

DZKit Sienna XL 3/10/250W HF+6 SDR Transceiver kit Soldering required!



True SDR on transmit and receive—incorporates the QRP Labs QMX+ transceiver inside and adds a beautiful chassis and front panel, analog backlit style meters with touch, and more! Base model is QRP only, then add the optional amps!



See antenna status at a glance. Tx path turns red on transmit

State-of-the-art features:

- **Controlled Envelope SSB replaces ALC, which doubles your effective SSB talk power**
- **Polar modulation, for a cool-running QRP radio**
- **USB control of QMX+ settings and easy firmware updates**
- **AM, CW, SSB, Digital modes built-in, including FSKCW and WSPR beacon**
- **Synthesized VFO with 25MHz TCXO reference**
- **High performance SDR SSB receiver with 60-70dB of unwanted sideband cancellation**
- **Built-in test signal generator and testing tools**
- **Color touch displays and logically grouped controls**
- **Outstanding receive audio:**
 - **Receiver audio stage includes BHI DSP Noise Cancelling technology:** A complete mixed-signal audio system that yields 88 dB of dynamic range and exceptionally low system noise. Removes background noise, makes signals stand out!
 - **High performance class AB stereo audio amp** with .02% THD at 4W output on 'phones and speakers simultaneously, with compression to eliminate clipping at high volume.
 - **Extremely low noise audio amps and switching circuits, for clean audio reproduction**
 - **3-band Parametric equalizer** allows you to customize the Bass, Midrange and Treble to your liking



Change meter scales by tapping the meter

Base model — use your own QMX+ transceiver or buy from us (mounts inside). Requires external 11-15VDC / 5A power supply: \$4500
10W amp — 10W amp and 250W-rated low pass filters, SWR meter, 1ms reed relay T/R switching: \$500
250W amp — 250W power amp plus 10W low pass filters. Requires 10W option and external 48VDC / 10A power supply: \$1000



And more!

Separate band data outputs for Tx and Rx. Linear amp control. Transverter-ready. Two 10dB preamps. One 10dB attenuator. Rx Antenna in and out (requires 10W or 250W options). Line in and line out stereo audio jacks. Manual and paddle inputs active simultaneously from front and rear panel. Balanced mic audio works great with Heil PR-781 XLR mic or use a D-104 with built-in Hi-Z preamp. Remote controllable via RS-232 and provides USB jack for connection to QMX+. Upgradeable firmware. Serviceable yourself! Detailed Assembly, User's and Service manuals and the famous DZKit Worldwide Support!

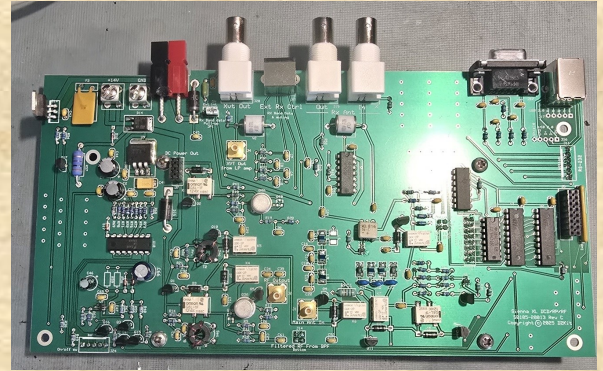
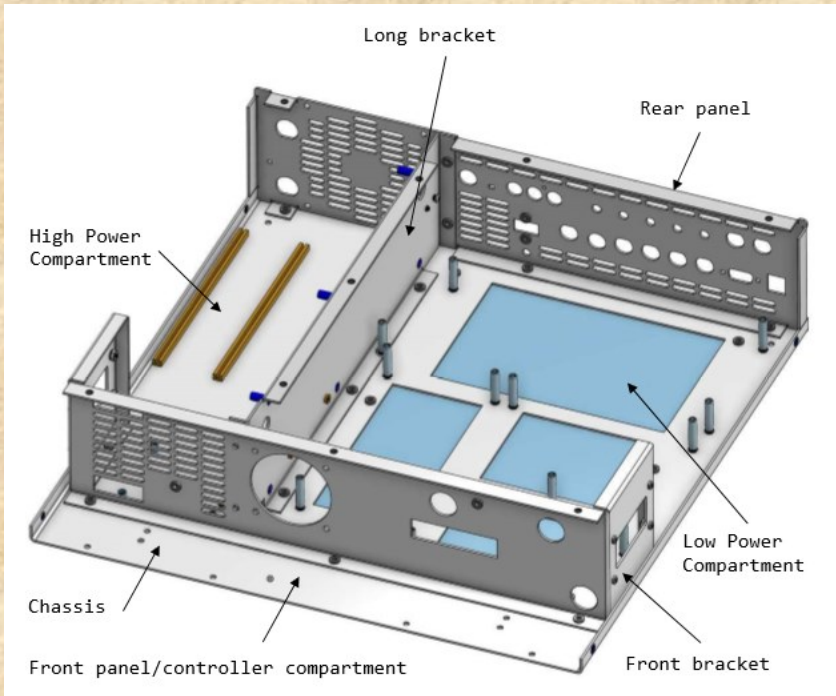
Fun to build. Easy to use. High performance.

Features not available on other rigs.



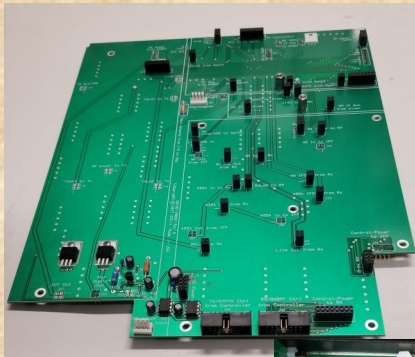
The DZ Company, LLC
 6151 Panoramic Dr. • Loveland, CO 80537
 www.dzkit.com • 877-HAM-SHACK • sales@dzkit.com

What do you get to build?



DC Power conditioning/RF Front end/Rear Panel

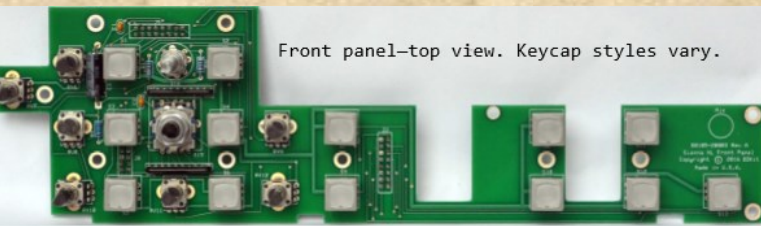
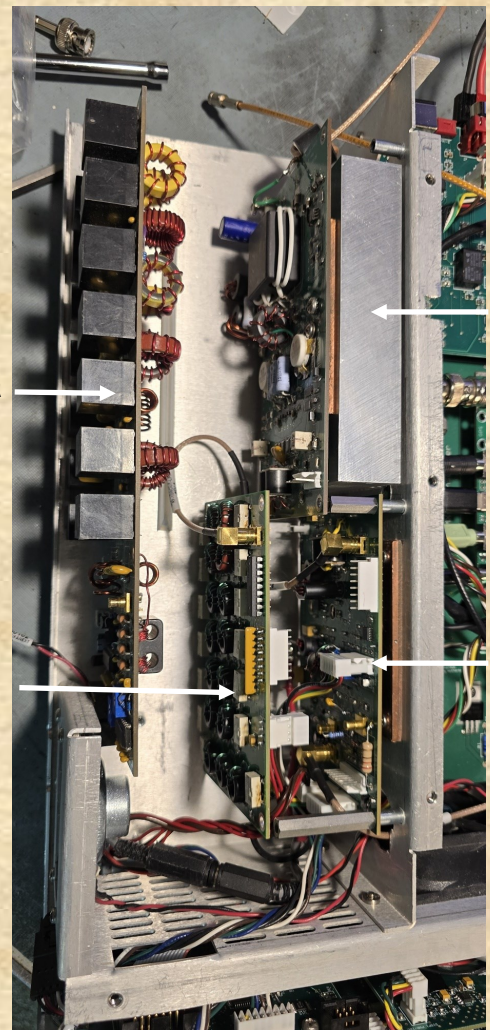
Chassis



Motherboard



QMX+ SDR



Front panel—top view. Keycap styles vary.

Front panel

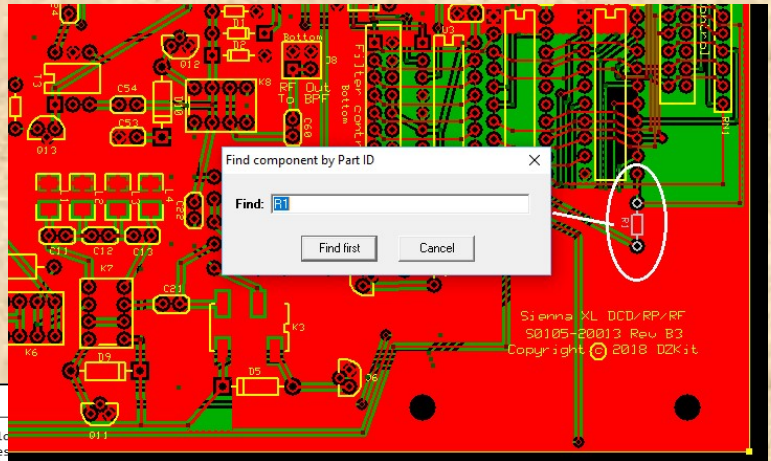
We preassemble and test the Controller board. All others are partial or complete kits. SMT is pre-loaded.



The DZ Company, LLC
 6151 Panoramic Dr. • Loveland, CO 80537
 www.dzkit.com • 877-HAM-SHACK • sales@dzkit.com

DZKit assembly manuals have all the detail you expect out of a world-class kit! Our step-by-step instructions and pictorials are easy to follow and make kit-building fun!

An electronic version of our circuit boards is included so that you can rapidly find the location of parts. All you need to do is run free ExpressPCB software and load the appropriate circuit board.



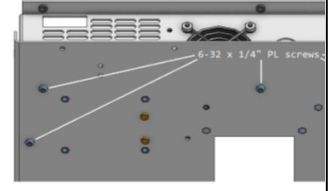
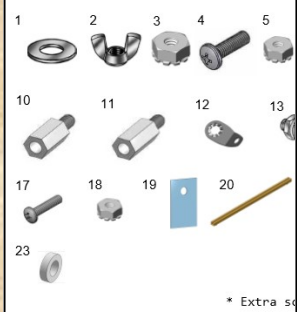
Page 13

Chassis Parts

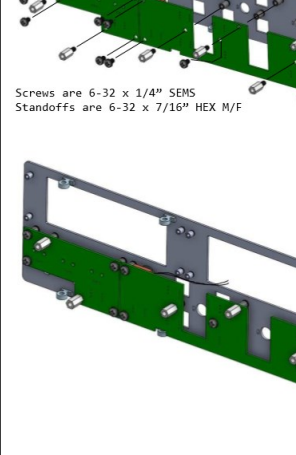
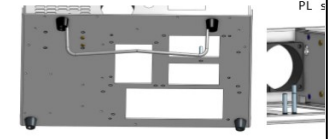
Item	Description	Stock bin	Quantity
1	Hardware #10 Flat Washer 1/2in OD, .05in Thick Zinc-Plated Steel	473	2
2	Hardware 10-32 Wing Nut Zinc-Plated Steel		
3	Hardware 10-32 KEPS Nut SS		
4	Hardware 10-32 x 5/8in PH Phillips M/S SS		
5	Hardware 6-32 KEPS Nut SS		
6	Hardware 6-32 x 1/4in PH Phillips M/S SS PL		
7	Hardware 6-32 x 1/4in PH Phillips M/S SEMS S		
8	Hardware 6-32 x 1/2in PH Phillips M/S SEMS S		
9	Hardware 6-32 x 1/4in FH 100 degree Phillips B		
10	Hardware 6-32 x 7/16in Hex M/F Spacer SS		
11	Hardware 6-32 x 1/2in Hex M/F Spacer SS		
12	Hardware #6 internal tooth lockwasher with sold		
13	Hardware 4-40 x 5/16in Jackscrew, washer, loc		
14	Hardware 4-40 x 1/4in PH Phillips M/S Polycarb		
15	Hardware 4-40 x 1/4in PH Phillips M/S SS PL		
16	Hardware 4-40 x 1/4in PH Phillips M/S SS		
17	Hardware 4-40 x 1/2in PH Phillips M/S SS		
18	Hardware 4-40 KEPS Nut SS		
19	Hardware Insulator with adhesive back for TO-2		
20	Hardware PCB card guide fin plastic		
21	Hardware Anderson Powerpole mounting clamp		
22	Hardware 60mm metal finger guard		
23	1/16" Nylon spacer		

- () Attach the front bracket to the chassis bottom using three 6-32 x 1/4" PL screws in the center and one on each side under the speakers. (Note: "PL" refers to the Nylon patch compound that is on the threads. Do not use the screws with attached lockwashers, called "SEMS"). See below.
- () Route the left speaker cable under the fan and into the low power compartment.

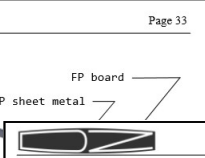
- () Locate the location to fix two adhesives over the two small holes toward the back, on the side of the chassis. Use the adhesive in the top and the adhesive in the bottom.



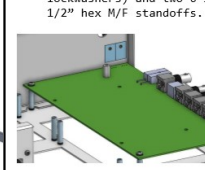
- () Locate the "tilt ball" with mounting hardware. Follow mounting instructions provided with the ball. Refer to the drawing below for mounting locations of the front feet (with ball) and rear feet.



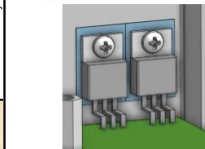
Front panel circuit board



- () Inspect your work. Look for shorted pads, unsoldered parts, backwards parts, etc. Fix any defects.
- () Attach the board to the chassis bottom as shown below, using two 6-32 x 1/4" SEMS screws (screws with attached lockwashers) and two 6-32 x 1/2" hex M/F standoffs.



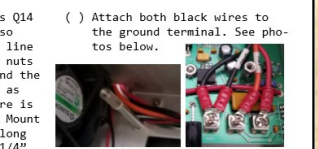
- () Insert power transistors Q14 and Q15 into the board so that the mounting holes line up with the two captive nuts in the long bracket. Bend the leads in an "S" pattern as shown below so that there is no strain on the leads. Mount each transistor to the long bracket using a 4-40 x 1/4" polycarbonate screw.



- () Solder the transistor leads to the board from the top.

- () Remove the screws from the +14V, +48V and GND terminals.
- () Attach the lug on the end of the orange wire in the orange/black twisted pair power cable (S0105-00124, labeled PWR-DC048V-REG48V) to the screw terminal marked +48V. Dress the cable along the DCD/RF/RF board, under the notch in the long bracket (next to the fan) and into the high power compartment.

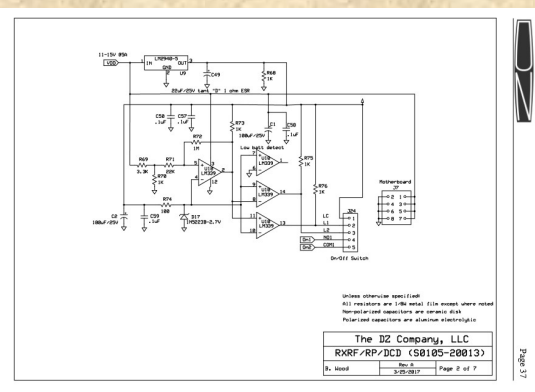
- () Repeat the previous step using the red wire in the red/black twisted pair power cable (S0105-00125), connecting it to the screw terminal marked +14V.



- () Attach both black wires to the ground terminal. See photos below.

Red/black twisted pair:
Red: +14V Black: GND

Orange/black twisted pair:
Orange: +48V In Black: GND



Our User's manual includes detailed instructions on how to use Sienna XL and all I/O commands needed to operate it from a remote control program. Our Service manual includes complete schematics and detailed theory of operation, should you want to understand how it works and service it yourself.



The DZ Company, LLC
6151 Panoramic Dr. • Loveland, CO 80537
www.dzkit.com • 877-HAM-SHACK • sales@dzkit.com

Ten reasons why we know you'll be successful building a DZKit Sienna XL

1. It's designed in the USA using domestic and imported parts, to assure high quality and fast response to any manufacturing issues:

- ✓ Chassis sheet metal is manufactured by a top-notch manufacturing facility in Denver, CO.
- ✓ Cables are made by a top-notch facility in Golden, CO
- ✓ Front panel overlays are made in Illinois
- ✓ Circuit boards are made in Oregon
- ✓ Products are designed, tested and final kitting done at our plant in Loveland, CO
- ✓ We buy parts from American distributors (e.g., Mouser, Digikey) and directly from many manufacturers, guaranteeing high quality and no "knock-offs".



2. We provide detailed assembly manuals with pictures, drawings and step-by-step instructions. (See previous page)

3. Pre-built boards are fully tested.

4. Firmware is updateable by customers easily as new features or bug fixes are released.

5. No custom IC's except programmed microprocessors are used. All parts are off-the-shelf.

6. Captive nuts/standoffs and screws with built-in lockwashers eliminate tedious mechanical assembly.

7. Surface-mount parts are pre-loaded.

8. We provide hard-to-get or uncommon tools in the kit.

9. Beta testers are used to refine the kit assembly process and provide feedback on usability.

10. Support is just a phone call or email away, with exceptional responsiveness.



YOUR DZKIT 1-YEAR LIMITED WARRANTY

During the first year after shipment, DZ Company will replace or repair free of charge—no matter how small—any parts which are defective, either in materials or workmanship, and any incorrect or missing parts. You can obtain parts directly from DZ Company by writing us, emailing us or telephoning us. And we'll pay shipping charges to get those parts to you—anywhere in the world.

We warrant that during the first year after shipment, our products, when correctly assembled, calibrated, adjusted and used in accordance with our printed instructions, will meet published specifications. Once assembled, if the product fails to operate correctly, we will help you determine which subassembly requires service. If return is found to be necessary, you must then ship that subassembly, or whole unit if applicable, to the address below at your expense, and we will repair or replace it at our option and return it to you at no charge.

You will receive free consultation (except for the cost of your long distance phone call) on any problem you may encounter in the assembly or use of your DZKit product. Just write us, email us, give us a call, or visit our website and click on "Support". That will give you access to free support. Sorry, we cannot accept collect calls.

Our warranty, both expressed and implied, does not cover damage caused by the use of acid-core solder, water-soluble flux solder (without appropriate washing), or any corrosive or conductive flux or solvent, defective tools, incorrect assembly, misuse, fire, customer-made modifications, floods or acts of God, nor does it include reimbursement for customer assembly or setup time. The warranty covers only DZKit products and is not extended to non-DZ allied equipment or components used in conjunction with our products or uses of our products for purposes other than as advertised.

This warranty applies only to the first owner of the product and is not extended to subsequent owners.
This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

THE DZ COMPANY, LLC
6151 PANORAMIC DR.
LOVELAND, CO 80537

We'll make sure you succeed! The DZKit 1-year warranty includes free consultation with our engineers if any problems come up.



The DZ Company, LLC
6151 Panoramic Dr. • Loveland, CO 80537
www.dzkit.com • 877-HAM-SHACK • sales@dzkit.com