

Shack In The Box (SITB)

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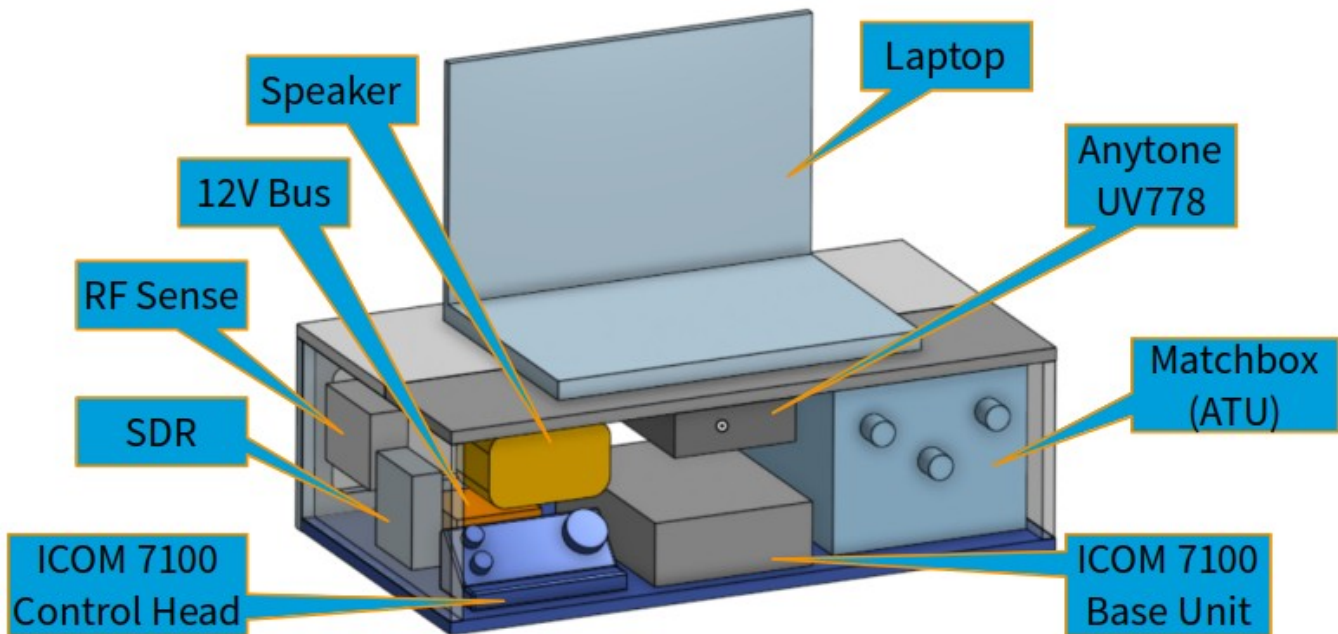
I designed my Shack In The Box (SITB) to help organize a potentially messy Ham desktop and to enable me to quickly take my Ham equipment with me when I want to operate in other locations (e.g. camping, vacation, field operations, etc.). That way I don't have to buy multiple radios and other equipment.

The overall concept is to have a container (box) that holds all the Ham station components except:

- power supply
- antenna(s) and feedline(s)
- laptop & external monitor

I want to be able to disconnect the power supply and antennas so the SITB can be taken where needed. Obviously, this means that taking the SITB to a different location requires a power supply, antenna(s) and computer (if using the SDR) at the alternate site.

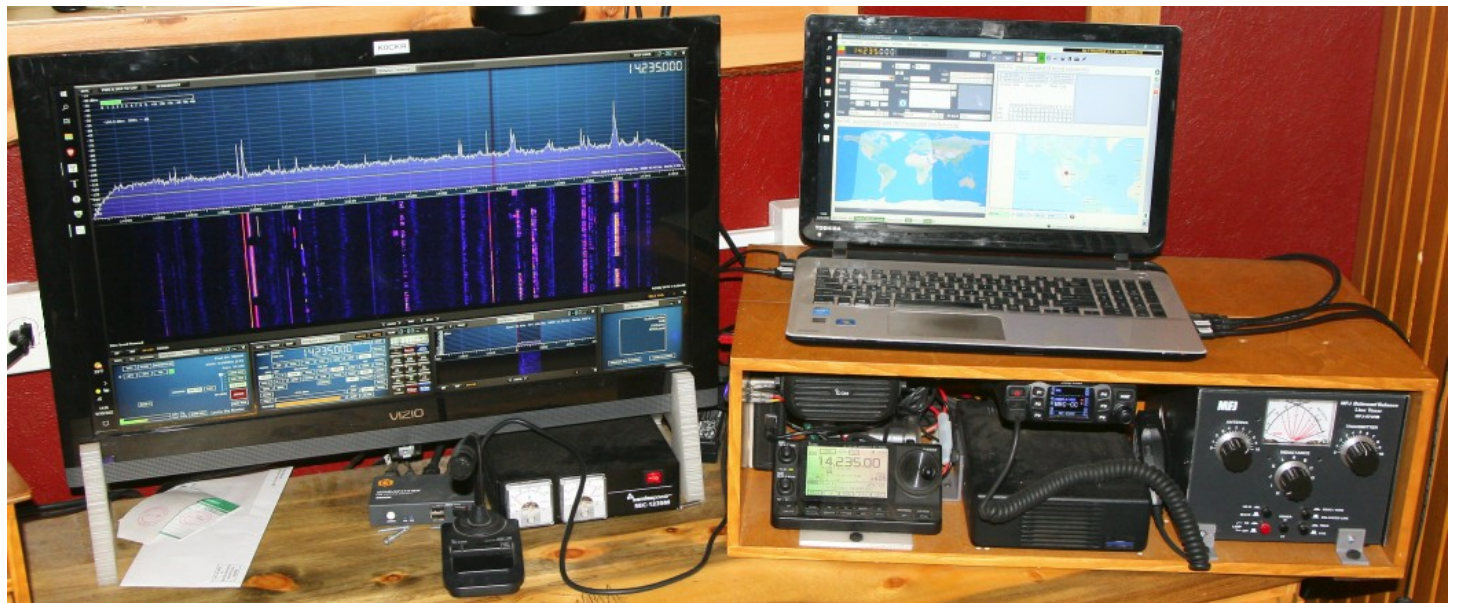
Here is an illustration of the SITB components:



Here is an actual photograph:



Here's a picture with an external monitor connected at the home QTH:



Here is Laurie (K0LTH) using the SITB out camping:



When the weather is bad, we can move the SITB inside the camper.

The SITB weighs in at 26 lbs.

SITB Detail

12V bus: connects to power supply and distributes 12V to multiple components (fuses on each line)

ICOM 7100: provides 160M - 70cm coverage

Anytone 778UV: provides 2M / 70cm coverage

Balanced Line Tuner - MFJ 974HB: allows multi-band operation using a non-resonant balanced antenna and balanced feed line (doublet)

SDRPlay RSP1A:

covers the complete radio spectrum from 1kHz to 2GHz (allows monitoring all bands including Ham, SW, etc.)

provides panadapter display (spectrum and waterfall)

Fully integrates with ICOM 7100 (changing frequency, mode, etc. on the SDR software changes the Icom and vice versa)

Laptop:

USB connections provide integration between SDR and ICOM 7100

SDRUno software - provides panadapter display and integration/control for radio

Log4OM software - for logging; this is also integrated to SDRUno

RF Sense: MFJ-1708B-SDR-S - automatically disconnects SDR when transmitting

SITB - Not Included

This section describes what is **not** included in the SITB and what needs to be provided when the SITB is taken to an alternate location.

Power

There are Anderson power pole connectors on the SITB to connect to power. A power supply is used at home. When camping, the camper batteries supply power.

Laptop & Power

If the SDR is to be used for portable operation, a MS Surface Go is utilized. A 12V car cigarette lighter outlet is provided on the SITB. A power supply cable that plugs into this can run and charge the Surface. The Surface powers the SDR thru the USB cable.

If no portable power is available for laptop, radios are still fully functional without using the laptop and SDR.

Antenna(s)

At home, the SITB is connected to the home antennas.

When portable, the SITB is connected to field-deployable antenna(s).