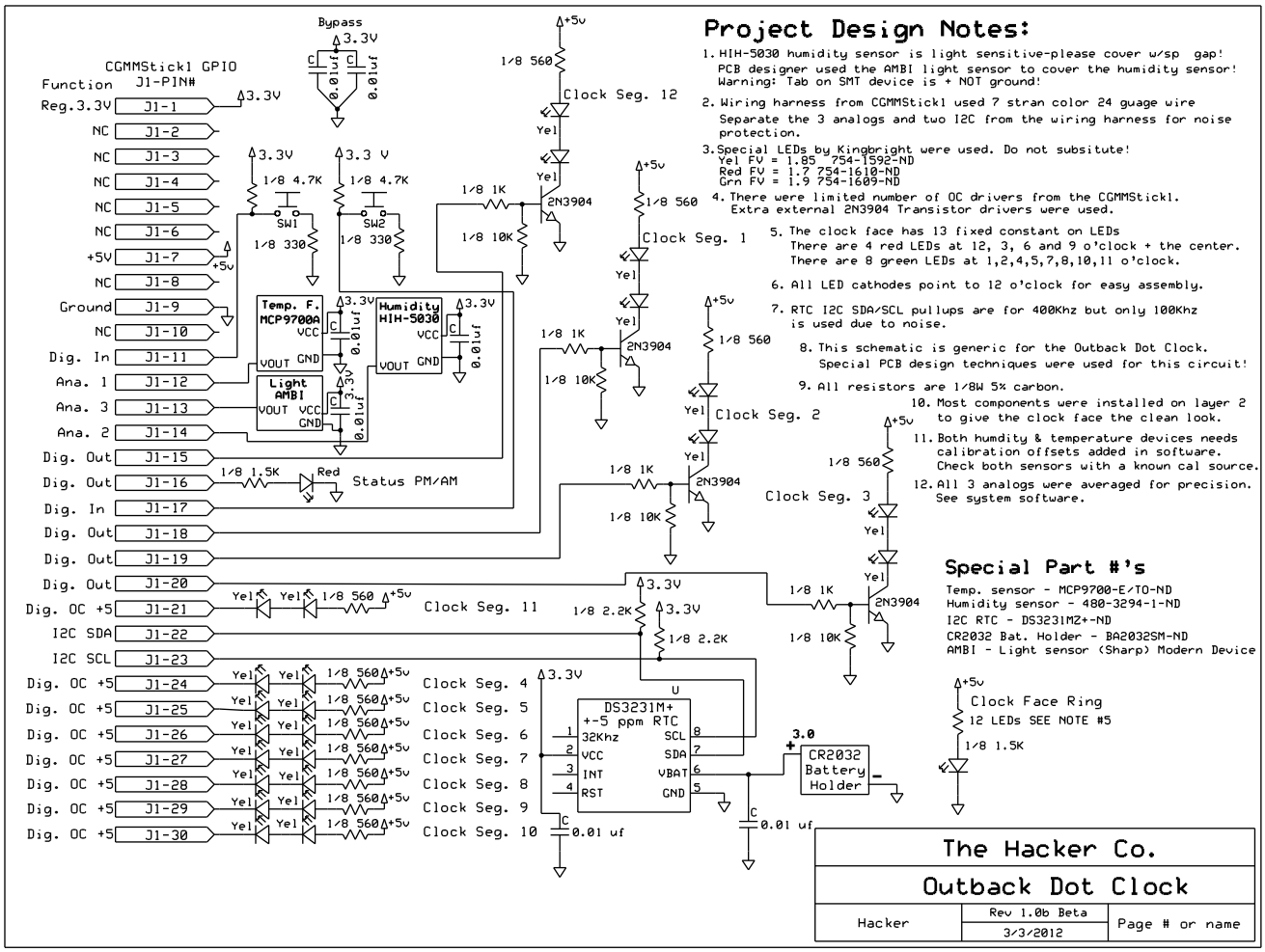

Project Design Notes:

1. HIH-5030 humidity sensor is light sensitive-please cover w/sp gap! PCB designer used the AMBI light sensor to cover the humidity sensor! Warning: Tab on SMT device is + NOT ground!
2. Wiring harness from CGMMStick1 used 7 stran color 24 guage wire Separate the 3 analogs and two I2C from the wiring harness for noise protection.
3. Special LEDs by Kingbright were used. Do not subsitute!
   Yel FV = 1.85 754-1592-ND
   Red FV = 1.7 754-1610-ND
   Grn FV = 1.9 754-1609-ND
4. There were limited number of OC drivers from the CGMMStick1. Extra external 2N3904 Transistor drivers were used.
5. The clock face has 13 fixed constant on LEDs
   There are 4 red LEDs at 12, 3, 6 and 9 o'clock + the center.
   There are 8 green LEDs at 1,2,4,5,7,8,10,11 o'clock.
6. All LED cathodes point to 12 o'clock for easy assembly.
7. RTC I2C SDA/SCL pullups are for 400Khz but only 100Khz is used due to noise.
8. This schematic is generic for the Outback Dot Clock. Special PCB design techniques were used for this circuit!
9. All resistors are 1/8W 5% carbon.
10. Most components were installed on layer 2 to give the clock face the clean look.
11. Both humdity & temperature devices needs calibration offsets added in software. Check both sensors with a known cal source.
12. All 3 analogs were averaged for precision. See system software.

Special Part #'s

Temp. sensor - MCP9700-E/TO-ND
Humidity sensor - 480-3294-1-ND
I2C RTC - DS3231MZ+-ND
CR2032 Bat. Holder - BA2032SM-ND
AMBI - Light sensor (Sharp) Modern Device

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