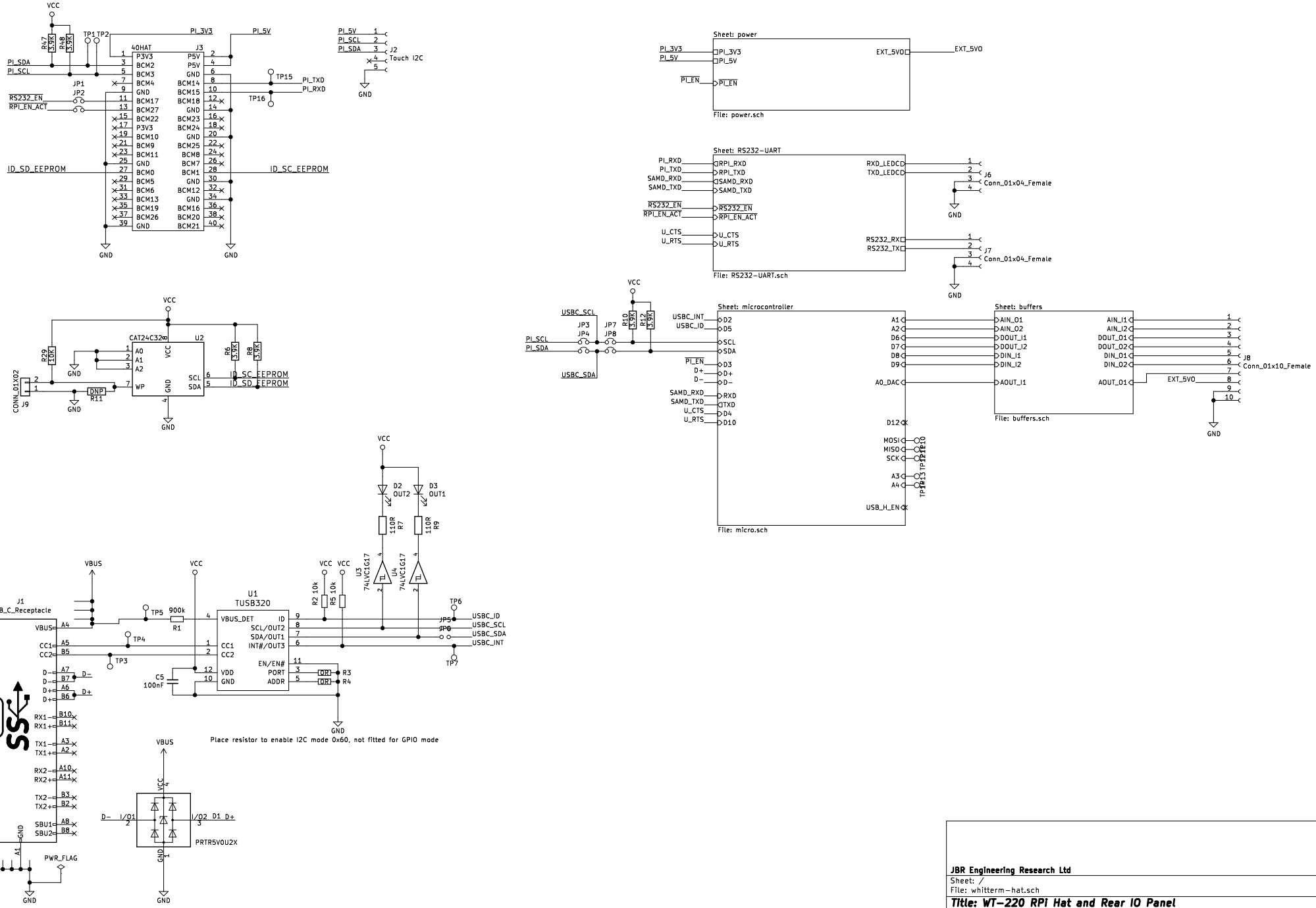
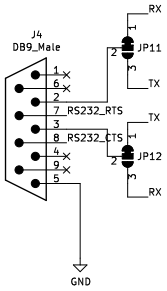
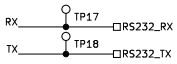
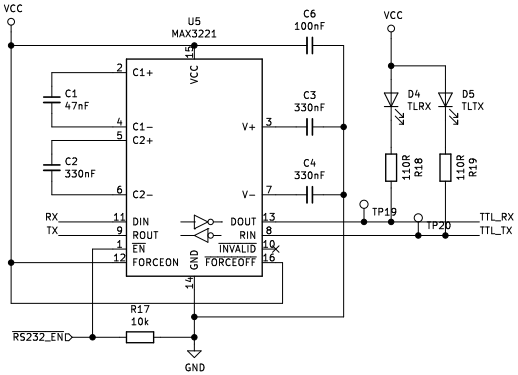

VCC
R47 3.9K
R48 3.9K
TP1 TP2
PI_3V3
PI_5V
PI_SDA
PI_SCL
40HAT
J3
P3V3 P5V
BCM2 P5V
BCM3 GND
BCM4 BCM14
GND BCM15
BCM17 BCM18
BCM27 GND
BCM22 BCM23
P3V3 BCM24
BCM10 GND
BCM9 BCM25
BCM11 BCM8
GND BCM7
BCM0 BCM1
BCM5 GND
BCM6 BCM12
BCM13 GND
BCM19 BCM16
BCM26 BCM20
GND BCM21
JP1
JP2
RS232_EN
RPI_EN_ACT
TP15
TP16
PI_TXD
PI_RXD
ID_SD_EEPROM
ID_SC_EEPROM
GND
PI_5V
PI_SCL
PI_SDA
J2
Touch I2C
Sheet: power
PI_3V3
PI_5V
PI_EN
EXT_5VO
File: power.sch
Sheet: RS232-UART
PI_RXD
PI_TXD
SAMD_RXD
SAMD_TXD
RS232_EN
RPI_EN_ACT
U_CTS
U_RTS
RXD_LEDC
TXD_LEDC
RS232_RX
RS232_TX
J6
J7
Conn_01x04_Female
File: RS232-UART.sch
CAT24C32
U2
A0
A1
A2
WP
SCL
SDA
R29 10K
R6 3.9K
R8 3.9K
DNP
R11
CONN_01X02
J9
Sheet: microcontroller
USBC_INT
USBC_ID
D2
D5
SCL
SDA
D3
D+
D-
SAMD_RXD
SAMD_TXD
U_CTS
U_RTS
RXD
TXD
D4
D10
D12
MOSI
MISO
SCK
A3
A4
USB_H_EN
A0_DAC
A1
A2
D6
D7
D8
D9
Sheet: buffers
AIN_O1
AIN_O2
DOUT_I1
DOUT_I2
DIN_I1
DIN_I2
AOUT_I1
AIN_I1
AIN_I2
DOUT_O1
DOUT_O2
DIN_O1
DIN_O2
AOUT_O1
EXT_5VO
J8
Conn_01x10_Female
File: buffers.sch
USBC_SCL
USBC_SDA
JP3
JP4
JP7
JP8
R10 3.9K
R12 3.9K
File: micro.sch
D2 OUT2
D3 OUT1
R7 110R
R9 110R
U3 74LVC1G17
U4 74LVC1G17
R2 10k
R5 10k
J1
USB_C_Receptacle
VBUS
CC1
CC2
D-
D+
RX1-
RX1+
TX1-
TX1+
RX2-
RX2+
TX2-
TX2+
SBU1
SBU2
SHIELD
GND
S1
A1
PWR_FLAG
TP5
900k
R1
TP4
TP3
C5
100nF
U1
TUSB320
VBUS_DET
CC1
CC2
VDD
GND
ID
SCL/OUT2
SDA/OUT1
INT#/OUT3
EN/EN#
PORT
ADDR
R3
R4
TP6
JP5
JP6
USBC_ID
USBC_SCL
USBC_SDA
USBC_INT
TP7
Place resistor to enable I2C mode 0x60, not fitted for GPIO mode
PRTR5V0U2X
I/O1
I/O2
D1
JBR Engineering Research Ltd
Sheet: /
File: whitterm-hat.sch
Title: WT-220 RPI Hat and Rear IO Panel
Size: A3
Date:
Rev: A
KiCad E.D.A. kicad (5.1.0-0)
Id: 1/5

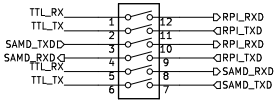




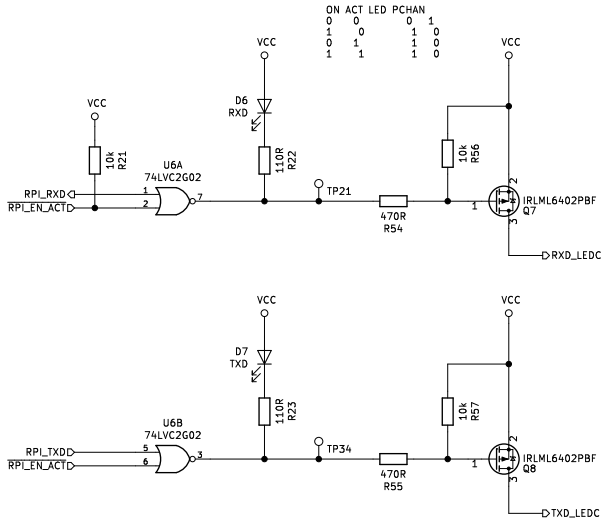


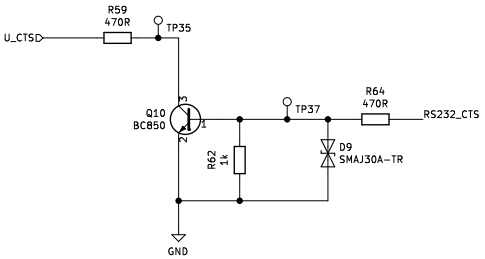
Dip switch setting for:

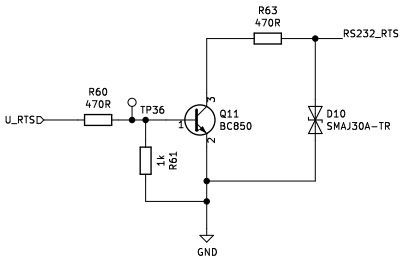
- RPI UART -> MAX3221 RS232
- RPI UART -> SAMD UART - USB
- SAMD UART -> MAX3221 RS232



To connector for frame RX/TX LED. Includes logic to set activity-on/off-constant







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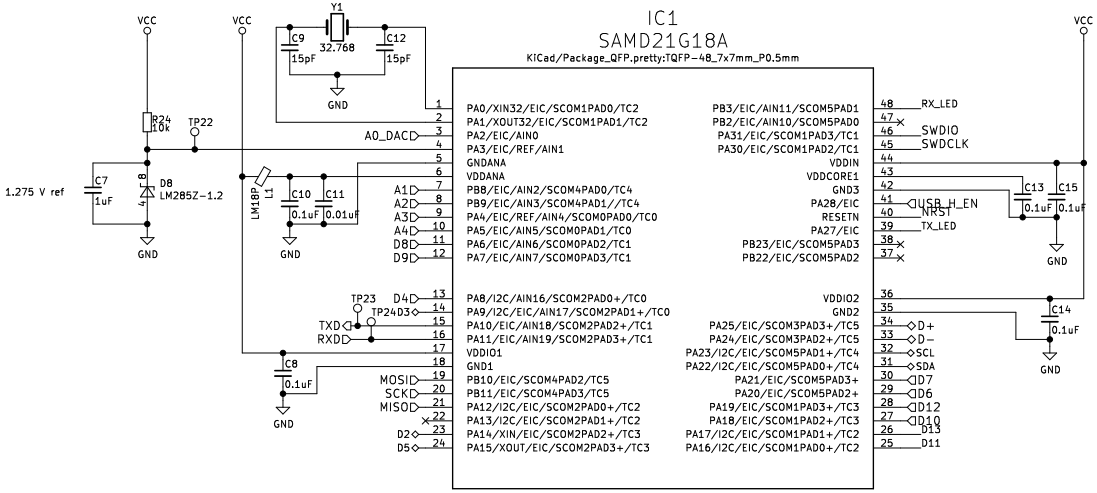
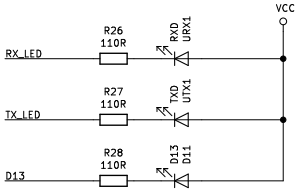
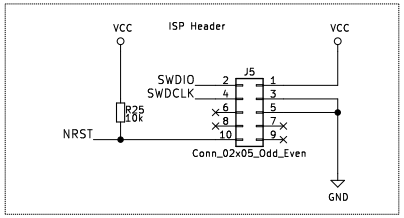
Sheet: /RS232-UART/
File: RS232-UART.sch

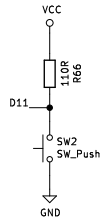
Title: WT-220 RS232 Driver

Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.0-0)		Id: 2/5

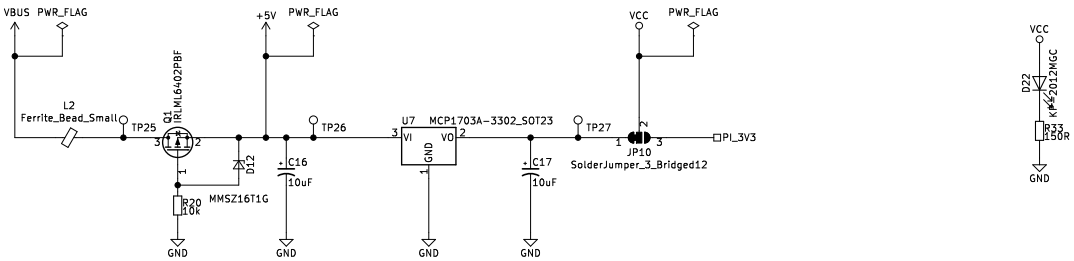




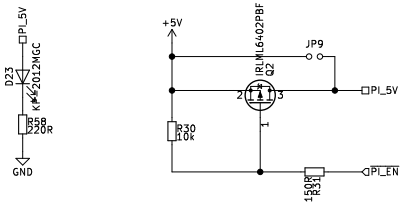


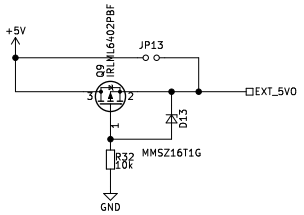


JBR Engineering Research Ltd	
Sheet: /microcontroller/	
File: micro.sch	
Title: WT-220 Hat Microcontroller	
Size: A3	Date:
KiCad E.D.A. kicad (5.1.0-0)	**Rev:** Id: 3/5

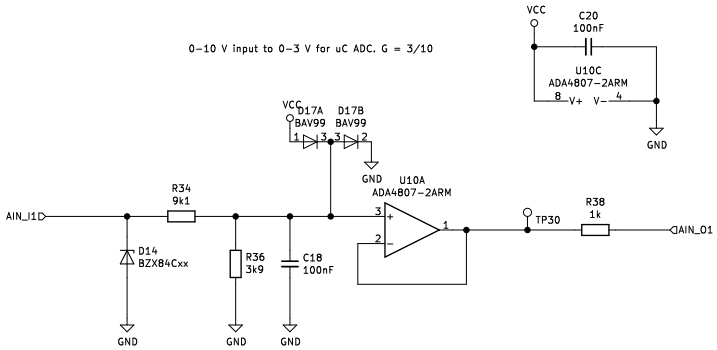


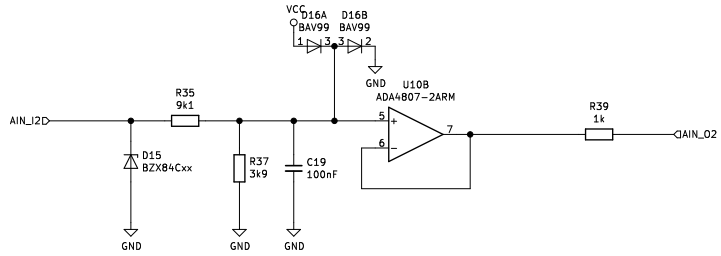
Allow 3V3 rail from PI by cutting bridge and soldering link. NEVER solder link without cut track as it will back-power PI 3V3 rail

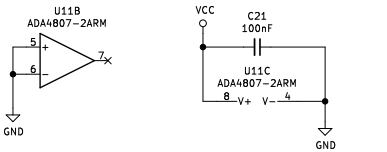


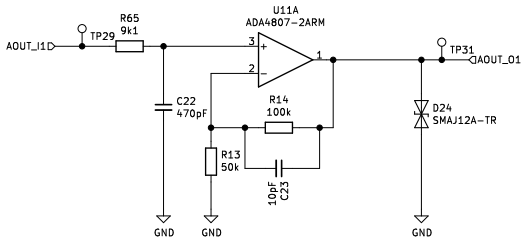


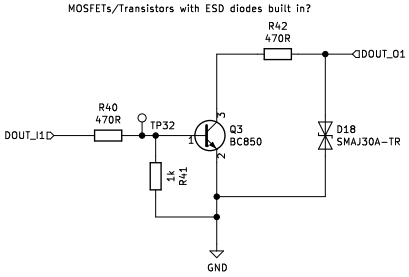
JBR Engineering Research Ltd	
Sheet: /power/	
File: power.sch	
Title: WT-220 Power Supplies	
Size: A3	Date: **Rev:**
KiCad E.D.A. kicad (5.1.0-0)	Id: 4/5

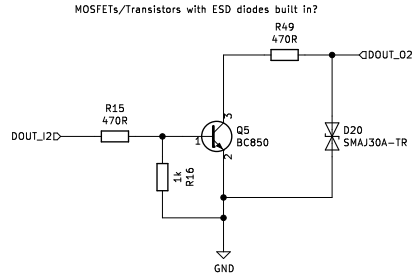


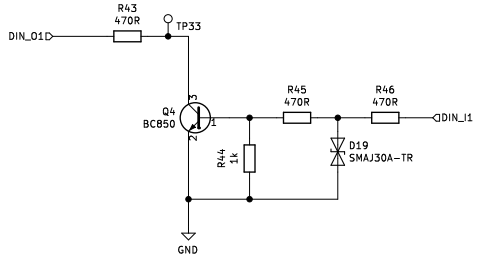


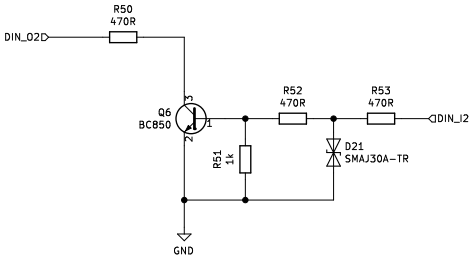












JBR Engineering Research Ltd		
Sheet: /buffers/		
File: buffers.sch		
Title: WT-220 Buffers		
Size: A3	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.0-0)		Id: 5/5