This project will need to tie into the same Arduino as the last project completed.

There will be a vfd display, similar or the same as the one I have shown you previously. The VFD will be connected to the Arduino. There will be an 8 bank of mechanical relays also connected to the Arduino.

* Power on/off via toggle switch

Once power on:

* VFD display flashes twice (all pixels/dots illuminate)
* VFD display turns off
* All 8 relays function:
  + - Closed for half second
    - Open for half second
    - Closed for half second
    - Open for half second
    - Closed for half second
    - Open for half second
* Cycle relays;
  + - Relay 1 Closed (1/4 second)
    - Relay 1 Open (1/4 second)
    - Relay 2 Closed (1/4 second)
    - Relay 2 Open (1/4 second)
    - Repeat for all 8 relays
    - Repeat cycle twice
* VFD display flashes once (all pixels/dots illuminate)
* VFD displays text: “Awaiting Transmission…” in top right corner, when text is displayed it should appear is if it is been typed each letter at a time.

System will then wait to receive incoming text message

* If waiting more than 1 hour to receive message:
  + - VFD display will display at random text files from sd card storage
    - Each text file will display for 1 minute
    - Then another random text file will be displayed
    - This will continue for 10 minutes
* At the conclusion of the 10 minutes; VFD display flashes once (all pixels/dots illuminate)
* VFD displays text: “Awaiting Transmission…” in top right corner, when text is displayed it should appear is if it is been typed each letter at a time.
* Repeats until text message received

System receives a text

* Upon receiving a text message:
  + - A short beep will played through a speaker
    - An LED will illuminate and pulse on and off slowly
* Relays will cycle: - Cycle relays;

Relay 1 Closed (1/4 second)

Relay 1 Open (1/4 second)

Relay 2 Closed (1/4 second)

Relay 2 Open (1/4 second)

Repeat for all 8 relays

Repeat cycle twice

* VFD displays text: “Transmission received…Acknowledge…?” in top right corner, when text is displayed it should appear is if it is been typed each letter at a time.
* Press momentary switch:
  + - Text “Transmission received…Acknowledge…?” will clear screen instantly
    - Text message will appear, when text is displayed it should appear is if it is been typed each letter at a time.
    - As text is typed 1 relay at a time should click on and off working from relay 1 through to 8.
    - Each letter should be typed at 0.25 seconds each, inline with the activation of the relay.
    - Once text message is fully displayed it will stay on screen for 10 minutes

At the conclusion of the 10 minutes;

* VFD displays text: “Awaiting Transmission…” in top right corner, when text is displayed it should appear is if it is been typed each letter at a time.

System will then wait to receive incoming text message

* If waiting more than 1 hour to receive message:
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* At the conclusion of the 10 minutes; VFD display flashes once (all pixels/dots illuminate)
* VFD displays text: “Awaiting Transmission…” in top right corner, when text is displayed it should appear is if it is been typed each letter at a time.
* Repeats until text message received

To Review old messages or delete:

* Use rotary encoder, design simple way to retrieve and view messages or delete them
* Also return to normal operation.