

Exercise 18: Slide Potentiometer Interface.

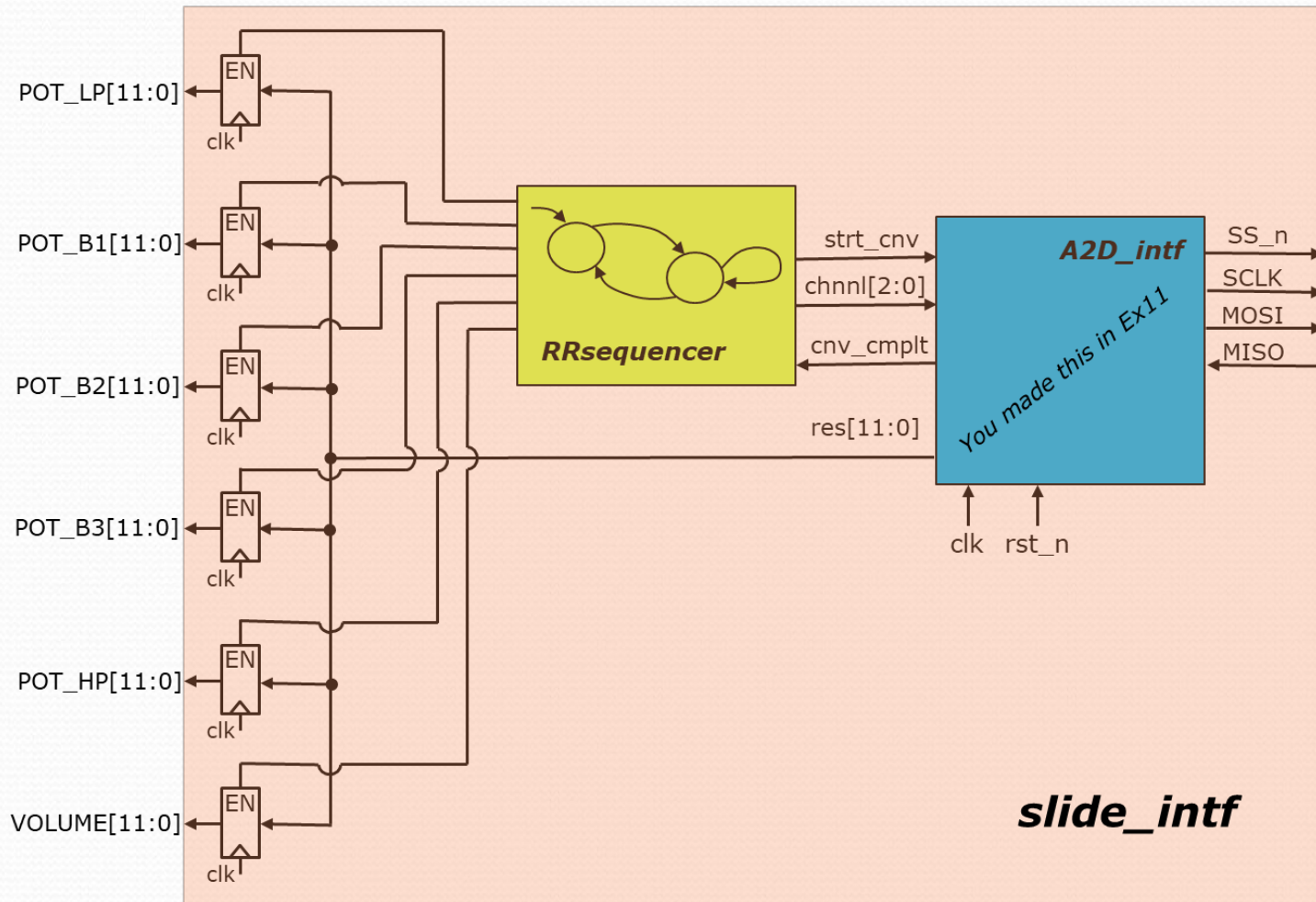
This is HW5 problem 2.

You have built and tested (on the DE0) **a2d_intf.sv** (Look back at Ex11 & Ex12). You will now use this block to build a higher level block (**slide_intf.sv**) that will simply provide the various potentiometer setting levels to your digital core.

This module will perform “round robin” conversions on the various A2D channels that are connected to the slide pots, and provide the potentiometer values as 12-bit digital numbers to the core.

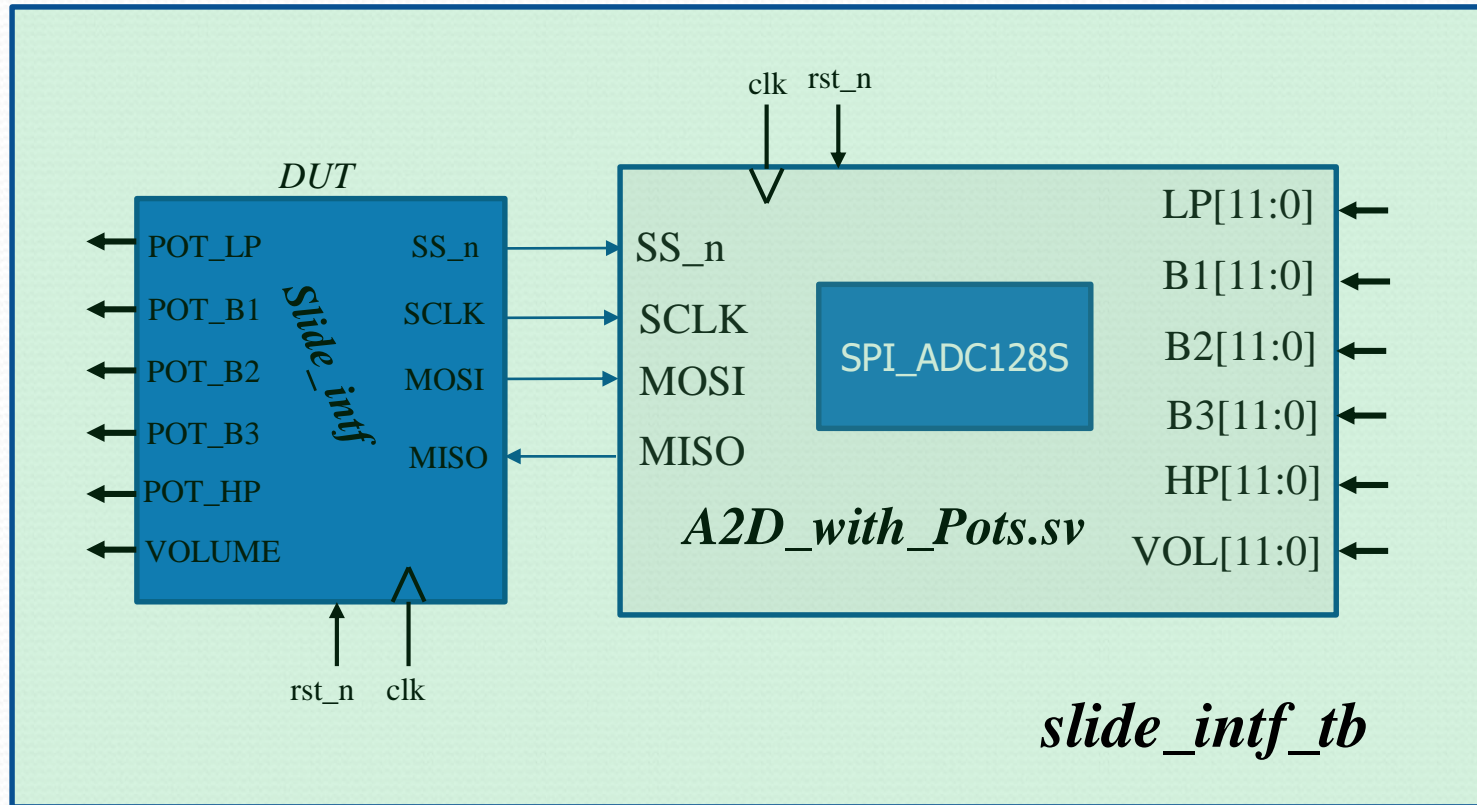
A2D Channel:	Slide Pot:
001	Gain LP (gain of bass) → POT_LP[11:0]
000	Gain B1 (gain of 80Hz to 280Hz) → POT_B1[11:0]
100	Gain B2 (gain of 280Hz to 1kHz) → POT_B2[11:0]
010	Gain B3 (gain of 1kHz to 3.6kHz) → POT_B3[11:0]
011	Gain HP (gain of treble) → POT_HP[11:0]
111	Volume (used to scale over all left/right audio output) → VOLUME[11:0]

Exercise 18: Slide Potentiometer Interface.



You need to create functionality of **RRsequencer** and the holding registers shown. **RRsequencer** does not have to be separate hierarchy..could be coded flat within **slide_intf.sv**

Exercise 18: Slide Potentiometer Interface (Testing)



- A new model of the A2D converter is available. It lets you apply values for the various pot settings. Do you get out what you put in?
- You will have to carry **SPI_ADC128S.v** forward (look in Ex11)

There is no dropbox, we will have a check off on DE0 for Ex19