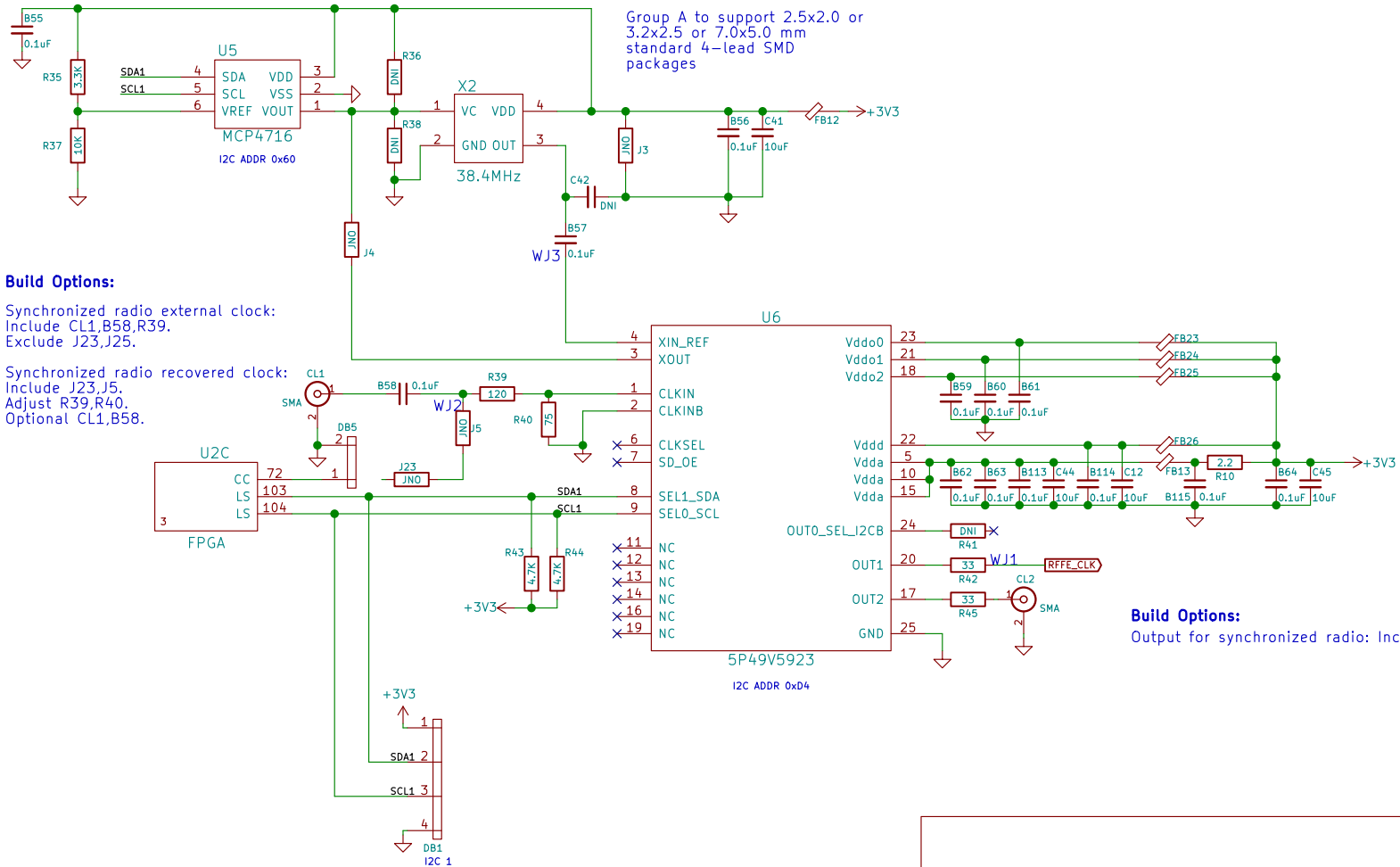


### Build Options:

Default Versa with oscillator: Include FB12,C41,B56,B57,X2. Include R36,R38 if required by oscillator. Exclude B55,R35,R37,U5,J3,J4,C42.  
Versa with VCO: Include FB12,C41,B56,B57,X2,U5,R35,R37,B55. Exclude R36,R38,J4,J3,C42.  
Versa with crystal: Include X2 as crystal, B57 as jumper, J4,J3,C42, R38 as 15pF. Exclude FB12,C41,B56,U5,R35,R36,R37,B55.

No Versa but oscillator to AD9866: Exclude all Versa components, build for oscillator, connect WJ3 to WJ1.  
No Versa but external clock to AD9866: Exclude all Versa components and oscillator components. Wire from WJ2 to WJ1.  
See RF Frontend sheet for additional AD9866 clock options



### Build Options:

Synchronized radio external clock:  
Include CL1,B58,R39.  
Exclude J23,J25.

Synchronized radio recovered clock:  
Include J23,J5.  
Adjust R39,R40.  
Optional CL1,B58.

### Build Options:

Output for synchronized radio: Include R45,CL2.

KF70 Steve Haynal

SofterHardware

Sheet: /Clock/

File: Clock.sch

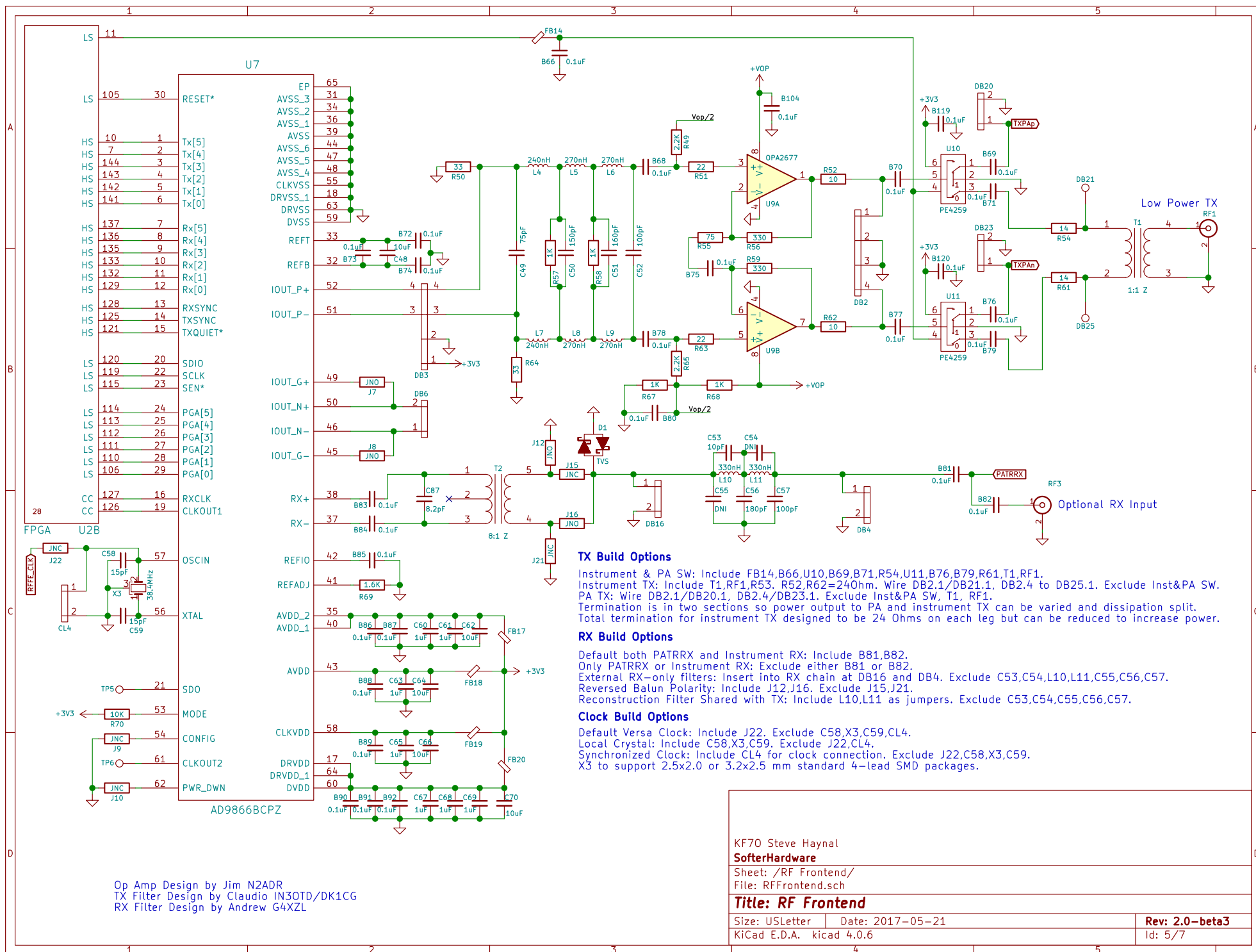
Title: Clock

Size: USLetter Date: 2017-05-21

KiCad E.D.A. kicad 4.0.6

Rev: 2.0-beta3

Id: 4/7



KF70 Steve Haynal

SofterHardware

Sheet: /RF Frontend/

File: RFFrontend.sch

**Title: RF Frontend**

Size: USLetter Date: 2017-05-21

KiCad E.D.A. kicad 4.0.6

**Rev: 2.0—beta3**

Id: 5/7

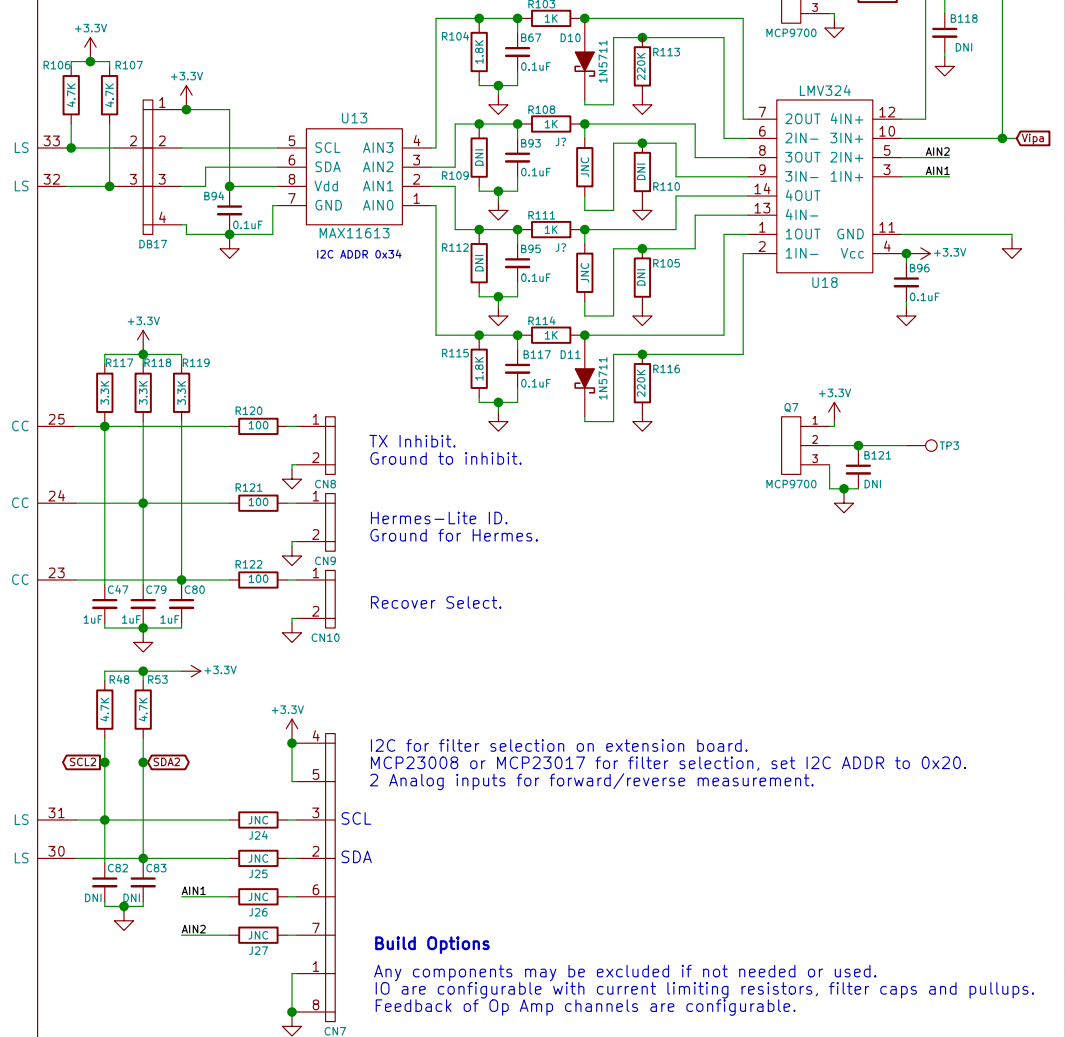
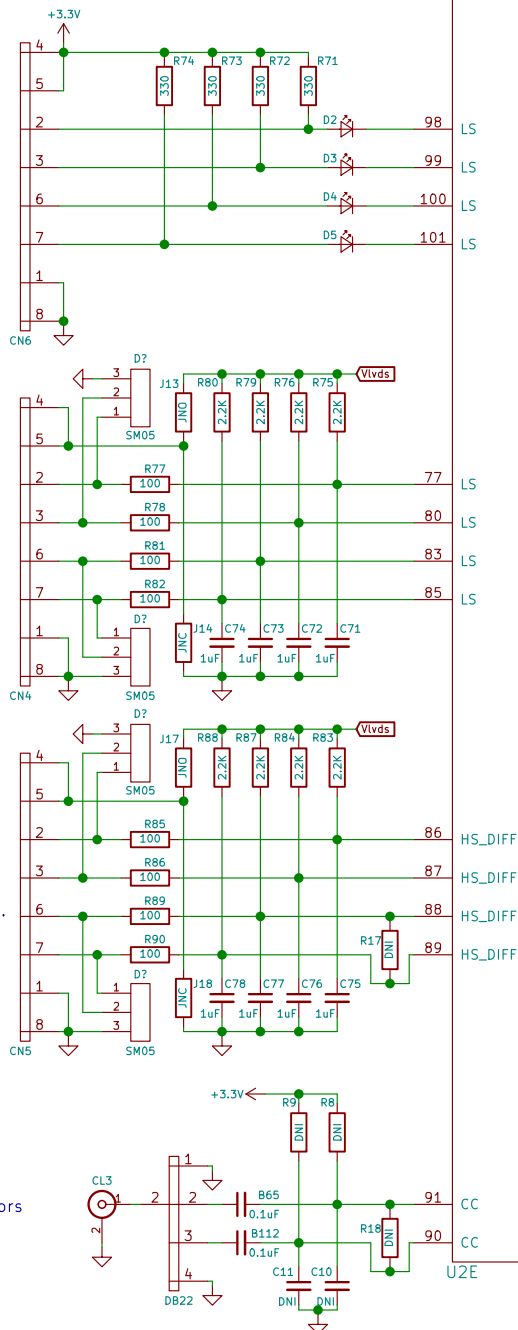
4 LEDs or optional internal IO

Two inputs. CW/PTT or CW keyer.  
Two jumpers or generic inputs.

CW key in. Ground to key.  
PTT in. Ground to key.  
CW out. Vlvds when Keyed.

To support LVDS TX/RX pairs.  
For LVDS exclude all discretes  
and use 0 Ohm or 0.1 uF capacitor  
for R85,R86,R89,R90.  
R17 is optional for LVDS termination.

Optional external reference  
for frequency calibration.  
Layout may be populated with resistors  
and capacitors as seen above for  
optional use as slow inputs.  
Include R18 for differential  
termination if needed.



TX Inhibit.  
Ground to inhibit.

Hermes-Lite ID.  
Ground for Hermes.

Recover Select.

I2C for filter selection on extension board.  
MCP23008 or MCP23017 for filter selection, set I2C ADDR to 0x20.  
2 Analog inputs for forward/reverse measurement.

#### Build Options

Any components may be excluded if not needed or used.  
IO are configurable with current limiting resistors, filter caps and pullups.  
Feedback of Op Amp channels are configurable.

Clock 2X Select.

Eth Speed.

KF70 Steve Haynal

SofterHardware

Sheet: /Input Output/  
File: InputOutput.sch

**Title: Hermes-Lite Input Output**

Size: USLetter Date: 2017-05-21

KiCad E.D.A. kicad 4.0.6

Rev: 2.0-beta3

Id: 6/7

Id: 7/7