Jack-Knife Teleprinter Controller

- Software System Programmed in “C”
- Runs on Arduino HW Platform
- Print to:
  - Teletype® Mechanical Printers (Model 15, Model 28, etc)
  - Dot Matrix Printer, Centronics Parallel
  - Thermal Receipt Printers
  - Small LCD “Glass Screen”
- Micropower FSK RF Transmitter

Input Sources

- AFSK Baudot 5 level
- TTL Serial Baudot 5 level
- USB ASCII Serial
  - Bi-Directional
  - Full Duplex
  - XON-XOFF Flowcontrol Downstream
- Internal ASCII Canned Messages

AFSK Input

- ITTY Demodulator
- High or Low Tones
- 60, 66, 75 and 100 WPM
- Input must be noise free
- AFSK Tone Input Valid Indicator
  - LED output to show that AFSK with correct tones without noise is being detected

TTL Input

- TTL 0-5V signal Levels
- Baudot 5 level Serial Input
  - 60, 66, 75 and 100 WPM
- ASCII Serial Input
  - 9600 bps typical
  - other values possible

Canned Message System

- Up to Twelve ASCII Messages and be stored in Arduino Program Memory and sent to output devices
- Message Select done by 12 position rotary switch with resistor ladder composed of 12 series connected 1K resistors.
  - Quick press of button starts message.
  - Long press stops message, clears buffer, CR/LF.
  - Stuck button continuously repeats message.
- Well suited for demo systems and test signal source
  - Consider using motion detector to start message

Outputs

- Serial TTL Baudot output
- AFSK Baudot Square Wave output
- MOTOR Control, TTL output
- I2C 4x20 or 2x16 LCD Display, I2C
- Direct Digital Synthesizer, SPI
  - RF FSK output
- Centronics Dot Matrix Printer
- Thermal Receipt Printer, serial output

Outputs Details

- Serial TTY Output, TTL levels
  - 60, 66, 75 and 100 WPM
- Motor Control
  - TTL Active High Output. Timed as you would expect. User selectable timing.
- AFSK TTY Output
  - High or Low Tones
  - Speed follows TTL Serial Output Selection
  - Square wave output, not sine
    - AFSK output rounded by RC filter

Output Details, continued

- Direct Digital Synthesizer
  - RF RTTY Signal Generator
  - Put ITTY ON-THE-AIR (but micro power)
  - Supports AD9833 and AD9850
    - AFSK *or* RF FSK output
  - Mark and Space frequencies are user defined, from 100 Hz to 8 MHz.
- Centronics Parallel Printer
  - Supports dot matrix continuous-feed printers such as Oki Microline 186, 320 and Epson LX-350

Outputs, continued

- Thermal Receipt Printer via High Speed Serial Output
  - Allows for small footprint teleprinter
  - Use of a thermal printer presents the only “exclusive” functional choice in the system.
    - USB Serial input (which requires XON-XOFF flow control) can not be used when a Thermal Printer is connected to the Arduino’s Serial Output.