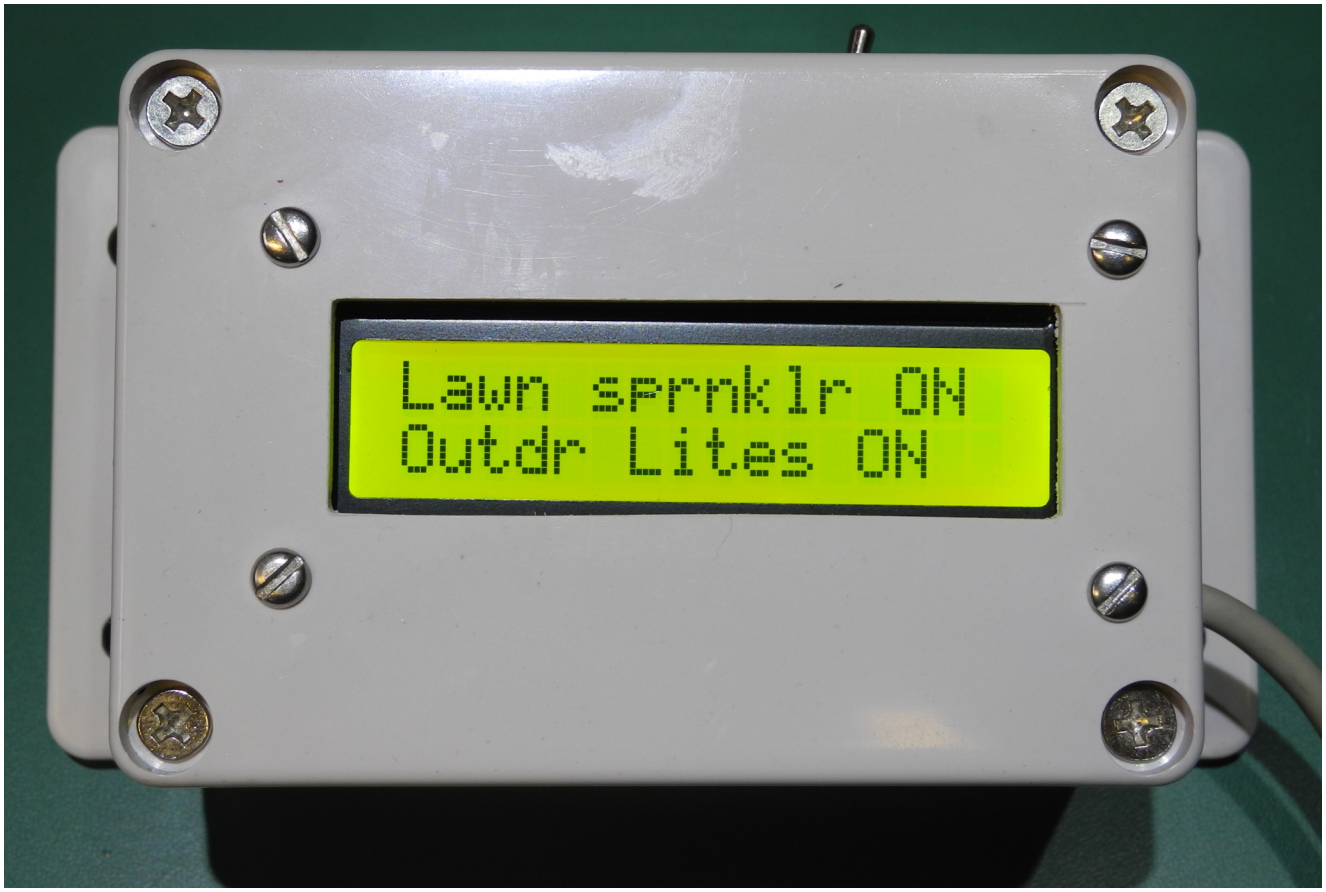
Arduino LCD Annunciator



The LCD annunciator is a remote message display unit that can display any 2 lines of 8 stored messages for your project. The annunciator uses a JHD162A 2x16 LCD display, an RS-485 transceiver chip and an Arduino Nano controller board. The annunciator is primarily designed to work with the uTile programmable logic controller running as master, but it can be used with any other type of host controller.

Building the LCD annunciator unit requires moderate construction skills. All the components are readily available from on-line retailers. Wiring effort is minimized by the use of a TWI interface to control the LCD display and a serial RS-485 connection to the master host controller.

To install the LCD annunciator program on Arduino Nano board , just download the m328-LCD-message.hex executable image from the repository and flash the file to the controller board with

AVRdude. Connect the annunciator unit to a host PC running PuTTY and enter or edit up to eight pre-set messages you wish to display. Save the messages in EEPROM and the annunciator is ready to run.

Brief specifications:

- **IDE** — **Atmel Studio 7**
- **Language** — **AVR assembly**
- **Construction level** — **Moderate**
- **Build time** — **About 4 evenings**
- **Microcontroller** — **ATmega328P, 16 MHz, 5 Vdc**
- **Platform** — **Arduino Nano controller board**
- **Control interface** — **Control string commands over RS-485 serial port. Only 4 wires needed, +5V, ground and a twisted pair of wires.**

Other required software tools:

- **PuTTY** — **SSH client (terminal interface only)**
- **AVRdude** — **For flashing m328-demo-utile.hex to your Arduino controller board**

Features:

- **Flexible, elegant message display unit for you control project to replace simpler LED status indicators while providing more specific user information.**
- **While designed primarily as a message display unit for uTile controller applications, the LCD annunciator can be used as a general purpose message display unit as it is controlled by simple text command strings consisting of ASCII characters.**
- **RS-485 serial communications allows the LCD annunciator to located up to 300 m (1000 feet) from the host controller.**
- **Full source code is provided.**

Contact:
If you have questions, comments or suggestions, please send me email to lynf.yyz@gmail.com.

Please visit our website PLCCHIPS.com for more information on a number of practical projects aimed at deploying the Arduino microcontroller boards in a variety of interesting and useful applications. Check it out and enjoy!