

Kit bundle

- 1) book, Embedded Systems: Real-Time Interfacing to the Arm Cortex M3  
ISBN-13: 978-1463590154
  - 2) Texas Instruments EKK-LM3S1968
  - 3) One Twin industries TW-E40-1020 solderless breadboard  
Digikey: 438-1045-ND  
Allied Electronics: 237-0015  
Mouser: 589-TW-E40-1020
  - 4) headers (soldered onto board so the combination fits into a solderless breadboard)  
Samtec TSW-133-09-L-S-RE, (the long one)  
Samtec TSW-133-08-L-S-RA, (the short one)
- or
- Samtec TSW-133-09-F-S-RE, (the long one)
  - Samtec TSW-133-08-F-S-RA, (the short one)

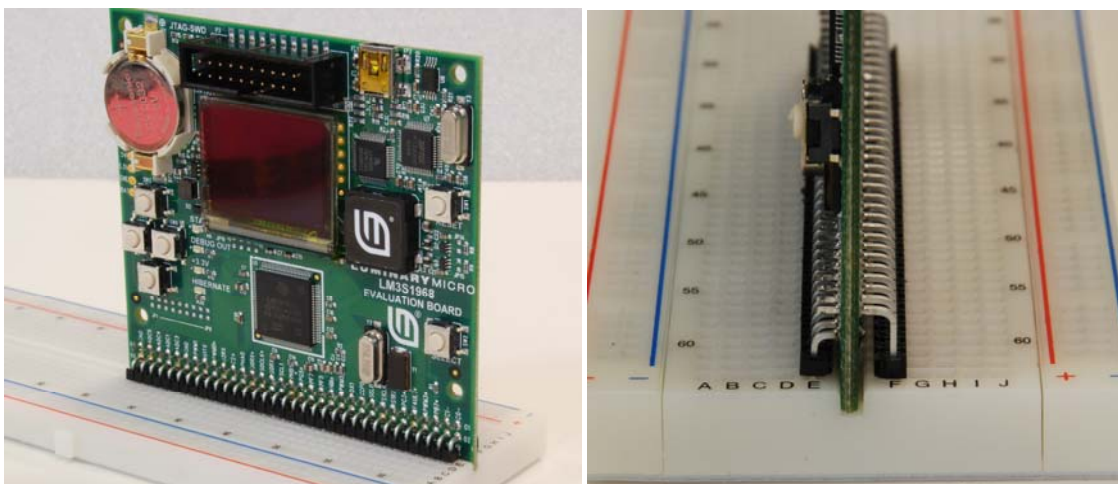
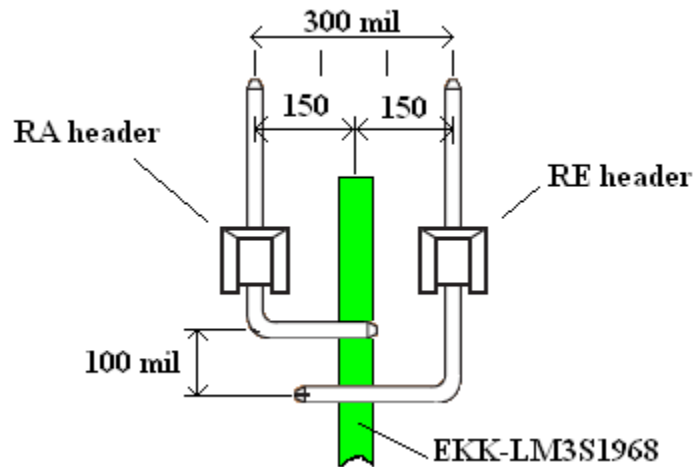
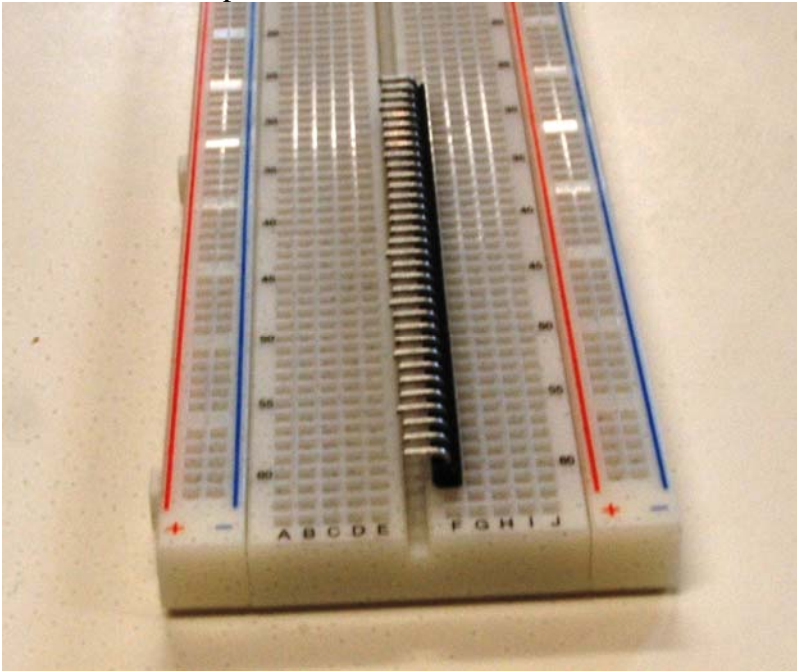
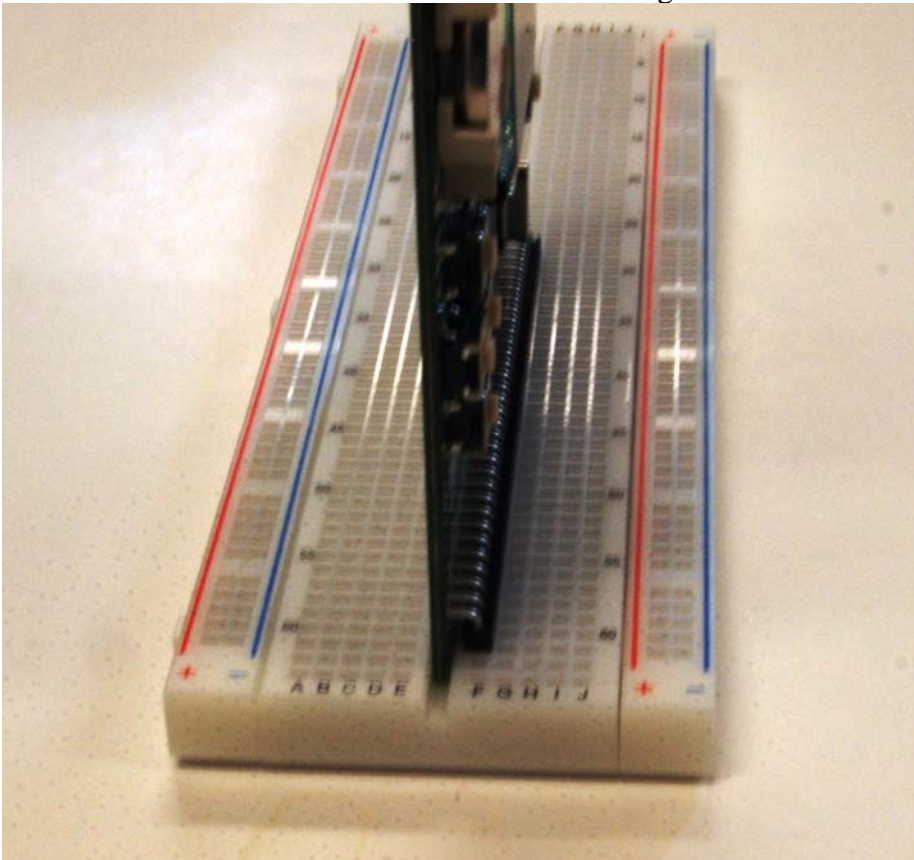


Figure 2.9. Evaluation kit for the LM3S1968 microcontroller. The protoboard interface was built using Samtec TSW-133-09-L-S-RE, TSW-133-08-L-S-RA connectors.

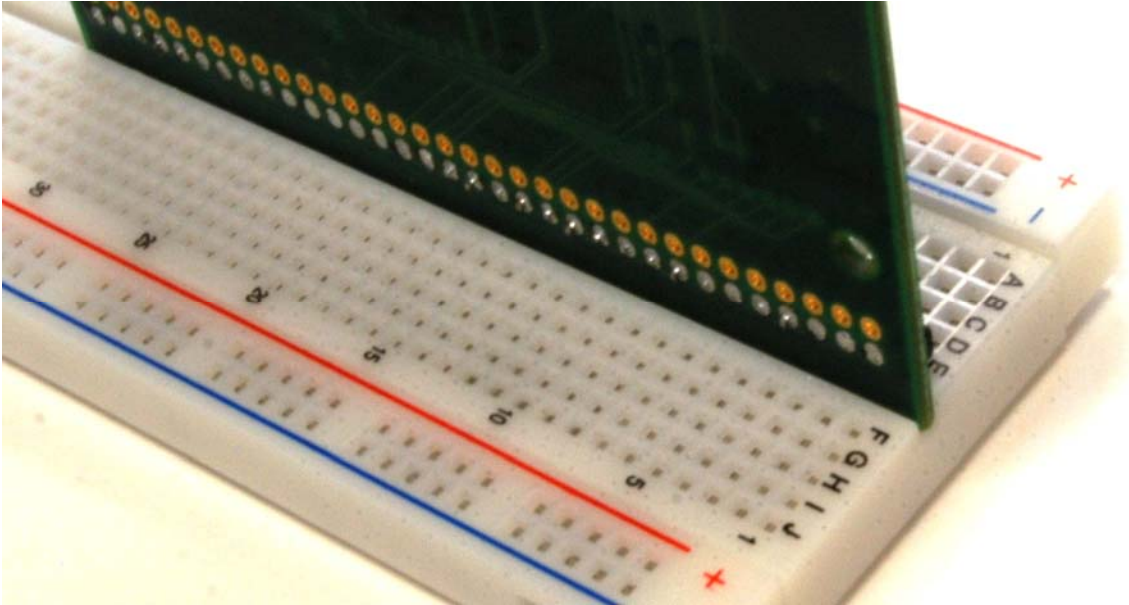
Step 1. Plug the RA header into a breadboard (the short one). Push it straight down, being careful not to snap the connector.



Step 2. Slip the EKK-LM3S1968 onto the RA header with the component side of the PCB being the same side as most of the RA header. Align the PCB so it fits into the center of the breadboard. The PCB should be 90 degrees from the breadboard.



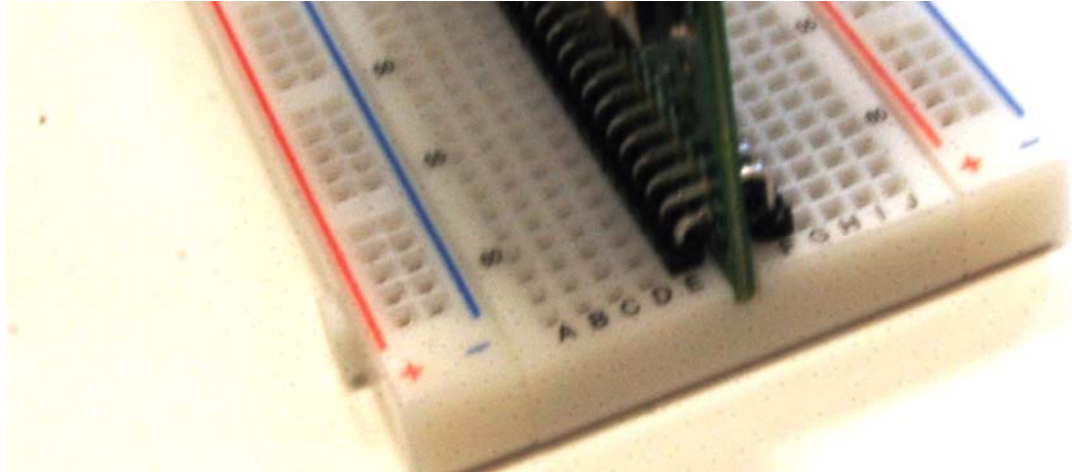
Step 3. Solder the 33 pins of the RA header to the PCB. Notice you are soldering on the bottom row, and on the side without components. Notice also the PCB fits into the slot down the middle of the breadboard.



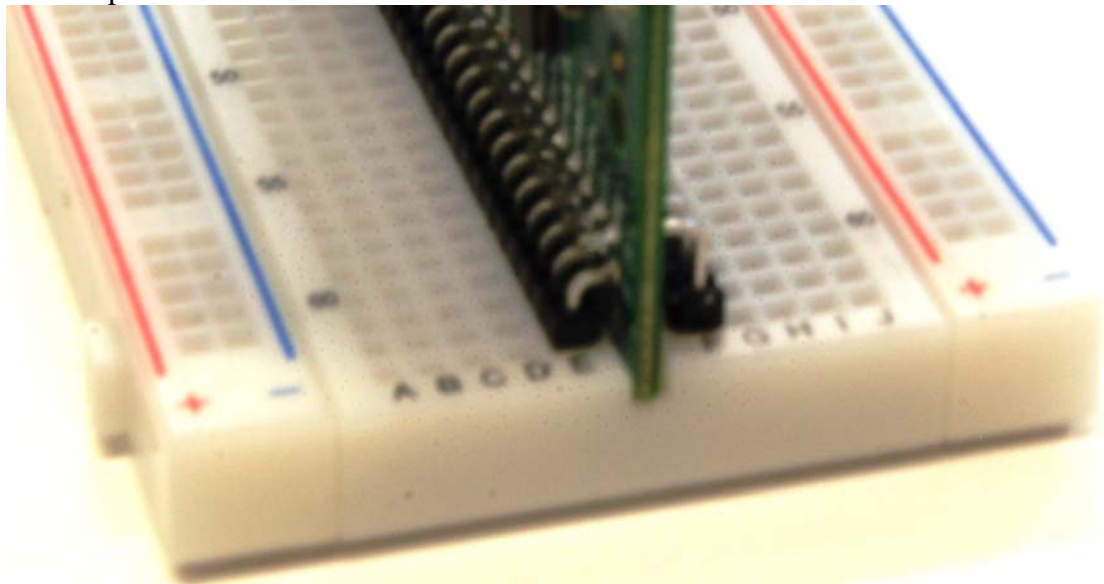
Step 4. Remove the RA-PCB combination from the breadboard. When inserting and removing the combination, try to reduce any twisting motion. One method that works well is to pry it a tiny amount on one side with a small screw driver, then pry it a tiny amount on the other side.



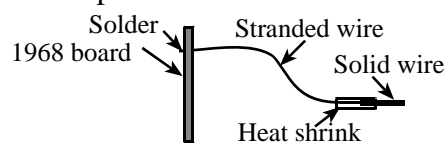
Step 5. Insert the RE header on the other side from the RA header, and insert the combination back into the breadboard. (The PCB should still be aligned into the center of the breadboard, and the PCB should still be 90 degrees from the breadboard, as achieved in step 2).



Step 6. Solder the 33 pins of the RE header to the PCB. This time you are soldering on the component side of the board.



Step 7. Solder individual wires to +3.3V and +5V as needed. The length should allow the other end to plug into the protoboard. 22-gauge solid wire is ok, but a better solution is use stranded wire with a 1/2 inch piece of solid wire attached to the end.



Step 8. Cut out this outline and place the paper between the pins and the protoboard (***bold italics*** mean this pin has hardware connections on the board).

LM3S1968		LM3S1968		LM3S1968		LM3S1968	
1	2	1	2	1	2	1	2
PB4	GND	PB4	GND	PB4	GND	PB4	GND
PB5	PB6	PB5	PB6	PB5	PB6	PB5	PB6
<b><i>PB7</i></b>	<b><i>PH0</i></b>	<b><i>PB7</i></b>	<b><i>PH0</i></b>	<b><i>PB7</i></b>	<b><i>PH0</i></b>	<b><i>PB7</i></b>	<b><i>PH0</i></b>
<b><i>PH1</i></b>	<b><i>PH2</i></b>	<b><i>PH1</i></b>	<b><i>PH2</i></b>	<b><i>PH1</i></b>	<b><i>PH2</i></b>	<b><i>PH1</i></b>	<b><i>PH2</i></b>
<b><i>PH3</i></b>	<b><i>PC2</i></b>	<b><i>PH3</i></b>	<b><i>PC2</i></b>	<b><i>PH3</i></b>	<b><i>PC2</i></b>	<b><i>PH3</i></b>	<b><i>PC2</i></b>
<b><i>PC3</i></b>	PE3	<b><i>PC3</i></b>	PE3	<b><i>PC3</i></b>	PE3	<b><i>PC3</i></b>	PE3
PE2	PE1	PE2	PE1	PE2	PE1	PE2	PE1
PE0	PB3	PE0	PB3	PE0	PB3	PE0	PB3
PB2	PB1	PB2	PB1	PB2	PB1	PB2	PB1
PB0	GND	PB0	GND	PB0	GND	PB0	GND
PF1	PF2	PF1	PF2	PF1	PF2	PF1	PF2
PF3	PF4	PF3	PF4	PF3	PF4	PF3	PF4
HIBn	PF0	HIBn	PF0	HIBn	PF0	HIBn	PF0
PF5	PF6	PF5	PF6	PF5	PF6	PF5	PF6
PF7	<b><i>PG4</i></b>	PF7	<b><i>PG4</i></b>	PF7	<b><i>PG4</i></b>	PF7	<b><i>PG4</i></b>
<b><i>PG5</i></b>	GND	<b><i>PG5</i></b>	GND	<b><i>PG5</i></b>	GND	<b><i>PG5</i></b>	GND
<b><i>PG7</i></b>	<b><i>PG6</i></b>	<b><i>PG7</i></b>	<b><i>PG6</i></b>	<b><i>PG7</i></b>	<b><i>PG6</i></b>	<b><i>PG7</i></b>	<b><i>PG6</i></b>
PA6	PA7	PA6	PA7	PA6	PA7	PA6	PA7
PA4	PA5	PA4	PA5	PA4	PA5	PA4	PA5
PA2	PA3	PA2	PA3	PA2	PA3	PA2	PA3
PA0	PA1	PA0	PA1	PA0	PA1	PA0	PA1
PC4	GND	PC4	GND	PC4	GND	PC4	GND
PC6	PC5	PC6	PC5	PC6	PC5	PC6	PC5
PG0	PC7	PG0	PC7	PG0	PC7	PG0	PC7
PG2	PG1	PG2	PG1	PG2	PG1	PG2	PG1
PD3	<b><i>PG3</i></b>	PD3	<b><i>PG3</i></b>	PD3	<b><i>PG3</i></b>	PD3	<b><i>PG3</i></b>
PD1	PD2	PD1	PD2	PD1	PD2	PD1	PD2
GND	PD0	GND	PD0	GND	PD0	GND	PD0
ADC3	GND	ADC3	GND	ADC3	GND	ADC3	GND
ADC1	ADC2	ADC1	ADC2	ADC1	ADC2	ADC1	ADC2
ADC4	ADC0	ADC4	ADC0	ADC4	ADC0	ADC4	ADC0
ADC6	ADC5	ADC6	ADC5	ADC6	ADC5	ADC6	ADC5
GND	ADC7	GND	ADC7	GND	ADC7	GND	ADC7
65	66	65	66	65	66	65	66