Jacdac connectors
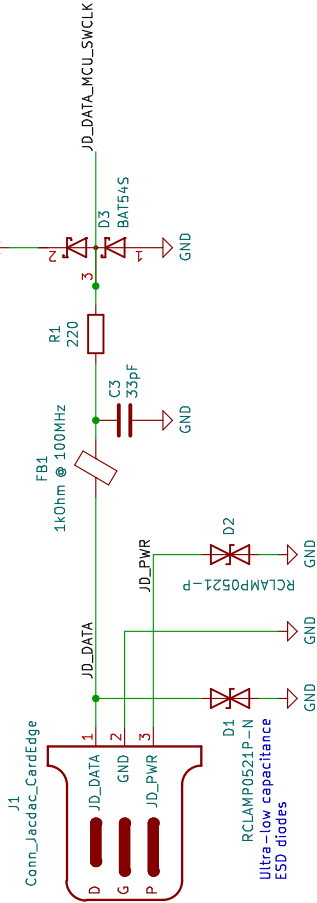
Jacdac edge connector
1.6mm FR4

Conn_Jacdac_CardEdge

J1

D — JD_DATA
G — GND
P — JD_PWR

1
2
3

JD_DATA

JD_PWR

D1
RCLAMP0521P-N

D2
RCLAMP0521-P

Ultra-low capacitance
ESD diodes

GND

GND

GND

C3
33pF

GND

FB1
1kOhm @ 100MHz

R1
220

+3V3

D3
BAT54S

2

3

1

GND

JD_DATA_MCU_SWCLK

3.5mm audio sockets

J3
SLEEVE
RING
SLEEVE1
TIP

1
3
2

PLUG_TIP1

J4
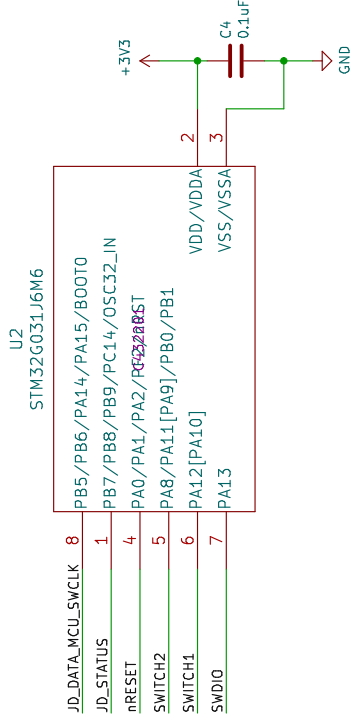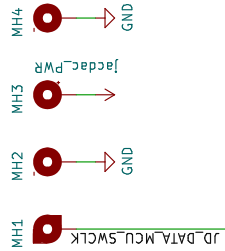SLEEVE
RING
SLEEVE2
TIP

1
3
2

PLUG_TIP2

3-pole socket wired to be a 2-pole socket.
Accessibility switch is a 2 pole 3.5mm plug.

Status LED

+3V3

R4
130

D4
LED

JD_STATUS

Orange

Optoisolated relays

U3
AQY2B2

4

3

PLUG_TIP1

SLEEVE1

1

2

R3
220

R2
130

SWITCH1

GND

U4
AQY2B2

4

3

PLUG_TIP2

SLEEVE2

1

2

R6
220

R5
130

SWITCH2

GND

Power

JD_PWR

C1
1uF, 10V
X5R or X7R
0402 ceramic

GND

U1
NCP114ASN330T1G

IN
EN
NC

OUT
GND

1
3
4

5

2

GND GND

+3V3

C2
1uF
X5R or X7R
0402 ceramic

GND

PWR_FLAG

Programming/debug connector

J2

Vcc
GND
RESET

SwDIO
SWDCLK

1
3
5

2
4

nRESET

Conn_HackConnect

+3V3

GND

SWDIO

JD_DATA_MCU_SWCLK

Mounting holes
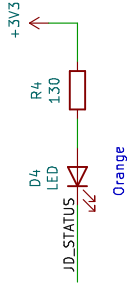
MH1

JD_DATA_MCU_SWCLK

MH2

GND

MH3

Jacdac_PWR

MH4

GND
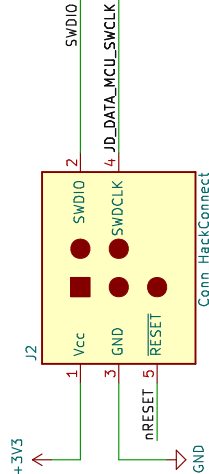
JACDAC mounting holes are plated through hole.
Finished diameter 2.1mm.
Annular ring 3.0mm.
Copper/component keepout 5.0mm.

MCU

U2
STM32G031J6M6

PB5/PB6/PA14/PA15/BOOT0
PB7/PB8/PB9/PC14/OSC32_IN
PA0/PA1/PA2/PC15/OSC32_OUT
PA8/PA11[PA9]/PB0/PB1
PA12[PA10]
PA13
nRESET

VDD/VDDA
VSS/VSSA

8
1
4
5
6
7

2
3

JD_DATA_MCU_SWCLK
JD_STATUS
nRESET
SWITCH2
SWITCH1
SWDIO

+3V3

C4
0.1uF

GND