

LCD Addition to Sandwich VFO

10 August 2017



With the addition of the Sandwich VFO running on the Arduino Processor, many new features are available or possible. It is fairly easy to add an I2C – LCD Display that can show the actual operating frequency.

Components Shown:

- 1) Sandwich
- 2) Band Switch
- 3) 5 Volt Regulator
- 4) I2C – LCD Display
- 5) Display Mount



All that is needed is an I2C LCD display such as: 1602 Blue Backlight 2 x 16 LCD Display. These displays are readily available from:

1. Do a google search for I2C LCD display.
2. <https://www.amazon.com/SainSmart-Serial-Module-Display-Arduino/dp/B00813HBEQ>
3. <https://www.banggood.com/IIC-I2C-1602-Blue-Backlight-LCD-Display-Module-For-Arduino-p-950726.html?rmmds=search>
4. Digikey.com
5. And may other companies.

Make sure that you get the I2C display and not the serial or parallel display. They will work, but require a different code and wiring in the Arduino programming.

Added code library is LiquidCrystal_I2C.h is needed. This is all included in my download file.

There are several addresses that can be used on the I2C buss. The one that is used in my sample code is 0x27, the default code. Most I2C interfaces can be programmed to other addresses as desired.

In my application I uses an I2C/1602 – 2 X 16 display. I add a 5-volt regulator for powering the LCD display. I also use a 1 Choc Perf Board available from CRKits.com or qrvtrronics.com to hold a Li-Ion battery pack. I included a Li-Ion battery charger, a fuse and an on/off power switch. The I2C buss is the green/yellow wires that connect to a plug on the back of the KN-Q7A or CS-Series Radio. This was packaged in an identical case to the Radio available from qrvtrronics.com or CRKits.com.

Inside LCD/Battery case:



Front view of Radio:



I also use “Power Pole” connectors on the charge port. This port can be used to charge the Li-Ion battery pack or can be used as an additional power.



The cases could be screwed together or mounted separately if desired.

Without the power/LCD pack, the radio will operate normally.

At the present time, I am debating as to whether I would provide a kit for this project.

All of the LCD code and library files are included in the Dual Band downloads:
http://www.qrvtronic.com/CatHAM_Radio/Products/DualBandKit.htm

Preparation of the Sandwich Module

It is possible to prepare the Sandwich Module for use of the I2C buss. You can solder wires to the Sandwich at the A4/A5 connectors or, solder header pins so that a connector could more easily connect a wiring harness.

