MICROCONTROLLER

U2

VCC

PA0/RESET/UPDI/AIN0/LUT0-IN0
PA1/AIN1/TXD(ALT)/MOSI/LUTO-IN1
PA2/EVOUT0/AIN2/RXD(ALT)/MISO/LUT0-IN2
PA3/EXTCLK/AIN3/XCK(ALT)/SCK/WO3
PA4/AIN4/XDIR(ALT)/SS/WO4/LUT-OUT0
PA5/AIN5/OUT/WO5/WO
PA6/AIN6/AINNO0/MOSI(ALT)
PA7/AIN7/AINP0/MISO(ALT)/LUT1-OUT
PB3/RXD/WO0(ALT)
PB2/EVOUT1/TXD/WO2
PB1/AIN10/XCK/SDA/WO1
PB0/AIN11/XDIR/SCL/WO0

GND

ATTINYX04SOIC14

.1uF CL21B104KBFNNNE (C49678)

C2

+5V

GND

4.7K 0805W8F4701T5E (C17673)
R3

10 UPDI/RST
11 ADC-BAT
12 POT-ADC
13 FAN-PWM
2 GND-SWITCH
3 LED1
4 LED2
5 LED3
6 EXPANSIONRX
7 EXPANSIONTX
8 FAN-SENSE
9 LED4

UPDI

+5V

UPDI
1
2
3
NP

GND
+5V

UPDI PROGRAMMING

GND

DC POWER INPUTS

+12V

13.2V 1.8A (C70081)
F1

12V-F

BATT+
TE63952-1

1 PIN   PIN 2

BATT-
TE63952-1

BATTERY INPUT

AUX POWER INPUT
H1

GND-SWITCH
GND

1 PIN   PIN 2

GND

FAN POWER

+12V

SS34 (C8678)
D1

+12V

DC TO FAN BOX

H4

+12V
FAN-SENSE
FAN-GND

47R 0805W8F470JT5E (C17714)

FAN-PWM

R8

Q1
AO3400A (C20917)

R9

10K 0805W8F1002T5E (C17414)

GND

ON/OFF AND FAN SPEED

+5V

+12V

P091S-FC20BR

POT-ADC

POT1

PWRON

LED5   R10

NCD0805R1 (C84256)

1K2 0805W8F1201T5E (C17379)

GND

PWR LED

GND

5V DC LINEAR REGULATOR
ALTERNATE: AP7380-50W5-7

+12V   +5V

U1
1 VIN VOUT 5
PWRON
3 CE
CB 4
2 GND

C1   C4   C3

R11

10K 0805W8F1002T5E (C17414)

10uF TAJA106K016RNJ (C7171)
1uF CL21B105KBFNNNE (C28323)

LP2985-50DBVR (C74511)

1uF CL21B105KBFNNNE (C28323)

GND

EXPANSION

+12V

1X4-BIG

EXPANSIONRX   3
EXPANSIONTX   2

4
3
2
1

GND

H3

LED GRAPH

+5V

NCD0805R1 (C84256)
LED1   R4
LED1
330 0805W8F3300T5E (C17630)
LED2   R5
LED2
330 0805W8F3300T5E (C17630)
LED3   R6
LED3
330 0805W8F3300T5E (C17630)
LED4   R7
LED4
330 0805W8F3300T5E (C17630)

LP1
DIALIGHT_LIGHTPIPE

BATTERY VOLTAGE

+12V

R2
18K 0805W8F1802T5E (C17506)

ADC-BAT

R1
10K 0805W8F1002T5E (C17414)

GND

TITLE: Papra v0.3

Document Number: REV:

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v.2 changelog

- ATTINY
  - Removed FAN-TACH
  - Added GND-SWITCH to detect battery or external power
  - Removed NC to Jumper
  - Added FAN-SENSE to detect presence of fan power cable
- Removed JP1 - 3 pin fan header
- Added R11 pulldown on PWRON
- Added C4 power input CAP
- Components changed for JLC
  - LEDs changed to RED
  - MOSFET Fixed
  - Diode package change
  - Resistor values changed
  - R1 & R2 Battery voltage divider changed values (was 10K & 5K6, is 18K & 10K)
  - R8 FET gate resistor reduced (was 75R, is 47R)
  - 12V LED (was 1K1, is 1K2)

v.3
- Added 1A Resettable Fuse to 12V