HTLF ERB 2.0 Setup.

Sequence of Info:

1) Wire Termination

2) Connections (pinout)

3) AFC Configs

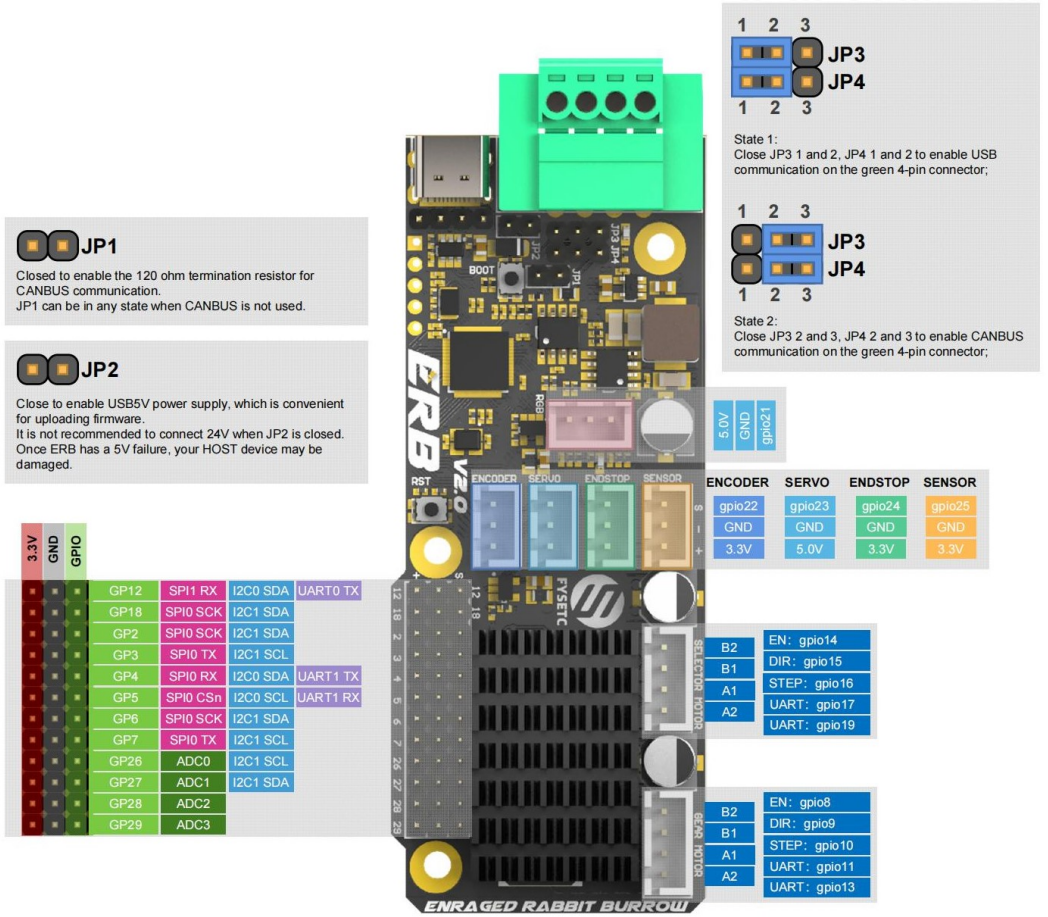
Wire Termination

- Decide if you want forced JST on Dupont pins on the GPIO row. If so, use 3 pin JST on all wire terminations. Pin the plugs to use GPIO and ground for all 2 wire terminations (leaving the power pin empty)
- If not, determine which sensors you want Dupont for the GPIO row (use 2 pin, signal and ground). I recommend against doing 1 2x8 plug for all the E-bodies… It looks good on paper but is a pain for troubleshooting/maintenance.
- Determine if you want the TurtleNeck and Hub sensors to go through the ERB or your Mainboard. If you don't plan on moving the HTLF to another printer, I recommend the main board for shorter/cleaner wire runs.

Physical Connections

This Pinout is from the ERB 2.0 Github

- If using JST for all pins, they will block the pin on either side in the GPIO row. For example, putting a JST on GP3 will have the pins for GP2 and 4 wedged against them.
- Recommend if connecting TN and Hub to ERB to use Sensor (GP25) header for the HTLF selector endsto. Then Endstop, Servo, and Encoder (GP22-24)F for the TN and Hub connectors.
- GP21 is best used as the NeoPixel connction.
- The green lugs are used for 24v and CAN wires, labels are silk-screened on back of board.



AFC Configs (MCU)

AFC/mcu/HTLF_ERB.cfg

```
[board_pins erb_htlf]
mcu: ERB
aliases:
    M1_STEP=gpio16   , M1_DIR=gpio15   , M1_EN=gpio14    , M1_UART=gpio17   , # M1_DIAG=PA3   ,
    M2_STEP=gpio10    , M2_DIR=gpio9   , M2_EN=gpio8    , M2_UART=gpio11    , # M2_DIAG=PA4   ,

    HUB=gpio4       ,
    HOME_POS=gpio24   ,
    LOAD1=gpio12       , LOAD2=gpio18      , LOAD3=gpio2      , LOAD4=gpio3        ,
    SPARE1=PC13    , SPARE2=PC14   , SPARE3=PB12  , SPARE4=PA0     ,
    SPARE5=PA1     , SPARE6=PB3    , SPARE7=PB4   , SPARE8=PB11    ,
    SPARE9=PB10    , SPARE10=PB2   ,

    RGB1=gpio21    ,
```

- Don’t change the mcu name unless you want to hunt down all references to it in other .cfg’s
- The motor aliases above are correct (all the M1 or M2 prefixes)
- Hub is self explanatory, HOME_POS is the selector endstop. Load 1-4 are the E-body sensors.
- The SPARE1-10 can be omitted, or renamed if you want to use tho pins for something else.
- RGB1 is your NeoPixel

AFC Configs (Hardware)

```
17  [AFC_buffer TN]
18  advance_pin: ^!ERB:gpio5    # set advance pin
19  trailing_pin: ^!ERB:gpio6   # set trailing pin
20  multiplier_high: 1.06   # default 1.05, factor to feed more filament
21  multiplier_low:  0.94   # default 0.95, factor to feed less filament
22
```

- Within the AFC_Hardware.cfg file is where you find the AFC_buffer section
- Define your advance and trail sensors per where you hooked them up (in my example above they are on the ERB rather than the main board, on GPIO 5 and 6. These pins could have been relabeled in the “SPARES” area in the previous slide, but I chose to just call them out by raw name.
- The Multiplier is how it adjusts the rotation distance to account for discrepancies in the rotation distance of the HTLF and your extruder. This shouldn’t need changed from defaults.

AFC Configs (Turtle1)

- In your AFC_ERB_Turtle1.cfg, make sure the MCU is titled ERB and that you set the CANBUS uuid or USB serial as appropriate.
- Once it is physically running, make sure to calibrate the rotation distance (AFC_stepper HTLF_Drive section). Use “BT Lane Move” to drive an individual lane with it loaded just far enough to clear the HTLF and get your measurements there.
- Last section is the “HTLF_led AFC_Indicator_HTLF_1” where you will verify the color order for the lights you used (most common being GRB).