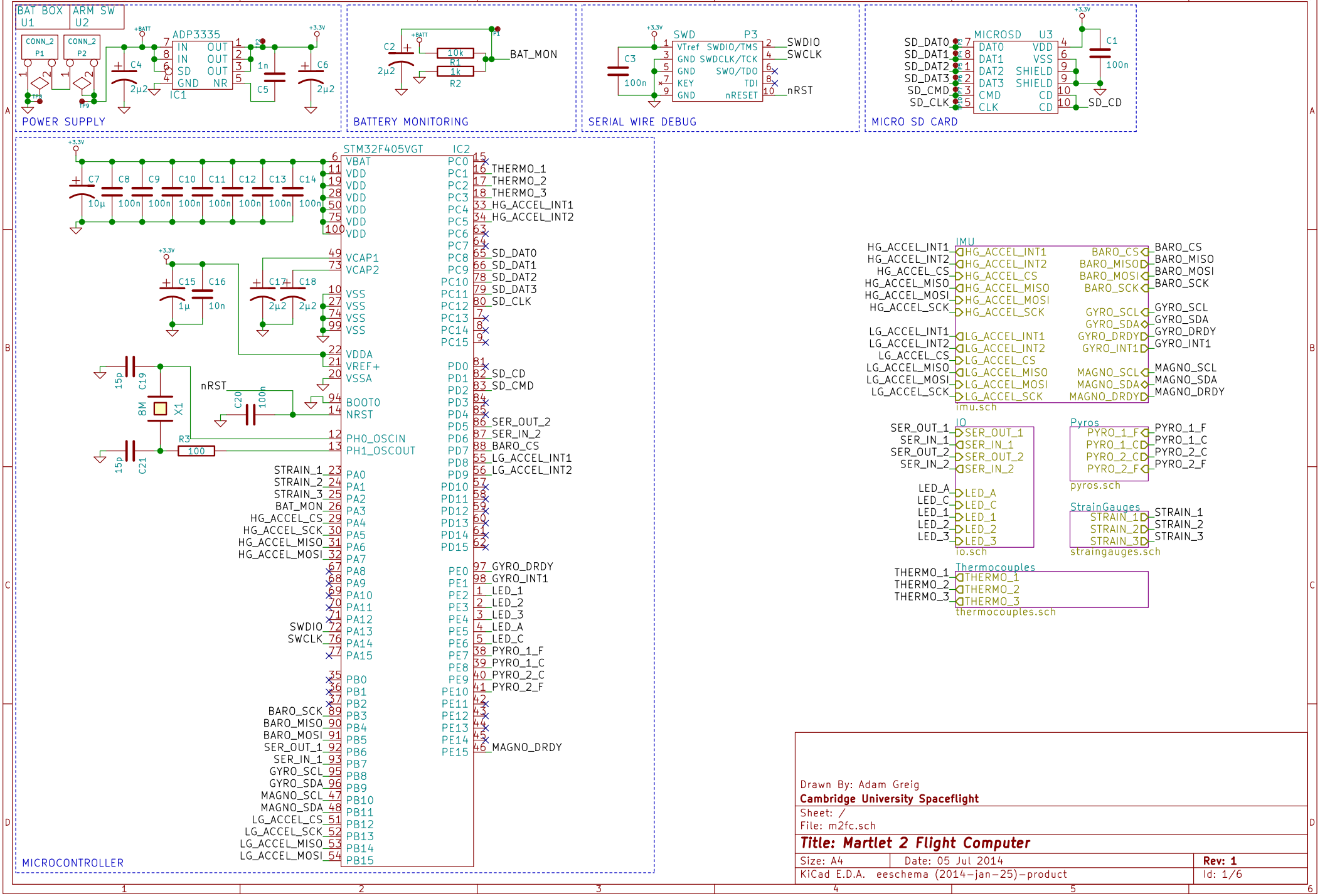
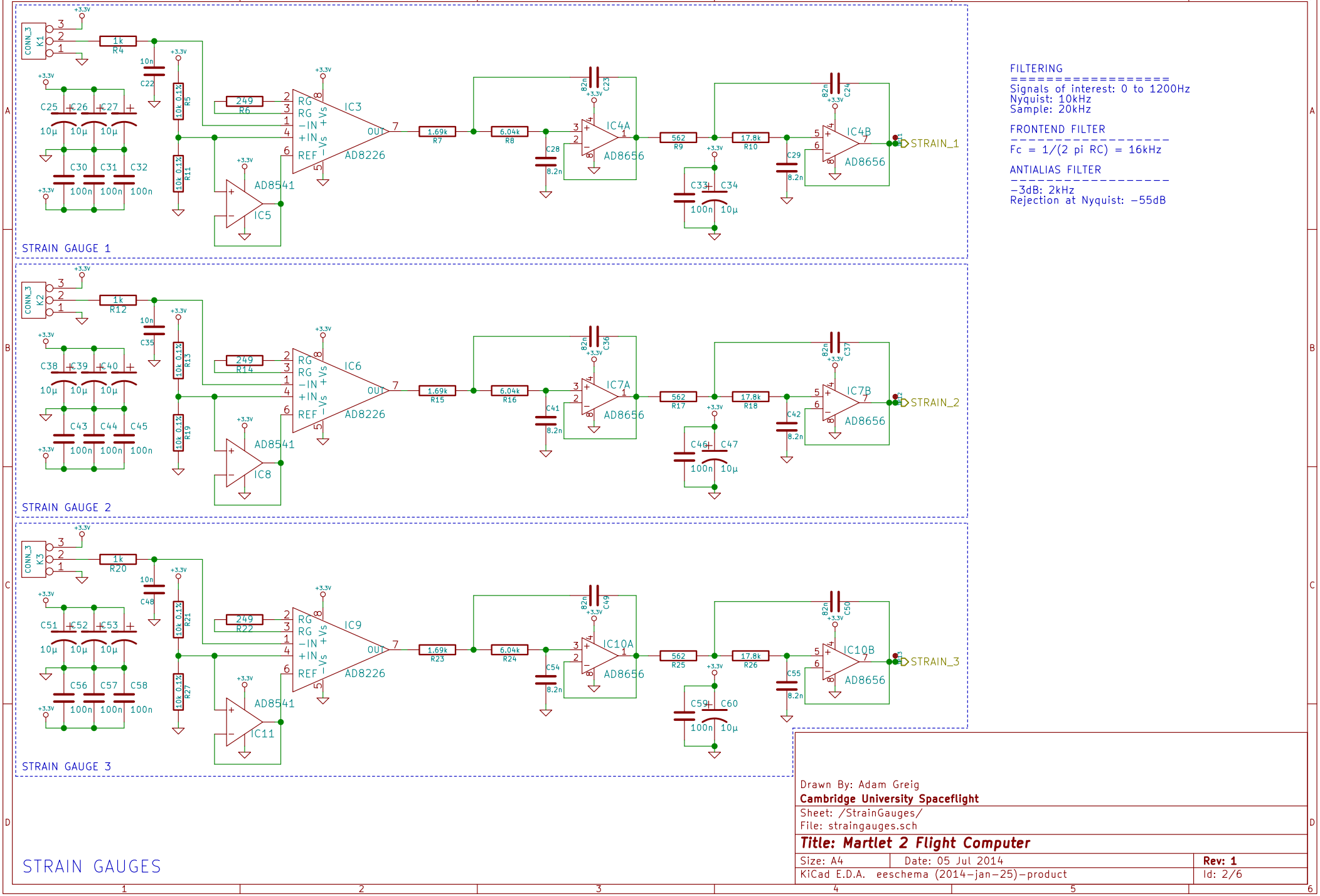
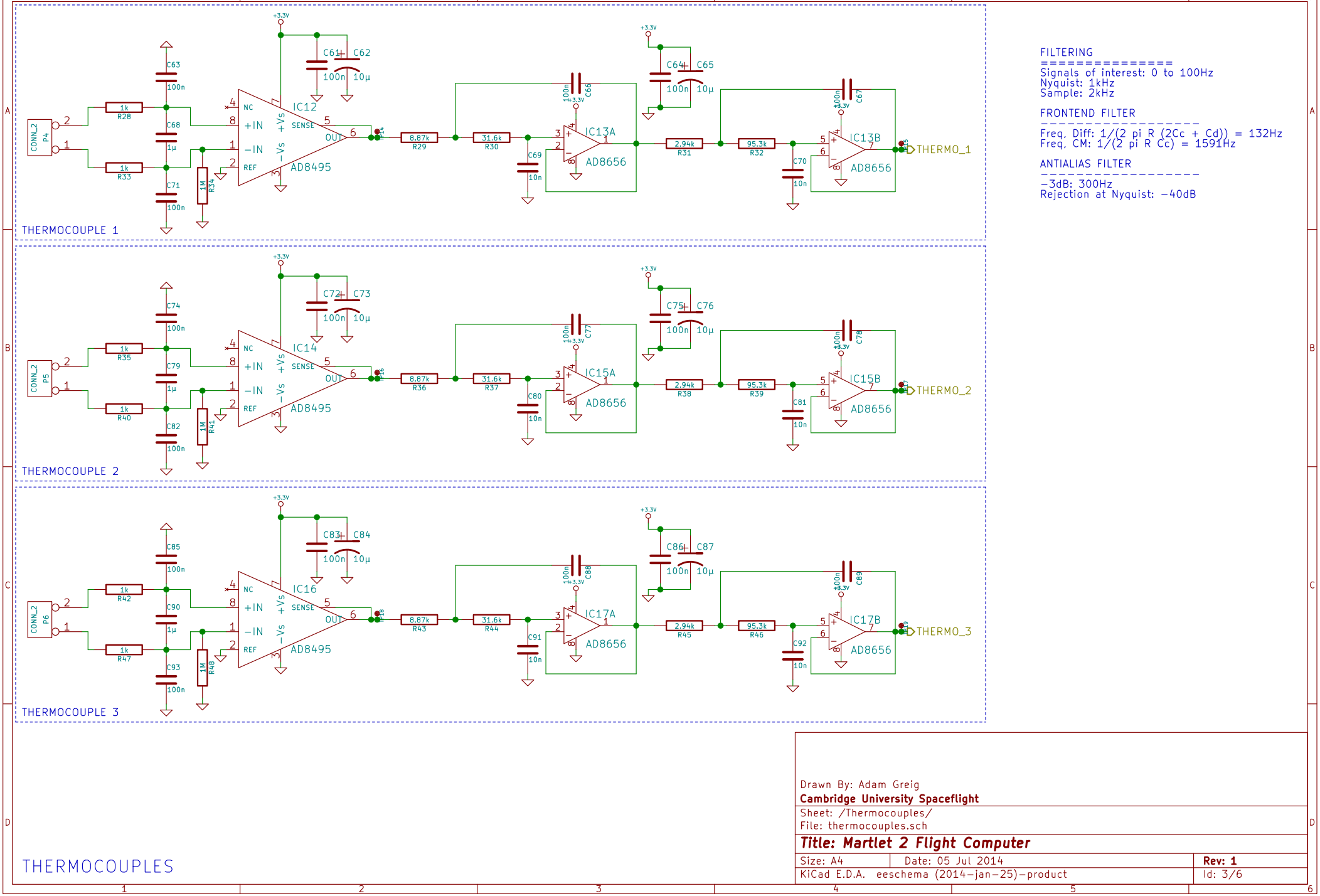

BAT BOX
U1
ARM SW
U2
CONN_2
P1
CONN_2
P2
ADP3335
IC1
IN
IN
SD
GND
OUT
OUT
OUT
NR
C4
2µ2
1n
C5
C6
2µ2
+BATT
+3.3V
POWER SUPPLY
C2
2µ2
10k
R1
1k
R2
BAT_MON
BATTERY MONITORING
SWD
P3
VTref
GND
GND
KEY
GND
SWDIO/TMS
SWDCLK/TCK
SWO/TDO
TDI
nRESET
SWDIO
SWCLK
nRST
C3
100n
SERIAL WIRE DEBUG
MICROSD
U3
DAT0
DAT1
DAT2
DAT3
CMD
CLK
VDD
VSS
SHIELD
SHIELD
CD
CD
C1
100n
SD_DAT0
SD_DAT1
SD_DAT2
SD_DAT3
SD_CMD
SD_CLK
SD_CD
MICRO SD CARD
STM32F405VGT
IC2
VBAT
VDD
VDD
VDD
VDD
VDD
VDD
VCAP1
VCAP2
VSS
VSS
VSS
VSS
VDDA
VREF+
VSSA
BOOT0
NRST
PH0_OSCIN
PH1_OSCOUT
C7
10µ
C8
100n
C9
100n
C10
100n
C11
100n
C12
100n
C13
100n
C14
100n
C15
1µ
C16
10n
C17
2µ2
C18
2µ2
C19
15p
C20
100n
C21
15p
X1
8M
R3
100
nRST
PC0 THERMO_1
PC1 THERMO_2
PC2 THERMO_3
PC3 HG_ACCEL_INT1
PC4 HG_ACCEL_INT2
PC8 SD_DAT0
PC9 SD_DAT1
PC10 SD_DAT2
PC11 SD_DAT3
PC12 SD_CLK
PD0
PD1 SD_CD
PD2 SD_CMD
PD6 SER_OUT_2
PD7 SER_IN_2
PD8 BARO_CS
PD9 LG_ACCEL_INT1
PD10 LG_ACCEL_INT2
PE0 GYRO_DRDY
PE1 GYRO_INT1
PE2 LED_1
PE3 LED_2
PE4 LED_3
PE5 LED_A
PE6 LED_C
PE7 PYRO_1_F
PE8 PYRO_1_C
PE9 PYRO_2_C
PE10 PYRO_2_F
PE15 MAGNO_DRDY
STRAIN_1
STRAIN_2
STRAIN_3
BAT_MON
HG_ACCEL_CS
HG_ACCEL_SCK
HG_ACCEL_MISO
HG_ACCEL_MOSI
SWDIO
SWCLK
BARO_SCK
BARO_MISO
BARO_MOSI
SER_OUT_1
SER_IN_1
GYRO_SCL
GYRO_SDA
MAGNO_SCL
MAGNO_SDA
LG_ACCEL_CS
LG_ACCEL_SCK
LG_ACCEL_MISO
LG_ACCEL_MOSI
MICROCONTROLLER
IMU
HG_ACCEL_INT1
HG_ACCEL_INT2
HG_ACCEL_CS
HG_ACCEL_MISO
HG_ACCEL_MOSI
HG_ACCEL_SCK
LG_ACCEL_INT1
LG_ACCEL_INT2
LG_ACCEL_CS
LG_ACCEL_MISO
LG_ACCEL_MOSI
LG_ACCEL_SCK
BARO_CS
BARO_MISO
BARO_MOSI
BARO_SCK
GYRO_SCL
GYRO_SDA
GYRO_DRDY
GYRO_INT1
MAGNO_SCL
MAGNO_SDA
MAGNO_DRDY
imu.sch
IO
SER_OUT_1
SER_IN_1
SER_OUT_2
SER_IN_2
LED_A
LED_C
LED_1
LED_2
LED_3
io.sch
Pyros
PYRO_1_F
PYRO_1_C
PYRO_2_C
PYRO_2_F
pyros.sch
StrainGauges
STRAIN_1
STRAIN_2
STRAIN_3
straingauges.sch
Thermocouples
THERMO_1
THERMO_2
THERMO_3
thermocouples.sch
Drawn By: Adam Greig
Cambridge University Spaceflight
Sheet: /
File: m2fc.sch
Title: Martlet 2 Flight Computer
Size: A4
Date: 05 Jul 2014
Rev: 1
KiCad E.D.A. eeschema (2014-jan-25)-product
Id: 1/6


STRAIN GAUGE 1
STRAIN GAUGE 2
STRAIN GAUGE 3
STRAIN_1
STRAIN_2
STRAIN_3
AD8226
AD8541
AD8656
FILTERING
==========
Signals of interest: 0 to 1200Hz
Nyquist: 10kHz
Sample: 20kHz
FRONTEND FILTER

Fc = 1/(2 pi RC) = 16kHz
ANTIALIAS FILTER

-3dB: 2kHz
Rejection at Nyquist: -55dB
Drawn By: Adam Greig
Cambridge University Spaceflight
Sheet: /StrainGauges/
File: straingauges.sch
Title: Martlet 2 Flight Computer
Size: A4
Date: 05 Jul 2014
Rev: 1
KiCad E.D.A. eeschema (2014-jan-25)-product
Id: 2/6
STRAIN GAUGES



FILTERING
==========
Signals of interest: 0 to 100Hz
Nyquist: 1kHz
Sample: 2kHz

FRONTEND FILTER

Freq, Diff: 1/(2 pi R (2Cc + Cd)) = 132Hz
Freq, CM: 1/(2 pi R Cc) = 1591Hz

ANTIALIAS FILTER

-3dB: 300Hz
Rejection at Nyquist: -40dB

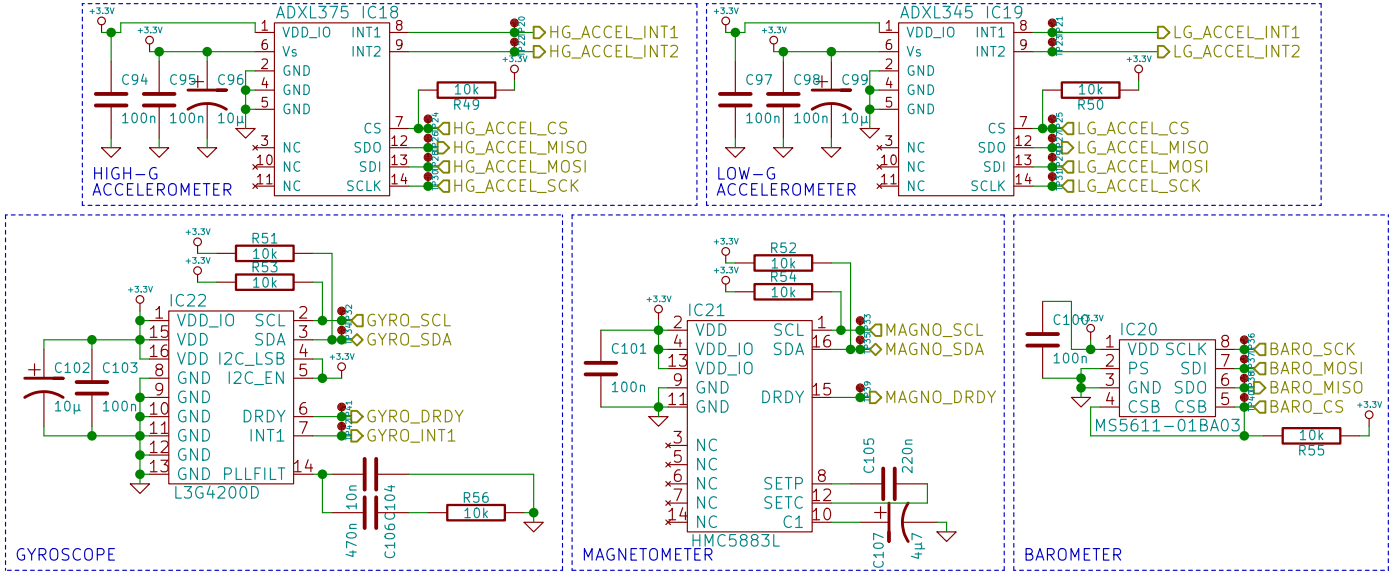
THERMOCOUPLES

Drawn By: Adam Greig
Cambridge University Spaceflight
Sheet: /Thermocouples/
File: thermocouples.sch

Title: Martlet 2 Flight Computer

Size: A4	Date: 05 Jul 2014	**Rev: 1**
KiCad E.D.A. eeschema (2014-jan-25)-product		Id: 3/6

INERTIAL MEASUREMENT UNIT



Drawn By: Adam Greig

Cambridge University Spaceflight

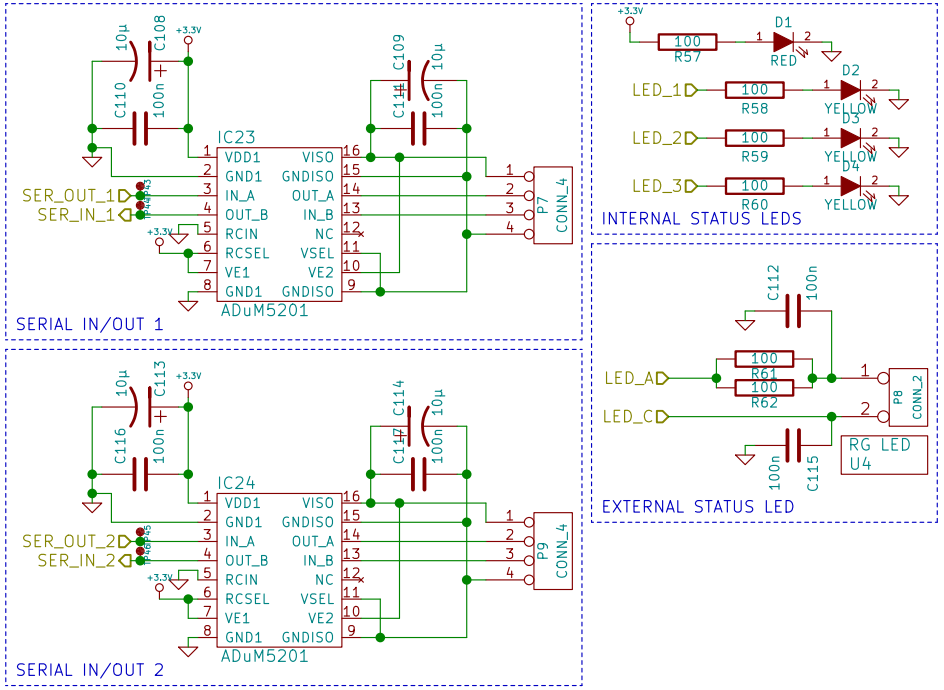
Sheet: /IMU/

File: imu.sch

Title: Martlet 2 Flight Computer

Size: A4	Date: 05 Jul 2014	**Rev: 1**
KiCad E.D.A. eeschema (2014-jan-25)-product		Id: 4/6

INPUT/OUTPUT



Drawn By: Adam Greig

Cambridge University Spaceflight

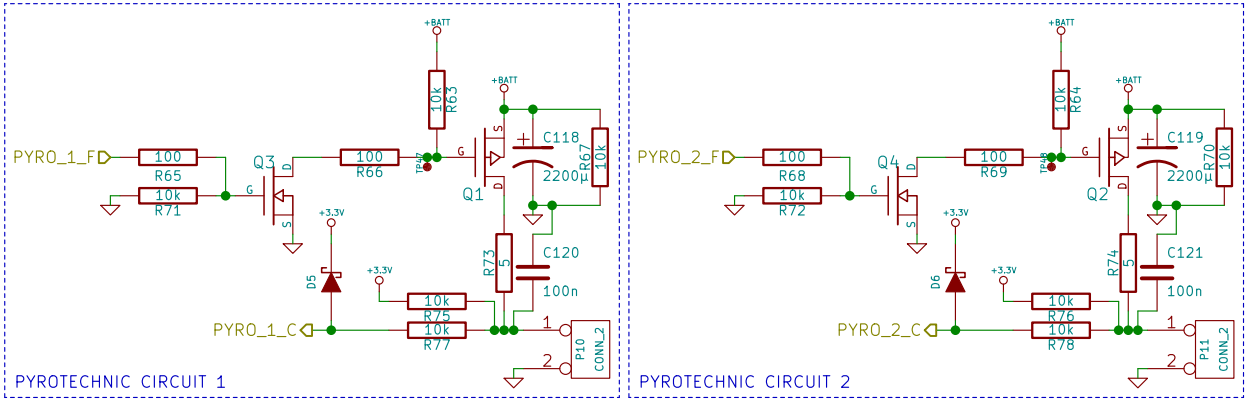
Sheet: /IO/

File: io.sch

Title: Martlet 2 Flight Computer

Size: A4	Date: 05 Jul 2014	**Rev: 1**
KiCad E.D.A. eeschema (2014-jan-25)-product		Id: 5/6

PYROTECHNIC CHANNELS



Drawn By: Adam Greig
Cambridge University Spaceflight
Sheet: /Pyros/
File: pyros.sch

Title: Martlet 2 Flight Computer

Size: A4	Date: 05 Jul 2014	**Rev: 1**
KiCad E.D.A. eeschema (2014-jan-25)-product		Id: 6/6