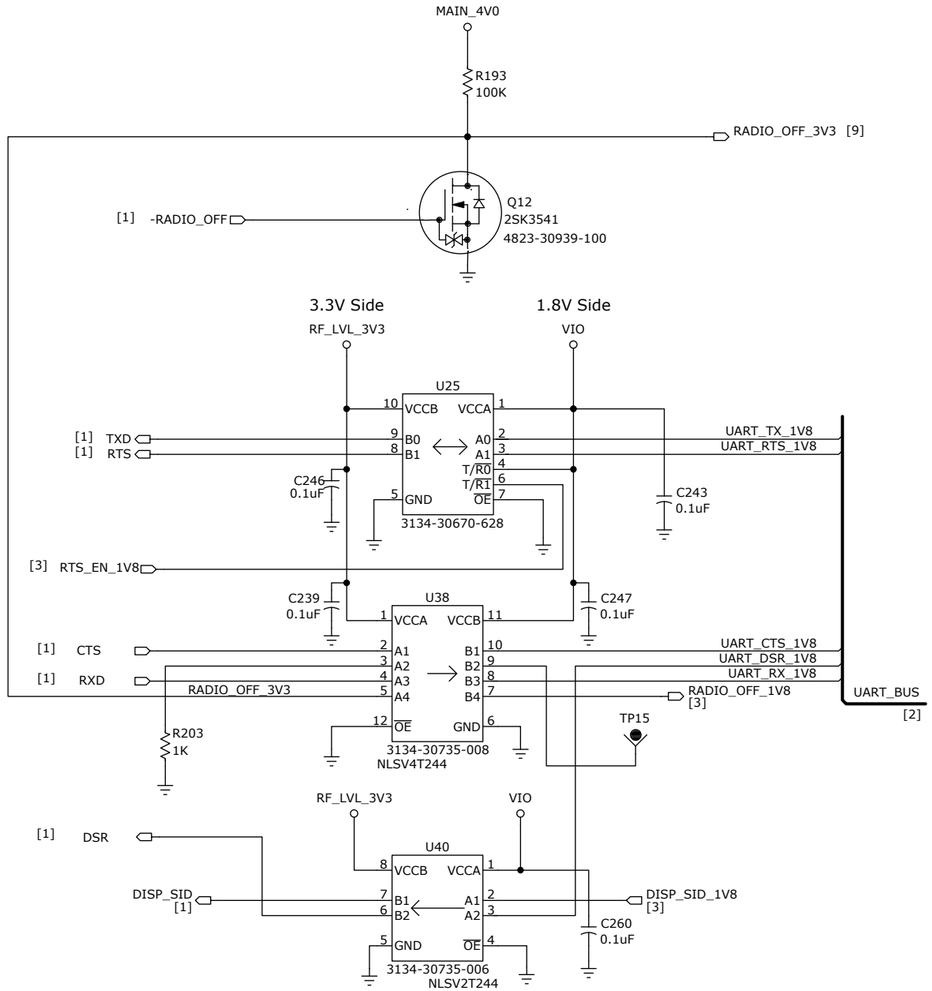
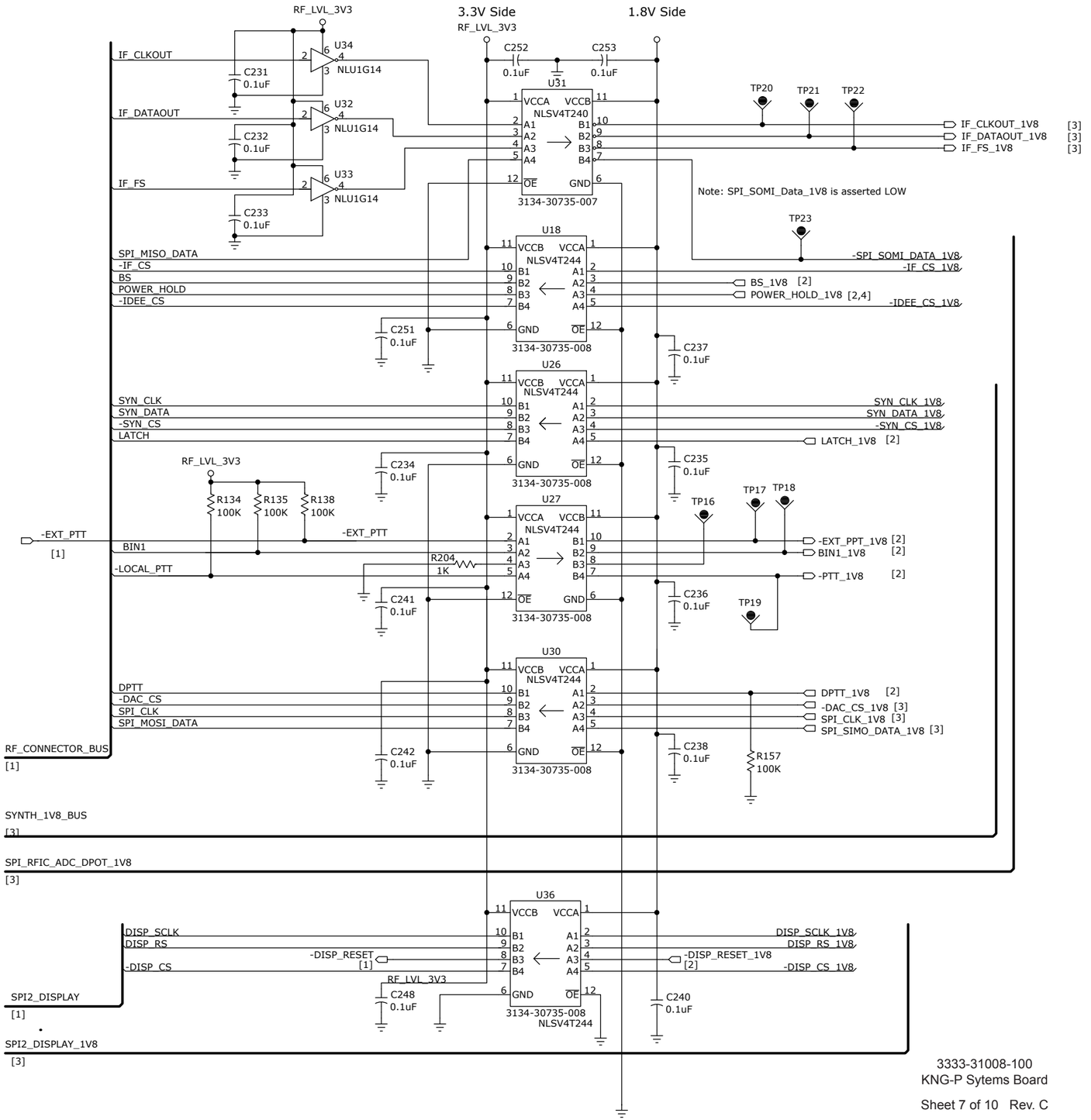
Illustrated Parts List

Systems Board

LEVEL-SHIFTERS





3333-31008-100
KNG-P Sytems Board

Sheet 7 of 10 Rev. C

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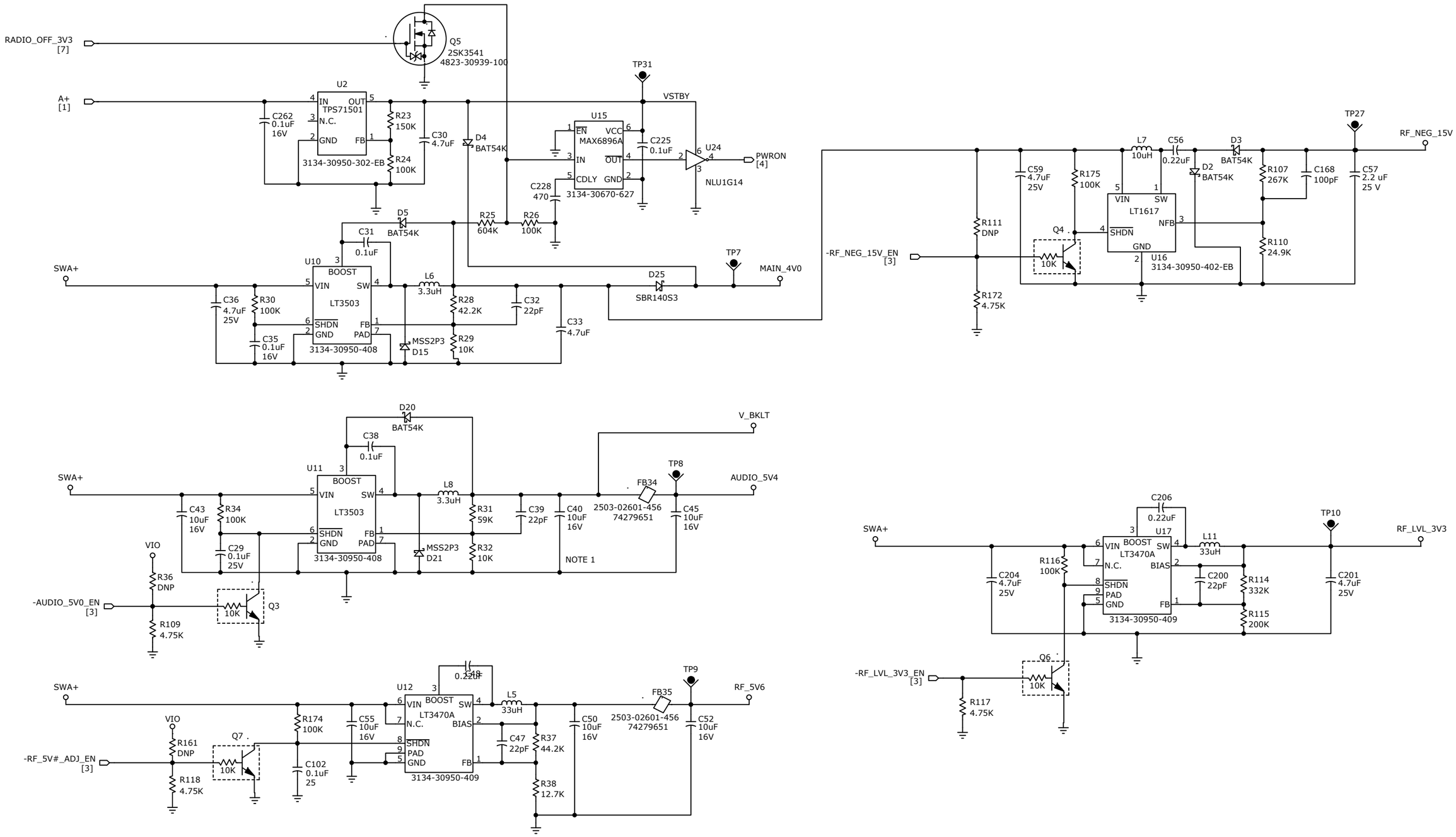
Illustrated Parts List

Systems Board



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KNG-P Sytems Board

Sheet 8 of 10 Rev. C

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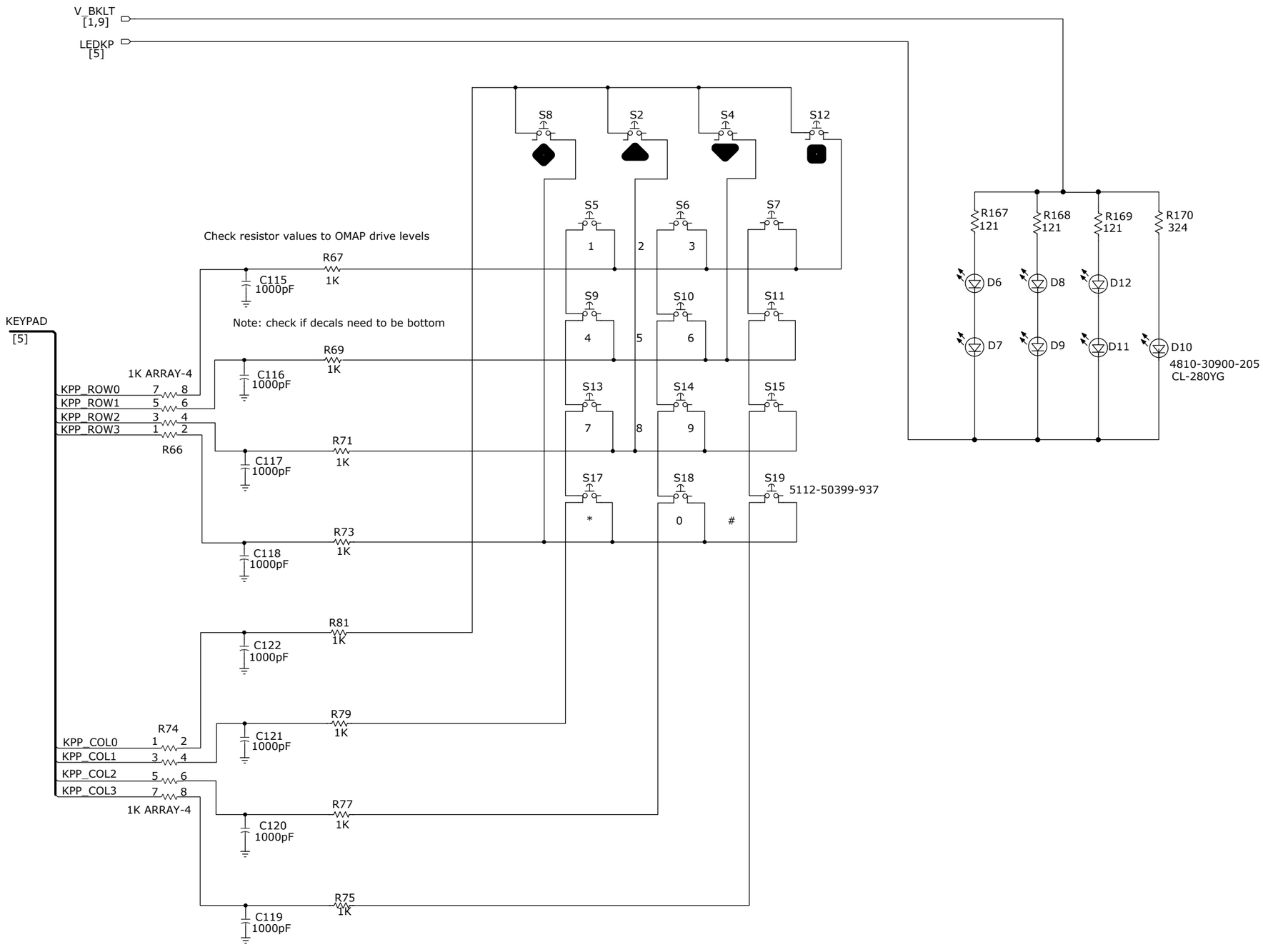

3333-31008-100
KNG-P Sytems Board

Sheet 9 of 10 Rev. C

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Illustrated Parts List

Systems Board

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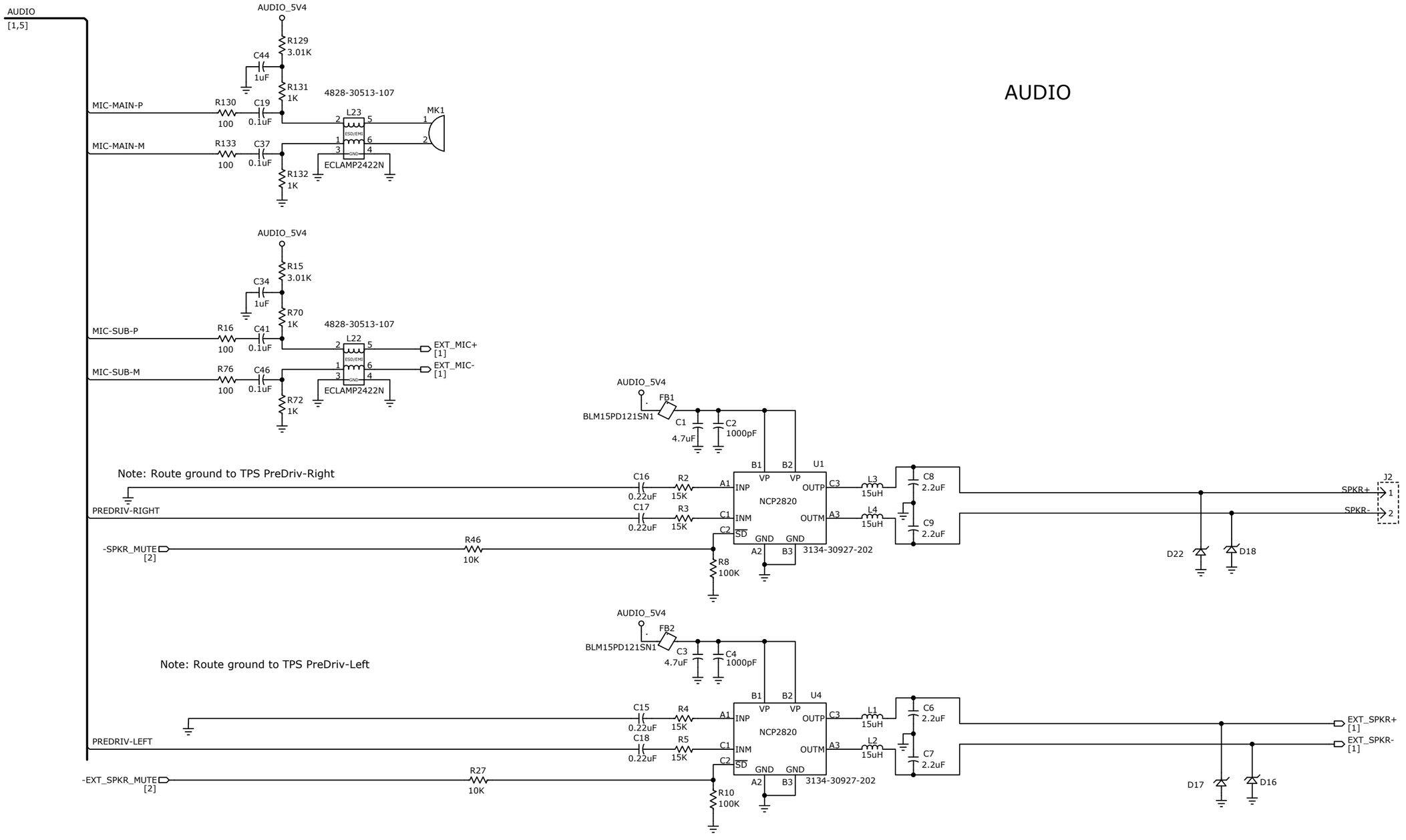

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KNG-P Sytems Board

Sheet 10 of 10 Rev. C

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5.10 P-150 RX/TX BOARD

Parts List, Rx/Tx Board, KNG P-150 Portable			
Reference	**Part Number**	**Description**	**Notes**
C1	1573-02560-163	Cap,Cp,56pF,S,5%,250V,0603	
C2	1573-02479-133	Cap,Cp,4.7pF,S,+/-.25pF,250V,0603	
C3	1573-01369-132	Cap,Cp,3.6pF,S,+/-.25pF,50V,0402	
C4	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C5	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C6	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C7	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C8	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C9	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C10	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C11	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C12	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C13	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C14	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C15	1570-03332-273	Cap,Cp,3300pF,X7R,10%,50V,0402	
C16	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C17	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C18	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C19	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C20	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C21	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C22	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C23	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C24	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C25	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C26	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C27	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C28	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C29	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C30	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C31	1573-02470-153	Cap,Cp,47pF,S,2%,250V,0603	
C32	1573-01270-162	Cap,Cp,27pF,S,5%,50V,0402	
C33	1573-01100-162	Cap,Cp,10pF,S,5%,50V,0402	
C34	1573-02101-153	Cap,Cp,100pF,S,2%,250V,0603	
C35	1573-01300-161	Cap,Cp,30pF,S,5%,25V,0402	
C36	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C37	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C38	1573-01759-122	Cap,Cp,7.5pF,S,.+/-.10pF,50V,0402	
C39	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C40	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-150 Portable			
Reference	**Part Number**	**Description**	**Notes**
C41	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C42	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C43	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C44	1573-02399-133	Cp,Cap,3.9pF,S,+/-.25pF,250V,0603	
C45	1573-02829-133	Cap,Cp,8.2pF,0603,500R14S8R2CY4E	
C46	1573-02300-153	Cap,Cp,30pF,S,2%,250V,0603	
C47	1573-02300-153	Cap,Cp,30pF,S,2%,250V,0603	
C48	1573-02150-153	Cap,Cp,15pF,S,2%,250V,0603	
C49	1573-02110-153	Cap,Cp,11pF,S,2%,250V,0603	
C50	1573-02360-153	Cap,Cp,36pF,S, 2%,250V,0603	
C51	1573-02470-153	Cap,Cp,47pF,S,2%,250V,0603	
C52	1573-02110-153	Cap,Cp,11pF,S,2%,250V,0603	
C53	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C54	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C55	1570-01475-772	Cp,Cp,4.7uF,X5R,10%,25V,0805	
C56	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C57	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C58	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C59	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C60	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C61	1573-01569-122	Cap,Cp,5.6pF,S,+/-.1pF,50V,0402	
C62	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C63	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C64	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C65	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C66	1570-03181-163	Cap,Cp,180pF,NPO,5%,50V,0402	
C67	1570-03222-273	Cap,CP,2200pF,X7R,10%,50V,0402	
C68	1570-03154-777	Cap,Cp,.15uF,X5R,10%,10V,0402	
C69	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C70	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C71	1570-03151-163	Cap,CP,150pF,NPO,5%,50V,0402	
C72	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C73	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C74	1573-02680-163	Cap,Cp,68pF,S,5%,250V,0603	
C75	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C76	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C77	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C78	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C79	1570-03759-113	Cap,CP,7.5pF,NPO,+/-.25pF,50V,0402	
C80	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C81	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	

Parts List, Rx/Tx Board, KNG P-150 Portable

Reference	Part Number	Description	Notes
C82	1570-01226-788	Cp,Cp,22uF,X5R,20%,6.3V,0805	
C83	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C84	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C85	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C86	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C87	1573-01159-112	Cap,Cp,1.5pF,S,+/-.05pF,50V,0402	
C88	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C89	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C90	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C91	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C92	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C93	1573-01569-122	Cap,Cp,5.6pF,S,+/-.1pF,50V,0402	
C94	1570-03510-163	Cap,Cp,51pF,NPO,5%,50V,0402	
C95	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C96	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C97	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C98	1570-00225-277	Cap,Cp,2.2uF,X7R,10%,10V,0603	
C99	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C100	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C101	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C102	1573-01100-162	Cap,Cp,10pF,S,5%,50V,0402	
C103	1573-02560-163	Cap,Cp,56pF,S,5%,250V,0603	
C104	1573-01439-122	Cap,Cp,4.3pF,S,+/-.1pF,50V,0402	
C105	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C106	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C107	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C108	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C109	1573-01180-142	Cap,Cp,18pF,0402,500R07S180FY4E	
C110	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C111	1570-03332-273	Cap,Cp,3300pF,X7R,10%,50V,0402	
C112	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C113	1573-02560-163	Cap,Cp,56pF,S,5%,250V,0603	
C114	1570-00221-143	Cap,Cp,220pF,NPO,1%,50V,0603	
C115	1573-02470-153	Cap,Cp,47pF,S,2%,250V,0603	
C116	1570-03154-777	Cap,Cp,.15uF,X5R,10%,10V,0402	
C117	1570-03759-113	Cap,CP,7.5pF,NPO,+/-.25pF,50V,0402	
C118	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C119	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C120	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C121	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C122	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	

Parts List, Rx/Tx Board, KNG P-150 Portable			
Reference	**Part Number**	**Description**	**Notes**
C123	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C124	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C126	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C127	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C128	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C129	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C130	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C131	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C132	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C133	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C134	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C135	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C136	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C140	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C141	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C144	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C145	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C146	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C147	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C148	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C149	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C150	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C151	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C152	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C153	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C154	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C155	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C156	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C157	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C158	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C159	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C160	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C161	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C162	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C163	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C164	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C165	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C166	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C167	1570-03159-113	Cap,CP,1.5pF,NPO,+/-.25pF,50V,0402	
C168	1573-02300-153	Cap,Cp,30pF,S,2%,250V,0603	
C169	1573-02300-153	Cap,Cp,30pF,S,2%,250V,0603	

Parts List, Rx/Tx Board, KNG P-150 Portable

Reference	Part Number	Description	Notes
C170	1573-02470-153	Cap,Cp,47pF,S,2%,250V,0603	
C171	1573-01220-162	Cap,Cp,22pF,S,5%,50V,0402	
C172	1573-01270-162	Cap,Cp,27pF,S,5%,50V,0402	
C173	1573-02680-163	Cap,Cp,68pF,S,5%,250V,0603	
C174	1570-03109-103	Cap,Cp,1pF,NPO,+/-.1pF,50V,0402	
C175	1570-03109-103	Cap,Cp,1pF,NPO,+/-.1pF,50V,0402	
C176	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C177	1570-03100-163	Cp,Cp,10pF,NPO,5%,50V,0402	
C178	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C179	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C180	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C181	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C182	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C183	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C184	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C185	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C186	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C187	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C188	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C189	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C190	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C191	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C192	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C193	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C194	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C195	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C196	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C197	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C198	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C199	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C200	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C201	1570-03104-277	Cap,Cp,0.1uF,X7R,10%,10V,0402	
C202	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C203	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C204	1570-03104-277	Cap,Cp,0.1uF,X7R,10%,10V,0402	
C205	1570-03181-162	Cp,Cap,180 PF,NPO,5%,0402	
C206	1573-02390-153	Cap,Cp,39pF,S,2%,250V,0603	
C207	1573-02390-153	Cap,Cp,39pF,S,2%,250V,0603	
C208	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C209	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C210	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C211	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	

Parts List, Rx/Tx Board, KNG P-150 Portable			
Reference	**Part Number**	**Description**	**Notes**
C212	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C213	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C214	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C220	1570-03105-777	Cap,Cp,1uF,10%,X5R,10V,0402	
C221	1570-03104-277	Cap,Cp,0.1uF,X7R,10%,10V,0402	
C222	1573-01229-122	Cap,Cp,2.2pF,0402,500R07S2R2BY4E	
C225	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C226	1570-03104-271	Cap,Cp,.1uF,X7R,10%,16V,0402	
C601	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C605	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C606	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C607	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C614	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C615	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C616	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C617	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C618	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C619	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C620	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C621	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C622	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C623	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C624	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C625	1572-00224-913	Cap,Cp,0.22uF, Film,5%,50V	
C626	1572-00105-734	Cap,Cp,1.0uF,Film,20%,16V,1210	
C627	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C628	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C629	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C630	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C631	1570-03509-113	Cap,Cp,5pF,NPO,+/-0.25pF,50V,0402	
C632	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C633	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C634	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C635	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C636	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C637	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C638	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C639	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C640	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C641	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C642	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	

Parts List, Rx/Tx Board, KNG P-150 Portable

Reference	Part Number	Description	Notes
C643	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C644	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
CR1	4824-20047-302	Di,Pin,MA4P7447,SOD323	
CR2	4824-20047-302	Di,Pin,MA4P7447,SOD323	
CR3	4824-20021-400	Di,Var-Dual,BB814,SOT-23,	
CR4	4824-30541-303	Di,Dual,Schottky,SC-70	
CR5	4824-30572-501	Di,Var,BB439	
CR6	4824-30572-501	Di,Var,BB439	
CR7	4824-30572-501	Di,Var,BB439	
CR8	4824-30572-501	Di,Var,BB439	
CR9	4824-20021-103	Di,Var,BBY55,SC79	
CR10	4824-30572-501	Di,Var,BB439	
CR11	4824-30572-501	Di,Var,BB439	
CR12	4824-30572-501	Di,Var,BB439	
CR13	4824-20021-103	Di,Var,BBY55,SC79	
CR14	4824-20021-103	Di,Var,BBY55,SC79	
CR15	4824-20021-103	Di,Var,BBY55,SC79	
CR16	4824-20021-103	Di,Var,BBY55,SC79	
CR17	4824-20021-103	Di,Var,BBY55,SC79	
CR18	4824-20021-103	Di,Var,BBY55,SC79	
CR19	4824-20021-103	Di,Var,BBY55,SC79	
CR20	4824-20021-103	Di,Var,BBY55,SC79	
CR21	4824-20021-400	Di,Var-Dual,BB814,SOT-23,	
CR22	4824-30541-303	Di,Dual,Schottky,SC-70	
CR23	4824-30541-303	Di,Dual,Schottky,SC-70	
D1	4824-30668-811	Di,Var,BBY58-05W,SOT323	
D2	4824-20021-105	Di, Var,BBY58,SCD80	
D3	4824-20021-104	Di, Var,BBY56,SCD80	
D4	4824-20021-104	Di, Var,BBY56,SCD80	
D5	4824-30668-811	Di,Var,BBY58-05W,SOT323	
D6	4828-30513-304	Di,ESD,PESD15VS1UB,SOD-523	
D7	4828-30513-202	DI,ESD,ESD5Z3.3T1, SOD-523	
D13	4824-30668-811	Di,Var,BBY58-05W,SOT323	
F2	5107-30934-902	Fuse,3A,32V,SMD,0603	
FB1	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB2	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB3	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	

Parts List, Rx/Tx Board, KNG P-150 Portable			
Reference	**Part Number**	**Description**	**Notes**
FB4	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB5	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB6	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB7	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB8	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB9	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB10	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB11	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB12	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB13	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB14	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB15	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB16	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB17	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB18	2503-04600-439	Bead,Fer.,60_Ohms,500mA,0603	
FB19	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB20	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB21	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB601	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB603	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FL1	2705-20022-701	FLTR,X'TAL,45MHz,+/-7.5KHz,4p,5x7mm,SMD	
J2	2105-50575-602	CONN,40-PIN,HOR.,0.5mm,SMD	
J3	2105-60455-300	CONN, BATTERY	
J4	2105-30969-100	Conn. SMA,Jack, RT Angle,PC Mount	
L1	1812-56003-050	Ind,Cp,56nH,5%,1008CS	
L2	1812-12102-020	Ind,Cp,120nHy,2%,0805CS	
L3	1812-12102-302	Ind,Cp,120nH,2%,1812SMS	
L4	1812-12102-302	Ind,Cp,120nH,2%,1812SMS	
L5	1812-10016-321	Ind,Cp,10uH,30%,15ma,LQM21DN100N00	
L6	1812-36002-010	Ind, CP, 36nH,2%,0603CS	
L7	1812-56203-050	Ind,Cp,5600nH,5%,1008CS	
L8	1812-36002-010	Ind, CP, 36nH,2%,0603CS	
L9	1812-82103-020	Ind,Cp,820nH,5%,0805	
L10	1812-22002-010	Ind,Cp,22nHy,2%,0603CS	
L11	1812-27203-050	Ind,Cp,2700nH,5%,1008CS-272XJB	
L12	1812-56002-010	Ind,Cp,56nH,2%,0603CS	
L13	1812-12102-010	Ind,Cp,120nHy,2%,0603CS	
L14	1812-68002-310	Ind, Cp, 68nHy, 2%, 1008HQ-68NXGL	

Parts List, Rx/Tx Board, KNG P-150 Portable

Reference	Part Number	Description	Notes
L15	1812-10013-091	Ind,Cp,10uH,5%,1008LS-103XJB	
L16	1812-10013-091	Ind,Cp,10uH,5%,1008LS-103XJB	
L17	1812-12913-050	Ind,Cp,1.2uH,5%,1008	
L18	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L19	1812-47102-020	Ind,Cp,470nH,2%,0805CS	
L21	1812-15913-091	Ind,Cp,1.5uH,5%,1008LS	
L22	1800-30989-091	Ind,AW Coil,7T,.091ID,SMT	
L23	1800-30989-085	Ind,AW Coil,7T,.085ID,SMT	
L24	1800-30989-072	Ind,AW Coil,7T,.072ID,SMT	
L25	1812-27002-050	Ind,Cp,27nH,2%,1008CS	
L26	1812-39002-050	Ind,Cp,39nH,2%,1008CS	
L27	1812-82103-020	Ind,Cp,820nH,5%,0805	
L28	1812-11102-010	Ind,Cp,110nH,2%,0603CS	
L29	1812-39102-010	Ind,Cp,390nH,2%,0603CS	
L30	1812-22102-050	Ind,Cp,220nH,2%,1008CS	
L31	1812-82103-020	Ind,Cp,820nH,5%,0805	
L32	1812-82103-020	Ind,Cp,820nH,5%,0805	
L33	1812-82103-020	Ind,Cp,820nH,5%,0805	
L34	1812-47002-310	Ind, Cp, 47nHy, 2%, 1008HQ-47NXGL	
L35	1812-47002-302	Ind,Cp,47nH,2%,1812SMS	
L36	1812-82103-020	Ind,Cp,820nH,5%,0805	
L37	1812-10013-091	Ind,Cp,10uH,5%,1008LS-103XJB	
L38	1812-47002-020	Ind,Cp,47nH,2%,0805CS	
L39	1812-68203-050	Ind,Cp,6800nH,5%,1008CS	
L40	1812-68203-050	Ind,Cp,6800nH,5%,1008CS	
L42	1812-72002-010	Ind,Cp,72nHy,2%,0603CS	
L44	1812-82103-020	Ind,Cp,820nH,5%,0805	
L45	1812-82103-020	Ind,Cp,820nH,5%,0805	
L46	1812-47003-020	Ind, CP, 47nH, 5%,0805	
L47	1812-82103-020	Ind,Cp,820nH,5%,0805	
L48	1812-82103-020	Ind,Cp,820nH,5%,0805	
Q1	4823-30741-302	Xstr,PNP,Rf_Sm_Sig_BFR106,SOT-23	
Q2	4823-50533-600	Xstr,NPN,NE58219,Ultra_Super_Mini_Mold	
Q3	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q4	3134-30950-520	IC,P-CH,PwrTrench,FDG328P,SC70-6	
Q5	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q6	4823-30595-803	Xstr,N-Ch,Dual,MFET,BF1212,SOT143B	
Q7	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q8	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q9	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	

Parts List, Rx/Tx Board, KNG P-150 Portable			
Reference	**Part Number**	**Description**	**Notes**
Q10	4823-50483-300	Xstr,NPN,SILICON, NE851M03	
Q11	4823-50483-300	Xstr,NPN,SILICON, NE851M03	
Q12	4823-30680-214	Xstr,Dig,PNP,4.7K/10K,VMT3	
Q13	4823-50483-301	Xstr,NPN,SILICON, NE685M03	
Q14	4823-30939-201	Trans, MOSFET, N-Channel, SC-70, 2SK3018	
Q15	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q16	3134-30950-520	IC,P-CH,PwrTrench,FDG328P,SC70-6	
Q17	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q18	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q19	4823-30595-903	XSTR,RF,NPN,BFS17W,SOT323	
Q20	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q101	3134-30950-521	IC,N-CH,PwrTrench,FDG329N,SC70-6	
R1	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R2	4732-04999-211	Res,Cp,49.9_Ohms,1%,1/16W,0603	
R3	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R4	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R5	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R6	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R7	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R8	4734-02211-311	Res,Cp,2.21K,1/16W,1%,0402	
R9	4724-00101-233	Res,Cp,100_Ohm,1/10W,5%,0805,	
R10	4732-02940-511	Res,Cp,294_Ohms,1%,1/16W,0603	
R11	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R12	4734-04752-311	Res,Cp,47.5K,1%,1/16W,0402	
R13	4734-04752-311	Res,Cp,47.5K,1%,1/16W,0402	
R14	4728-00019-945	Res,Cp,.10_Ohm,1/4W,10%	
R15	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R16	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R17	4734-01500-311	Res,Cp,150_Ohms,1/16W,1%,0402	
R18	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R19	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R20	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R21	4734-04999-311	Res,Cp,49.9_Ohms,1%,1/16W,0402	
R22	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R23	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R24	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R25	4724-00109-335	Res,Cp,1_Ohm,1/10W,5%,0805,	
R26	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R27	4732-02940-511	Res,Cp,294_Ohms,1%,1/16W,0603	
R28	4734-03929-311	Res,CP,39.2_OHMS,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-150 Portable

Reference	Part Number	Description	Notes
R29	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R30	4734-03321-311	Res,Cp,3.32 K,1/16W,1%,0402	
R31	4750-20025-700	Res,Var,50K,,A Taper,Hor.,SPST SW	
R32	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R33	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R34	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R35	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R36	4732-01789-511	Res,Cp,17.8_Ohms,1%,1/16W,0603	
R37	4734-07501-311	Res,Cp,7.5K,1/16W,1%,0402	
R38	4734-01103-311	Res,CP,110K,1%,1/16W,0402	
R39	4734-05112-311	Res,Cp,51.1K,1%,1/16W,0402	
R40	4734-03923-311	Res,Cp,392K,1%,1/16W,0402	
R41	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R42	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R43	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R44	4734-03832-311	Res,Cp,38.3K,1%,1/16W,0402	
R45	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R46	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R47	4734-02873-311	Res,Cp,287K,1%,1/16W,0402	
R48	4734-07872-311	Res,CP,78.7K,1%,1/16W,0402	
R49	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R50	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R51	4734-04752-311	Res,Cp,47.5K,1%,1/16W,0402	
R52	4728-00621-335	Res,Cp,620_Ohm,1/4W,5%	
R53	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R54	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R55	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R56	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R57	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R58	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R59	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R60	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R61	4734-04999-311	Res,Cp,49.9_Ohms,1%,1/16W,0402	
R62	4734-04220-311	Res,Cp,422_Ohms,1%,1/16W,0402	
R63	4734-01821-311	Res,Cp,1.82K,1%,1/16W,0402	
R64	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R65	4734-39102-454	Res,Cp,91K,0.1%,1/16W,0402	
R66	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R67	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R68	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R69	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-150 Portable

Reference	Part Number	Description	Notes
R70	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R71	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R72	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R73	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R74	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R75	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R76	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R77	4734-04751-311	Res,CP,4.75K,1%,1/16W,0402	
R78	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R79	4734-38202-454	Res,Cp,82K,ThinMF,0.1%,1/16W,0402	
R80	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R81	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R82	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R83	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R84	4734-04991-311	Res,Cp,4.99K,1%,1/16W,0402	
R85	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R86	4734-04991-311	Res,Cp,4.99K,1%,1/16W,0402	
R87	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R88	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R89	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R90	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R91	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R92	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R93	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R94	4734-04020-311	Res,Cp,402_Ohms,1%,1/16W,0402	
R95	4734-04020-311	Res,Cp,402_Ohms,1%,1/16W,0402	
R96	4734-02000-311	Res,Cp,200_Ohms,1%,1/16W,0402	
R97	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R98	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R99	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R100	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R101	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R102	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R103	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R104	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R105	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R106	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R107	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R108	4734-03010-311	Res,Cp,301_Ohms,1%,1/16W,0402	
R109	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R110	4734-05491-311	Res,Cp,5.49K,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-150 Portable

Reference	Part Number	Description	Notes
R111	4734-02940-311	Res,Cp,294_Ohms,1%,1/16W,0402	
R112	4734-02940-311	Res,Cp,294_Ohms,1%,1/16W,0402	
R113	4734-01789-311	Res,Cp,17.8_Ohms,1%,1/16W,0402	
R114	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R115	4734-03830-311	Res,CP,383_OHMS,1%,1/16W,0402	
R116	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R117	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R118	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R119	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R120	4734-07328-311	RES,CP,7.32_OHM,1%,1/16W,0402	
R121	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R122	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R123	4734-01109-311	Res,Cp,11_Ohms,1%,1/16W,0402	
R124	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R125	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R126	4734-07500-311	Res,Cp,750_Ohms,1%,1/16W,0402	
R127	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R128	4734-04752-311	Res,Cp,47.5K,1%,1/16W,0402	
R129	4734-03322-311	Res,Cp,33.2K,1%,1/16W,0402	
R130	4734-02219-311	Res,Cp,22.1_Ohms,1%,1/16W,0402	
R131	4734-06811-311	Res,Cp,6.81K,1%,1/16W,0402	
R132	4734-03321-311	Res,Cp,3.32 K,1/16W,1%,0402	
R133	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R134	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R135	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R136	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R137	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R138	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R139	4734-02940-311	Res,Cp,294_Ohms,1%,1/16W,0402	
R140	4734-02940-311	Res,Cp,294_Ohms,1%,1/16W,0402	
R141	4734-01789-311	Res,Cp,17.8_Ohms,1%,1/16W,0402	
R142	4734-04752-311	Res,Cp,47.5K,1%,1/16W,0402	
R144	4734-01402-311	Res,Cp,14K,1%,1/16W,0402	
R145	4734-01402-311	Res,Cp,14K,1%,1/16W,0402	
R146	4734-09319-311	Res,CP,93.1_OHMS,1%,1/16W,0402	
R147	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R148	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R149	4734-06049-311	Res,Cp,60.4_Ohms,1%,/1/16W,0402	
R150	4734-06049-311	Res,Cp,60.4_Ohms,1%,/1/16W,0402	
R151	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R152	4734-01002-311	Res,CP,10K,1%,1/16W,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-150 Portable			
Reference	**Part Number**	**Description**	**Notes**
R153	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R154	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R156	4734-31002-454	Res,Cp,10K,ThinMF,0.1%,1/16W,0402	
R157	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R158	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R159	4734-07500-311	Res,Cp,750_Ohms,1%,1/16W,0402	
R160	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R162	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R171	4734-02490-311	Res,Cp,249_Ohms,1%,1/16W,0402	
R172	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R199	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R228	4734-04751-311	Res,CP,4.75K,1%,1/16W,0402	
R229	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R601	4734-05112-311	Res,Cp,51.1K,1%,1/16W,0402	
R602	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R603	4734-08062-311	Res,Cp,80.6K,1%,1/16W,0402	
R609	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R616	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R617	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R618	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R619	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R620	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R621	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R622	4734-02612-311	Res,Cp,26.1K,1/16W,1%,0402	
R623	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R625	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R626	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R628	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R629	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R630	4734-02491-311	Res,Cp,2.49K,1/16W,1%,0402	
R631	4734-02000-311	Res,Cp,200_Ohms,1%,1/16W,0402	
R632	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R633	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R634	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R635	4734-01212-311	Res,Cp,12.1k,1/16W,1%,0402	
R636	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R637	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R638	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R639	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R640	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R641	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-150 Portable

Reference	Part Number	Description	Notes
S1	5114-50574-302	Switch,Toggle,Sub-Mini,3-Pos	
S2	5112-50399-944	Switch,Tact,R/A,EVQP8603M	
S3	5112-50399-935	Switch,Tact,Side-Act.,SMD	
S4	5112-50399-935	Switch,Tact,Side-Act.,SMD	
S5	5114-50574-302	Switch,Toggle,Sub-Mini,3-Pos	
S6	5111-30942-503	Switch,Rotary,16_Pos,Gray Code,BV17297	
SH1	2508-30986-900	Shield-Fence,Top,Front End	
SH2	2508-30986-800	Shield-Fence,Bottom,Front End	
SH3	2508-30987-500	Shield-Fence,Top,Mixer	
SH4	2508-30987-400	Shield-Fence,Bottom,Mixer	
SH5	2508-30987-200	Shield-Fence,Top, IF	
SH6	2508-30987-100	Shield-Fence,Bottom, IF	
SH7	2508-30987-800	Shield-Fence,Top, Synth	
SH8	2508-30987-700	Shield-Fence,Bottom, Synth	
SH9	2508-30988-100	Shield-Fence,Top,VCO	
SH10	2508-30988-000	Shield-Fence,Bottom,VCO	
SW1	3134-30906-203	IC,RF_SW,SPDT,MFET,PE4259,SC-70	
U1	3134-30670-622	IC,IF,Digit,Subsys,AD9864BCPZ,CP-48	
U2	3134-30911-003	IC,OP_AMP,R/R, LT1783CS5, SOT-23	
U3	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U4	3132-30595-002	IC,RFA,RA08N1317M-E01	
U5	3134-30911-003	IC,OP_AMP,R/R, LT1783CS5, SOT-23	
U6	3134-30950-302	IC,REG,ADJ,LDO,50ma,TPS71501,SC70	
U7	3134-30940-811	IC,8-Bit,DAC,LTC1665IGN,SSOP-16	
U8	3134-30908-603	IC,OP,AMP,R-R,TLV2463IDGS,MSOP	
U9	3134-30911-003	IC,OP_AMP,R/R, LT1783CS5, SOT-23	
U10	4823-30595-902	Xstr,NPN,RF,BFR380F,TSFP-3	
U11	4823-50561-560	PHEMT,Low Noise,ATF-38143,SOT-343	
U12	3134-30950-502	IC,P-Ch,30V,PwrTrench,SI6443DQ,TSS0P-8	
U13	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U14	3134-20083-004	IC,Dig,Pot,AD5160BRJ10,SOT-23	
U15	3134-30747-823	IC, EEPROM, SPI, AT25080A, 8Y6	
U16	3134-60097-300	IC,Controller,BCR410W,SOT343	
U17	3134-60097-300	IC,Controller,BCR410W,SOT343	
U19	3134-30670-803	IC, SW, RF, SPDT, SKY13323-378LF, 6-QFN	
U33	3134-30670-803	IC, SW, RF, SPDT, SKY13323-378LF, 6-QFN	
U34	3135-31002-201	IC, RF, Det/Cntlr, AD8314ACP, 8-LFCSP	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-150 Portable			
Reference	**Part Number**	**Description**	**Notes**
U36	3134-30911-007	IC,Cmprtr,Push/Pull,MCP6561T- E/OT,SOT-23-5	
U602	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U603	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U604	3134-30906-202	IC,SW,SPST,MAX4520EUT-T,SOT23-6	
U605	3134-30577-404	IC,Freq_Syn,CX72301-11,TSSOP	
Y1	2390-30957-104	TCXO,19.6608MHz,+/-2.5PPM, 2.5x3.2mm,SMD	
Y2	2390-30957-103	TCXO, 10.00MHz,+/-1.5PPM, 2.5x3.2mm,SMD	

Illustrated Parts List

P-150 Rx/Tx Board

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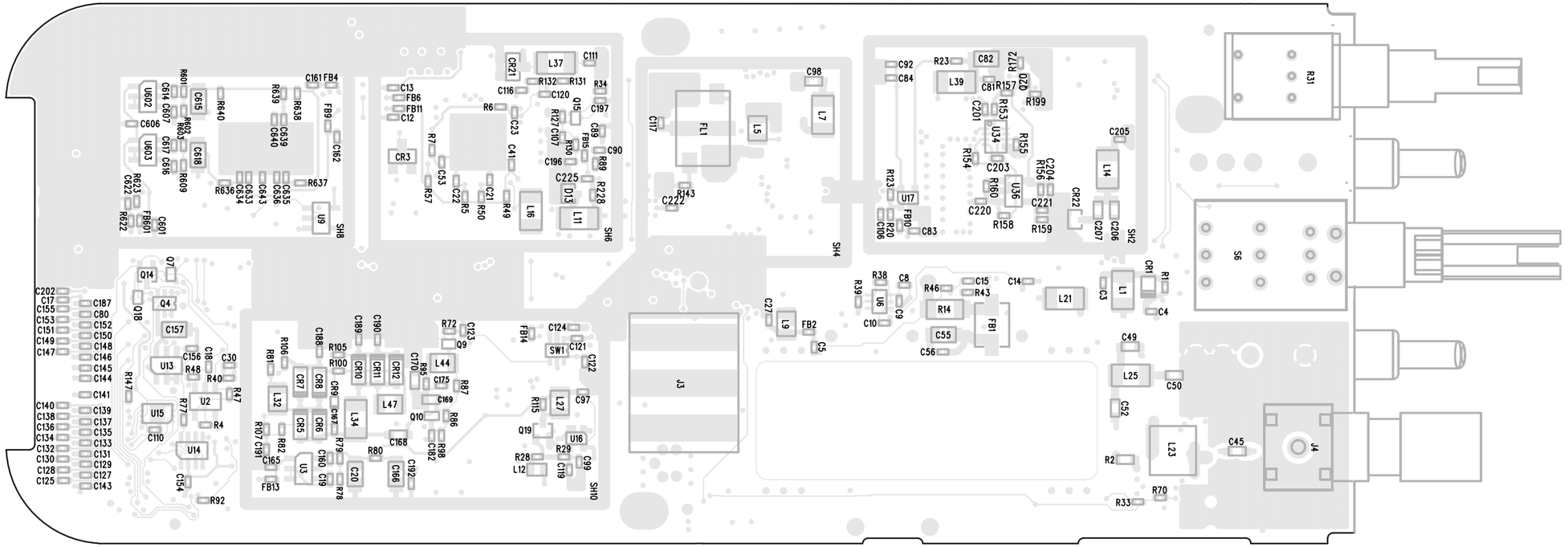

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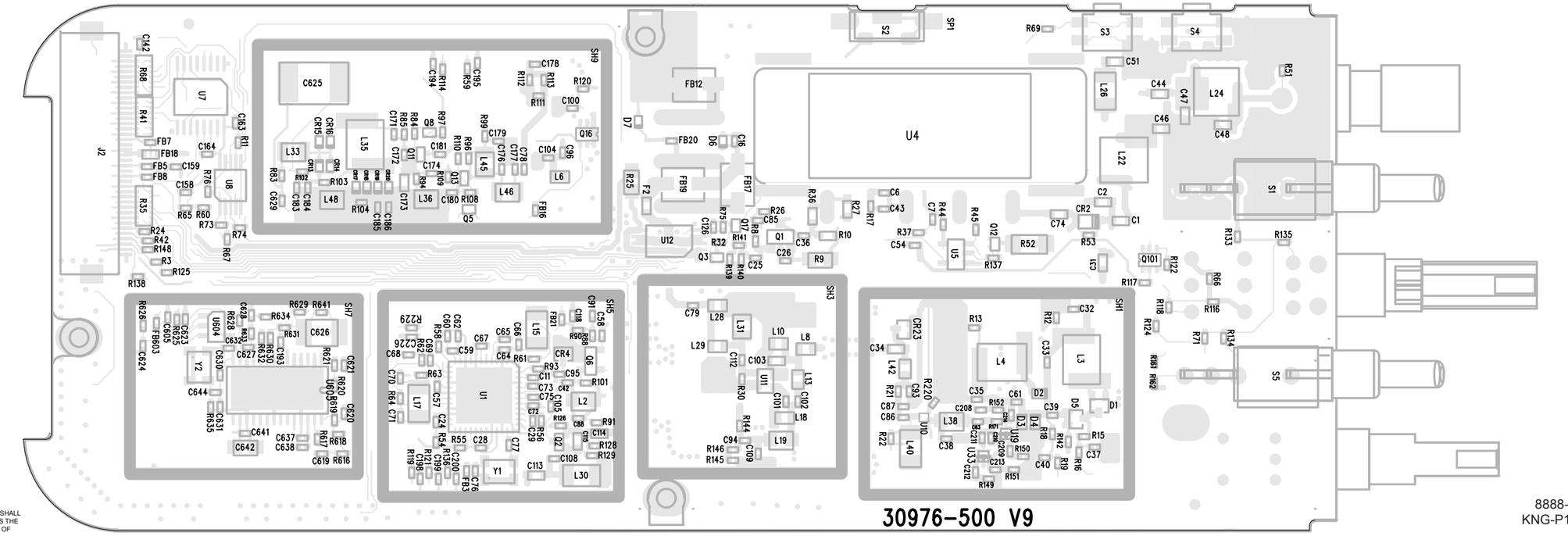

30976-500 V9

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KNG-P150 RT Board

Sheet 1 of 1 Rev. D9

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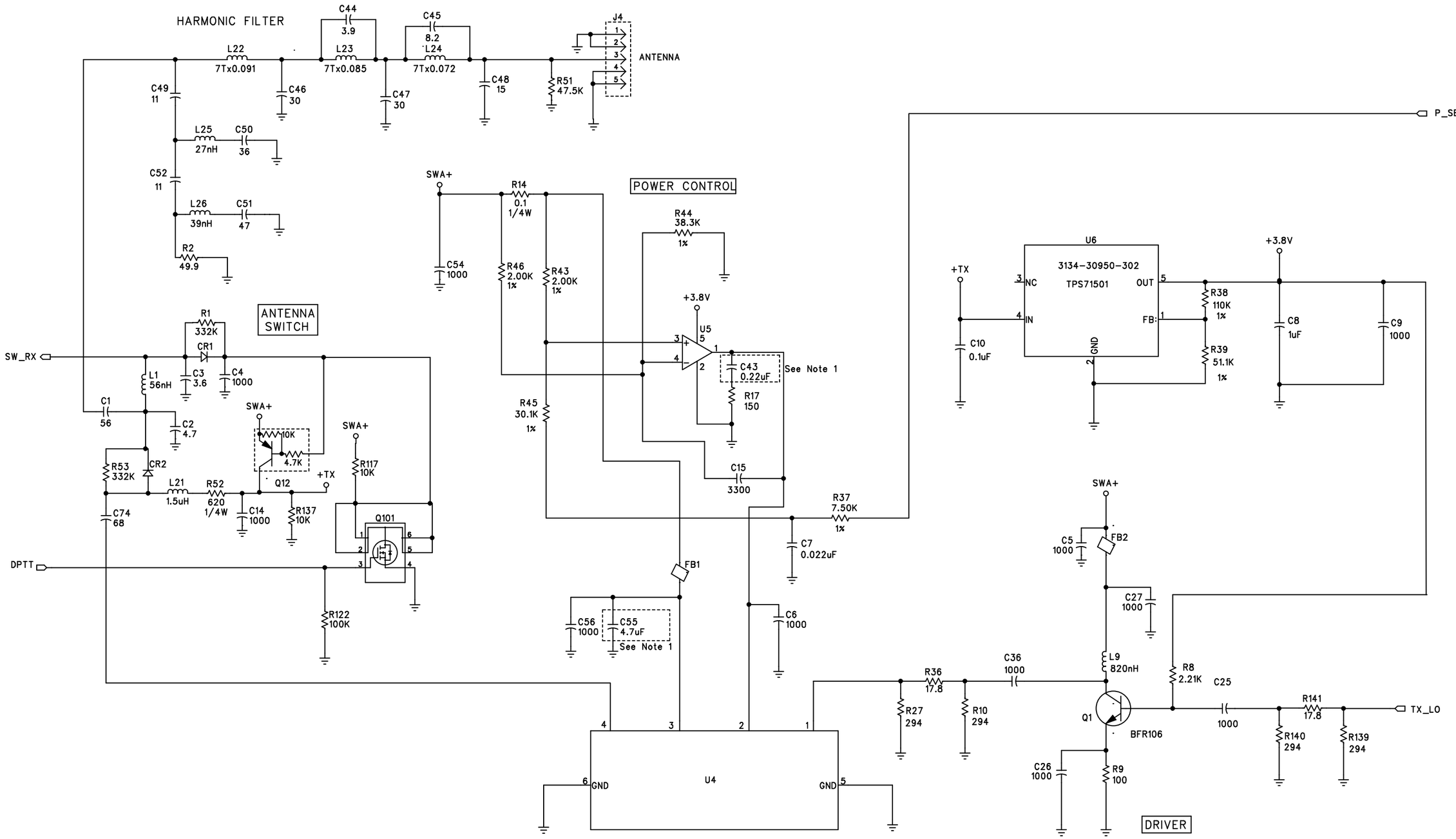

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KNG-P150 RT Board

Sheet 1 of 5

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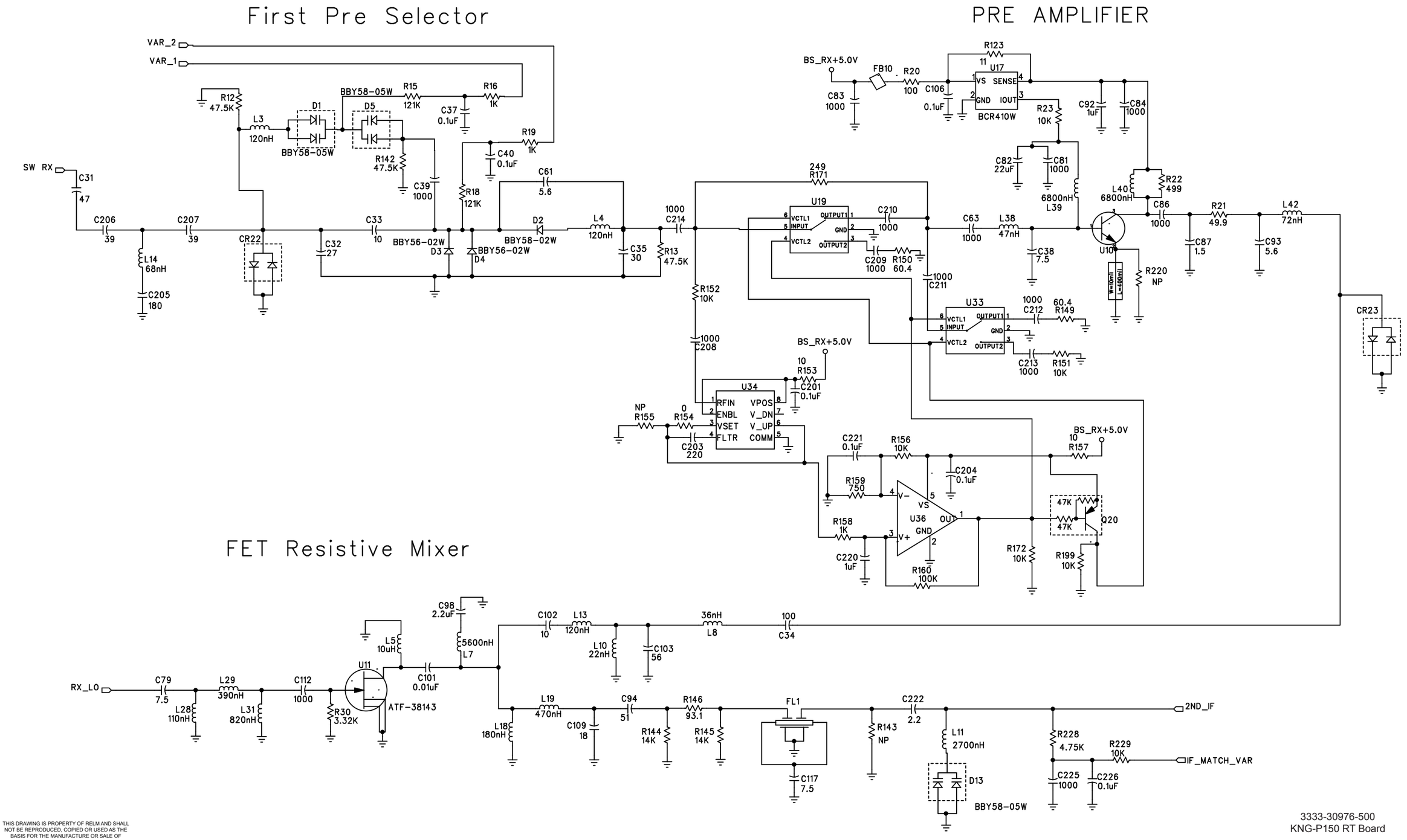

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KNG-P150 RT Board

Sheet 2 of 5

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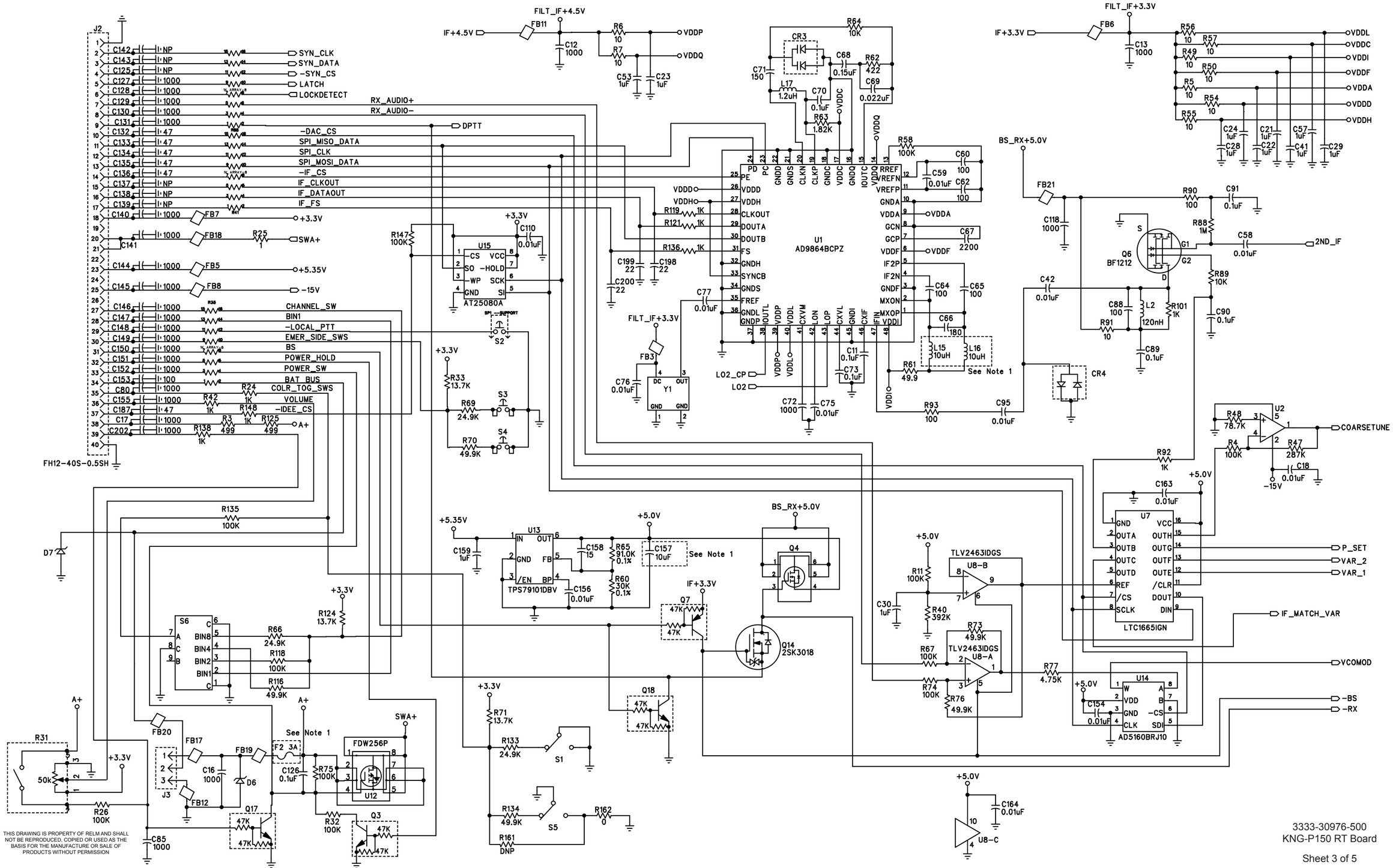
Illustrated Parts List

P-150 Rx/Tx Board



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KNG-P150 RT Board

Sheet 3 of 5

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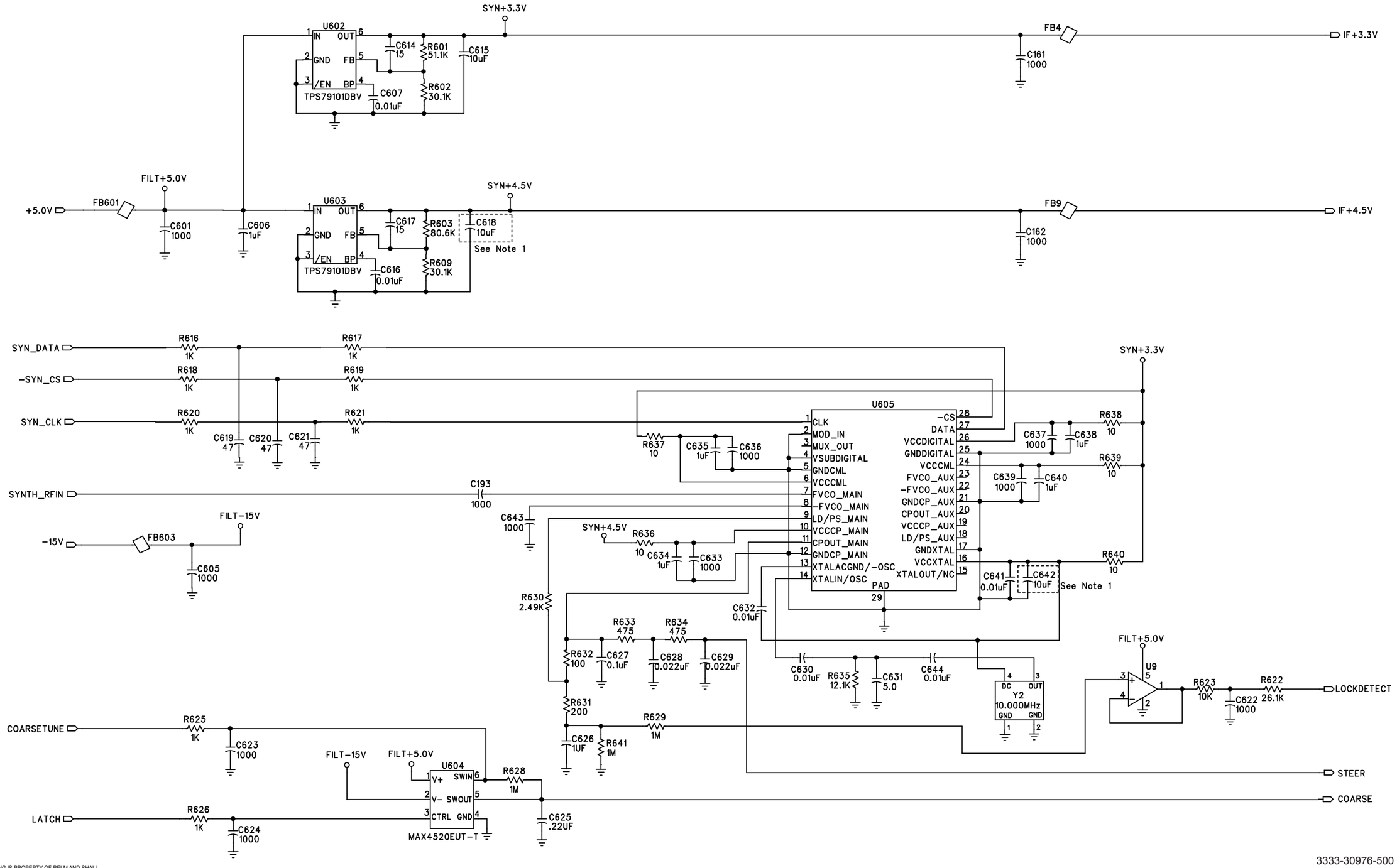

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KNG-P150 RT Board

Sheet 4 of 5

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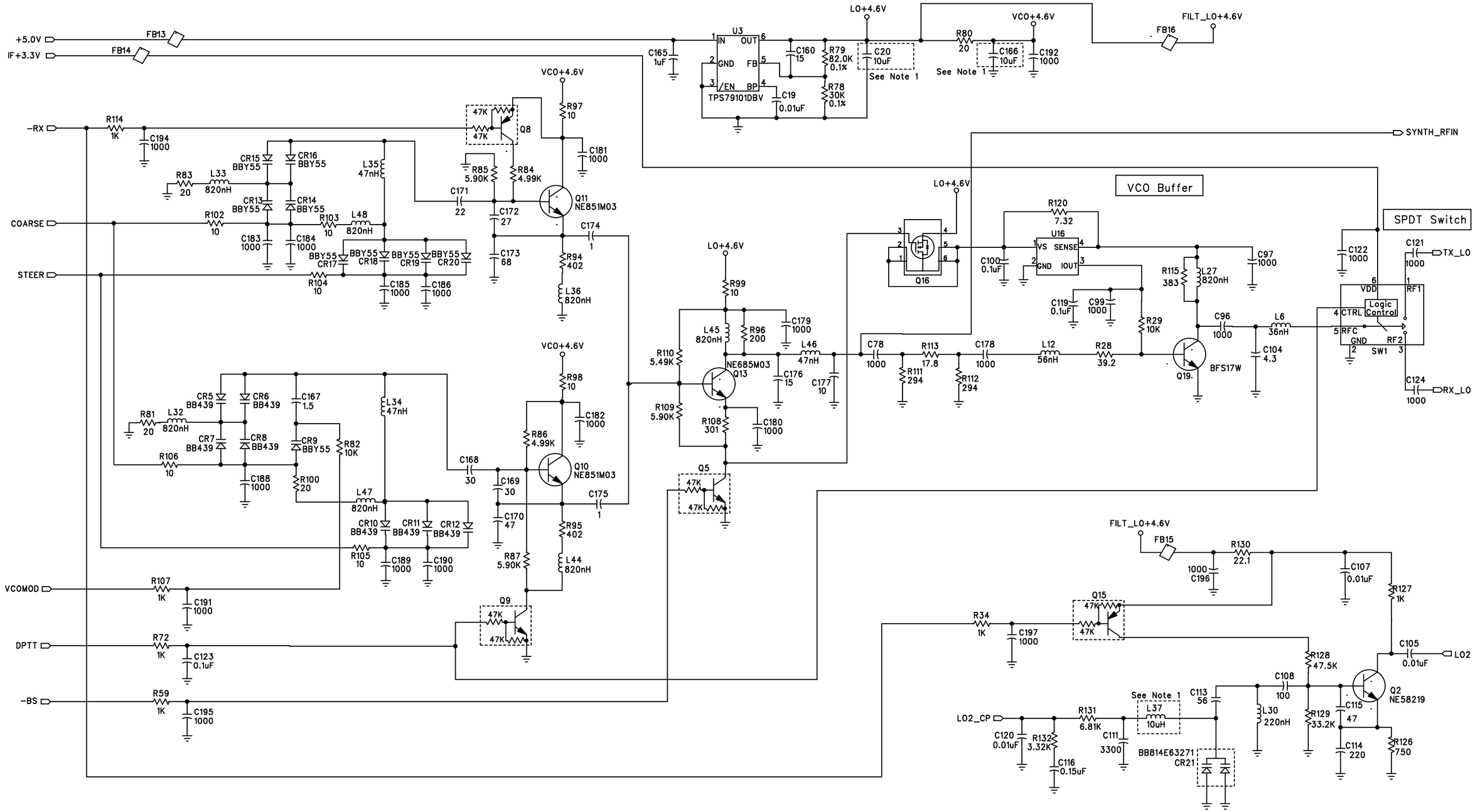

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KNG-P150 RT Board

Sheet 5 of 5

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5.11 P-400 RX/TX BOARD

Parts List, Rx/Tx Board, KNG P-400 Portable			
Reference	**Part Number**	**Description**	**Notes**
C1	1573-02330-153	Cap,Cp,33pF,S,2%,250V,0603	
C2	1573-02229-123	Cap,Cp,2.2pF,S,+/-0.1pF,250V,0603	
C3	1573-02399-123	Cap,Cp,3.9pF,S,+/-0.1pF,250V,0603	
C4	1570-03750-163	Cap,Cp,75pF,NPO,5%,50V,0402	
C5	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C6	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C7	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C8	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C9	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C10	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C11	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C12	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C13	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C14	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C15	1570-03332-273	Cap,Cp,3300pF,X7R,10%,50V,0402	
C16	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C17	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C18	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C19	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C20	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C21	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C22	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C23	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C24	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C25	1573-01220-162	Cap,Cp,22pF,S,5%,50V,0402	
C26	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C27	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C28	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C29	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C30	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C31	1570-00221-143	Cap,Cp,220pF,NPO,1%,50V,0603	
C32	1573-01130-152	Cap,Cp,13pF,S,2%,50V,0402	
C33	1573-01130-152	Cap,Cp,13pF,S,2%,50V,0402	
C34	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C35	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C36	1573-01689-122	Cap,Cp,6.8pF,S,.+/-.10pF,50V,0402	
C37	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C38	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C39	1573-01330-161	Cap,Cp,33pF,S,5%,25V,0402	
C40	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-400 Portable			
Reference	**Part Number**	**Description**	**Notes**
C41	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C42	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C43	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C44	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C45	1573-01569-132	Cap,Cp,5.6pF,S,+/-0.25pF,50V,0402	
C46	1573-02120-153	Cap,Cp,12pF,S,2%,250V,0603	
C47	1573-02439-123	Cap,Cp,4.3pF,S.+/-0.1pF,250V,0603	
C48	1573-02629-123	Cap,Cp,6.2pF,S,+/-0.1pF,250V,0603	
C49	1573-02369-123	Cap,Cp,3.6pF,S,+/-0.1pF,250V,0603	
C50	1573-02130-153	Cap,Cp,13pF,S,2%,250V,0603	
C51	1573-02240-153	Cap,Cp,24pF,S,2%,250V,0603	
C52	1573-02369-123	Cap,Cp,3.6pF,S,+/-0.1pF,250V,0603	
C53	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C54	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C55	1570-01475-772	Cp,Cp,4.7uF,X5R,10%,25V,0805	
C56	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C57	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C58	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C59	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C60	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C61	1573-01209-122	Cap,Cp,2.0pF,0402,500R07S2R0BY4E	
C62	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C63	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C64	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C65	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C66	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C67	1570-03222-273	Cap,CP,2200pF,X7R,10%,50V,0402	
C68	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C69	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C70	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C71	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C72	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C73	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C74	1573-02430-153	Cap,Cp,43pF,S,2%,250V,0603	
C75	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C76	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C77	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C78	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C79	1573-01109-122	Cap,Cp,1.0pF, S, +/-0.1pF,50V,0402	
C80	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C81	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	

Parts List, Rx/Tx Board, KNG P-400 Portable

Reference	Part Number	Description	Notes
C82	1570-01475-772	Cp,Cp,4.7uF,X5R,10%,25V,0805	
C83	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C84	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C85	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C86	1573-01100-152	Cap,Cp,10pF,S,2%,50V,0402	
C87	1573-01689-122	Cap,Cp,6.8pF,S,.+/-.10pF,50V,0402	
C88	1570-03390-153	Cap,Cp,39pF,2%,NPO,50V,0402	
C89	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C90	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C91	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C92	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C93	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C94	1573-01120-152	Cap,Cp,12pF,S,2%,50V,0402	
C95	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C96	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C97	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C99	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C100	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C102	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C103	1573-01689-122	Cap,Cp,6.8pF,S,.+/-.10pF,50V,0402	
C104	1573-01129-122	Cap,Cp,1.2pF,S,+/-0.1pF,50V,0402	
C105	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C106	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C107	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C108	1573-02270-163	Cp,Cap,27pF,S,5%,250V,0603	
C109	1573-01229-122	Cap,Cp,2.2pF,0402,500R07S2R2BY4E	
C110	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C111	1570-03562-272	Cap,Cp,5600pF,X7R,10%,25V,0402	
C112	1573-01309-132	Cap,Cp,3.0pF,0402,500R07S3R0CY4E	
C113	1573-02390-153	Cap,Cp,39pF,S,2%,250V,0603	
C114	1573-02820-163	Cap,Cp,82pF,0603,500R14S820JY4E	
C115	1573-02270-163	Cp,Cap,27pF,S,5%,250V,0603	
C116	1570-03154-777	Cap,Cp,.15uF,X5R,10%,10V,0402	
C117	1570-03829-113	Cap,CP,8.2pF,NPO,+/-.25pF,50V,0402	
C118	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C119	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C120	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C121	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C122	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C123	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C124	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-400 Portable			
Reference	**Part Number**	**Description**	**Notes**
C126	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C127	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C128	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C129	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C130	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C131	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C132	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C133	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C134	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C135	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C136	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C140	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C141	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C144	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C145	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C146	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C147	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C148	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C149	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C150	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C151	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C152	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C153	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C154	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C155	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C156	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C157	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C158	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C159	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C160	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C161	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C162	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C163	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C164	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C165	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C166	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C167	1570-03109-103	Cap,Cp,1pF,NPO,+/-.1pF,50V,0402	
C168	1573-01479-122	Cap,Cp,4.7pF,S,+/-0.1pF,50V,0402	
C169	1573-01479-122	Cap,Cp,4.7pF,S,+/-0.1pF,50V,0402	
C170	1573-02120-153	Cap,Cp,12pF,S,2%,250V,0603	
C171	1573-01479-122	Cap,Cp,4.7pF,S,+/-0.1pF,50V,0402	

Parts List, Rx/Tx Board, KNG P-400 Portable

Reference	Part Number	Description	Notes
C172	1573-01689-122	Cap,Cp,6.8pF,S,.+/-.10pF,50V,0402	
C173	1573-02150-153	Cap,Cp,15pF,S,2%,250V,0603	
C174	1573-01708-112	Cap,Cp,0.7pF,S,+/-.05pF,50V,0402	
C175	1570-03109-103	Cap,Cp,1pF,NPO,+/-.1pF,50V,0402	
C176	1573-01479-122	Cap,Cp,4.7pF,S,+/-0.1pF,50V,0402	
C177	1573-01439-122	Cap,Cp,4.3pF,S,+/-.1pF,50V,0402	
C178	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C179	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C180	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C181	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C182	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C184	1573-01109-122	Cap,Cp,1.0pF, S, +/-0.1pF,50V,0402	
C185	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C186	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C187	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C188	1573-01270-162	Cap,Cp,27pF,S,5%,50V,0402	
C189	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C190	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C191	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C192	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C193	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C194	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C195	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C196	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C197	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C198	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C199	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C200	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C201	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C202	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C203	1573-02629-123	Cap,Cp,6.2pF,S,+/-0.1pF,250V,0603	
C206	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C207	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C210	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C211	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C214	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C215	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C216	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C217	1573-01339-122	Cap,Cp,3.3pF,S,+/-0.1pF,50V,0402	
C218	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C220	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-400 Portable			
Reference	**Part Number**	**Description**	**Notes**
C221	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C222	1573-01130-152	Cap,Cp,13pF,S,2%,50V,0402	
C223	1573-01130-152	Cap,Cp,13pF,S,2%,50V,0402	
C225	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C226	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C227	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C228	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C229	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C230	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C231	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C601	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C605	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C606	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C607	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C614	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C615	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C616	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C617	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C618	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C619	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C620	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C621	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C622	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C623	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C624	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C625	1572-00224-913	Cap,Cp,0.22uF, Film,5%,50V	
C626	1572-00105-734	Cap,Cp,1.0uF,Film,20%,16V,1210	
C627	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C628	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C629	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C630	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C631	1570-03509-113	Cap,Cp,5pF,NPO,+/-0.25pF,50V,0402	
C632	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C633	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C634	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C635	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C636	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C637	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C638	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C639	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C640	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	

Parts List, Rx/Tx Board, KNG P-400 Portable

Reference	Part Number	Description	Notes
C641	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C642	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C643	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C644	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
CR1	4824-20047-303	Diode, Pin, BAR88-02V, SC79	
CR2	4824-20047-303	Diode, Pin, BAR88-02V, SC79	
CR3	4824-20021-400	Di,Var-Dual,BB814,SOT-23,	
CR4	4824-30541-303	Di,Dual,Schottky,SC-70	
CR5	4824-20021-103	Di,Var,BBY55,SC79	
CR6	4824-20021-103	Di,Var,BBY55,SC79	
CR7	4824-20021-103	Di,Var,BBY55,SC79	
CR8	4824-20021-103	Di,Var,BBY55,SC79	
CR9	4824-20021-103	Di,Var,BBY55,SC79	
CR10	4824-20021-103	Di,Var,BBY55,SC79	
CR11	4824-20021-103	Di,Var,BBY55,SC79	
CR12	4824-20021-103	Di,Var,BBY55,SC79	
CR13	4824-20021-103	Di,Var,BBY55,SC79	
CR14	4824-20021-103	Di,Var,BBY55,SC79	
CR15	4824-20021-103	Di,Var,BBY55,SC79	
CR16	4824-20021-103	Di,Var,BBY55,SC79	
CR17	4824-20021-103	Di,Var,BBY55,SC79	
CR18	4824-20021-103	Di,Var,BBY55,SC79	
CR19	4824-20021-103	Di,Var,BBY55,SC79	
CR20	4824-20021-103	Di,Var,BBY55,SC79	
CR21	4824-20021-400	Di,Var-Dual,BB814,SOT-23,	
CR22	4824-20008-601	Di, Schottky, HSMS-286C, SOT323	
D1	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D2	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D3	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D4	4824-20021-105	Di, Var,BBY58,SCD80	
D5	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D6	4828-30513-304	Di,ESD,PESD15VS1UB,SOD-523	
D7	4828-30513-202	DI,ESD,ESD5Z3.3T1, SOD-523	
D8	4824-20008-601	Di, Schottky, HSMS-286C, SOT323	
D9	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D10	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D11	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D12	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D13	4824-20021-107	Di, Var, ISV305, 1-1G1A	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-400 Portable			
Reference	**Part Number**	**Description**	**Notes**
D14	4824-20021-107	Di, Var, ISV305, 1-1G1A	
F2	5107-30934-902	Fuse,3A,32V,SMD,0603	
FB1	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB2	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB3	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB4	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB5	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB6	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB7	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB8	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB9	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB10	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB11	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB12	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB13	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB14	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB15	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB16	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB17	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB18	2503-04600-439	Bead,Fer.,60_Ohms,500mA,0603	
FB19	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB20	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB21	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB22	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB601	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB603	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FL1	2705-20109-403	Filter, Xtal, 4P, 1D90015GQ7, SMD	
J2	2105-50575-602	CONN,40-PIN,HOR.,0.5mm,SMD	
J3	2105-60455-300	CONN, BATTERY	
J4	2105-30969-100	Conn. SMA,Jack, RT Angle,PC Mount	
L1	1812-18002-382	Ind,Cp,18nHy,2%,2508-18NGL	
L2	1812-68003-020	Ind,Cp,68nH,5%,0805CS	
L3	1801-30736-067	Ind,Fxd_AW_Coil,3T,22GA,0.067 ID,LH	
L4	1800-30989-057	Ind,AW Coil,3T,.057ID,SMT	
L5	1812-12002-310	Ind,Cp,12nHy,2%,1008HQ-12NXGL	
L6	1812-10002-010	Ind,Cp,10nHy,2%,0603CS-10NXGL	

Parts List, Rx/Tx Board, KNG P-400 Portable

Reference	Part Number	Description	Notes
L7	1812-54902-132	Ind,Cp,5.4nHy,2%,0906-5GL	
L8	1812-12002-310	Ind,Cp,12nHy,2%,1008HQ-12NXGL	
L9	1812-15003-020	Ind,Fxd_Coil,15nH,5%,0805	
L10	1812-78903-310	Ind,Cp,7.8nHy,5%,1008HQ-7N8XJL	
L11	1812-38902-132	Ind,Cp,3.85nHy,2%,0906-4GL	
L12	5610-30910-300	Transfmr, RF, 3-300MHz, CX2045L, SMD	
L13	1812-18002-310	Ind,Cp,18nH,2%,1008HQ-18NXGL	
L14	1812-39102-010	Ind,Cp,390nH,2%,0603CS	
L15	1812-10013-091	Ind,Cp,10uH,5%,1008LS-103XJB	
L16	1812-10013-091	Ind,Cp,10uH,5%,1008LS-103XJB	
L17	1812-15913-050	Ind,Cp,1.5uH,5%,1008CS	
L18	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L19	1812-20102-010	Ind,Cp,200nH,2%,0603CS-R20XGL	
L20	1812-39102-010	Ind,Cp,390nH,2%,0603CS	
L21	1812-47103-020	Ind,Cp,470nHy,5%,0805CS-471XJL	
L22	1801-30736-079	Ind,Fxd_AW_Coil,3T,22GA,0.079 ID,LH	
L23	1801-30736-081	Ind,Fxd_AW_Coil,3T,22GA,0.081 ID,LH	
L24	1801-30736-083	Ind,Fxd_AW_Coil,3T,22GA,0.083 ID,LH	
L25	1812-78903-310	Ind,Cp,7.8nHy,5%,1008HQ-7N8XJL	
L26	1812-12002-020	Ind,Cp,12nHy,2%,0805CS-120XGL	
L27	1812-33102-010	Ind,Cp,330nHy,2%,0603CS-R33XGL	
L28	1812-75102-050	Ind,Cp,750nH,2%,1008CS-751XGB	
L29	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L30	1812-82002-310	Ind,Cp,82nHy,2%,1008HQ-82NXGL	
L31	5610-30910-301	Transfmr, Xmission Line, 4.5-3000Hz, SM-22	
L32	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L33	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L34	1812-18002-382	Ind,Cp,18nHy,2%,2508-18NGL	
L35	1812-27002-302	Ind,Cp,27nHy,2%,1812SMS-27NGL	
L36	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L37	1812-18203-050	Ind,Cp,1800nHy,5%,1008CS	
L38	1812-10002-010	Ind,Cp,10nHy,2%,0603CS-10NXGL	
L39	1812-47002-010	Ind,Cp,47nH,2%,0603CS	
L40	1812-16002-010	Ind,Cp,16nHy,2%,0603CS-16NXGL	
L41	1812-54902-132	Ind,Cp,5.4nHy,2%,0906-5GL	
L42	1812-22903-010	Ind,Cp,2.2nHy,5%,0603CS-2N2XJL	
L43	1812-22903-010	Ind,Cp,2.2nHy,5%,0603CS-2N2XJL	
L44	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L45	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L46	1812-22002-020	Ind,Cp,22nHy,2%,0805CS-220XGL	
L47	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-400 Portable			
Reference	**Part Number**	**Description**	**Notes**
L48	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L49	1812-78903-310	Ind,Cp,7.8nHy,5%,1008HQ-7N8XJL	
L50	1812-12002-310	Ind,Cp,12nHy,2%,1008HQ-12NXGL	
L51	1812-47902-010	Ind,Cp,4.7nHy,2%,0603CS-4N7XGL	
L52	1812-43902-010	Ind,Cp,4.3nHy,2%,0603CS-4N3XGL	
L53	1812-12002-010	Ind,Cp,12nHy,2%,0603CS-12NXGL	
L54	1812-22002-010	Ind,Cp,22nHy,2%,0603CS	
L55	1812-47002-010	Ind,Cp,47nH,2%,0603CS	
Q1	4823-30723-405	Xstr, NPN, RF, 9GHz,BFG540/X, SOT143B	
Q2	4823-50533-600	Xstr,NPN,NE58219,Ultra_Super_Mini_Mold	
Q3	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q4	3134-30950-520	IC,P-CH,PwrTrench,FDG328P,SC70-6	
Q5	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q6	4823-30595-803	Xstr,N-Ch,Dual,MFET,BF1212,SOT143B	
Q7	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q8	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q9	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q10	4823-50483-300	Xstr,NPN,SILICON, NE851M03	
Q11	4823-50483-300	Xstr,NPN,SILICON, NE851M03	
Q12	4823-30680-214	Xstr,Dig,PNP,4.7K/10K,VMT3	
Q13	4823-50483-301	Xstr,NPN,SILICON, NE685M03	
Q14	4823-30939-201	Trans, MOSFET, N-Channel, SC-70, 2SK3018	
Q15	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q16	3134-30950-520	IC,P-CH,PwrTrench,FDG328P,SC70-6	
Q17	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q18	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q19	4823-30723-403	Xstr, NPN, RF, WB, PRF949, SOT416	
Q101	3134-30950-521	IC,N-CH,PwrTrench,FDG329N,SC70-6	
R1	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R2	4732-04999-211	Res,Cp,49.9_Ohms,1%,1/16W,0603	
R3	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R4	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R5	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R6	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R7	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R8	4734-02211-311	Res,Cp,2.21K,1/16W,1%,0402	
R9	4724-08069-213	Res,Cp,80.6_Ohms,1%,1/10W,0805	
R10	4732-02940-511	Res,Cp,294_Ohms,1%,1/16W,0603	
R11	4734-01003-311	Res,CP,100K,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-400 Portable

Reference	Part Number	Description	Notes
R12	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R13	4734-04751-311	Res,CP,4.75K,1%,1/16W,0402	
R14	4728-00019-945	Res,Cp,.10_Ohm,1/4W,10%	
R15	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R16	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R17	4734-01500-311	Res,Cp,150_Ohms,1/16W,1%,0402	
R18	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R19	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R20	4734-02499-311	Res,Cp,24.9_Ohms,1%,1/16W,0402	
R21	4734-02499-311	Res,Cp,24.9_Ohms,1%,1/16W,0402	
R22	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R23	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R24	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R25	4724-00109-335	Res,Cp,1_Ohm,1/10W,5%,0805,	
R26	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R27	4732-02940-511	Res,Cp,294_Ohms,1%,1/16W,0603	
R28	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R29	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R30	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R31	4750-20025-700	Res,Var,50K,,A Taper,Hor.,SPST SW	
R32	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R33	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R34	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R35	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R36	4732-01789-511	Res,Cp,17.8_Ohms,1%,1/16W,0603	
R37	4734-07501-311	Res,Cp,7.5K,1/16W,1%,0402	
R38	4734-01103-311	Res,CP,110K,1%,1/16W,0402	
R39	4734-05112-311	Res,Cp,51.1K,1%,1/16W,0402	
R40	4734-03923-311	Res,Cp,392K,1%,1/16W,0402	
R41	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R42	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R43	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R44	4734-03652-311	Res,Cp,36.5K,1%,1/16W,0402	
R45	4734-02872-311	Res,Cp,28.7K,1%,1/16W,0402	
R46	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R47	4734-02873-311	Res,Cp,287K,1%,1/16W,0402	
R48	4734-07872-311	Res,CP,78.7K,1%,1/16W,0402	
R49	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R50	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R51	4734-04752-311	Res,Cp,47.5K,1%,1/16W,0402	
R52	4728-00621-335	Res,Cp,620_Ohm,1/4W,5%	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-400 Portable			
Reference	**Part Number**	**Description**	**Notes**
R53	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R54	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R55	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R56	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R57	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R58	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R59	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R60	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R61	4734-04999-311	Res,Cp,49.9_Ohms,1%,1/16W,0402	
R62	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R63	4734-01821-311	Res,Cp,1.82K,1%,1/16W,0402	
R64	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R65	4734-39102-454	Res,Cp,91K,0.1%,1/16W,0402	
R66	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R67	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R68	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R69	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R70	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R71	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R72	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R73	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R74	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R75	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R76	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R77	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R78	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R79	4734-38202-454	Res,Cp,82K,ThinMF,0.1%,1/16W,0402	
R80	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R81	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R82	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R83	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R84	4734-04991-311	Res,Cp,4.99K,1%,1/16W,0402	
R85	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R86	4734-04991-311	Res,Cp,4.99K,1%,1/16W,0402	
R87	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R88	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R89	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R90	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R91	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R92	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R93	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-400 Portable

Reference	Part Number	Description	Notes
R94	4734-04020-311	Res,Cp,402_Ohms,1%,1/16W,0402	
R95	4734-04020-311	Res,Cp,402_Ohms,1%,1/16W,0402	
R96	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R97	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R98	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R99	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R100	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R101	4734-03740-311	Res,Cp,374_Ohm,1%,1/16W,0402	
R102	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R103	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R104	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R105	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R106	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R107	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R108	4734-02150-311	Res,Cp,215_Ohms,1%,1/16W,0402	
R109	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R110	4734-05491-311	Res,Cp,5.49K,1%,1/16W,0402	
R111	4734-02940-311	Res,Cp,294_Ohms,1%,1/16W,0402	
R112	4734-02940-311	Res,Cp,294_Ohms,1%,1/16W,0402	
R113	4734-01789-311	Res,Cp,17.8_Ohms,1%,1/16W,0402	
R114	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R115	4734-03830-311	Res,CP,383_OHMS,1%,1/16W,0402	
R116	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R117	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R118	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R119	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R120	4734-03169-311	Res,Cp,31.6_Ohms,1%,1/16W,0402	
R121	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R122	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R123	4734-08258-311	Res,Cp,8.25_Ohms,1%,1/16W,0402	
R124	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R125	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R126	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R127	4734-07509-311	Res,Cp,75_Ohms,1%,1/16W,0402	
R128	4734-01742-311	Res,Cp,17.4K,1%,1/16W,0402	
R129	4734-01742-311	Res,Cp,17.4K,1%,1/16W,0402	
R130	4734-02219-311	Res,Cp,22.1_Ohms,1%,1/16W,0402	
R131	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R132	4734-03321-311	Res,Cp,3.32 K,1/16W,1%,0402	
R133	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R134	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-400 Portable			
Reference	**Part Number**	**Description**	**Notes**
R135	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R136	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R137	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R138	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R139	4734-04320-311	Res,Cp,432_Ohms,1%,1/16W,0402	
R140	4734-04320-311	Res,Cp,432_Ohms,1%,1/16W,0402	
R141	4734-01159-311	Res,Cp,11.5_Ohms,1%,1/16W,0402	
R142	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R143	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R144	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R145	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R146	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R147	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R148	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R149	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R150	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R151	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R152	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R153	4734-04999-311	Res,Cp,49.9_Ohms,1%,1/16W,0402	
R154	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R155	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R156	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R157	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R158	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R160	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R162	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R601	4734-05112-311	Res,Cp,51.1K,1%,1/16W,0402	
R602	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R603	4734-08062-311	Res,Cp,80.6K,1%,1/16W,0402	
R609	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R616	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R617	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R618	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R619	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R620	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R621	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R622	4734-02612-311	Res,Cp,26.1K,1/16W,1%,0402	
R623	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R625	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R626	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R628	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-400 Portable

Reference	Part Number	Description	Notes
R629	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R630	4734-02491-311	Res,Cp,2.49K,1/16W,1%,0402	
R631	4734-02000-311	Res,Cp,200_Ohms,1%,1/16W,0402	
R632	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R633	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R634	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R635	4734-01212-311	Res,Cp,12.1k,1/16W,1%,0402	
R636	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R637	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R638	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R639	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R640	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R641	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
S1	5114-50574-302	Switch,Toggle,Sub-Mini,3-Pos	
S2	5112-50399-944	Switch,Tact,R/A,EVQP8603M	
S3	5112-50399-935	Switch,Tact,Side-Act.,SMD	
S4	5112-50399-935	Switch,Tact,Side-Act.,SMD	
S5	5114-50574-302	Switch,Toggle,Sub-Mini,3-Pos	
S6	5111-30942-503	Switch,Rotary,16_Pos,Gray Code,BV17297	
SH1	2508-30986-900	Shield-Fence,Top,Front End	
SH2	2508-30986-800	Shield-Fence,Bottom,Front End	
SH3	2508-30987-500	Shield-Fence,Top,Mixer	
SH4	2508-30987-400	Shield-Fence,Bottom,Mixer	
SH5	2508-30987-200	Shield-Fence,Top, IF	
SH6	2508-30987-100	Shield-Fence,Bottom, IF	
SH7	2508-30987-800	Shield-Fence,Top, Synth	
SH8	2508-30987-700	Shield-Fence,Bottom, Synth	
SH9	2508-30988-100	Shield-Fence,Top,VCO	
SH10	2508-30988-000	Shield-Fence,Bottom,VCO	
SP1	1400-31034-700	Brace, PTT-Switch, KNG-P	
SW1	3134-30906-203	IC,RF_SW,SPDT,MFET,PE4259,SC-70	
U1	3134-30670-622	IC,IF,Digit,Subsys,AD9864BCPZ,CP-48	
U2	3134-30911-003	IC,OP_AMP,R/R, LT1783CS5, SOT-23	
U3	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U4	3132-30595-100	IC, RFA, 380-470MHz, RA07N4047M-121	
U5	3134-30911-003	IC,OP_AMP,R/R, LT1783CS5, SOT-23	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-400 Portable			
Reference	**Part Number**	**Description**	**Notes**
U6	3134-30950-302	IC,REG,ADJ,LDO,50ma,TPS71501,SC70	
U7	3134-30940-811	IC,8-Bit,DAC,LTC1665IGN,SSOP-16	
U8	3134-30908-603	IC,OP,AMP,R-R,TLV2463IDGS,MSOP	
U9	3134-30911-003	IC,OP_AMP,R/R, LT1783CS5, SOT-23	
U10	4823-30723-404	Xstr, NPN, RF, BFP420, SOT343	
U11	3135-31002-002	IC, Freq, Mixer, LT5526EUF, SMD	
U12	3134-30950-502	IC,P-Ch,30V,PwrTrench,SI6443DQ,TSS0P-8	
U13	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U14	3134-20083-004	IC,Dig,Pot,AD5160BRJ10,SOT-23	
U16	3134-60097-300	IC,Controller,BCR410W,SOT343	
U17	3134-60097-300	IC,Controller,BCR410W,SOT343	
U18	3134-30747-823	IC, EEPROM, SPI, AT25080A, 8Y6	
U602	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U603	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U604	3134-30906-202	IC,SW,SPST,MAX4520EUT-T,SOT23-6	
U605	3134-30577-404	IC,Freq_Syn,CX72301-11,TSSOP	
Y1	2390-30957-104	TCXO,19.6608MHz,+/-2.5PPM, 2.5x3.2mm,SMD	
Y2	2390-30957-103	TCXO, 10.00MHz,+/-1.5PPM, 2.5x3.2mm,SMD	

Illustrated Parts List

P-400 Rx/Tx Board

8888-30976-600
KNG-P400/P500 RT Board

Sheet 1 of 1

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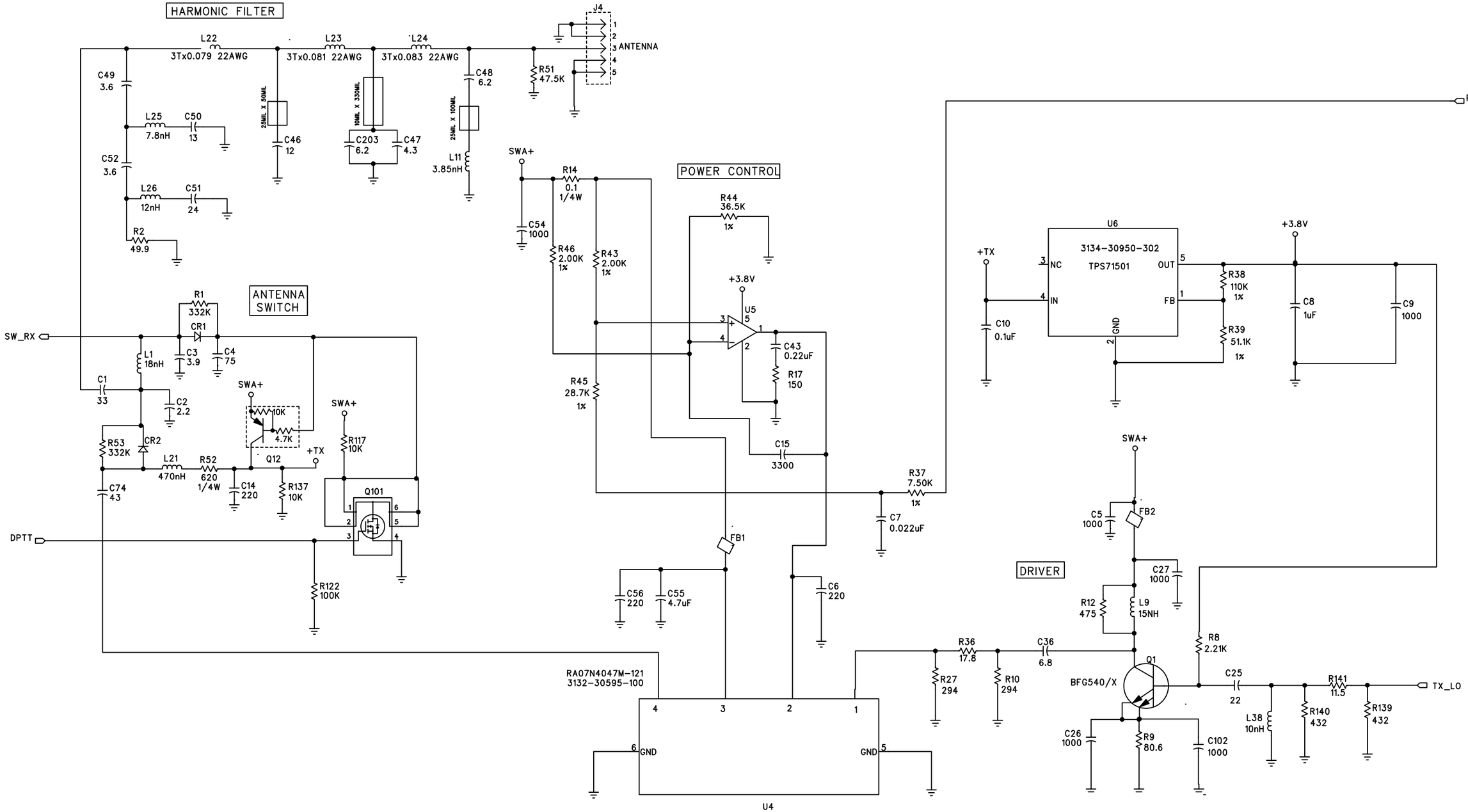
Illustrated Parts List

P-400 Rx/Tx Board



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KNG-P400 RT Board

Sheet 1 of 5 Rev. G

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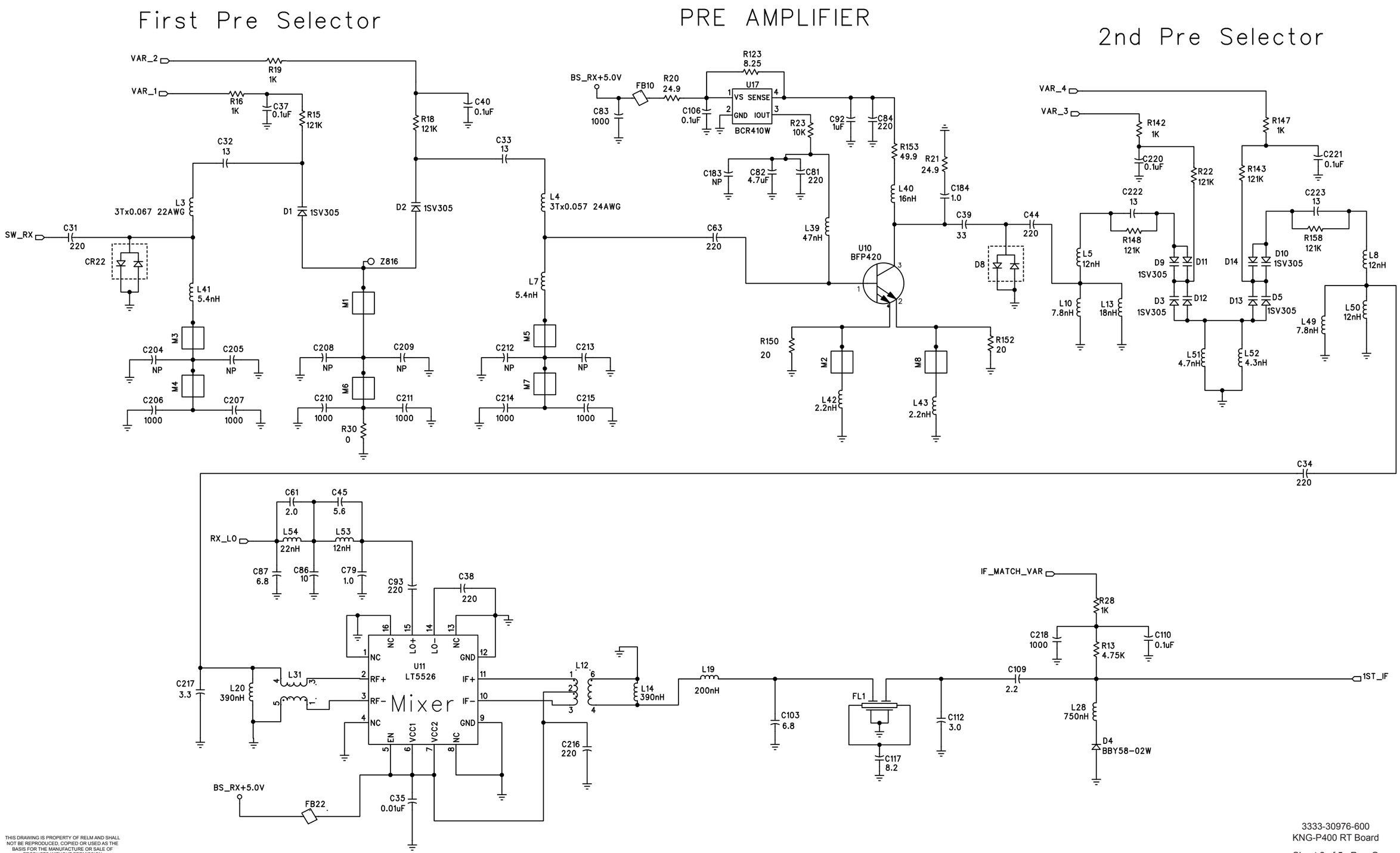

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KNG-P400 RT Board

Sheet 2 of 5 Rev. G

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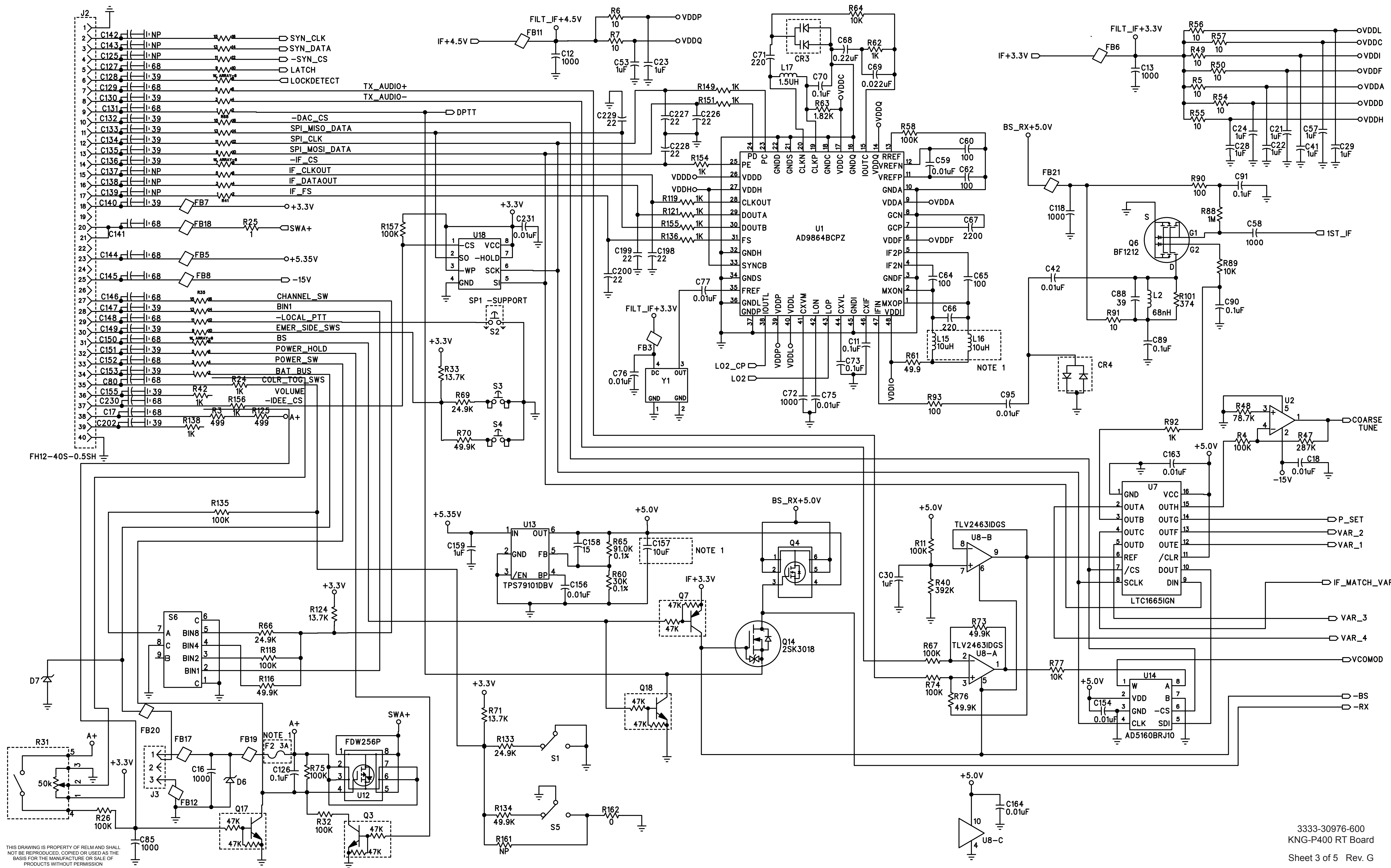
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KNG-P400 RT Board
Sheet 3 of 5 Rev. G

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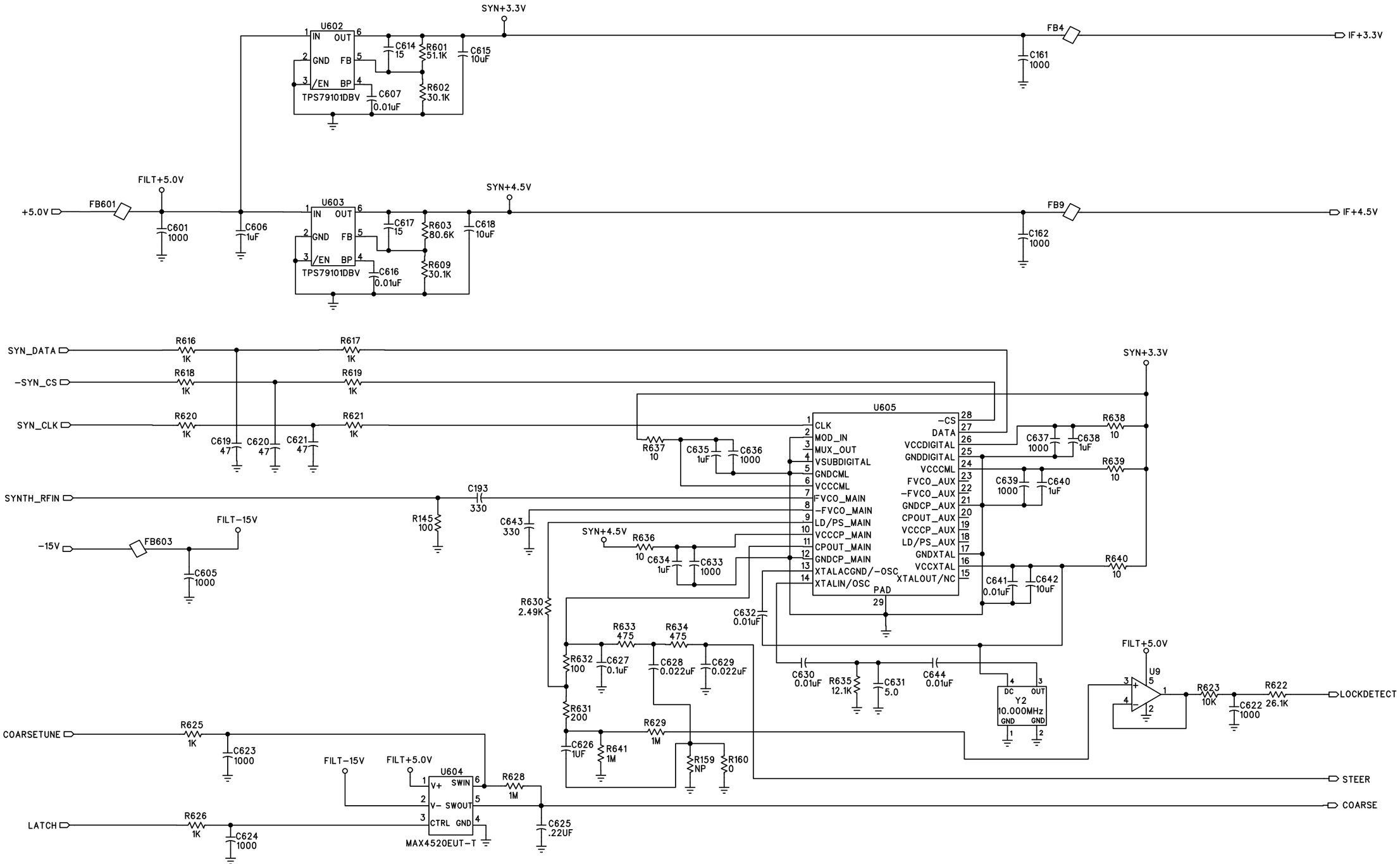
P-400 Rx/Tx Board



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KNG-P400 RT Board

Sheet 4 of 5 Rev. G

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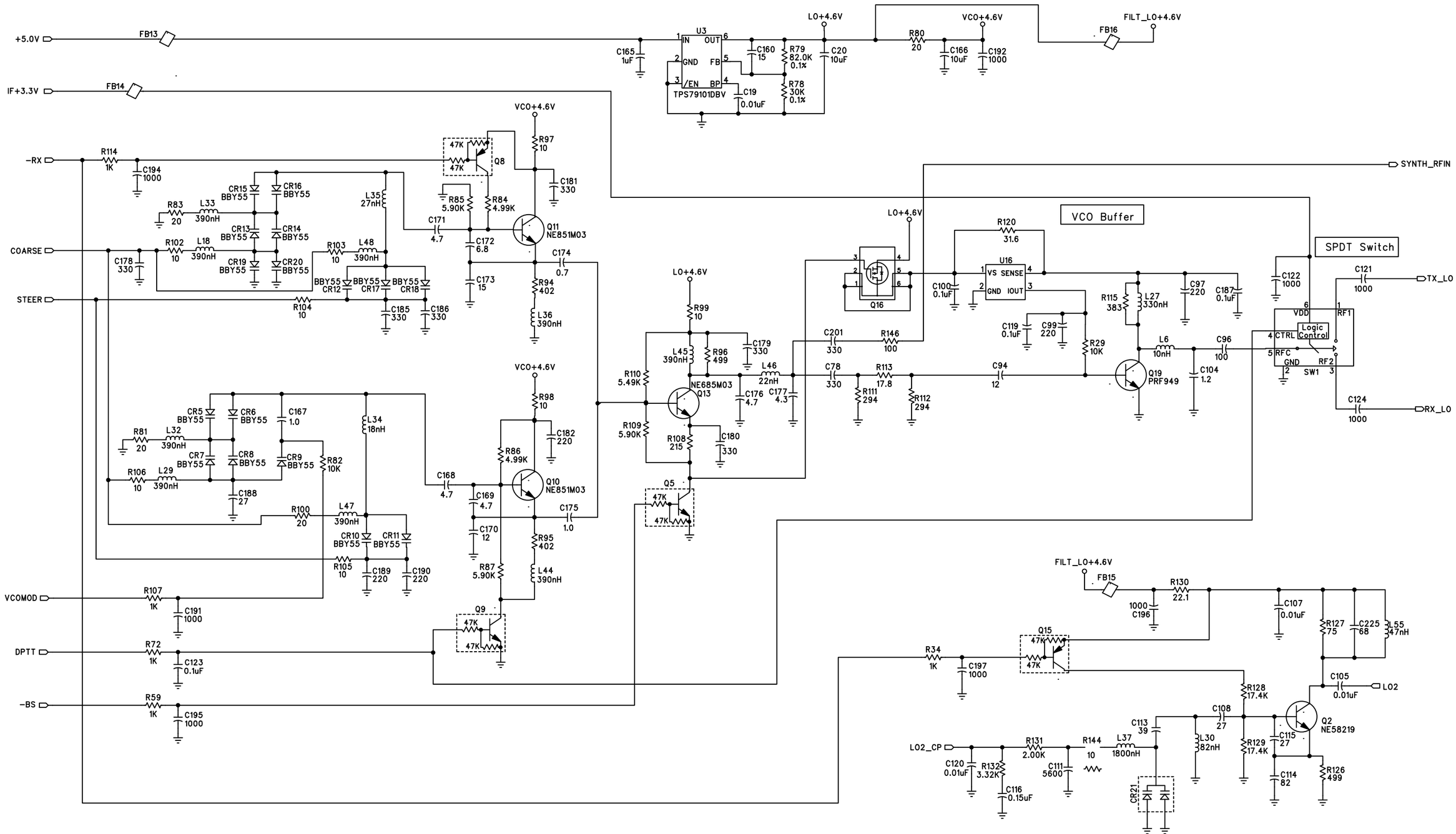
Illustrated Parts List

P-400 Rx/Tx Board



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KNG-P400 RT Board

Sheet 5 of 5 Rev. G

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5.15 P-500 RX/TX BOARD

Parts List, Rx/Tx Board, KNG P-500 Portable			
Reference	**Part Number**	**Description**	**Notes**
C1	1573-02360-163	Cap,Cp,36pF,S,5%,250V,0603	
C2	1573-02209-123	Cap,Cp,2pF,S,+/-0.1pF,250V,0603	
C3	1573-02399-123	Cap,Cp,3.9pF,S,+/-0.1pF,250V,0603	
C5	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C6	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C7	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C8	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C9	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C10	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C11	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C12	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C13	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C14	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C15	1570-03332-273	Cap,Cp,3300pF,X7R,10%,50V,0402	
C16	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C17	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C18	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C19	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C20	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C21	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C22	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C23	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C24	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C25	1573-01220-162	Cap,Cp,22pF,S,5%,50V,0402	
C26	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C27	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C28	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C29	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C30	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C31	1573-02470-163	Cap,Cp,47pF,S,5%,250V,0603	
C32	1573-01130-152	Cap,Cp,13pF,S,2%,50V,0402	
C33	1573-01130-152	Cap,Cp,13pF,S,2%,50V,0402	
C34	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C35	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C36	1573-01689-122	Cap,Cp,6.8pF,S,.+/-.10pF,50V,0402	
C37	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C38	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C39	1573-01330-161	Cap,Cp,33pF,S,5%,25V,0402	
C40	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C41	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-500 Portable			
Reference	**Part Number**	**Description**	**Notes**
C42	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C43	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C44	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C45	1573-01439-122	Cap,Cp,4.3pF,S,+/-.1pF,50V,0402	
C46	1573-02100-163	Cap,Cp,10pF,0603,500R14S100JY4E	
C48	1573-02479-133	Cap,Cp,4.7pF,S,+/-.25pF,250V,0603	
C49	1573-02369-123	Cap,Cp,3.6pF,S,+/-0.1pF,250V,0603	
C50	1573-02829-133	Cap,Cp,8.2pF,0603,500R14S8R2CY4E	
C51	1573-02560-163	Cap,Cp,56pF,S,5%,250V,0603	
C52	1573-02369-123	Cap,Cp,3.6pF,S,+/-0.1pF,250V,0603	
C53	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C54	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C55	1570-01475-772	Cp,Cp,4.7uF,X5R,10%,25V,0805	
C56	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C57	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C58	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C59	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C60	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C61	1573-01189-122	Cap,Cp,1.8pF,0402,500R07S1R8BY4E	
C62	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C63	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C64	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C65	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C66	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C67	1570-03222-273	Cap,CP,2200pF,X7R,10%,50V,0402	
C68	1570-03224-778	Cap,Cp,.22uF,X5R,10%,6.3V,0402	
C69	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C70	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C71	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C72	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C73	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C74	1573-02430-153	Cap,Cp,43pF,S,2%,250V,0603	
C75	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C76	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C77	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C78	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C79	1573-01309-122	Cap,Cp,3.0pF,0402,500R07S3R0BY4E	
C80	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C81	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C82	1570-01475-772	Cp,Cp,4.7uF,X5R,10%,25V,0805	
C83	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	

Parts List, Rx/Tx Board, KNG P-500 Portable

Reference	Part Number	Description	Notes
C84	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C85	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C86	1573-01100-152	Cap,Cp,10pF,S,2%,50V,0402	
C87	1573-01519-122	Cap,Cp,5.1pF,0402,500R07S5R1BY4E	
C88	1570-03390-153	Cap,Cp,39pF,2%,NPO,50V,0402	
C89	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C90	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C91	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C92	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C93	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C94	1573-01120-152	Cap,Cp,12pF,S,2%,50V,0402	
C95	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C96	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C97	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C99	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C100	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C102	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C103	1573-01689-122	Cap,Cp,6.8pF,S,.+/-.10pF,50V,0402	
C104	1573-01129-122	Cap,Cp,1.2pF,S,+/-0.1pF,50V,0402	
C105	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C106	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C107	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C108	1573-02270-163	Cp,Cap,27pF,S,5%,250V,0603	
C109	1573-01229-122	Cap,Cp,2.2pF,0402,500R07S2R2BY4E	
C110	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C111	1570-03562-272	Cap,Cp,5600pF,X7R,10%,25V,0402	
C112	1573-01309-132	Cap,Cp,3.0pF,0402,500R07S3R0CY4E	
C113	1573-02390-153	Cap,Cp,39pF,S,2%,250V,0603	
C114	1573-02820-163	Cap,Cp,82pF,0603,500R14S820JY4E	
C115	1573-02270-163	Cp,Cap,27pF,S,5%,250V,0603	
C116	1570-03154-777	Cap,Cp,.15uF,X5R,10%,10V,0402	
C117	1570-03829-113	Cap,CP,8.2pF,NPO,+/-.25pF,50V,0402	
C118	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C119	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C120	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C121	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C122	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C123	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C124	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C126	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C127	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-500 Portable			
Reference	**Part Number**	**Description**	**Notes**
C128	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C129	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C130	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C131	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C132	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C133	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C134	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C135	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C136	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C140	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C141	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C144	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C145	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C146	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C147	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C148	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C149	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C150	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C151	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C152	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C153	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C154	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C155	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C156	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C157	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C158	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C159	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C160	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C161	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C162	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C163	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C164	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C165	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C166	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C167	1570-03109-103	Cap,Cp,1pF,NPO,+/-.1pF,50V,0402	
C168	1573-01399-122	Cap,Cp,3.9pF,0402,500R07S3R9BY4E	
C169	1573-01399-122	Cap,Cp,3.9pF,0402,500R07S3R9BY4E	
C170	1573-02829-133	Cap,Cp,8.2pF,0603,500R14S8R2CY4E	
C171	1573-01479-122	Cap,Cp,4.7pF,S,+/-0.1pF,50V,0402	
C172	1573-01479-122	Cap,Cp,4.7pF,S,+/-0.1pF,50V,0402	
C173	1573-02100-163	Cap,Cp,10pF,0603,500R14S100JY4E	

Parts List, Rx/Tx Board, KNG P-500 Portable

Reference	Part Number	Description	Notes
C174	1573-01508-112	Cap,Cp,0.5pF,S,+/-0.05pF,50V,0402	
C175	1573-01708-112	Cap,Cp,0.7pF,S,+/-.05pF,50V,0402	
C176	1573-01479-122	Cap,Cp,4.7pF,S,+/-0.1pF,50V,0402	
C177	1573-01439-122	Cap,Cp,4.3pF,S,+/-.1pF,50V,0402	
C178	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C179	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C180	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C181	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C182	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C184	1573-01109-122	Cap,Cp,1.0pF, S, +/-0.1pF,50V,0402	
C185	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C186	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C187	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C188	1573-01120-162	Cap,Cp,12pF,5%,0402,500R07S120JY4E	
C189	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C190	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C191	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C192	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C193	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C194	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C195	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C196	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C197	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C198	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C199	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C200	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C201	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C202	1570-03390-163	Cap,Cp,39pF,NPO,5%,50V,0402	
C203	1573-02829-133	Cap,Cp,8.2pF,0603,500R14S8R2CY4E	
C204	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C205	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C208	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C209	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C212	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C213	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C216	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C217	1573-01339-122	Cap,Cp,3.3pF,S,+/-0.1pF,50V,0402	
C218	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C220	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C221	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C222	1573-01100-152	Cap,Cp,10pF,S,2%,50V,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-500 Portable			
Reference	**Part Number**	**Description**	**Notes**
C223	1573-01100-152	Cap,Cp,10pF,S,2%,50V,0402	
C225	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C226	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C227	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C228	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C229	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C230	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C231	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C601	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C605	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C606	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C607	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C614	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C615	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C616	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C617	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C618	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C619	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C620	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C621	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C622	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C623	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C624	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C625	1572-00224-913	Cap,Cp,0.22uF, Film,5%,50V	
C626	1572-00105-734	Cap,Cp,1.0uF,Film,20%,16V,1210	
C627	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C628	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C629	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C630	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C631	1570-03509-113	Cap,Cp,5pF,NPO,+/-0.25pF,50V,0402	
C632	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C633	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C634	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C635	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C636	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C637	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C638	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C639	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C640	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C641	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C642	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	

Parts List, Rx/Tx Board, KNG P-500 Portable

Reference	Part Number	Description	Notes
C643	1570-03331-163	Cap,Cp,330pF,NPO,5%,50V,0402	
C644	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
CR1	4824-20047-303	Diode, Pin, BAR88-02V, SC79	
CR2	4824-20047-303	Diode, Pin, BAR88-02V, SC79	
CR3	4824-20021-400	Di,Var-Dual,BB814,SOT-23,	
CR4	4824-30541-303	Di,Dual,Schottky,SC-70	
CR5	4824-20021-103	Di,Var,BBY55,SC79	
CR6	4824-20021-103	Di,Var,BBY55,SC79	
CR7	4824-20021-103	Di,Var,BBY55,SC79	
CR8	4824-20021-103	Di,Var,BBY55,SC79	
CR9	4824-20021-103	Di,Var,BBY55,SC79	
CR10	4824-20021-103	Di,Var,BBY55,SC79	
CR11	4824-20021-103	Di,Var,BBY55,SC79	
CR12	4824-20021-103	Di,Var,BBY55,SC79	
CR13	4824-20021-103	Di,Var,BBY55,SC79	
CR14	4824-20021-103	Di,Var,BBY55,SC79	
CR15	4824-20021-103	Di,Var,BBY55,SC79	
CR16	4824-20021-103	Di,Var,BBY55,SC79	
CR17	4824-20021-103	Di,Var,BBY55,SC79	
CR18	4824-20021-103	Di,Var,BBY55,SC79	
CR19	4824-20021-103	Di,Var,BBY55,SC79	
CR20	4824-20021-103	Di,Var,BBY55,SC79	
CR21	4824-20021-400	Di,Var-Dual,BB814,SOT-23,	
CR22	4824-20008-601	Di, Schottky, HSMS-286C, SOT323	
D1	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D2	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D3	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D4	4824-20021-105	Di, Var,BBY58,SCD80	
D5	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D6	4828-30513-304	Di,ESD,PESD15VS1UB,SOD-523	
D7	4828-30513-202	DI,ESD,ESD5Z3.3T1, SOD-523	
D8	4824-20008-601	Di, Schottky, HSMS-286C, SOT323	
D9	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D10	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D11	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D12	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D13	4824-20021-107	Di, Var, ISV305, 1-1G1A	
D14	4824-20021-107	Di, Var, ISV305, 1-1G1A	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-500 Portable			
Reference	**Part Number**	**Description**	**Notes**
F2	5107-30934-902	Fuse,3A,32V,SMD,0603	
FB1	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB2	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB3	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB4	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB5	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB6	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB7	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB8	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB9	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB10	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB11	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB12	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB13	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB14	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB15	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB16	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB17	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB18	2503-04600-439	Bead,Fer.,60_Ohms,500mA,0603	
FB19	2503-20022-200	Ferrite,Bead,Surfc,Mt	
FB20	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB21	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB22	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB601	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB603	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FL1	2705-20109-403	Filter, Xtal, 4P, 1D90015GQ7, SMD	
J2	2105-50575-602	CONN,40-PIN,HOR.,0.5mm,SMD	
J3	2105-60455-300	CONN, BATTERY	
J4	2105-30969-100	Conn. SMA,Jack, RT Angle,PC Mount	
L1	1812-16002-382	Ind,Cp,16nHy,2%,2508-16NGL	
L2	1812-68003-020	Ind,Cp,68nH,5%,0805CS	
L3	1801-30736-048	Ind., Fxd_AW_Coil, 3T, 22GA, 0.048ID, LH	
L4	1800-30989-040	Ind., AW Coil, 3T, .040ID, SMT	
L5	1812-10002-310	Ind,Cp,10nHy,2%,1008HQ-10NXGL	
L6	1812-10002-010	Ind,Cp,10nHy,2%,0603CS-10NXGL	
L7	1812-54902-132	Ind,Cp,5.4nHy,2%,0906-5GL	
L8	1812-10002-310	Ind,Cp,10nHy,2%,1008HQ-10NXGL	

Parts List, Rx/Tx Board, KNG P-500 Portable

Reference	Part Number	Description	Notes
L9	1812-15003-020	Ind,Fxd_Coil,15nH,5%,0805	
L10	1812-78903-310	Ind,Cp,7.8nHy,5%,1008HQ-7N8XJL	
L11	1812-38902-132	Ind,Cp,3.85nHy,2%,0906-4GL	
L12	5610-30910-300	Transfmr, RF, 3-300MHz, CX2045L, SMD	
L13	1812-10002-310	Ind,Cp,10nHy,2%,1008HQ-10NXGL	
L14	1812-39102-010	Ind,Cp,390nH,2%,0603CS	
L15	1812-10013-091	Ind,Cp,10uH,5%,1008LS-103XJB	
L16	1812-10013-091	Ind,Cp,10uH,5%,1008LS-103XJB	
L17	1812-15913-050	Ind,Cp,1.5uH,5%,1008CS	
L18	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L19	1812-20102-010	Ind,Cp,200nH,2%,0603CS-R20XGL	
L20	1812-39102-010	Ind,Cp,390nH,2%,0603CS	
L21	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L22	1801-30736-070	Ind., Fxd_AW_Coil, 3T, 22GA, 0.070ID, LH	
L23	1801-30736-068	Ind., Fxd_AW_Coil, 3T, 22GA, 0.068ID, LH	
L24	1801-30736-076	Ind., Fxd_AW_Coil, 3T, 22GA, 0.076ID, LH	
L25	1812-78903-310	Ind,Cp,7.8nHy,5%,1008HQ-7N8XJL	
L26	1812-75903-020	Ind,Cp,7.5nHy,5%,0805CS-070XJL	
L27	1812-33102-010	Ind,Cp,330nHy,2%,0603CS-R33XGL	
L28	1812-75102-050	Ind,Cp,750nH,2%,1008CS-751XGB	
L29	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L30	1812-82002-310	Ind,Cp,82nHy,2%,1008HQ-82NXGL	
L31	5610-30910-301	Transfmr, Xmission Line, 4.5-3000Hz, SM-22	
L32	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L33	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L34	1812-16002-382	Ind,Cp,16nHy,2%,2508-16NGL	
L35	1812-22002-302	Ind,Cp,22nHy,2%,1812SMS-22NGL	
L36	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L37	1812-18203-050	Ind,Cp,1800nHy,5%,1008CS	
L38	1812-10002-010	Ind,Cp,10nHy,2%,0603CS-10NXGL	
L39	1812-47002-010	Ind,Cp,47nH,2%,0603CS	
L40	1812-16002-010	Ind,Cp,16nHy,2%,0603CS-16NXGL	
L41	1812-54902-132	Ind,Cp,5.4nHy,2%,0906-5GL	
L42	1813-22902-141	Ind,Cp,RF,2.2nHy,+/-.3nHy,L-14C2N2SV4T	
L43	1813-22902-141	Ind,Cp,RF,2.2nHy,+/-.3nHy,L-14C2N2SV4T	
L44	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L45	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L46	1812-22002-020	Ind,Cp,22nHy,2%,0805CS-220XGL	
L47	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L48	1812-39103-020	Ind,Cp,390nHy,5%,0805CS-391XJL	
L49	1812-78903-310	Ind,Cp,7.8nHy,5%,1008HQ-7N8XJL	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-500 Portable			
Reference	**Part Number**	**Description**	**Notes**
L50	1812-10002-310	Ind,Cp,10nHy,2%,1008HQ-10NXGL	
L51	1812-33902-010	Ind,Cp,3.3nHy,2%,0603CS-3N3XGL	
L52	1812-33902-010	Ind,Cp,3.3nHy,2%,0603CS-3N3XGL	
L53	1812-12002-010	Ind,Cp,12nHy,2%,0603CS-12NXGL	
L54	1812-18002-010	Ind,Cp,18nHy,2%,0603CS-18NXGL	
L55	1812-47002-010	Ind,Cp,47nH,2%,0603CS	
Q1	4823-30723-405	Xstr, NPN, RF, 9GHz,BFG540/X, SOT143B	
Q2	4823-50533-600	Xstr,NPN,NE58219,Ultra_Super_Mini_Mold	
Q3	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q4	3134-30950-520	IC,P-CH,PwrTrench,FDG328P,SC70-6	
Q5	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q6	4823-30595-803	Xstr,N-Ch,Dual,MFET,BF1212,SOT143B	
Q7	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q8	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q9	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q10	4823-50483-300	Xstr,NPN,SILICON, NE851M03	
Q11	4823-50483-300	Xstr,NPN,SILICON, NE851M03	
Q12	4823-30680-214	Xstr,Dig,PNP,4.7K/10K,VMT3	
Q13	4823-50483-301	Xstr,NPN,SILICON, NE685M03	
Q14	4823-30939-201	Trans, MOSFET, N-Channel, SC-70, 2SK3018	
Q15	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q16	3134-30950-520	IC,P-CH,PwrTrench,FDG328P,SC70-6	
Q17	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q18	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q19	4823-30723-403	Xstr, NPN, RF, WB, PRF949, SOT416	
Q101	3134-30950-521	IC,N-CH,PwrTrench,FDG329N,SC70-6	
R1	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R2	4732-04999-211	Res,Cp,49.9_Ohms,1%,1/16W,0603	
R3	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R4	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R5	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R6	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R7	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R8	4734-02211-311	Res,Cp,2.21K,1/16W,1%,0402	
R9	4724-08069-213	Res,Cp,80.6_Ohms,1%,1/10W,0805	
R10	4732-02940-511	Res,Cp,294_Ohms,1%,1/16W,0603	
R11	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R12	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R13	4734-04751-311	Res,CP,4.75K,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-500 Portable

Reference	Part Number	Description	Notes
R14	4728-00019-945	Res,Cp,.10_Ohm,1/4W,10%	
R15	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R16	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R17	4734-01500-311	Res,Cp,150_Ohms,1/16W,1%,0402	
R18	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R19	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R20	4734-02499-311	Res,Cp,24.9_Ohms,1%,1/16W,0402	
R21	4734-02499-311	Res,Cp,24.9_Ohms,1%,1/16W,0402	
R22	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R23	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R24	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R25	4724-00109-335	Res,Cp,1_Ohm,1/10W,5%,0805,	
R26	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R27	4732-02940-511	Res,Cp,294_Ohms,1%,1/16W,0603	
R28	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R29	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R31	4750-20025-700	Res,Var,50K,,A Taper,Hor.,SPST SW	
R30	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R32	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R33	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R34	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R35	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R36	4732-01789-511	Res,Cp,17.8_Ohms,1%,1/16W,0603	
R37	4734-07501-311	Res,Cp,7.5K,1/16W,1%,0402	
R38	4734-01103-311	Res,CP,110K,1%,1/16W,0402	
R39	4734-05112-311	Res,Cp,51.1K,1%,1/16W,0402	
R40	4734-03923-311	Res,Cp,392K,1%,1/16W,0402	
R41	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R42	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R43	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R44	4734-03652-311	Res,Cp,36.5K,1%,1/16W,0402	
R45	4734-02872-311	Res,Cp,28.7K,1%,1/16W,0402	
R46	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R47	4734-02873-311	Res,Cp,287K,1%,1/16W,0402	
R48	4734-07872-311	Res,CP,78.7K,1%,1/16W,0402	
R49	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R50	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R51	4734-04752-311	Res,Cp,47.5K,1%,1/16W,0402	
R52	4728-00621-335	Res,Cp,620_Ohm,1/4W,5%	
R53	4734-03323-311	Res,Cp,332K,1%,1/16W,0402	
R54	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-500 Portable			
Reference	**Part Number**	**Description**	**Notes**
R55	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R56	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R57	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R58	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R59	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R60	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R61	4734-04999-311	Res,Cp,49.9_Ohms,1%,1/16W,0402	
R62	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R63	4734-01821-311	Res,Cp,1.82K,1%,1/16W,0402	
R64	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R65	4734-39102-454	Res,Cp,91K,0.1%,1/16W,0402	
R66	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R67	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R68	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R69	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R70	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R71	4734-34021-454	Res,Cp,4.02K,ThinMF,0.1%,1/16W,0402	
R72	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R73	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R74	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R75	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R76	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R77	4734-04991-311	Res,Cp,4.99K,1%,1/16W,0402	
R78	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R79	4734-38202-454	Res,Cp,82K,ThinMF,0.1%,1/16W,0402	
R80	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R81	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R82	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R83	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R84	4734-04991-311	Res,Cp,4.99K,1%,1/16W,0402	
R85	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R86	4734-04991-311	Res,Cp,4.99K,1%,1/16W,0402	
R87	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R88	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R89	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R90	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R91	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R92	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R93	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R94	4734-04020-311	Res,Cp,402_Ohms,1%,1/16W,0402	
R95	4734-04020-311	Res,Cp,402_Ohms,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-500 Portable

Reference	Part Number	Description	Notes
R96	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R97	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R98	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R99	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R100	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R101	4734-03740-311	Res,Cp,374_Ohm,1%,1/16W,0402	
R102	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R103	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R104	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R105	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R106	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R107	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R108	4734-02150-311	Res,Cp,215_Ohms,1%,1/16W,0402	
R109	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R110	4734-05491-311	Res,Cp,5.49K,1%,1/16W,0402	
R111	4734-02940-311	Res,Cp,294_Ohms,1%,1/16W,0402	
R112	4734-02940-311	Res,Cp,294_Ohms,1%,1/16W,0402	
R113	4734-01789-311	Res,Cp,17.8_Ohms,1%,1/16W,0402	
R114	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R115	4734-03830-311	Res,CP,383_OHMS,1%,1/16W,0402	
R116	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R117	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R118	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R119	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R120	4734-03169-311	Res,Cp,31.6_Ohms,1%,1/16W,0402	
R121	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R122	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R123	4734-08258-311	Res,Cp,8.25_Ohms,1%,1/16W,0402	
R124	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R125	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R126	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R127	4734-07509-311	Res,Cp,75_Ohms,1%,1/16W,0402	
R128	4734-01742-311	Res,Cp,17.4K,1%,1/16W,0402	
R129	4734-01742-311	Res,Cp,17.4K,1%,1/16W,0402	
R130	4734-02219-311	Res,Cp,22.1_Ohms,1%,1/16W,0402	
R131	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R132	4734-03321-311	Res,Cp,3.32 K,1/16W,1%,0402	
R133	4734-33162-454	Res,Cp,31.6K,ThinMF,0.1%,1/16W,0402	
R134	4734-31602-454	Res,Cp,16K,ThinMF,0.1%,1/16W,0402	
R135	4734-36492-454	Res,Cp,64.9K,ThinMF,0.1%,1/16W,0402	
R136	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-500 Portable			
Reference	**Part Number**	**Description**	**Notes**
R137	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R138	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R139	4734-04320-311	Res,Cp,432_Ohms,1%,1/16W,0402	
R140	4734-04320-311	Res,Cp,432_Ohms,1%,1/16W,0402	
R141	4734-01159-311	Res,Cp,11.5_Ohms,1%,1/16W,0402	
R142	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R143	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R144	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R145	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R146	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R147	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R148	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R149	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R150	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R151	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R152	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R153	4734-04999-311	Res,Cp,49.9_Ohms,1%,1/16W,0402	
R154	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R155	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R156	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R157	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R158	4734-01213-311	Res,CP,121K,1%,1/16W,0402	
R160	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R161	4734-38061-454	Res,Cp,8.06K.ThinMF,0.1%,1/16W,0402	
R601	4734-05112-311	Res,Cp,51.1K,1%,1/16W,0402	
R602	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R603	4734-08062-311	Res,Cp,80.6K,1%,1/16W,0402	
R609	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R616	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R617	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R618	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R619	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R620	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R621	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R622	4734-02612-311	Res,Cp,26.1K,1/16W,1%,0402	
R623	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R625	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R626	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R628	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R629	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R630	4734-02491-311	Res,Cp,2.49K,1/16W,1%,0402	

Parts List, Rx/Tx Board, KNG P-500 Portable

Reference	Part Number	Description	Notes
R631	4734-02000-311	Res,Cp,200_Ohms,1%,1/16W,0402	
R632	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R633	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R634	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R635	4734-01212-311	Res,Cp,12.1k,1/16W,1%,0402	
R636	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R637	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R638	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R639	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R640	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R641	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
S1	5114-50574-302	Switch,Toggle,Sub-Mini,3-Pos	
S2	5112-50399-944	Switch,Tact,R/A,EVQP8603M	
S3	5112-50399-935	Switch,Tact,Side-Act.,SMD	
S4	5112-50399-935	Switch,Tact,Side-Act.,SMD	
S5	5114-50574-304	Switch,Toggle,SP,On-Off-On,ET03MD1AVBE	
S6	5111-30942-503	Switch,Rotary,16_Pos,Gray Code,BV17297	
SH1	2508-30986-900	Shield-Fence,Top,Front End	
SH2	2508-30986-800	Shield-Fence,Bottom,Front End	
SH3	2508-30987-500	Shield-Fence,Top,Mixer	
SH4	2508-30987-400	Shield-Fence,Bottom,Mixer	
SH5	2508-30987-200	Shield-Fence,Top, IF	
SH6	2508-30987-100	Shield-Fence,Bottom, IF	
SH7	2508-30987-800	Shield-Fence,Top, Synth	
SH8	2508-30987-700	Shield-Fence,Bottom, Synth	
SH9	2508-30988-100	Shield-Fence,Top,VCO	
SH10	2508-30988-000	Shield-Fence,Bottom,VCO	
SP1	1400-31034-700	Brace, PTT-Switch, KNG-P	
SW1	3134-30906-203	IC,RF_SW,SPDT,MFET,PE4259,SC-70	
U1	3134-30670-622	IC,IF,Digit,Subsys,AD9864BCPZ,CP-48	
U2	3134-30911-003	IC,OP_AMP,R/R, LT1783CS5, SOT-23	
U3	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U4	3132-30595-101	IC, RFA, 440-520MHz, RA07N4452M-101	
U5	3134-30911-003	IC,OP_AMP,R/R, LT1783CS5, SOT-23	
U6	3134-30950-302	IC,REG,ADJ,LDO,50ma,TPS71501,SC70	
U7	3134-30940-811	IC,8-Bit,DAC,LTC1665IGN,SSOP-16	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-500 Portable			
Reference	**Part Number**	**Description**	**Notes**
U8	3134-30908-603	IC,OP,AMP,R-R,TLV2463IDGS,MSOP	
U9	3134-30911-003	IC,OP_AMP,R/R, LT1783CS5, SOT-23	
U10	4823-30723-404	Xstr, NPN, RF, BFP420, SOT343	
U11	3135-31002-002	IC, Freq, Mixer, LT5526EUF, SMD	
U12	3134-30950-502	IC,P-Ch,30V,PwrTrench,SI6443DQ,TSS0P-8	
U13	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U14	3134-20083-004	IC,Dig,Pot,AD5160BRJ10,SOT-23	
U16	3134-60097-300	IC,Controller,BCR410W,SOT343	
U17	3134-60097-300	IC,Controller,BCR410W,SOT343	
U18	3134-30747-823	IC, EEPROM, SPI, AT25080A, 8Y6	
U602	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U603	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U604	3134-30906-202	IC,SW,SPST,MAX4520EUT-T,SOT23-6	
U605	3134-30577-404	IC,Freq_Syn,CX72301-11,TSSOP	
Y1	2390-30957-104	TCXO,19.6608MHz,+/-2.5PPM, 2.5x3.2mm,SMD	
Y2	2390-30957-103	TCXO, 10.00MHz,+/-1.5PPM, 2.5x3.2mm,SMD	

Illustrated Parts List

P-500 Rx/Tx Board

8888-30976-600
KNG-P400/P500 RT Board

Sheet 1 of 1

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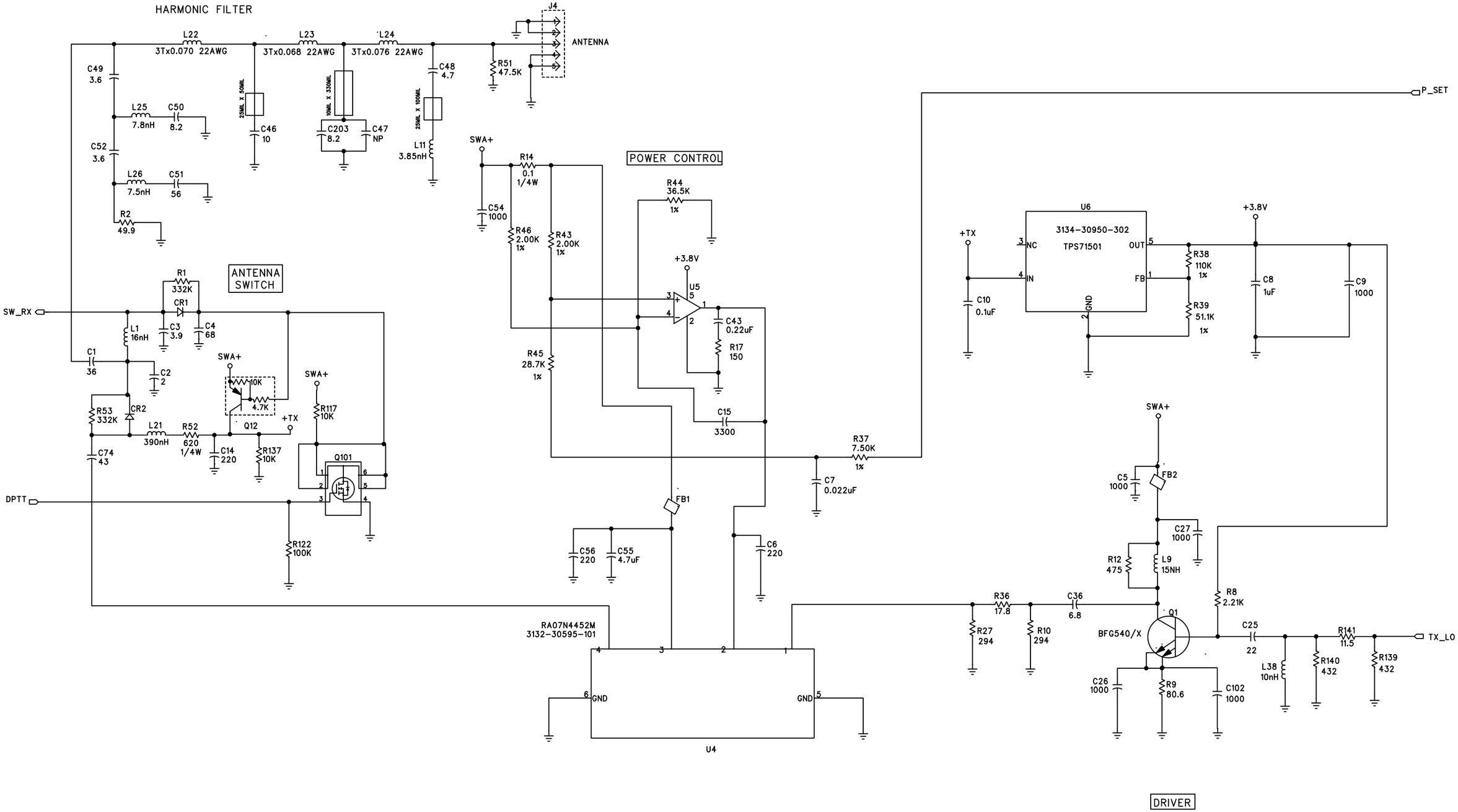

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KNG-P500 RT Board

Sheet 1 of 5 Rev. D

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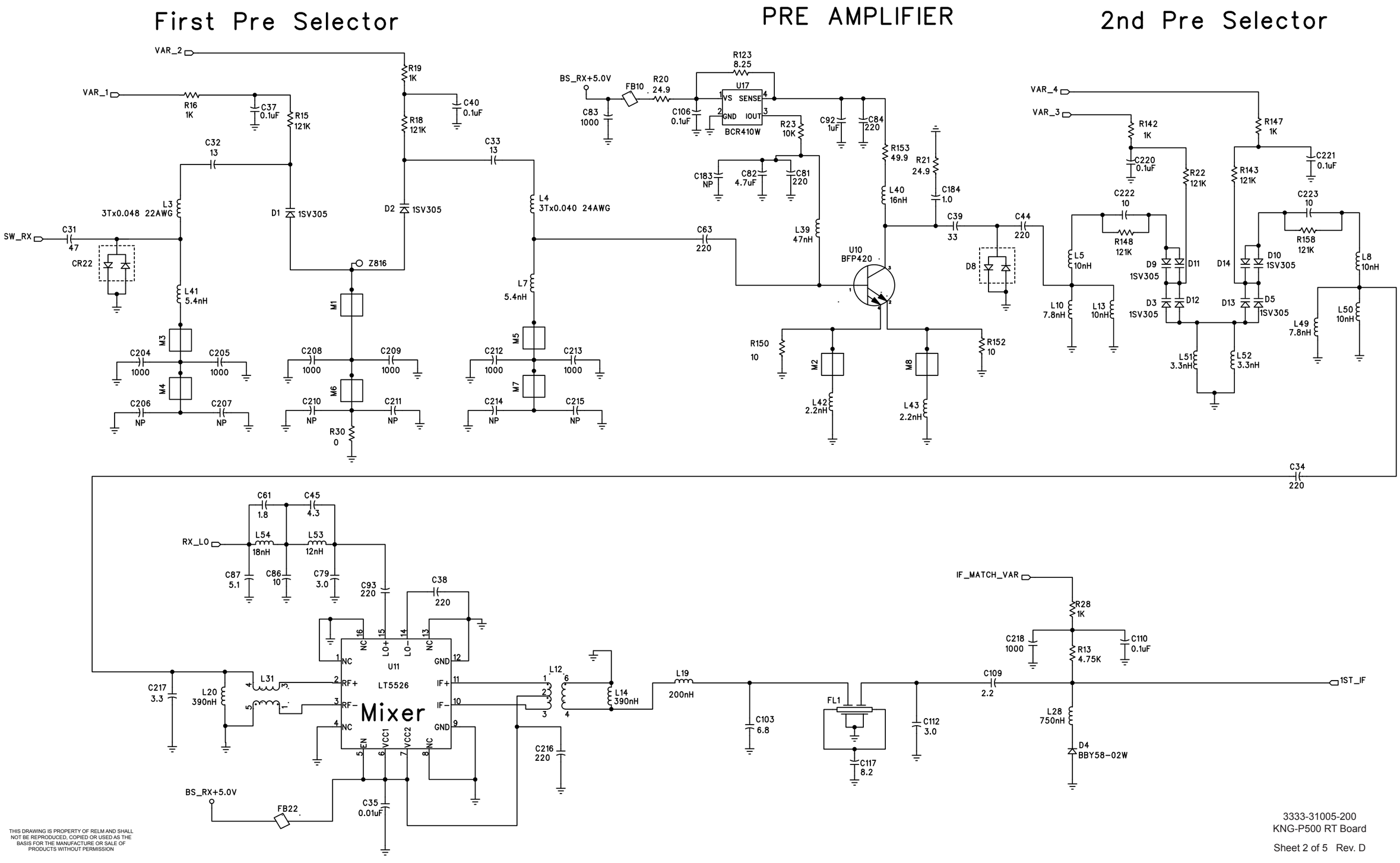

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KNG-P500 RT Board

Sheet 2 of 5 Rev. D

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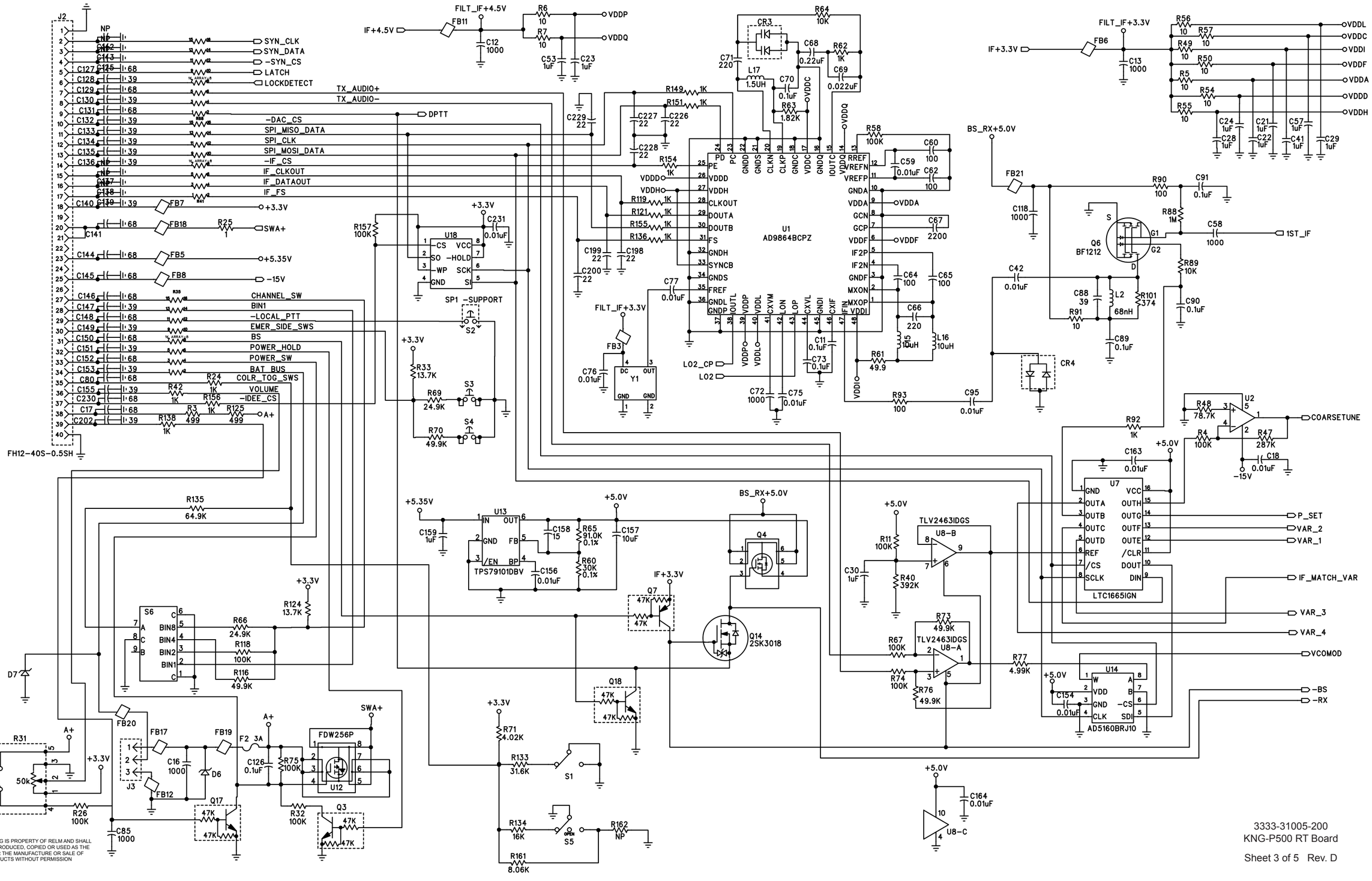

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KNG-P500 RT Board

Sheet 3 of 5 Rev. D

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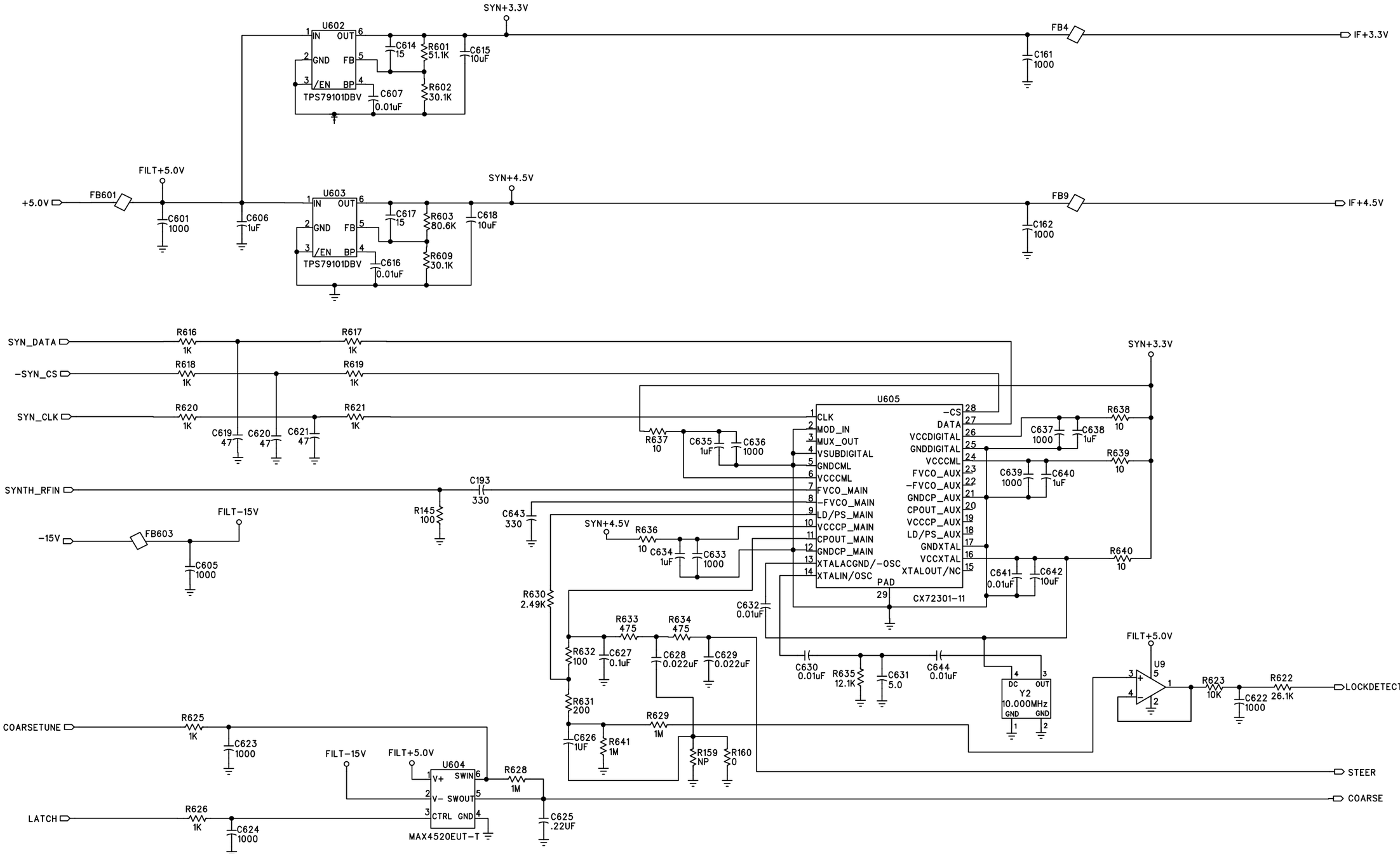

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KNG-P500 RT Board

Sheet 4 of 5 Rev. D

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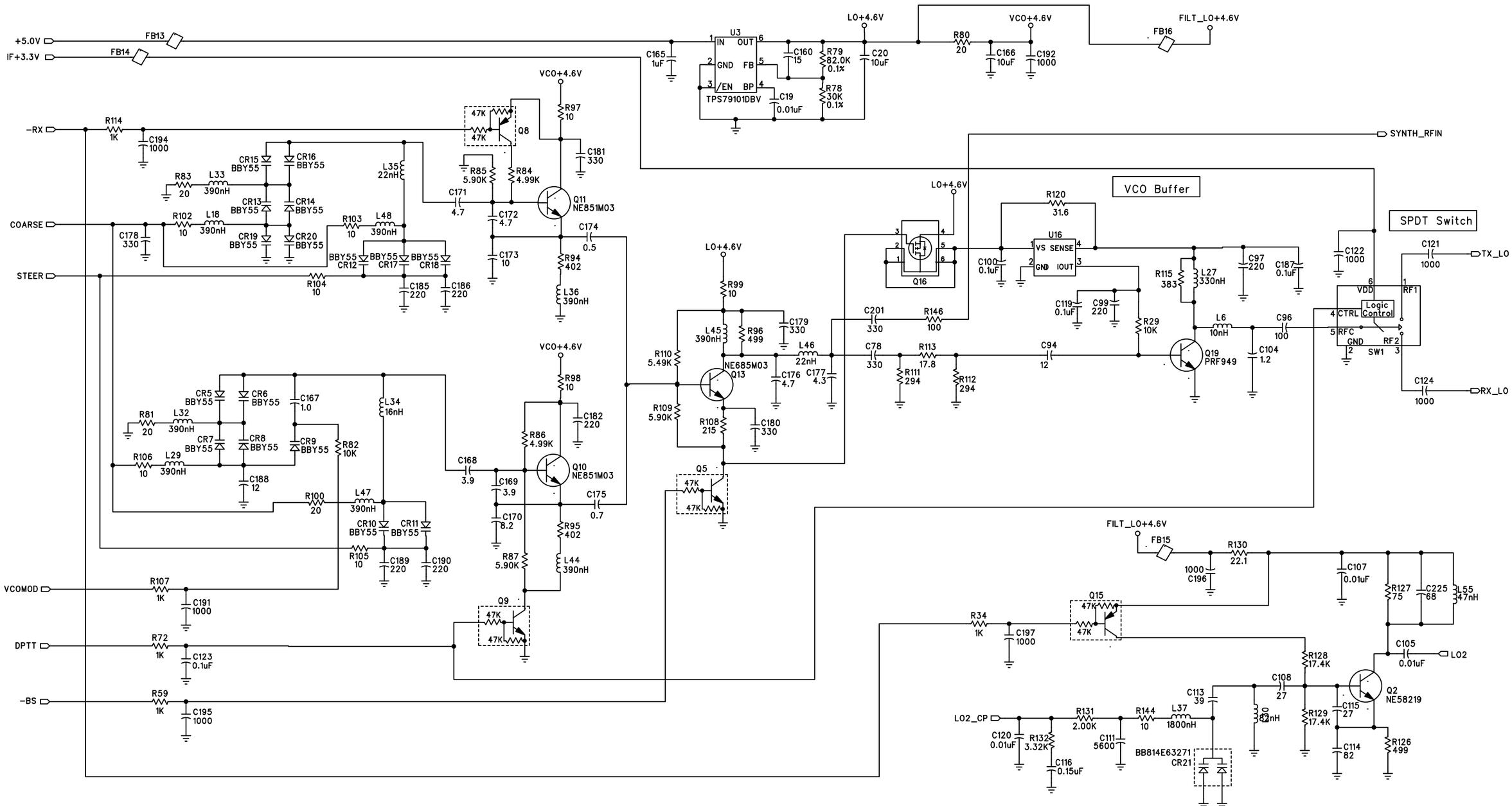

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KNG-P500 RT Board

Sheet 5 of 5 Rev. D

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5.16 P-800 RX/TX BOARD

Parts List, Rx/Tx Board, KNG P-800 Portable			
Reference	**Part Number**	**Description**	**Notes**
C1	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C2	1570-00104-272	Cap,Cp,.1uF,10%,X7R,25V,0603	
C3	1570-00103-163	Cap,Cp,.01uF,5%,NPO,0603	
C4	1573-01508-112	Cap,Cp,0.5pF,S,+/-0.05pF,50V,0402	
C5	1573-02569-133	Cap,Cp,5.6pF,S,+/-0.25pF,250V,0603	
C6	1573-02829-163	Cap,Cp,8.2pF,S,+/-.25pF,250V,0603	
C7	1573-02180-153	Cap,Cp,18pF,S,2%,250V,0603	
C8	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C9	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C10	1573-02229-123	Cap,Cp,2.2pF,S,+/-0.1pF,250V,0603	
C11	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C12	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C13	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C14	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C15	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C16	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C17	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C18	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C19	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C20	1570-00104-272	Cap,Cp,.1uF,10%,X7R,25V,0603	
C21	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C22	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C23	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C24	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C25	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C26	1573-01159-112	Cap,Cp,1.5pF,S,+/-.05pF,50V,0402	
C27	1573-01209-122	Cap,Cp,2.0pF,S,+/-0.1pF,50V,0402	
C28	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C29	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C30	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C31	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C32	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C33	1570-03225-788	Cap,Cp,2.2uF,X5R,20%,6.3V,0402	
C34	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C35	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C36	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C37	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C38	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C39	1570-03225-788	Cap,Cp,2.2uF,X5R,20%,6.3V,0402	
C40	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-800 Portable			
Reference	**Part Number**	**Description**	**Notes**
C41	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C42	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C43	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C44	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C45	1573-02680-163	Cap,Cp,68pF,S,5%,250V,0603	
C46	1573-01399-122	Cap,Cp,3.9pF,S,+/-0.1pF,50V,0402	
C49	1573-01399-122	Cap,Cp,3.9pF,S,+/-0.1pF,50V,0402	
C53	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C54	1573-01208-112	Cap,Cp,0.2pF,S,0402,500R07S0R2AY4E	
C57	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C58	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C59	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C60	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C61	1573-01229-122	Cap,Cp,2.2pF, S, +/-0.1pF,50V,0402	
C62	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C63	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C64	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C65	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C66	1570-03181-163	Cap,Cp,180pF,NPO,5%,50V,0402	
C67	1570-03222-273	Cap,CP,2200pF,X7R,10%,50V,0402	
C68	1570-03154-777	Cap,Cp,.15uF,X5R,10%,10V,0402	
C69	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C70	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C71	1570-03151-163	Cap,CP,150pF,NPO,5%,50V,0402	
C72	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C73	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C75	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C76	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C77	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C78	1573-02680-163	Cap,Cp,68pF,S,5%,250V,0603	
C79	1570-03829-113	Cap,CP,8.2pF,NPO,+/-.25pF,50V,0402	
C80	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C81	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C85	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C86	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C88	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C89	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C90	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C91	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C93	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C94	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	

Parts List, Rx/Tx Board, KNG P-800 Portable

Reference	Part Number	Description	Notes
C95	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C96	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C98	1573-01508-112	Cap,Cp,0.5pF,S,+/-0.05pF,50V,0402	
C99	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C101	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C102	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C103	1573-01479-122	Cap,Cp,4.7pF,S,+/-0.1pF,50V,0402	
C105	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C106	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C107	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C108	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C109	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C111	1570-03332-273	Cap,Cp,3300pF,X7R,10%,50V,0402	
C112	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C113	1570-03330-163	Cp,Cap,33 PF,NPO,5%,0402	
C114	1570-03121-153	Cap,Cp,120pF,NPO,2%,50V,0402	
C115	1573-01270-162	Cap,Cp,27pF,S,5%,50V,0402	
C116	1570-03154-777	Cap,Cp,.15uF,X5R,10%,10V,0402	
C117	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C118	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C119	1573-01369-132	Cap,Cp,3.6pF,S,+/-.25pF,50V,0402	
C120	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C121	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C122	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C123	1570-03221-163	Cap,Cp,220PF,NPO,5%,50V,0402	
C124	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C126	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C127	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C128	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C129	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C130	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C131	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C132	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C133	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C134	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C135	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C136	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C140	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C141	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C144	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C145	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-800 Portable			
Reference	**Part Number**	**Description**	**Notes**
C146	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C147	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C148	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C149	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C150	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C151	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C152	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C153	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C154	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C155	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C156	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C157	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C158	1573-01129-122	Cap,Cp,1.2pF,S,+/-0.1pF,50V,0402	
C159	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C160	1573-01109-122	Cap,Cp,1.0pF, S, +/-0.1pF,50V,0402	
C161	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C162	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C163	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C164	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C165	1573-01300-162	Cap,Cp,30pF,S,5%,50V,0402	
C167	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C168	1573-01439-122	Cap,Cp,4.3pF,S,+/-.1pF,50V,0402	
C169	1573-01508-112	Cap,Cp,0.5pF,S,+/-0.05pF,50V,0402	
C170	1573-01200-162	Cap,Cp,20pF,S,5%,50V,0402	
C171	1573-01200-162	Cap,Cp,20pF,S,5%,50V,0402	
C172	1573-01229-122	Cap,Cp,2.2pF,S,+/-0.1pF,50V,0402	
C173	1573-01479-122	Cap,Cp,4.7pF,S,+/-0.1pF,50V,0402	
C174	1570-03104-271	Cap,Cp,.1uF,X7R,10%,16V,0402	
C175	1573-01129-122	Cap,Cp,1.2pF,S,+/-0.1pF,50V,0402	
C176	1573-01109-122	Cap,Cp,1.0pF,S,+/-0.1pF,50V,0402	
C177	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C178	1573-01399-122	Cap,Cp,3.9pF,S,+/-0.1pF,50V,0402	
C179	1573-01508-112	Cap,Cp,0.5pF,S,+/-0.05pF,50V,0402	
C180	1573-01270-162	Cap,Cp,27pF,S,5%,50V,0402	
C181	1573-01270-162	Cap,Cp,27pF,S,5%,50V,0402	
C182	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C183	1570-03680-163	Cap,CP,68pF,NPO,5%,50V,0402	
C184	1573-01159-112	Cap,Cp,1.5pF,S,+/-.05pF,50V,0402	
C185	1573-01209-122	Cap,Cp,2.0pF,S,+/-0.1pF,50V,0402	
C186	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C187	1570-03279-113	Cap,Cp,2.7pF,+/-.25pF,50V,0402	

Parts List, Rx/Tx Board, KNG P-800 Portable

Reference	Part Number	Description	Notes
C188	1573-01279-122	Cap,Cp,2.7pF,S,+/-0.1pF,50V,0402	
C189	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C190	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C191	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C192	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C193	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C194	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C195	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C196	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C197	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C198	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C199	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C200	1570-03220-163	Cap,Cp,22pF,5%,NPO,50V,0402	
C201	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C202	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C203	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C204	1570-00101-163	Cap,CP,100pF,5%,COG,50V,0603,	
C205	1570-03152-273	Cap,Cp,.1500pF,X7R,10%,50V,0402	
C207	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C208	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C209	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C210	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C211	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C212	1570-03180-163	Cap,Cp,18PF,5%,NPO,50V,0402	
C213	1570-03620-163	Cap, Cp, 62pF, NPO, 5%, 50V, 0402	
C214	1570-00224-271	Cap,Cp,.22uF,X7R,10%,16V,0603	
C215	1570-03439-113	Cap,Cp,4.3pF,NPO,+/-.25pF,50V,0402	
C216	1570-03689-113	Cap,CP,6.8pF,NPO,+/-.25pF,50V,0402	
C217	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C218	1570-03152-273	Cap,Cp,.1500pF,X7R,10%,50V,0402	
C219	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C220	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C221	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C222	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C223	1570-03152-273	Cap,Cp,.1500pF,X7R,10%,50V,0402	
C224	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C228	1573-01209-122	Cap,Cp,2.0pF,0402,500R07S2R0BY4E	
C229	1570-03820-163	Cap,CP,82pF,NPO,5%,50V,0402	
C230	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C231	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C232	1573-01209-122	Cap,Cp,2.0pF,0402,500R07S2R0BY4E	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-800 Portable			
Reference	**Part Number**	**Description**	**Notes**
C233	1570-03820-163	Cap,CP,82pF,NPO,5%,50V,0402	
C234	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C235	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C236	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C241	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C242	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C243	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C245	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C246	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C248	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C250	1570-03332-273	Cap,Cp,3300pF,X7R,10%,50V,0402	
C251	1570-03102-273	Cap,Cp,1000pF,X7R,10%,50V,0402	
C252	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C256	1573-02399-123	Cap,Cp,3.9pF,S,+/-0.1pF,250V,0603	
C257	1573-02339-123	Cap,Cp,3.3pF,S,+/-0.1pF,250V,0603	
C258	1573-02680-163	Cap,Cp,68pF,S,5%,250V,0603	
C260	1573-02159-123	Cap,Cp,1.5pF,S,+/-0.1pF,250V,0603	
C263	1573-02100-153	Cap,Cp,10pF,0603,500R14S100GY4E	
C265	1570-03102-273	Cap,Cp,1000pF,X7R,10%,50V,0402	
C266	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C267	1573-02680-163	Cap,Cp,68pF,S,5%,250V,0603	
C269	1573-02680-163	Cap,Cp,68pF,S,5%,250V,0603	
C272	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C274	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C275	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C276	1572-00224-913	Cap,Cp,0.22uF, Film,5%,50V	
C285	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C286	1573-02110-163	Cp,Cap,11pF,0603,251R14S110JV4E	
C287	1573-02100-163	Cap,Cp,10pF,0603,500R14S100JY4E	
C288	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C289	1573-02100-153	Cap,Cp,10pF,0603,500R14S100GY4E	
C290	1573-02180-153	Cap,Cp,18pF,S,2%,250V,0603	
C291	1573-02229-123	Cap,Cp,2.2pF,S,+/-0.1pF,250V,0603	
C295	1574-01109-111	Cap, Cp, 1.0pF,J,+/-0.02pF, 25V, 0402	
C298	1570-03439-113	Cap,Cp,4.3pF,NPO,+/-.25pF,50V,0402	
C299	1570-03689-113	Cap,CP,6.8pF,NPO,+/-.25pF,50V,0402	
C300	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C301	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C302	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C303	1573-02569-133	Cap,Cp,5.6pF,S,+/-.25pF,250V,0603	
C601	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	

Parts List, Rx/Tx Board, KNG P-800 Portable

Reference	Part Number	Description	Notes
C606	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C607	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C614	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C615	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C616	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C617	1570-03150-163	Cap,CP,15pF,NPO,5%,50V,0402	
C618	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C619	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C620	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C621	1570-03470-163	Cap,Cp,47pF,NPO,5%,50V,0402	
C622	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C626	1572-00105-734	Cap,Cp,1.0uF,Film,20%,16V,1210	
C627	1570-03104-771	Cap,Cp,.1uF,X5R,10%,16V,0402	
C628	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C629	1570-03223-271	Cp,Cp,.022uF,X7R,10%,16V,0402	
C630	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C631	1570-03509-113	Cap,Cp,5pF,NPO,+/-0.25pF,50V,0402	
C632	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C633	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C634	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C635	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C636	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C637	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C638	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C639	1570-03102-163	Cp,Cap,1000PF,5%,NPO,50V,0402	
C640	1570-03105-778	Cap,Cp,1uF,X5R,10%,6.3V,0402	
C641	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C642	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
C643	1570-03101-163	Cap,Cp,100PF,NPO,5%,50V,0402	
C644	1570-03103-261	Cap,Cp,.01uF,5%,X7R,16V,0402	
C698	1570-01106-788	Cp,Cp,10uF,X5R,20%,6.3V,0805	
CR3	4824-20021-400	Di,Var-Dual,BB814,SOT-23,	
CR4	4824-30541-303	Di,Dual,Schottky,SC-70	
CR5	4824-20047-306	NXP BAP65-02 PIN diode SOD523	
CR6	4824-20047-306	NXP BAP65-02 PIN diode SOD523	
CR7	4824-20008-601	Di, Schottky, HSMS-286C, SOT323	
CR8	4828-30513-111	Littelfuse PGB2010402KRHF ESD suppressor	
CR10	4824-20008-601	Di, Schottky, HSMS-286C, SOT323	
CR11	4824-20008-601	Di, Schottky, HSMS-286C, SOT323	
CR21	4824-20021-400	Di,Var-Dual,BB814,SOT-23,	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-800 Portable			
Reference	**Part Number**	**Description**	**Notes**
CR701	4824-20021-103	Di,Var,BBY55,SC79	
CR702	4824-20021-103	Di,Var,BBY55,SC79	
CR703	4824-20021-103	Di,Var,BBY55,SC79	
CR704	4824-20021-103	Di,Var,BBY55,SC79	
CR705	4824-20021-103	Di,Var,BBY55,SC79	
CR706	4824-20021-108	Di,Var,SMV1413,SC79	
CR707	4824-20021-108	Di,Var,SMV1413,SC79	
CR708	4824-20021-103	Di,Var,BBY55,SC79	
CR709	4824-20021-103	Di,Var,BBY55,SC79	
CR710	4824-20021-103	Di,Var,BBY55,SC79	
CR711	4824-20021-103	Di,Var,BBY55,SC79	
CR712	4824-20021-103	Di,Var,BBY55,SC79	
CR713	4824-20021-108	Di,Var,SMV1413,SC79	
CR714	4824-20021-108	Di,Var,SMV1413,SC79	
D6	4828-30513-304	Di,ESD,PESD15VS1UB,SOD-523	
D7	4828-30513-202	DI,ESD,ESD5Z3.3T1, SOD-523	
F2	5107-30934-902	Fuse,3A,32V,SMD,0603	
FB1	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB2	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB3	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB4	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB5	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB6	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB7	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB8	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB9	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB11	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB12	2502-20047-403	Beads, Fer, 61 SM Bead, 2761019447	
FB14	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB15	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB17	2502-20047-403	Beads, Fer, 61 SM Bead, 2761019447	
FB18	2503-04600-439	Bead,Fer.,60_Ohms,500mA,0603	
FB19	2502-20047-403	Beads, Fer, 61 SM Bead, 2761019447	
FB20	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB21	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB22	2502-20047-403	Beads, Fer, 61 SM Bead, 2761019447	
FB24	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB25	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	

Parts List, Rx/Tx Board, KNG P-800 Portable

Reference	Part Number	Description	Notes
FB26	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB27	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB28	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB29	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB31	2502-20047-403	Beads, Fer, 61 SM Bead, 2761019447	
FB38	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB40	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB46	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB47	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FB601	2503-02121-505	Bead,Fer.,120_OHMS@100MHz,200ma,0402	
FL1	2705-50115-200	Fltr, LO-PASS, DC-850 MHz, LFCN-900	
FL3	2705-10441-702	Fltr., Xtal, IF, D73312GQ6	
FL4	2705-10441-701	Fltr, Cer., 19_14MHz, B4232, QCC8E	
FL5	2705-10441-701	Fltr, Cer., 19_14MHz, B4232, QCC8E	
FL8	2705-50115-200	Fltr, LO-PASS, DC-850 MHz, LFCN-900	
J2	2105-50575-602	CONN,40-PIN,HOR.,0.5mm,SMD	
J3	2105-60455-300	CONN, BATTERY	
J4	2105-30969-100	Conn. SMA,Jack, RT Angle,PC Mount	
L1	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L2	1812-33003-392	Ind, Cp, 33nH, 5%, LQW15AN33NJ00	
L3	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L4	1812-27003-420	Ind,Cp,27nH,5%,0402CS-27NXJL	
L5	1812-10003-440	Ind,Cp,10nH,5%,0402HP-10NXJL	
L6	1812-69902-512	Ind,Cp,6.9nH,2%,0807SQ-6N9GL	
L7	1812-36002-010	Ind, CP, 36nH,2%,0603CS	
L8	5610-30910-300	Transfmr, RF, 3-300MHz, CX2045L, SMD	
L9	1812-12903-420	Ind,Cp,1.2nH,5%,0402CS-1N2XJL	
L10	1812-12002-440	Ind, Cp, 12nH, 2%, 0402HP-12NXGLW	
L11	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L12	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L13	1812-12903-420	Ind,Cp,1.2nH,5%,0402CS-1N2XJL	
L14	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L15	1812-10013-091	Ind,Cp,10uH,5%,1008LS	
L16	1812-10013-091	Ind,Cp,10uH,5%,1008LS	
L17	1812-12913-050	Ind,Cp,1.2uH,5%,1008	
L18	1812-22002-440	Ind, Cp, 22nH, 2%, 0402HP-22NXGLW	
L19	1812-25102-010	Ind,Cp,250nH,2%,0603CS-R25XGL	
L20	1812-18102-010	Ind,Cp,180nH,2%,0603CS	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-800 Portable			
Reference	**Part Number**	**Description**	**Notes**
L21	1812-39102-010	Ind,Cp,390nH,2%,0603CS	
L22	1812-33102-010	Ind,Cp,330nHy,2%,0603CS-R33XGL	
L23	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L24	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L25	1812-12002-440	Ind, Cp, 12nH, 2%, 0402HP-12NXGLW	
L26	1812-15002-440	Ind, Cp, 15nH, 2%, 0402HP-15NXGLW	
L27	1812-81902-512	Ind,Cp,8.1nH,2%,0908SQ-8N1GL	
L29	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L30	1812-12102-050	Ind, Cp,120nH, 2%, 1008CS-121XGL	
L31	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L32	1812-15102-010	Ind,Cp,150nH,2%,0603CS-R15XGL	
L33	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L34	1812-30003-420	Ind,Cp,30nH,5%,0402CS-30NXJL	
L35	1812-18102-010	Ind,Cp,180nH,2%,0603CS	
L36	1812-39002-310	Ind,Cp,39nH,2%,1008HQ-39NXGL	
L37	1812-47203-050	Ind,Cp,4700nH,5%,1008CS-472XJL	
L38	1812-10002-512	Ind, Cp, 10.2nH, 2%, 0807SQ-10NGL	
L40	1812-10103-430	Ind,Cp,100nH,5%,0603HP-R10XJL	
L41	1812-69902-512	Ind,Cp,6.9nH,2%,0807SQ-6N9GL	
L42	1812-47002-010	Ind,Cp,47nH,2%,0603CS	
L43	1812-16904-132	Ind,Cp,1.65nH,10%,0906-2KL	
L44	1812-16904-132	Ind,Cp,1.65nH,10%,0906-2KL	
L46	1812-16904-132	Ind,Cp,1.65nH,10%,0906-2KL	
L47	1812-69902-512	Ind,Cp,6.9nH,2%,0807SQ-6N9GL	
L48	1812-69902-512	Ind,Cp,6.9nH,2%,0807SQ-6N9GL	
L203	1812-12002-440	Ind, Cp, 12nH, 2%, 0402HP-12NXGLW	
Q1	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q2	4823-50533-600	Xstr,NPN,NE58219,Ultra_Super_Mini_Mold	
Q3	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q4	3134-30950-520	IC,P-CH,PwrTrench,FDG328P,SC70-6	
Q5	4823-50483-303	Xstr,NPN,Silicon,NE68519	
Q6	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q7	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q8	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q9	3134-30950-520	IC,P-CH,PwrTrench,FDG328P,SC70-6	
Q10	3134-30950-520	IC,P-CH,PwrTrench,FDG328P,SC70-6	
Q11	4823-50483-302	Xstr,NPN,Silicon,NE851M13	
Q12	4823-50483-302	Xstr,NPN,Silicon,NE851M13	
Q13	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q14	4823-30939-201	Trans, MOSFET, N-Channel, SC-70, 2SK3018	

Parts List, Rx/Tx Board, KNG P-800 Portable

Reference	Part Number	Description	Notes
Q15	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q16	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q17	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q18	4823-30680-202	Xstr,Dig,NPN,47K/47K,VMT3	
Q19	4823-50483-303	Xstr,NPN,Silicon,NE68519	
Q20	4823-30680-206	Xstr,Dig,PNP,47K/47K,VMT3	
Q21	3134-30950-521	IC,N-CH,PwrTrench,FDG329N,SC70-6	
R1	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R2	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R3	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R4	4734-01300-311	Res,Cp,130_Ohms,1%,1/16W,0402	
R5	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R6	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R7	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R8	4734-05491-311	Res,Cp,5.49K,1%,1/16W,0402	
R9	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R10	4734-02150-311	Res,Cp,215_Ohms,1%,1/16W,0402	
R11	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R12	4734-04752-311	Res,Cp,47.5K,1%,1/16W,0402	
R13	4734-04998-311	Res,Cp,4.99_Ohms,1%,1/16W,0402	
R14	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R15	4734-04322-311	Res,CP,43.2K,1%,1/16W,0402	
R16	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R17	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R18	4734-04322-311	Res,CP,43.2K,1%,1/16W,0402	
R19	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R20	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R21	4734-01699-111	Res,Cp,16.9_Ohms,1%,1/16W,0402	
R23	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R24	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R25	4724-00109-335	Res,Cp,1_Ohm,1/10W,5%,0805,	
R26	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R28	4734-05111-311	Res,CP,5.11K,1%,1/16W,0402	
R29	4732-02000-313	Res,Cp,200_Ohms,1%,1/10W,0603	
R30	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R31	4750-20025-700	Res,Var,50K,,A Taper,Hor.,SPST SW	
R32	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R33	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R34	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R35	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-800 Portable			
Reference	**Part Number**	**Description**	**Notes**
R36	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R37	4734-01699-111	Res,Cp,16.9_Ohms,1%,1/16W,0402	
R38	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R39	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R40	4734-03923-311	Res,Cp,392K,1%,1/16W,0402	
R41	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R42	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R43	4734-01699-111	Res,Cp,16.9_Ohms,1%,1/16W,0402	
R44	4732-02000-313	Res,Cp,200_Ohms,1%,1/10W,0603	
R45	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R47	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R48	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R49	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R50	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R51	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R52	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R53	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R54	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R55	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R56	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R57	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R58	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R59	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R60	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R61	4734-04999-311	Res,Cp,49.9_Ohms,1%,1/16W,0402	
R62	4734-04220-311	Res,Cp,422_Ohms,1%,1/16W,0402	
R63	4734-01821-311	Res,Cp,1.82K,1%,1/16W,0402	
R64	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R65	4734-39102-454	Res,Cp,91K,0.1%,1/16W,0402	
R66	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R67	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R68	4735-20102-231	Res,Cp,8 X 1K Ntwrk,5%,1/16W	
R69	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R70	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R71	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R72	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R73	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R74	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R75	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R76	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R77	4734-01002-311	Res,CP,10K,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-800 Portable

Reference	Part Number	Description	Notes
R78	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R79	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R80	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R81	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R82	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R84	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R86	4734-01300-311	Res,Cp,130_Ohms,1%,1/16W,0402	
R87	4734-02001-311	Res,CP,2K,1%,1/16W,0402	
R88	4734-05111-311	Res,CP,5.11K,1%,1/16W,0402	
R89	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R90	4734-02430-311	Res,Cp,243_Ohms,1%,1/16W,0402	
R91	4734-02430-311	Res,Cp,243_Ohms,1%,1/16W,0402	
R93	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R94	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R95	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R96	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R97	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R99	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R100	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R101	4732-00000-008	Res,CP,0_Ohm,	
R102	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R103	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R104	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R106	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R107	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R109	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R110	4734-05491-311	Res,Cp,5.49K,1%,1/16W,0402	
R111	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R112	4734-05901-311	Res,Cp,5.9K,1%,1/16W,0402	
R113	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R114	4734-02150-311	Res,Cp,215_Ohms,1%,1/16W,0402	
R115	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R116	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R117	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R118	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R119	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R121	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R122	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R123	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R124	4734-01372-311	Res,Cp,13.7K,1%,1/16W,0402	
R125	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-800 Portable			
Reference	**Part Number**	**Description**	**Notes**
R126	4734-04990-311	Res,Cp,499_Ohms,1%,1/16W,0402	
R127	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R128	4734-01742-311	Res,Cp,17.4K,1%,1/16W,0402	
R129	4734-01742-311	Res,Cp,17.4K,1%,1/16W,0402	
R130	4734-02219-311	Res,Cp,22.1_Ohms,1%,1/16W,0402	
R131	4734-06811-311	Res,Cp,6.81K,1%,1/16W,0402	
R132	4734-03321-311	Res,Cp,3.32 K,1/16W,1%,0402	
R133	4734-02492-311	Res,Cp,24.9K,1%,1/16W,0402	
R134	4734-04992-311	Res,Cp,49.9K,1%,1/16W,0402	
R135	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R136	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R138	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R143	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R144	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R145	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R146	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R147	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R150	4734-38202-454	Res,Cp,82K,ThinMF,0.1%,1/16W,0402	
R151	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R153	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R154	4734-02009-311	Res,Cp,20_Ohms,1/16W,1%,0402	
R158	4728-00019-945	Res,Cp,.10_Ohm,1/4W,10%	
R159	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R162	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R169	4734-38202-454	Res,Cp,82K,ThinMF,0.1%,1/16W,0402	
R170	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R171	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R173	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R174	4734-01500-311	Res,Cp,150_Ohms,1/16W,1%,0402	
R176	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R177	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R179	4734-05768-311	Res,Cp,5.76_Ohms,1%,1/16W,0402	
R184	4734-08660-311	Res,Cp,866_Ohms,1%,1/16W,0402	
R185	4734-08660-311	Res,Cp,866_Ohms,1%,1/16W,0402	
R186	4734-03749-311	Res,Cp,37.4_OHMS,1%,1/16W,0402	
R187	4734-01500-311	Res,Cp,150_Ohms,1/16W,1%,0402	
R188	4734-01500-311	Res,Cp,150_Ohms,1/16W,1%,0402	
R189	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R190	4734-03832-311	Res,Cp,38.3K,1%,1/16W,0402	
R191	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R192	4734-03010-311	Res,Cp,301_Ohms,1%,1/16W,0402	

Parts List, Rx/Tx Board, KNG P-800 Portable

Reference	Part Number	Description	Notes
R195	4734-07871-311	Res,CP,7.87K,1%,1/16W,0402	
R199	4732-01001-213	Res,Cp,1K,1%,1/10W,0603	
R200	4734-01302-211	Res,Cp,13.0K,1%,1/16W,0402	
R201	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R203	4732-03000-513	Res,Cp,300_Ohms,1/10W,1%,0603	
R204	4732-01009-511	Res,Cp,10_Ohms,1%,1/16W,0603	
R205	4732-01001-213	Res,Cp,1K,1%,1/10W,0603	
R206	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R207	4734-05111-311	Res,CP,5.11K,1%,1/16W,0402	
R208	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R209	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R210	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R211	4734-01003-311	Res,CP,100K,1%,1/16W,0402	
R212	4734-02873-311	Res,Cp,287K,1%,1/16W,0402	
R213	4734-07872-311	Res,CP,78.7K,1%,1/16W,0402	
R214	4732-02940-511	Res,Cp,294_Ohms,1%,1/16W,0603	
R215	4732-02940-511	Res,Cp,294_Ohms,1%,1/16W,0603	
R216	4732-01789-511	Res,Cp,17.8_Ohms,1%,1/16W,0603	
R300	4734-00000-008	Res,Cp,0_Ohms(Jumper),1/16W,1A,0402	
R302	4734-39102-454	Res,Cp,91K,0.1%,1/16W,0402	
R303	4734-33002-454	Res,Cp,30K,ThinMF,0.1%,1/16W,0402	
R601	4734-05112-311	Res,Cp,51.1K,1%,1/16W,0402	
R602	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R603	4734-08062-311	Res,Cp,80.6K,1%,1/16W,0402	
R609	4734-03012-311	Res,CP,30.1K,1%,1/16W,0402	
R616	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R617	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R618	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R619	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R620	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R621	4734-01001-311	Res,CP,1.00K,1%,1/16W,0402	
R622	4734-02612-311	Res,Cp,26.1K,1/16W,1%,0402	
R623	4734-01002-311	Res,CP,10K,1%,1/16W,0402	
R629	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
R630	4734-02491-311	Res,Cp,2.49K,1/16W,1%,0402	
R631	4734-02000-311	Res,Cp,200_Ohms,1%,1/16W,0402	
R632	4734-01000-311	Res,Cp,100_ohm,1%,1/16W,0402	
R633	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R634	4734-04750-311	Res,Cp,475 Ohm,1%,1/16W,0402	
R635	4734-01212-311	Res,Cp,12.1k,1/16W,1%,0402	
R636	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	

Illustrated Parts Lists

Parts List, Rx/Tx Board, KNG P-800 Portable			
Reference	**Part Number**	**Description**	**Notes**
R637	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R638	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R639	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R640	4734-01009-311	Res,Cp,10_Ohms,1/16W,1%,0402	
R641	4734-01004-311	Res,Cp,1M,1%,1/16W,0402	
S1	5114-50574-302	Switch,Toggle,Sub-Mini,3-Pos	
S2	5112-50399-944	Switch,Tact,R/A,EVQP8603M	
S3	5112-50399-935	Switch,Tact,Side-Act.,SMD	
S4	5112-50399-935	Switch,Tact,Side-Act.,SMD	
S5	5114-50574-302	Switch,Toggle,Sub-Mini,3-Pos	
S6	5111-30942-503	Switch,Rotary,16_Pos,Gray Code,BV17297	
SH1	2508-30987-500	Shield-Fence,Top,Mixer	
SH2	2508-30987-400	Shield-Fence,Bottom,Mixer	
SH3	2508-30987-500	Shield-Fence,Top,Mixer	
SH4	2508-30987-400	Shield-Fence,Bottom,Mixer	
SH5	2508-30987-800	Shield-Fence,Top, Synth	
SH6	2508-30987-700	Shield-Fence,Bottom, Synth	
SH7	2508-30987-800	Shield-Fence,Top, Synth	
SH8	2508-30987-700	Shield-Fence,Bottom, Synth	
SH10	2508-30988-100	Shield-Fence,Top,VCO	
SH11	2508-30988-000	Shield-Fence,Bottom,VCO	
SP1	1400-31034-700	Brace, PTT-Switch, KNG-P	
SW2	3134-30906-203	IC,RF_SW,SPDT,MFET,PE4259,SC-70	
SW3	3134-30906-203	IC,RF_SW,SPDT,MFET,PE4259,SC-70	
SW4	3134-30906-203	IC,RF_SW,SPDT,MFET,PE4259,SC-70	
T1	2703-50427-200	Balun, 824-894 MHz, HHM1522A7	
T2	2703-50427-200	Balun, 824-894 MHz, HHM1522A7	
U1	3134-30670-622	IC,IF,Digit,Subsys,AD9864BCPZ,CP-48	
U2	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U3	3134-30735-005	IC, DUAL, POS_AND_GT, SN74LVC2G08DCU	
U4	3134-50394-078	IC,RFA,Wideband,5V,MMIC,UPS3227TB-E3-A	
U5	3134-30747-823	IC, EEPROM, SPI, AT25080A, 8Y6	
U7	3134-30940-811	IC,8-Bit,DAC,LTC1665IGN,SSOP-16	
U8	3134-30908-603	IC,OP,AMP,R-R,TLV2463IDGS,MSOP	
U9	3134-30911-003	IC,OP_AMP,R/R,LT1783CS5,SOT-23	

Parts List, Rx/Tx Board, KNG P-800 Portable

Reference	Part Number	Description	Notes
U12	3134-30950-502	IC,P-Ch,30V,PwrTrench,FDW256P,TSS0P-8	
U13	3134-30950-311	IC, Reg, LDO, MIC5305BML, MLF	
U14	3134-20083-004	IC,Dig,Pot,AD5160BRJ10,SOT-23	
U15	3135-31002-002	IC, Freq, Mixer, LT5526EUF, SMD	
U16	4804-20009-101	Xstr,FET,N-Channel,6W, RF_Pwr,PD84006L-E	
U17	4804-20009-100	Xstr, FET, N-Channel, 2W, RF_Pwr, PD84002	
U20	4823-20006-401	Xstr,MMIC,GaAs,LNA,MGA-52543,SOT-343	
U21	3134-50394-079	IC,LNA,3V,RF2878,SOT 5-Lead	
U22	3134-50394-079	IC,LNA,3V,RF2878,SOT 5-Lead	
U23	3134-30950-311	IC, Reg, LDO, MIC5305BML, MLF	
U24	3134-30735-002	IC, INV_DVR, DUAL,SN74AUC2G06, SC-70	
U28	3134-30950-314	IC, Reg., 250ma, LDO, TPS71202DRC	
U30	3132-30595-006	IC, RFA, SGA-2263, SOT-363	
U31	3134-30911-003	IC,OP_AMP,R/R,LT1783CS5,SOT-23	
U34	3134-30735-004	IC, DUAL, INV/GATE, SN74LVC2G04DRL	
U35	3134-30950-311	IC, Reg, LDO, MIC5305BML, MLF	
U36	3134-30911-003	IC,OP_AMP,R/R,LT1783CS5,SOT-23	
U37	3134-30906-202	IC,SW,SPST,MAX4520EUT-T,SOT23-6	
U38	3134-30949-907	IC, 2-Input, XORGate, SN74LVC1G86DCK	
U602	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U603	3134-30950-304	IC,REG,ADJ,LDO,100ma,TPS79101DBV,SOT-23	
U605	3134-30577-404	IC,Freq_Syn,CX72301-11,TSSOP	
Y1	2390-30957-104	TCXO,19.6608MHz,+/-2.5PPM, 2.5x3.2mm,SMD	
Y2	2390-30957-103	TCXO, 10.00MHz,+/-1.5PPM, 2.5x3.2mm,SMD	

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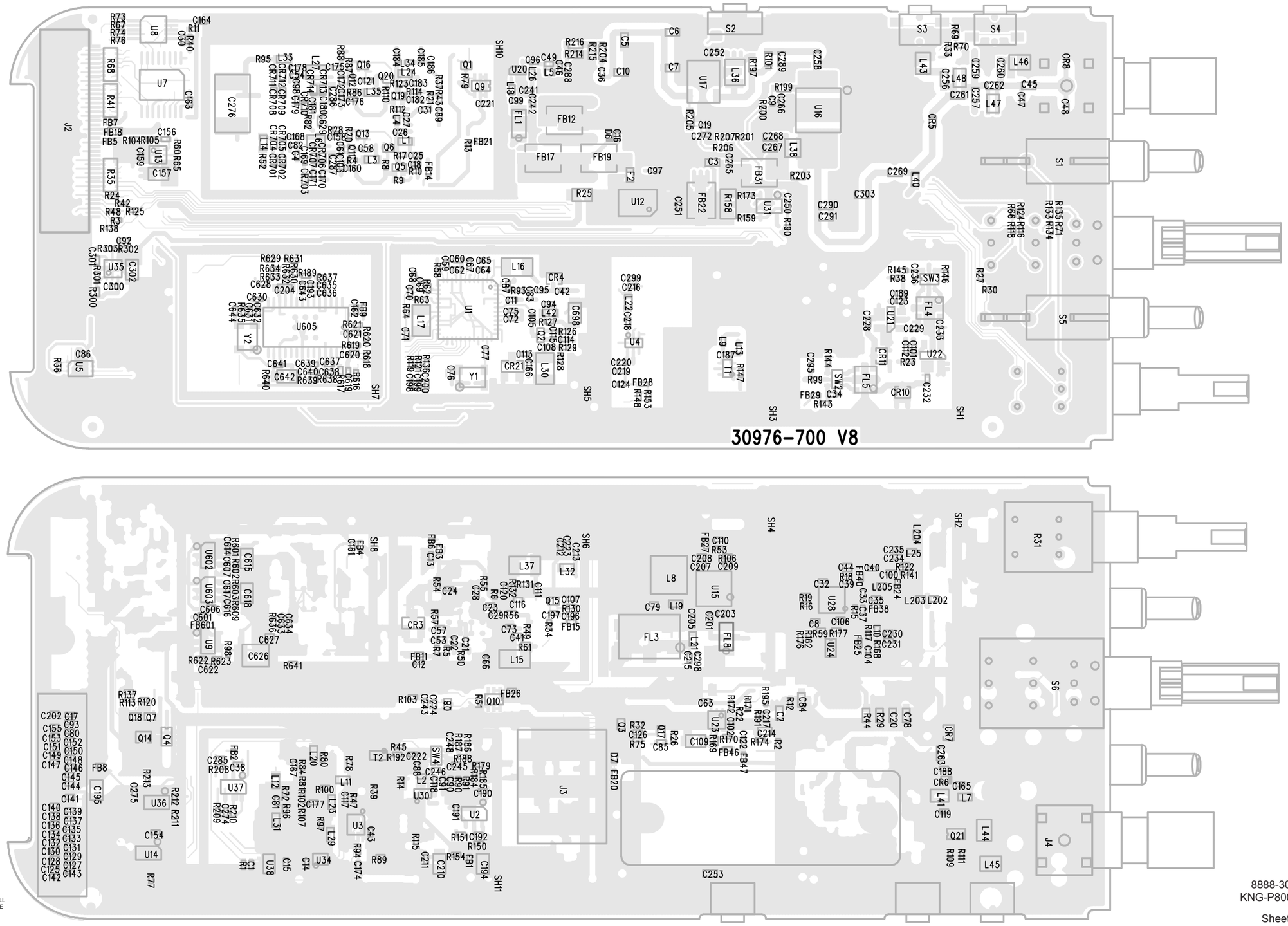
Illustrated Parts List

P-800 Rx/Tx Board



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KNG-P800 RT Boa

Sheet 1 of 1

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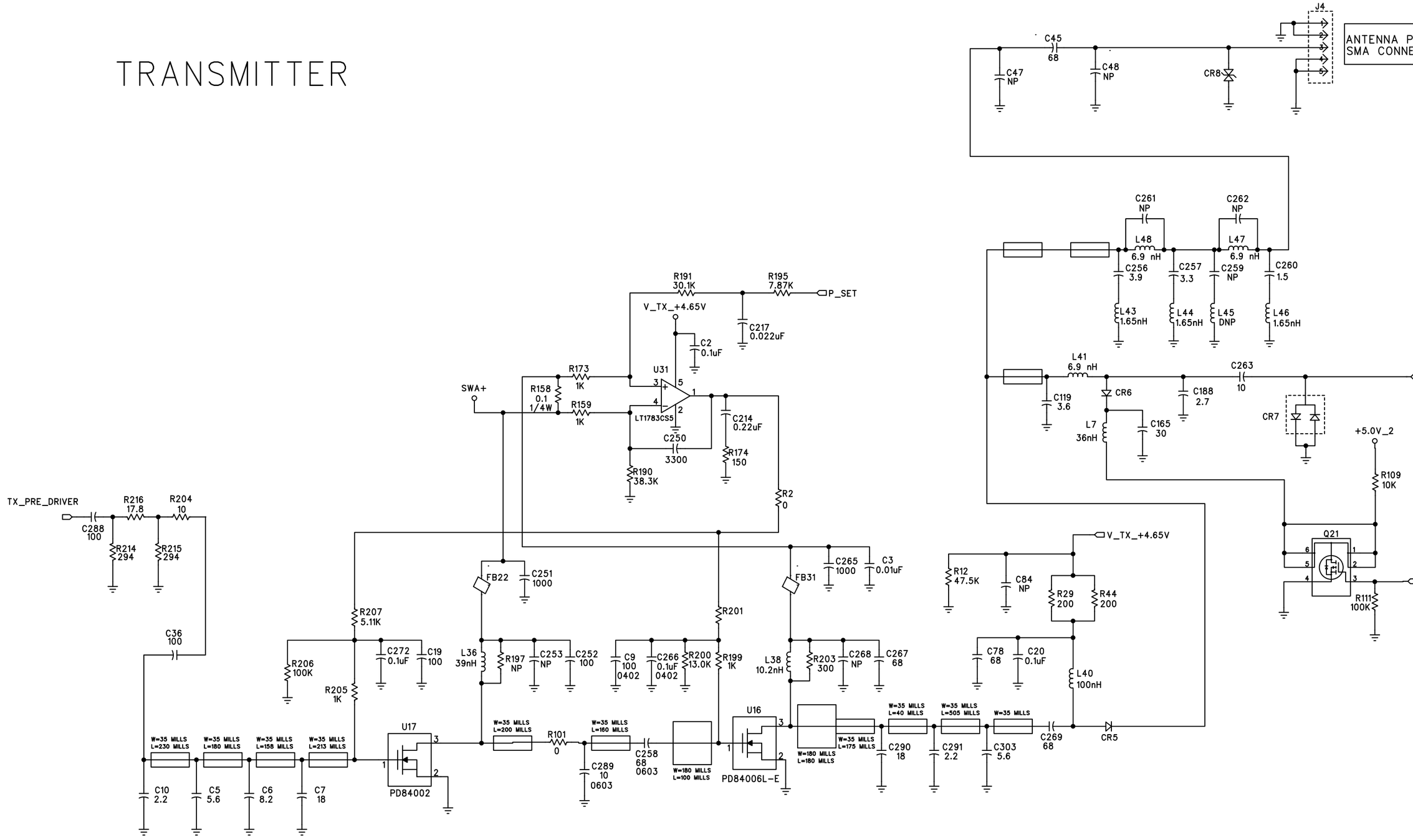

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KNG-P800 RT Boa

Sheet 1 of 6

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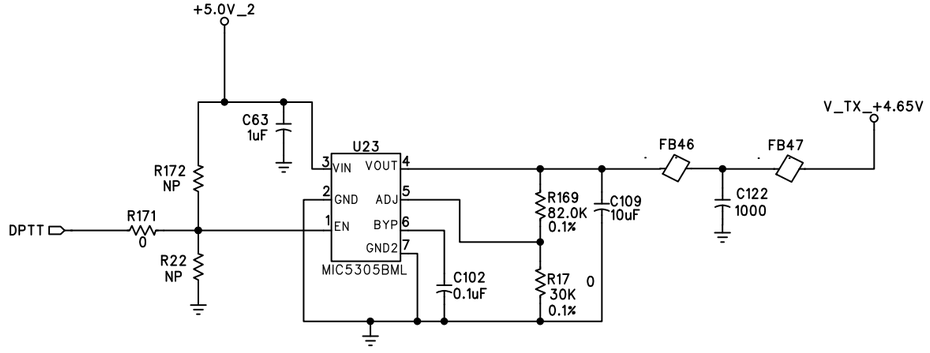
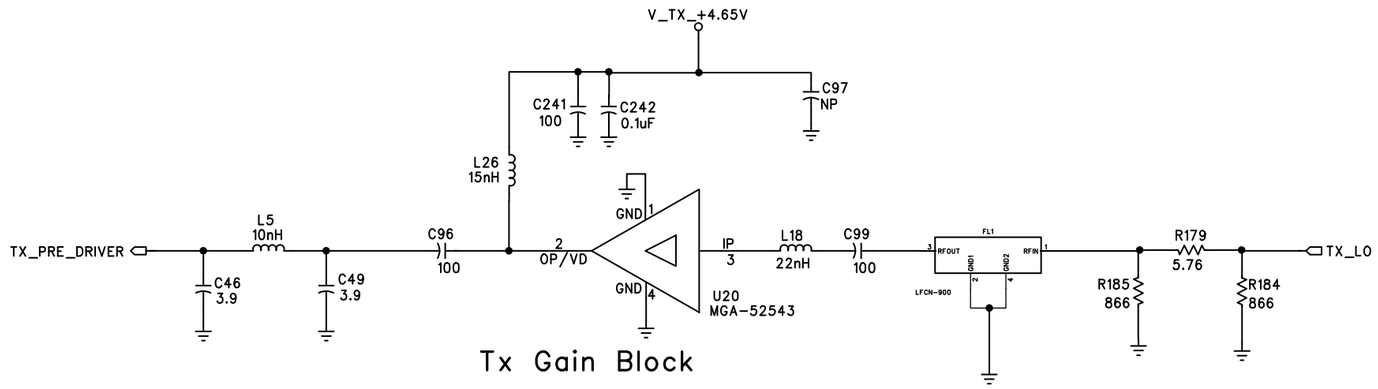
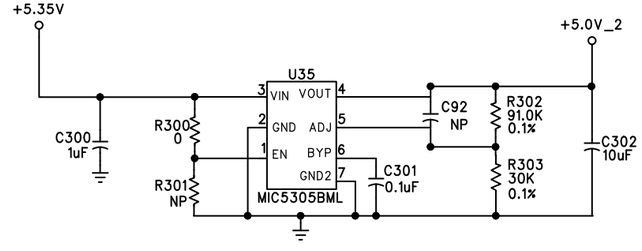
TX GAIN BLOCK





Tx Gain Block

DC PWR CIRCUITS



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KNG-P800 RT Boa

Sheet 2 of 6

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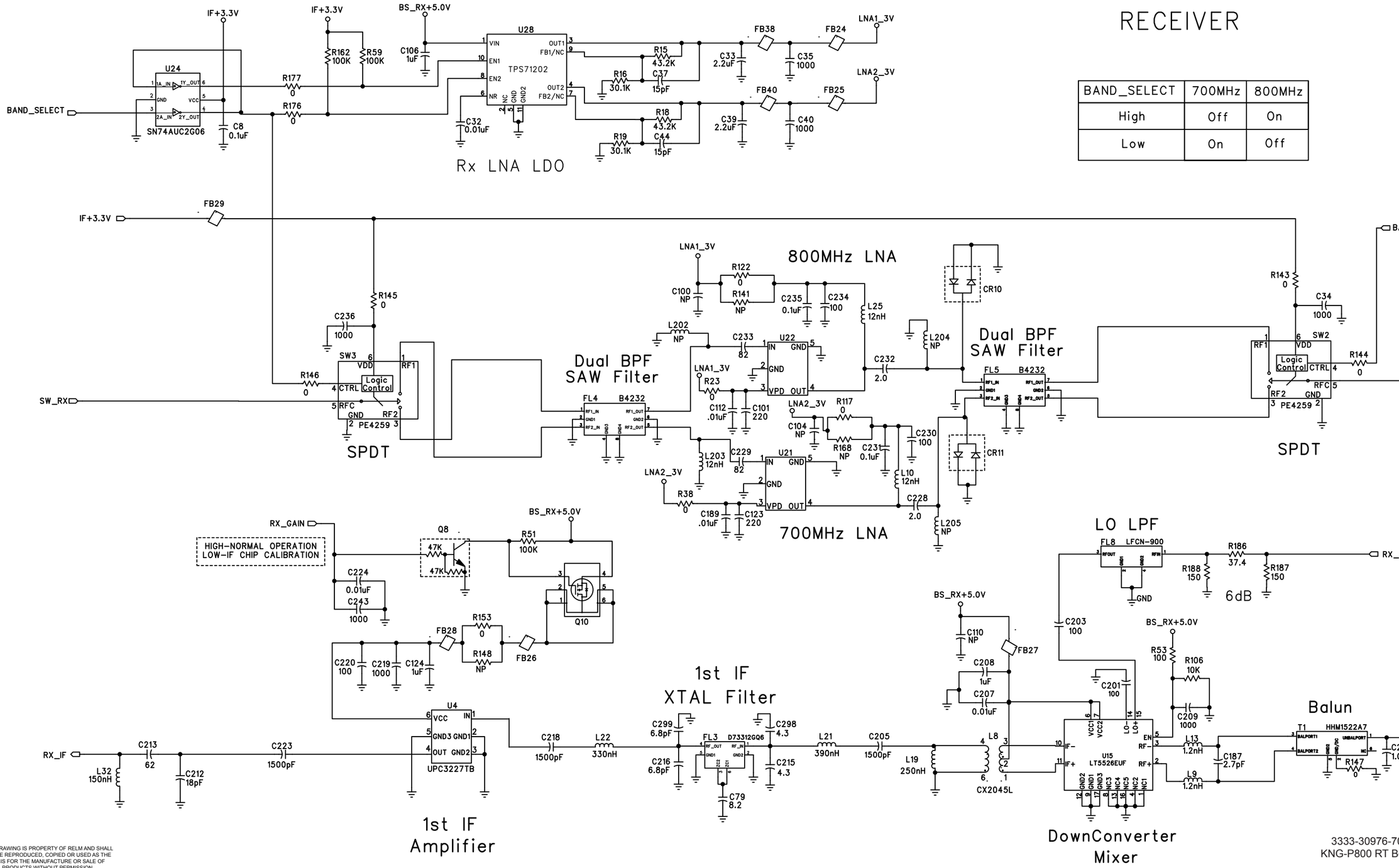
RECEIVER
BAND_SELECT | 700MHz | 800MHz
High | Off | On
Low | On | Off
Rx LNA LDO
800MHz LNA
700MHz LNA
Dual BPF SAW Filter
Dual BPF SAW Filter
SPDT
SPDT
1st IF XTAL Filter
1st IF Amplifier
DownConverter Mixer
LO LPF
Balun
6dB
HIGH-NORMAL OPERATION
LOW-IF CHIP CALIBRATION
TPS71202
SN74AUC2G06
UPC3227TB
D73312GQ6
LT5526EUF
CX2045L
PE4259
B4232
LFCN-900
HHM1522A7
IF+3.3V
BS_RX+5.0V
LNA1_3V
LNA2_3V
BAND_SELECT
SW_RX
RX_GAIN
RX_IF
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FB38
FB24
FB40
FB25
FB28
FB26
FB27
CR10
CR11
SW3
SW2
Q8
Q10
U24
U28
U4
U22
U21
FL4
FL5
FL8
FL3
U15
T1
R177 0
R176 0
R162 100K
R59 100K
R145 0
R146 0
R122 0
R141 NP
R143 0
R144 0
R51 100K
R53 100
R106 10K
R153 0
R148 NP
R15 43.2K
R16 30.1K
R18 43.2K
R19 30.1K
R23 0
R38 0
R117 0
R168 NP
R186 37.4
R187 150
R188 150
R147 0
C106 1uF
C8 0.1uF
C32 0.01uF
C33 2.2uF
C35 1000
C37 15pF
C39 2.2uF
C40 1000
C44 15pF
C100 NP
C234 100
C235 0.1uF
C236 1000
C233 82
C112 .01uF
C101 220
C104 NP
C230 100
C231 0.1uF
C229 82
C189 .01uF
C123 220
C228 2.0
C232 2.0
C34 1000
C224 0.01uF
C243 1000
C220 100
C219 1000
C124 1uF
C299 6.8pF
C216 6.8pF
C298 4.3
C215 4.3
C79 8.2
C110 NP
C208 1uF
C207 0.01uF
C203 100
C201 100
C209 1000
C187 2.7pF
C213 62
C212 18pF
C223 1500pF
C218 1500pF
C205 1500pF
L32 150nH
L22 330nH
L21 390nH
L19 250nH
L25 12nH
L10 12nH
L202 NP
L204 NP
L205 NP
L203 12nH
L8
L13 1.2nH
L9 1.2nH
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Sheet 3 of 6

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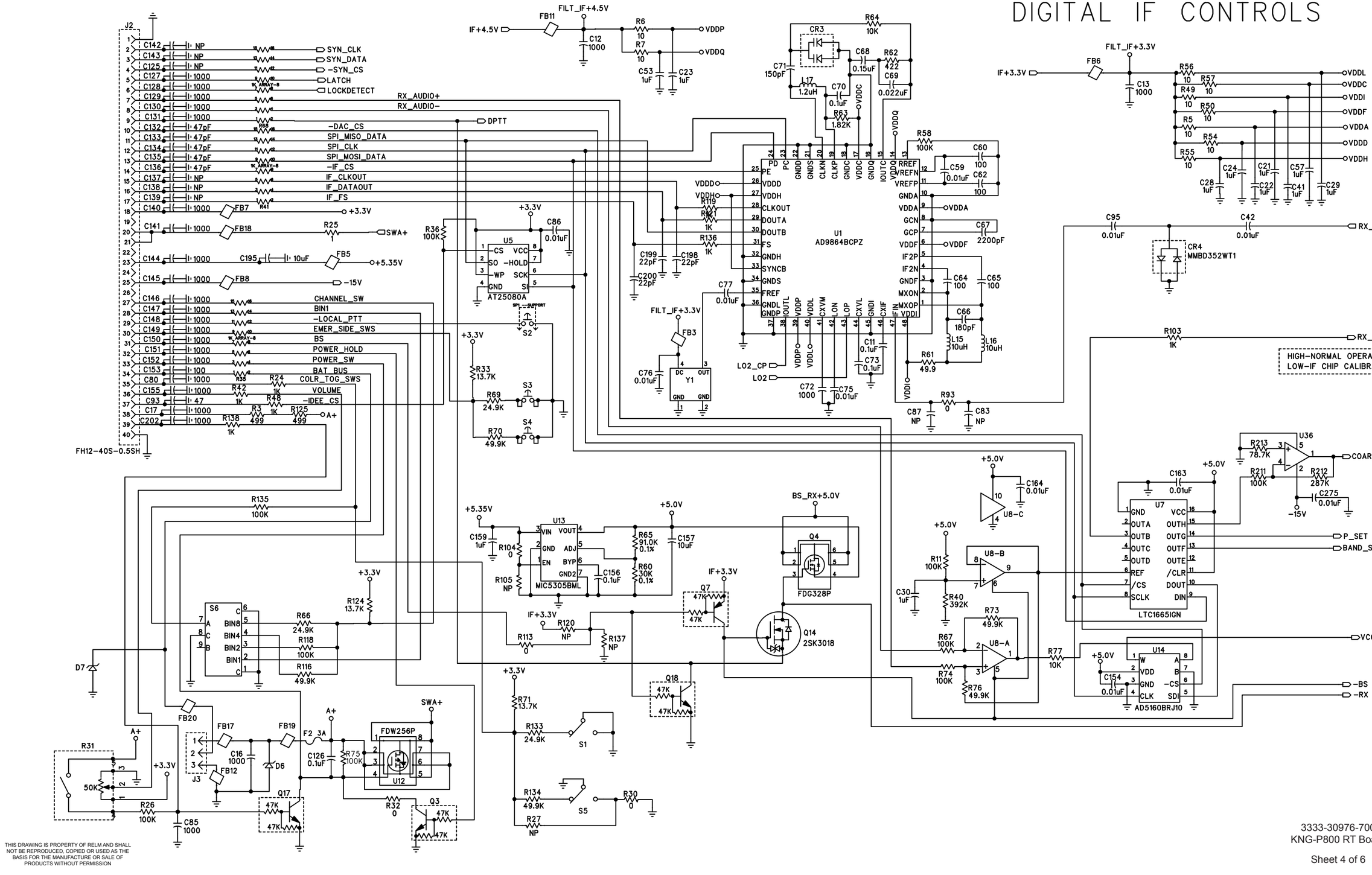
DIGITAL IF CONTROLS
J2
FH12-40S-0.5SH
SYN_CLK
SYN_DATA
-SYN_CS
LATCH
LOCKDETECT
RX_AUDIO+
RX_AUDIO-
DPTT
-DAC_CS
SPI_MISO_DATA
SPI_CLK
SPI_MOSI_DATA
-IF_CS
IF_CLKOUT
IF_DATAOUT
IF_FS
+3.3V
SWA+
+5.35V
-15V
CHANNEL_SW
BIN1
-LOCAL_PTT
EMER_SIDE_SWS
BS
POWER_HOLD
POWER_SW
BAT_BUS
COLR_TOG_SWS
VOLUME
-IDEE_CS
A+
FILT_IF+4.5V
IF+4.5V
VDDP
VDDQ
FILT_IF+3.3V
IF+3.3V
VDDD
VDDH
VDDF
VDDL
VDDC
VDDA
VDDI
U1
AD9864BCPZ
U5
AT25080A
U13
MIC5305BML
U7
LTC1665IGN
U14
AD5160BRJ10
U8-A
U8-B
U8-C
U12
FDW256P
Y1
Q4
FDG328P
Q14
2SK3018
Q7
Q17
Q18
Q3
CR3
CR4
MMBD352WT1
S1
S2
S3
S4
S5
S6
D6
D7
F2 3A
HIGH-NORMAL OPERA
LOW-IF CHIP CALIBR
P_SET
BAND_S
-BS
-RX
COAR
VCC
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Sheet 4 of 6

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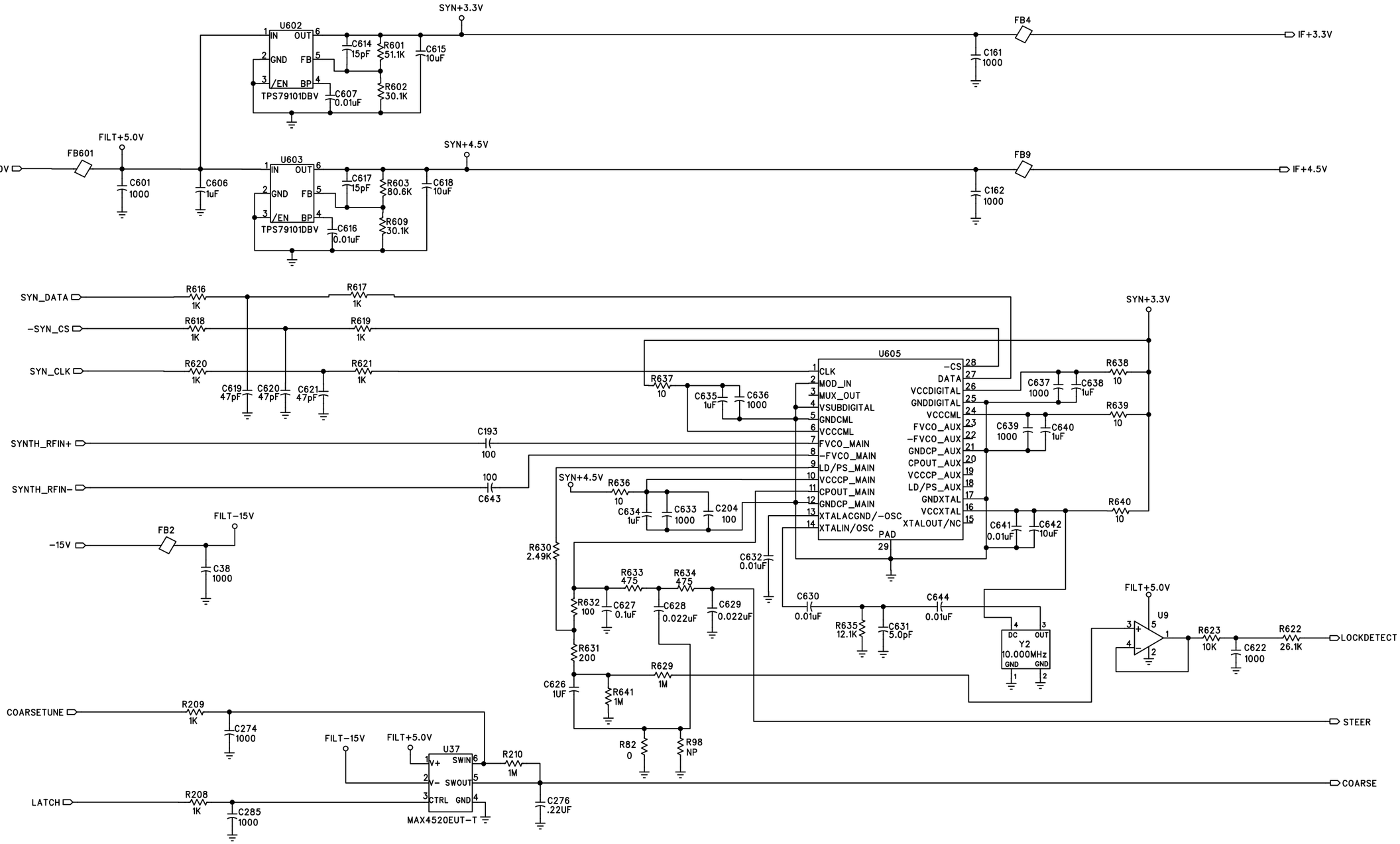
SYNTHESIZER



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Sheet 5 of 6

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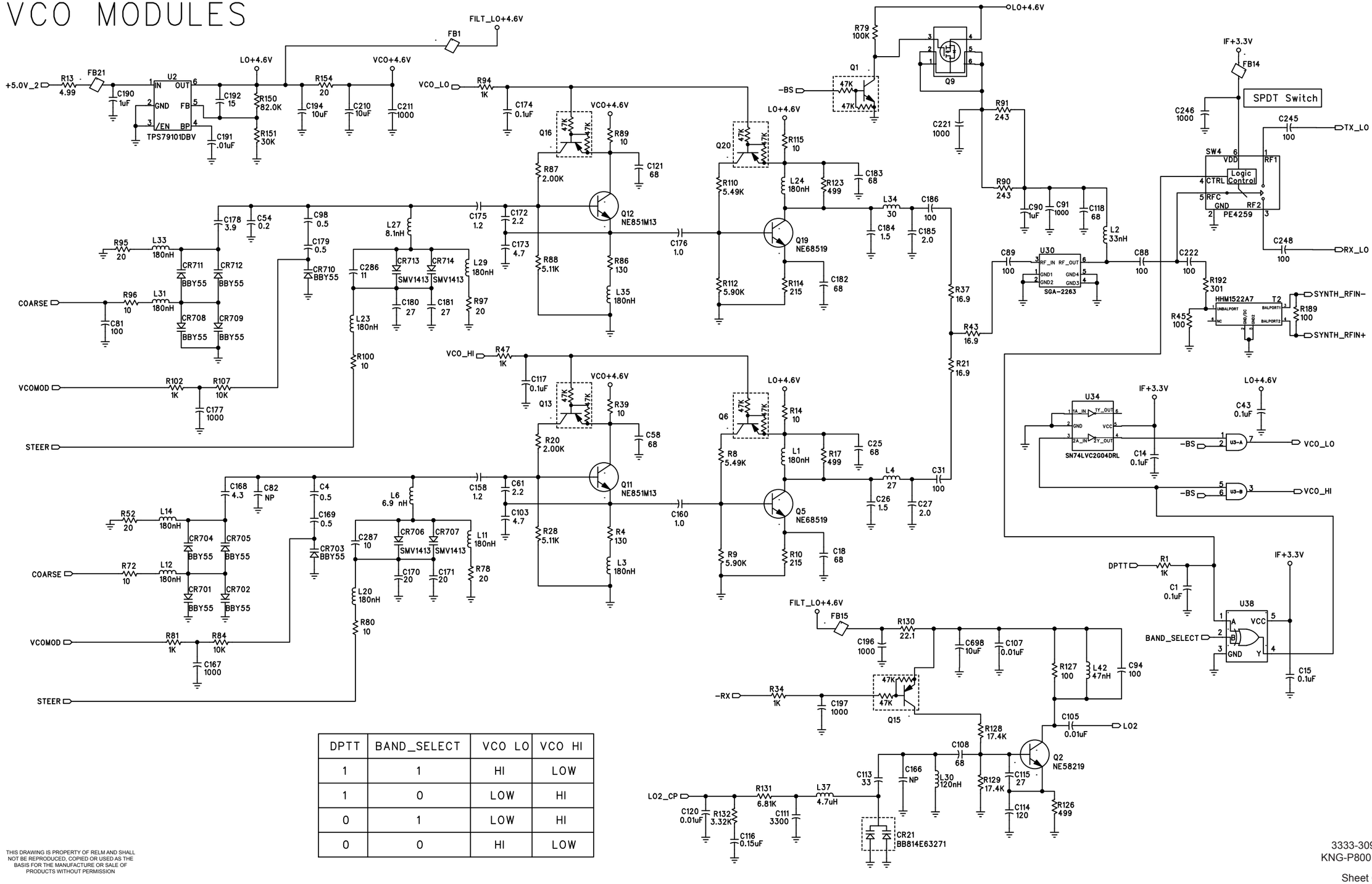
VCO MODULES



DPTT	BAND_SELECT	VCO LO	VCO HI
1	1	HI	LOW
1	0	LOW	HI
0	1	LOW	HI
0	0	HI	LOW

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Sheet 6 of 6

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