Title: ClockTHREE Junior aka C3Jr_v2 , with stackable board

NOTE : Duplicate Switches to allow Vert. and Horiz. positions

part of the project inspired from : http://www.evilmadscientist.com/article.php/peggy2
wyojustin@gmail.com :: anool.m@gmail.com
www.wyolum.com
an improved WordClock based on ClockTHREE
File: c3jr_v2.sch
Sheet: /

Size: A4   Date: 14 feb 2012   Rev: A
KiCad E.D.A. eeschema (2011-12-28 BZR 3254)-stable   Id: 1/4

Sheet: c3jr_v2-LED
File: c3jr_v2-LED.sch

Sheet: c3jr_v2-Aux
File: c3jr_v2-Aux.sch

Sheet: c3jr_v2-mech
File: c3jr_v2-mech.sch

File: c3jr_v2-LED.sch
Sheet: /c3jr_v2-LED/
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FRAME

FM1

BAFFLE

FacePlate

FP1

BF1

BackPlate

BP1

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Sheet: /c3jr_v2-mech/
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Jumpers, to select
INT or EXT RTC Chip

SCL K4   2 1   SCL
SCL_INT

SDA K5   2 1   SDA
SDA_INT

EXTERNAL RTC
I2SD
rtcBoB
ChronoDOT

CDOT3 CD3   1 BAT   2 32k   3 SQW   4 RST
CD1 CDOT1
CDOT2 CD2   4 GND   3 VCC   2 SCL   1 SDA

P49 P50 P51 P52

Mounting Holes for
rtcBoB / ChronoDOT

PWR_FLAG   VCC

BAT

BAT_RTC BT1

C10 100n

VCC

Vcc 2
GND 13
SDA 15
SCL 16

U6
DS3231N

14 Vbat

!(INT)/SQR 3   SQW
!(Reset) 4   RST
32KHz 1   32k
NC 5
NC 6
NC 7
NC 8
NC 9

R36 10k R37 10k R38 10k

NC NC NC 10 11 12

INTERNAL RTC
DS3231

SCL_INT
SDA_INT

GND

rtcBoB

J1A V_IN

J2
V_IN
Vbus
GND
Shield2 Shield_1

VRAW

7805
VI VO
GND
U2

C8 100µ   C9 100n

R26 1k

PWR D260

C4 100n

VOUT

V_IN J3   1 2

GND

GND   VSS

VSS
GND

POWER SUPPLY

P24 1 6 2 3 5 4
P25 1 6 2 3 5 4
P26 1 6 2 3 5 4
P27 1 6 2 3 5 4
P28 1 6 2 3 5 4
P29 1 6 2 3 5 4

P30 1 6 2 3 5 4
P31 1 6 2 3 5 4
P32 1 6 2 3 5 4
P33 1 6 2 3 5 4
P34 1 6 2 3 5 4
P35 1 6 2 3 5 4

P36
P37
P38
P39

VCC

7 seg 4 dig Display

7SegDisp P1
8
7
6
5
4
3
2
1

7Seg_Data

DBG   DBG
K3 7Seg_Sel
1 2 3
TXD   TXD

VCC

Break Out pins for
7 Seg. Display
DBG or TXD

PROTO AREA

PWR SEL K1   1 2 3
VCC VDD PWR_FLAG   VOUT

VCC

100n C7

FTDI P7
6
5
4
3
2
1

RES   RES
TXD   TXD
RXD   RXD
USB5V
GND

FTDI Conn

VCC
VDD

P8
P9
P10
P11
P14
P15
P53
P54

Mounting holes for C3Jr
8 holes around the board
with 3mm mounting hole
4 holes at corners for Housing
4 holes near LEDs for Baffle

ISP P13
6 GND
5 RES
4 MOSI-SDI   MOSI-SDI
3 SCK-CLK   SCK-CLK
2 VCC
1 MISO   MISO

ISP

COMMUNICATION

C3SB (i2c bus)

STACK-L P41   1 2 3 4
VCC SCL SDA GND
STACK-R P42   4 3 2 1

C1 100µ   C2 100µ

Stack-L and Stack-R have inverted pin nos
since one is facing Left and other is facing right.
When mounted this way on the board,
tracks from one to the other will be parallel - no cross over.

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