RigCon Extension Board
for Clockwork Pi uConsole

Audio Codec, PTT switch

U5 CM108B

CM108B Config:
- Playback & Recording (MODE low)
- With Mixer / AA-Path Enable (MSEL high)
- Line out Vpp = 2.5 Volts (VSEL low)
- Bus Power with 100mA (PWRSEL high)
- Use internal ADC (ADSEL low)
- Normal Operation (TEST low)

J3 Audio, PTT

RIG_AFOUT
RIG_AFIN
RIG_PTT

R19 100K
JP3 ATT
C21 10uF
C20 10uF
C22 10uF
R16 12K
C23 27pF
C24 27pF

TP2 ROUT
TP3 PTT
TP4 COS
TP5 CTCSS
TP6 GND

C17 10uF
C15 1uF
C16 100nF
C18 10uF
C19 100nF

R17 12K
R15 12K
R18 100K
Q2 MMBT5551L
Q1 MMBT5551L
RTS

USB HUB and Ports

U11 CH334P

USB4_D−
USB4_D+
Reset/CPT
PGANG
R6 10k
Y1 12MHz
C6 10pF
C7 10pF

EXT_N
EXT_P
CODEC_N
CODEC_P
UART_N
UART_P

U9 TPS2553−1
R5 100k
R3 100k
PWR_FLAG
VBUS
R23 56k
R24 56k
R22 47k
C32 47uF
C28 47uF
C31 47uF
U10 USBLC6−2P6
J1 USB_C_Receptacle_USB2.0_16P

C29 1uF
C9 10uF
C12 100nF
C27 100nF

H1 MountingHole
H2 MountingHole
L1 OSH
L2 FOX
PWR_FLAG

UART

U4 CP2102N−A02−GQFN24
TP7 3V3
RESET
R1 12K 5V
R2 27K
TP1
D1 GS2005ELD
RS232 JP1A
RTS
R11 33
R12 33
TH1 0.02A
JP2 3V3
PWR_FLAG 3V3_DR

U6 ADM3101E
CMOS
232E
C10 100nF
C8 100nF
C11 100nF
C13 100nF
C14 100nF
JP1B RS232
JP1C RS232

J2 Serial, 3V3
RIG_RXD
RIG_TXD
3V3_OUT

RX_LED
TX_LED

C1 10uF
C2 100nF
C3 10uF
C5 100nF
R4 100k
RESET
C4 100nF

CAT Config:
- CMOS (default): 4−5, 7−8
- TX−500: 4−5, 7−8, JP2
- RS−232: 1−2, 5−6, 8−9
- CI−V: 2−3, 2−5

RTC

U7 PCF8523T
C30 4.7uF
R7 1k
GPIO45_SCL0
GPIO44_SDA0
Y2 32.768 kHz
R8 22k
BT1 BK−940
TP8 CLK

Note: Choose 7pF or 12.5pF Crystal (Y2).
PCF8523 has inbuilt load caps
and supports both, (7pF by default)

uConsole Speakers

U2 Speaker
SPEAKER_RP
SPEAKER_RN
U3 Speaker
SPEAKER_LP
SPEAKER_LN

PCB Connector

U1 UC EXPANSION

SPEAKER_LP / SPK_LP
SPEAKER_LN / SPK_LN
USB3_D+ / USB3_DP
USB3_D− / USB3_DM
USB4_D+ / USB4_DP
USB4_D− / USB4_DM
SPK_RP / SPEAKER_RP
SPK_RN / SPEAKER_RN

3V3
GPIO28 GPIO29 GPIO30 GPIO31 GPIO32 GPIO33 GPIO34 GPIO35 GPIO36 GPIO37 GPIO38 GPIO39 GPIO40 GPIO41 GPIO42 GPIO43
CAM1_DP3 CAM1_DN3 CAM1_DP2 CAM1_DN2 CAM1_CP CAM1_CN CAM1_DP1 CAM1_DN1 CAM1_DP0 CAM1_DN0
GPIO44_SDA0
GPIO45_SCL0