Remote Key Design Details

**Local:**

This is the system located in the radio room.

Here are the details:

* Ethernet server
* Hardware ethernet connection
* Outputs
  + Open collector output to key transmitter
  + Space open collector output
  + Relay contact closure output
  + Connect LED
  + Power LED
* 12VDC power
* TCP packets for control functions
  + Commands
    - Relay output control
    - Get version
    - Send string
    - Clear output
    - Set and read speed
* UPD packets for keying
  + Commands
    - D = key down
    - U = key up
    - . = generate a dit and space, dit function will block
    - - = generate a dash and space, dash function will block
    - W,xxx = speed in words per minute, xxx = wpm. 20 wmp = 60mS min unit. min unit = 1200 / wpm, units are mS
    - T,ddd,xxx = link test. ddd = message space in mS, xxx = sample size
    - S,string = Send string, this function will block
* USB interface to host
  + Command
    - IP used by server
    - Port used by server
    - Save and restore parameters
    - Set and read speed
    - Send string
    - Control relay
    - Clear outputs
* Operation/design issues
  + Remain in UDP processing loop while messages are coming into the system.
  + If no UPD activity for YYY mS then look for serial messages or TCP packets.
  + Only enter UPD loop after a TCP connection is made? if connection breaks stop processing UDP messages?
  + Monitor key down time and limit to a maximum value.
  + Create an array to translate characters to code:
    - A = .-
    - B = -…