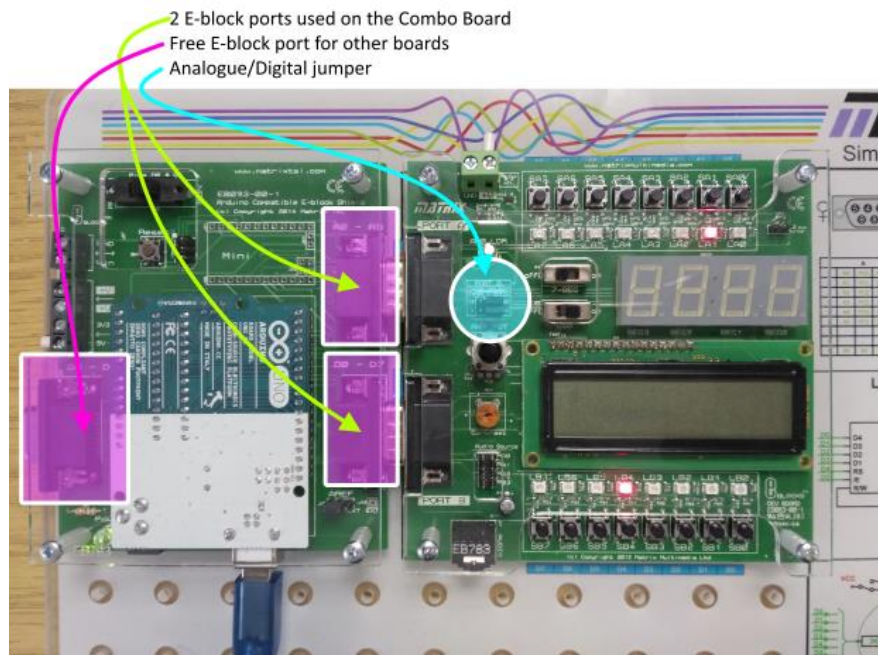


Using the Arduino Development Platform with other E-blocks

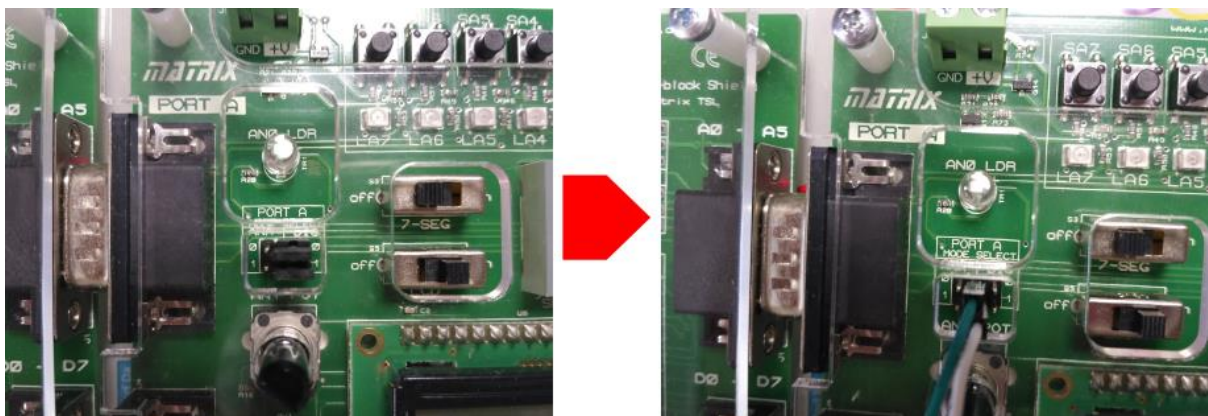
Compared with other upstream E-blocks, the Arduino E-block (EB093) has fairly limited inputs and outputs. There are only 3 E-block ports as follows:

- “A0-A5” – 6 analogue-capable pins
- “D0-D7” – 8 digital only pins
- “D8-D13” – 6 digital-only pins

The Combo Board E-block (EB083) is attached to the ports on the right side of the Arduino E-block which leaves a single digital-only port with just 6 pins available for other E-blocks. Some E-blocks require a full 8 pins on the port (e.g. HPACT) and others require the use of analogue inputs (e.g. sensors) which can be problematic.



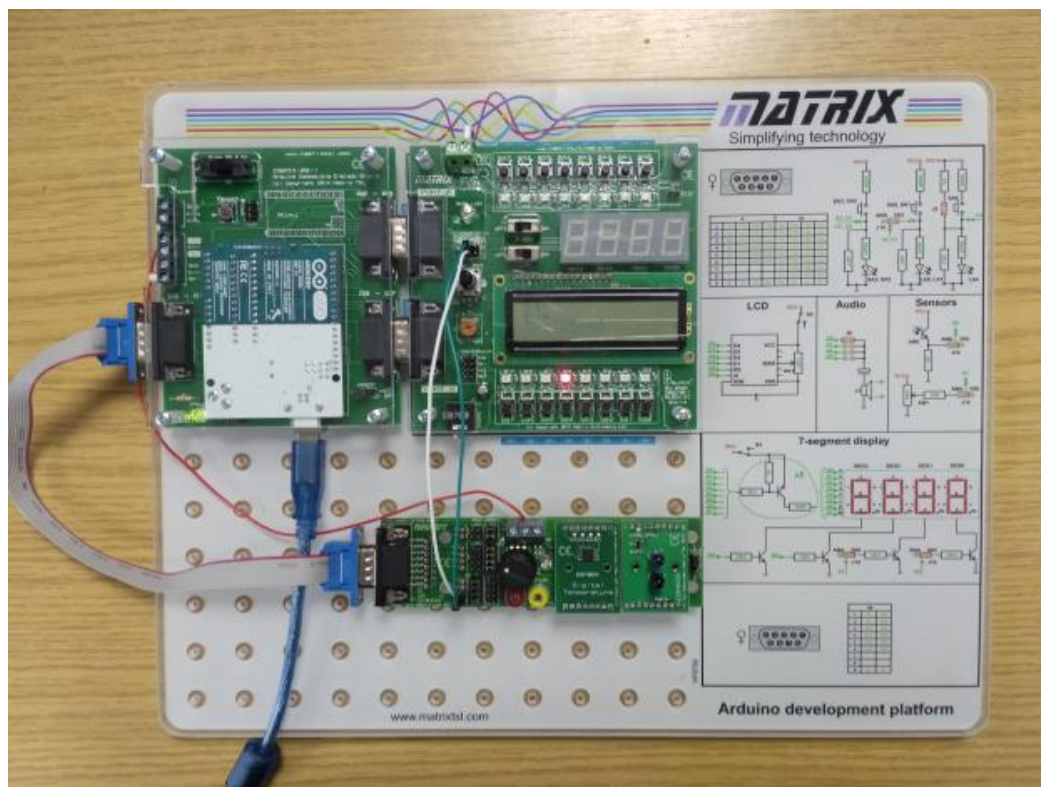
To overcome this restriction, two analogue-capable pins from the “A0-A5” port can be made available to supplement the 6 digital pins available on the spare port. This is done using two male-to-female Dupont wires connected to the centre pins of the analogue/digital jumper on the EB083 Combo Board E-block, as shown below:

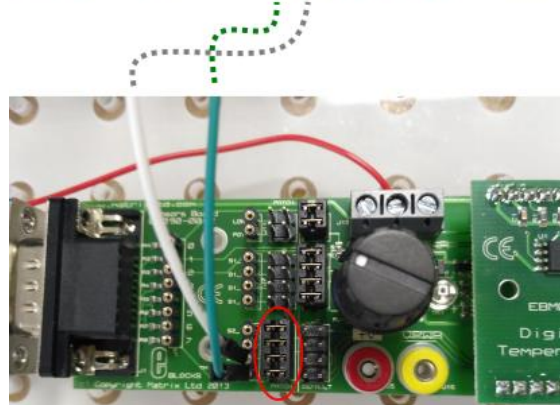
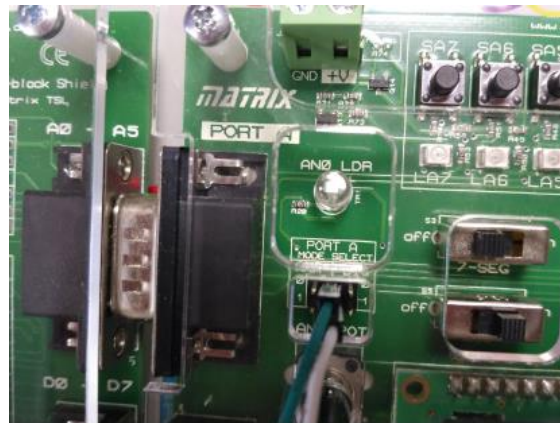


Note that when wiring these cables certain features of the Combo Board will be unavailable – i.e. the light sensor, potentiometer, two LEDs (LA0 and LA1), two switches (SA0 and SA1) and two digits on the 7 segment display.

Using with the Sensors E-block (EB090)

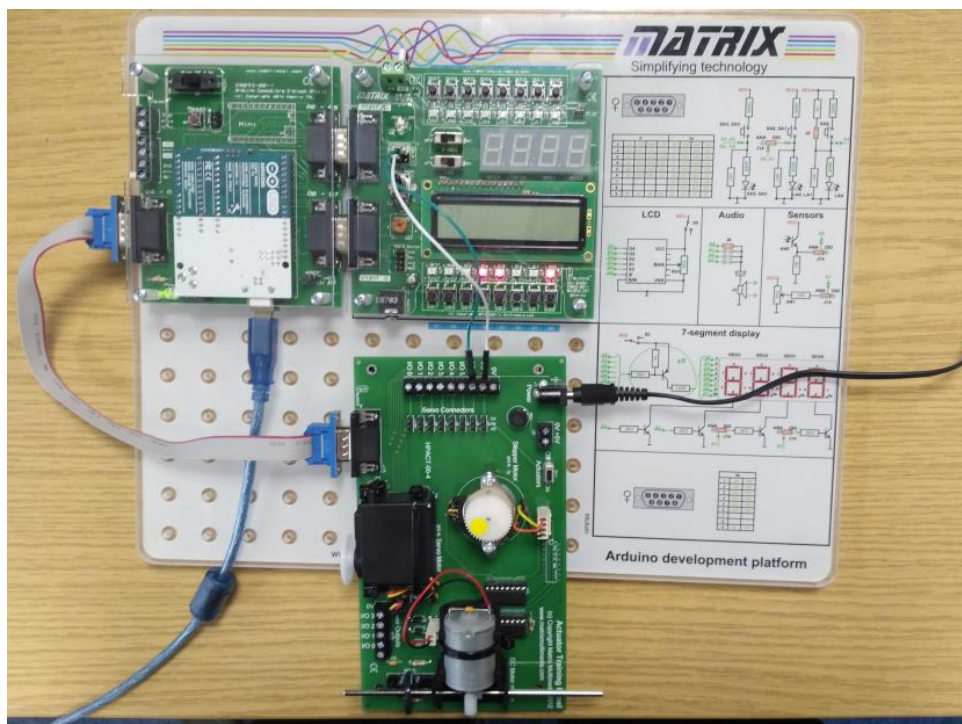
Move the 4-way jumper on the EB090 Sensors E-block from J2 to J3 to route the connections S2_1 thru S2_4 to the patch system and connect S2_3 and S2_4 to the centre pins of the “PORT A MODE SELECT” jumper (J14) of the EB083 Combo Board, as shown below:





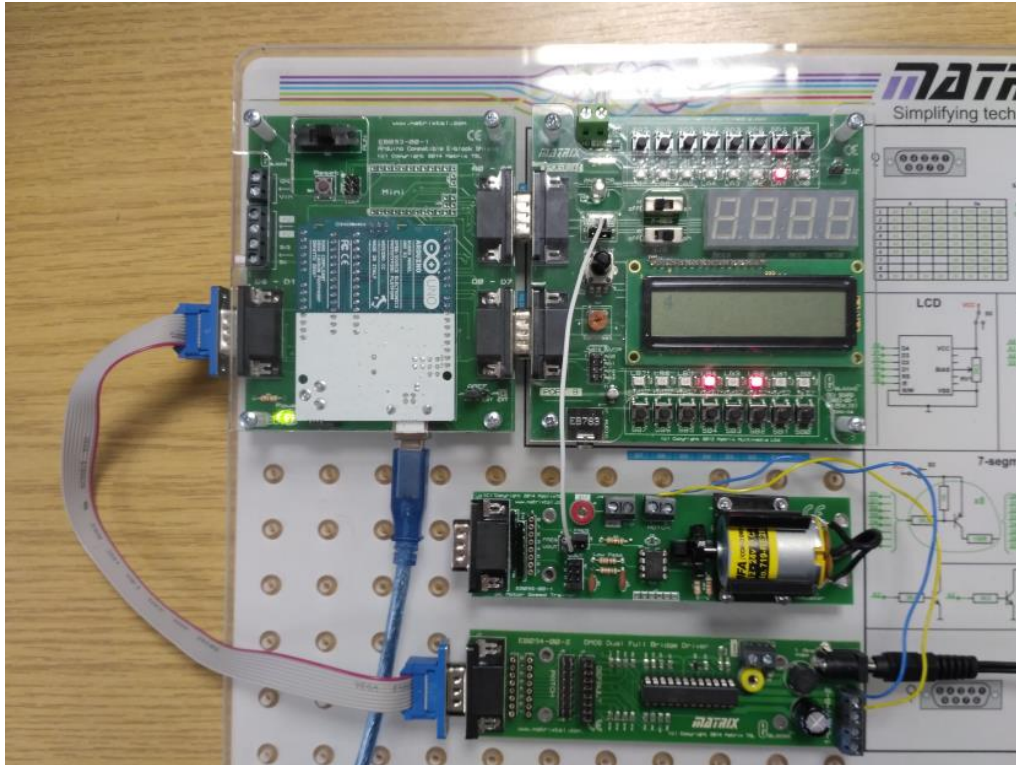
Using with the Actuator Training Panel (HPACT)

Connect the centre pins of the “PORT A MODE SELECT” jumper (J14) of the EB083 Combo Board to the input terminals I/O6 and I/O7 of the HPACT board, as shown below:



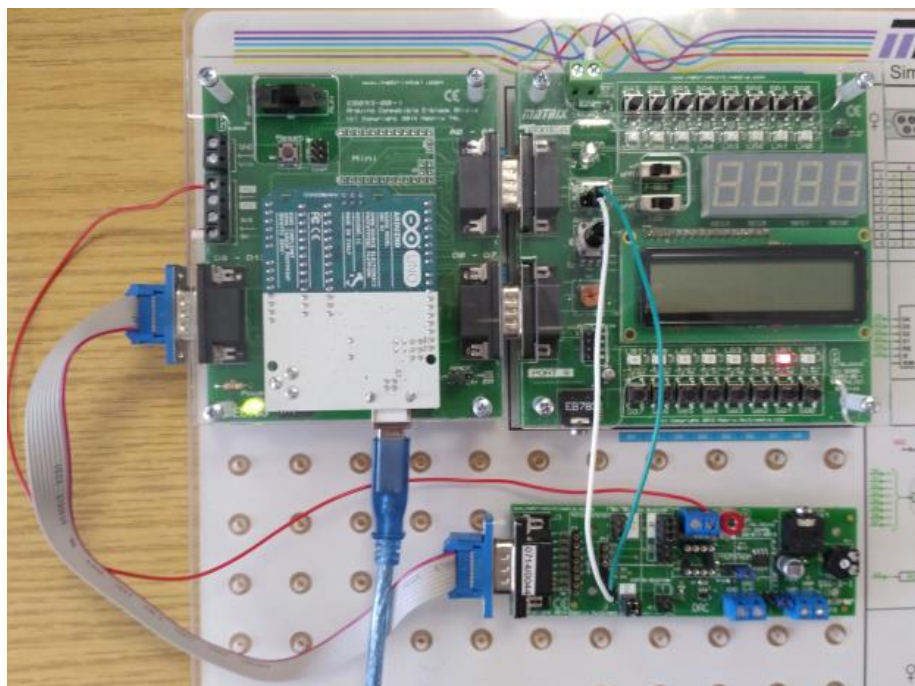
Using with the Motors E-blocks (EB096 & EB097)

On the Motor E-block move the VOUT patch jumper to the “P” setting and connect Vout to the top-centre pin of the “PORT A MODE SELECT” jumper (J14) of the EB083 Combo Board, as shown below:



Using with the SPI E-block (EB013)

On the SPI E-block move the “CHIP EN SELECTION” jumper to setting “2” and connect DAC_EN and NVM_EN to the centre pins of the “PORT A MODE SELECT” jumper (J14) of the EB083 Combo Board:





Using with the Keypad E-block (EB014)

The Keypad E-Block does not have a patch system and only the top two rows of the keypad (buttons '1' to '6') can be used when connected to the spare port of the Arduino E-block (EB083).