DZKit "Saguaro" (Model SR-74B)
Multi-Band Receiver Kit or DIY Chassis for SDR/RPi Experimenters

This ergonomically pleasing receiver will look great anywhere in your house!

Explore the fun of multi-band listening from 200kHz to 1.312GHz in 80 bands with included software that emulates the slide-rule dial radios of yesteryear, but brought up-to-date with modern SDR technology. Or use it as a DIY experimenter platform! Either way, you get these outstanding features:

- ***Quality chassis—sanded, chromated .063" aluminum, with captive nuts and standoffs, black painted top cover, polycarbonate front panel overlay, screw-on rubber feet, all made in the USA***
- ***Large 7" color touch HDMI display***
- ***Powerful 4" permanent magnet speaker built-in, and external speaker jack on back panel***
- ***1/4" headphone connector on front panel***
- ***"Velvet-touch" main tuning control uses hi-res optical encoder, machined aluminum knob***
- ***Microprocessor controller to read control inputs and feed data to and from the Raspberry Pi (soldering required kit board; some pre-loaded SMT); lead-free/no-clean solder included in kit***
- ***Code practice oscillator with back panel sidetone level, pitch and speed controls***
- ***Built-in transformer-operated, fused AC power supply runs on 100-240VAC, or use the 12VDC input***
- ***Standoffs for mounting internal Raspberry Pi 5B running Linux, with back panel access (OS and required software provided on included MicroSD card)***
- ***Mounting provisions for internal SDRPlay RSP1B SDR, with SMA antenna connector on back panel***
- ***Audio extractor included in internal HDMI line***

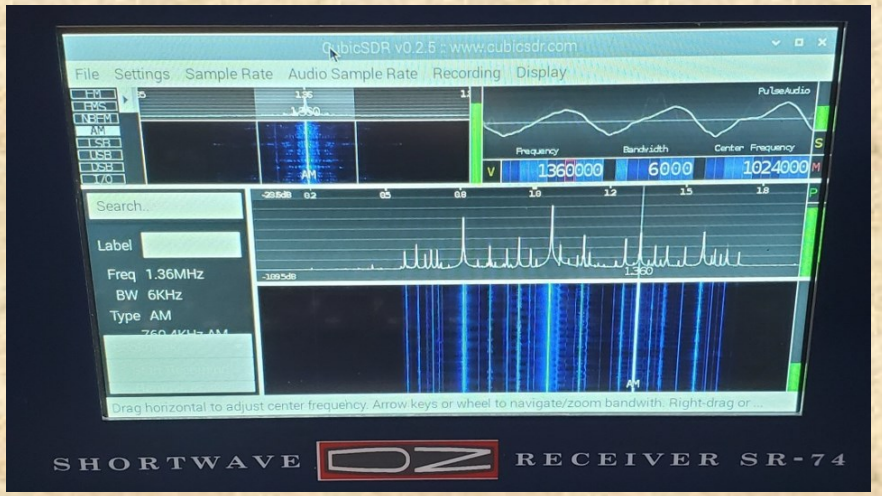
Price: $900 + options
Typical price with most options: ~$1200

Options include: * Raspberry Pi 5B (8G or 16G) * SDRPlay RSP1B * AC power cord * 2nd HDMI display interface for connection to external monitors (monitor not included) * Touch interface * Wireless keyboard/mouse * Extra solder * 72-page printed color manual

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

Made in the USA

Shortwave radio has once again become an important part of the global community. When governments restrict the ability to get accurate and timely news and information, shortwave radio often fills the gap. Listen to international broadcast stations, AM/FM broadcast bands, ship-to-shore marine radio, WWV time signals, and Amateur and Citizen's Band transmissions on AM, FM, SSB and CW. Practice your Morse Code skills with the built-in code practice oscillator. Use included Saguaro software to emulate old-style slide-rule dials to tune 200kHz to 1300MHz, or use included CubicSDR (right) to receive over the full 2GHz frequency range supported by the RSP1B SDR.



A closer look at the touch/click buttons at the bottom of the Saguaro software — Mute/Rcv, AGC Off/Fast/Slow (RFG = threshold control when AGC is on), Several levels of front-end attenuation, Page selectors, Mode (AM, FM, NBFM, USB, LSB, CW(USB), CW(LSB)), Keyer mode, Save current freq, Tuning res, Exit

Reasons why we know you'll be successful building a DZKit Saguaro

- It's made in the U.S. 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
  - ✓ DZKit-designed circuit boards are made in Oregon
  - ✓ DZKit products are designed, tested and kitted 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".

- We provide detailed assembly manuals with pictures, drawings and step-by-step instructions.
- No custom IC's are used. All parts are off-the-shelf.
- Captive nuts/standoffs and screws with built-in lockwashers eliminate tedious mechanical assembly.
- Small surface-mount parts are pre-loaded.
- We provide hard-to-get or uncommon tools in the kit.
- Support is just a phone call or email away, with exceptional responsiveness.

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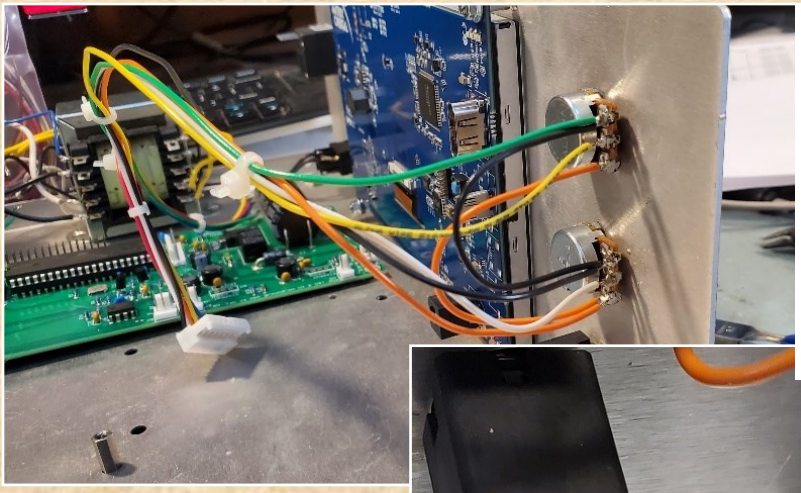

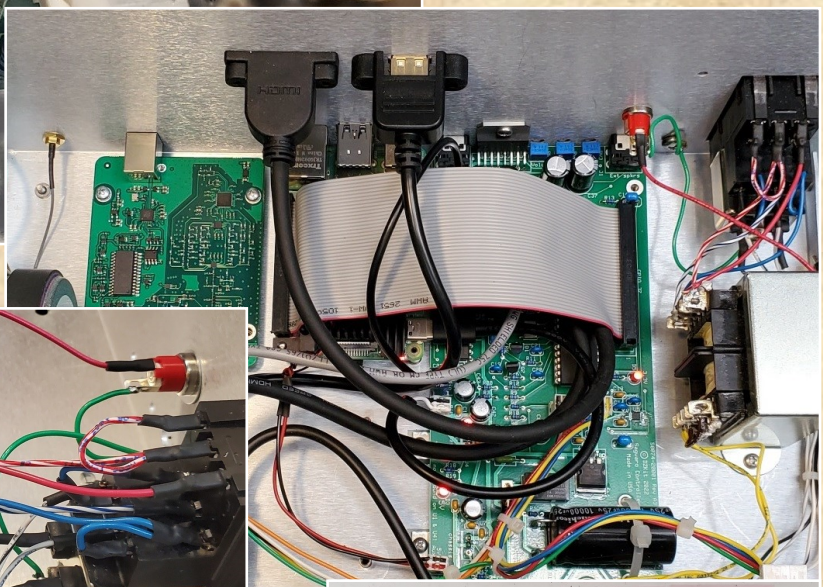

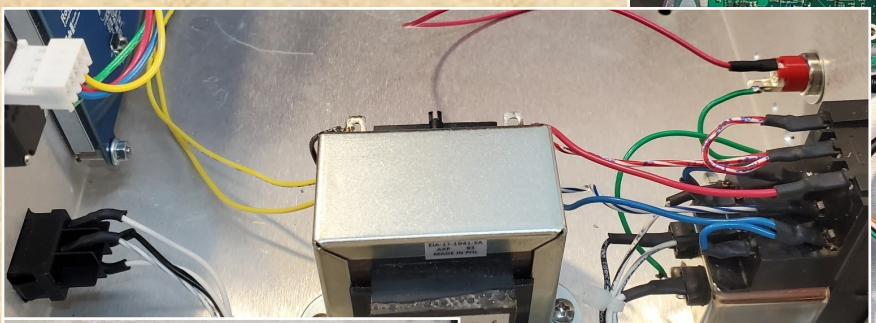

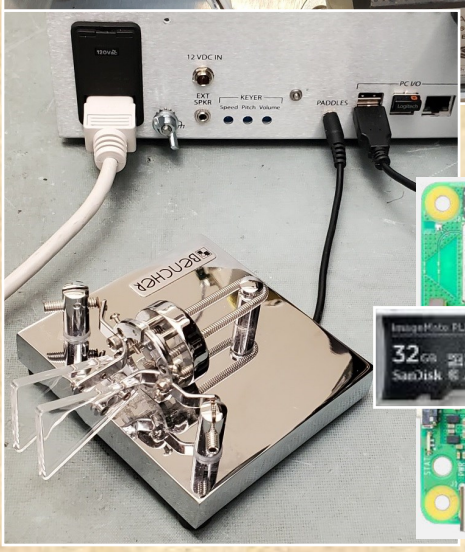

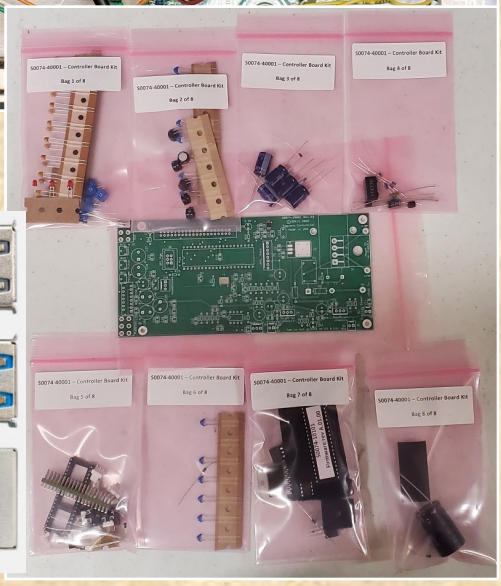

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SPECIFICATIONS

RF Specs are identical to those of the SDRPlay RSP1B. See:
https://www.sdrplay.com/resources/RSP1BDatasheet.pdf

Receiver type: Software defined radio, 14-bit ADC, controlled by Linux-based PC

Operating system: Raspberry Pi OS (Debian Linux, rev 12.0, codenamed “Bookworm”)

Frequency Range of SDRPlay RSP1B: 1kHz-2GHz

Frequency coverage of Saguaro software:

200kHz-32 MHz (LF, MF and HF in 11 bands)

50-56 MHz (Amateur 6M in 2 bands)

75-108 MHz (Worldwide FM in 11 bands)

108-156 MHz (Aircraft, Amateur 2M in 16 bands)

420-468 MHz (Amateur 70cm in 16 bands)

1240-1312 MHz (Amateur 23cm in 24 bands)

Headphone output impedance: 100 Ohms, suitable for low-Z headphones

External speaker impedance: 4 Ohms min, short-circuit protected, stereo

Connectors and Controls:

Front panel: On/off, Volume, RF Gain, Tuning, plus mouse/touch control of dial pointers

Software buttons: See page 2

Touch type: Resistive, 3H hardness

Back panel:

AC input (IEC-320)

12VDC Input (2.1mm, center positive)

Chassis Ground

External speaker (3.5mm stereo minijack)

Keyer speed, pitch, volume potentiometers

Keyer paddles (pulled up to 3.3V, 1K input, 3.5mm stereo minijack)

Touch output: USB-A

External display: HDMI

Two USB 2.0, Two USB 3.0, One 1GB Ethernet (plus internal WiFi and Bluetooth)

SDR IO: USB-B

Antenna: SMA, 50 Ohms, protected to +0dBm input level

Operating temperature: 0-40C

Operating voltage:

100-240 VAC, 50/60 Hz, 20W

10-14 VDC, 20W

IC/Board complement: Controller board (TDA7375AV quad 28W low THD audio amp, Microchip ATMega644P microprocessor, AD9833 DDS oscillator, LM358P audio mixer, CTS 16MHz clock oscillator, 2xLM350T 5V regulator, LD1085D2M33R 3.3V regulator), Raspberry Pi 5B, SDRPlay RSP1B