

## **GPS LOCKED 10MHz REFERENCE STANDARD WITH SWITCHED RANGES PARTS LIST**

- 1 x GPS NEO-7M Module (if a NEO-7N is purchased you do not need a back-up battery)
- 1 x GPS Active Antenna with cable and SMA connector (28dB LNA 1575.42MHz)
- 1 x Mini U.FL/IPX to RP-SMA Female Antenna Pigtail Cable (approx 12 cm long)
- 1 x RP SMA RF inline adaptor
- 1 x USB 2.0 to TTL UART 5PIN CP2102 Module

### **MAIN FREQUENCY BOARD PARTS LIST**

- 1 x 3 volt lithium button battery (CR2032)
- 1 x Coin Cell Battery Holder for CR2032
- 1 x 470uF electrolytic capacitor (25 or 35 volt)
- 1 x 10uF tantalum capacitor (16 or 25 volt)
- 8 x 100nF capacitor
- 1 x 10nF capacitor
- 2 x 220pF
- 1 x Green LED (low current if possible)
- 1 x 1N4148 diode
- 1 x 1n4001 diode (for D2 optional – not fitted on current project)
- 1 x 1.5uH inductor
- 1 x 10uH or 22uH inductor (for L2)
- 6 x 100 ohm resistors
- 1 x 120 ohm resistor
- 1 x LM7805 (5 volt Regulator)
- 1 x 74AC14 or 74HC14
- 3 x 74HC390
- 1 X 14 pin IC socket
- 3 x 16 pin IC socket
- 1 x 4 pin SIP PCB socket connector in a single row format with 2.54mm pitch
- 1 x 5 pin SIP PCB Socket (right angled) with 2.54mm pitch

### **DISPLAY BOARD PARTS LIST**

- 1 x Arduino Nano with SIL pin headers
- 1 x 16 x 2 LCD display
- 1 x 16 pin SIL header for LCD display
- 1 x 16 pin SIP PCB socket connector in a single row format with 2.54mm pitch
- 1 x 100nF or 470nF (power line decoupling)
- 1 x 220 ohm resistor (for LCD backlight)
- 1 x 10 Kohm preset potentiometer

### **MISCELLANEOUS**

- 1 x Rotary Switch with 2 poles and 6 way - make-before-break (Lorlin type CK1035 or similar)
- 1 x Battery Holder/Snap On Connector for 6 AA 1.5 volt batteries
- 6 x 1.5 volt batteries
- Single pins for board connectors and single sockets for flying connecting leads
- Nylon Hexagonal Male to Female M3 Threaded Spacers (for board Stand-offs)
- Main and Display PCB's