

NodePowerController/BuildingTheNpc/ConfigureTheHardware

Configure the A/D boards

The NodePowerController uses four ● Diamond Systems ● Diamond MM-32X-AT A/D boards.

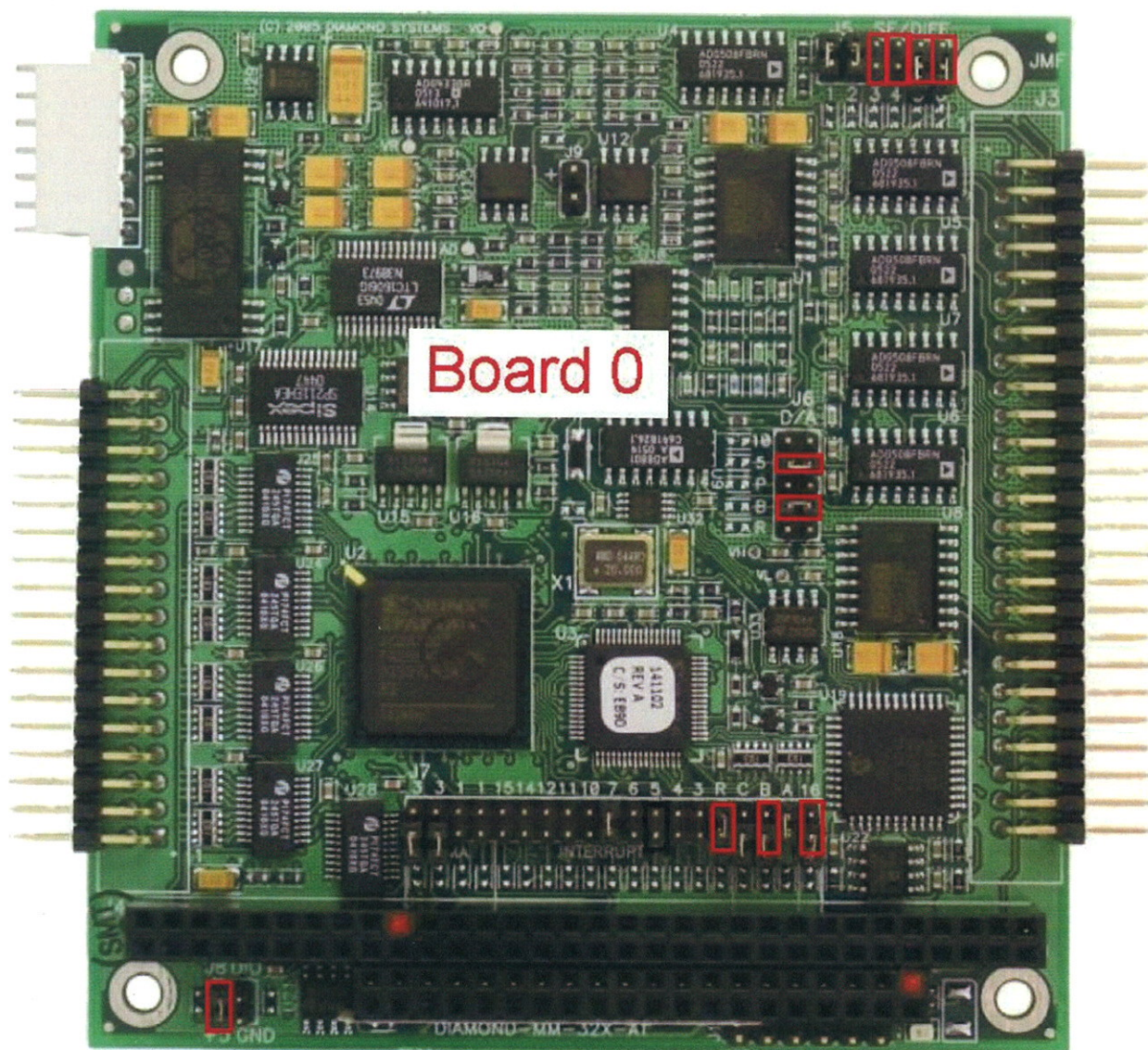
The I/O boards are numbered from 0 (lowest on the stack) to 3 (highest on the stack). From a clocking point of view, board0 is the master, it provides the clock signal for the other 3 slave boards. To properly pass the clock signal, one must connect J3/pin-42 on the master to J3/pin-45 on all slave boards.

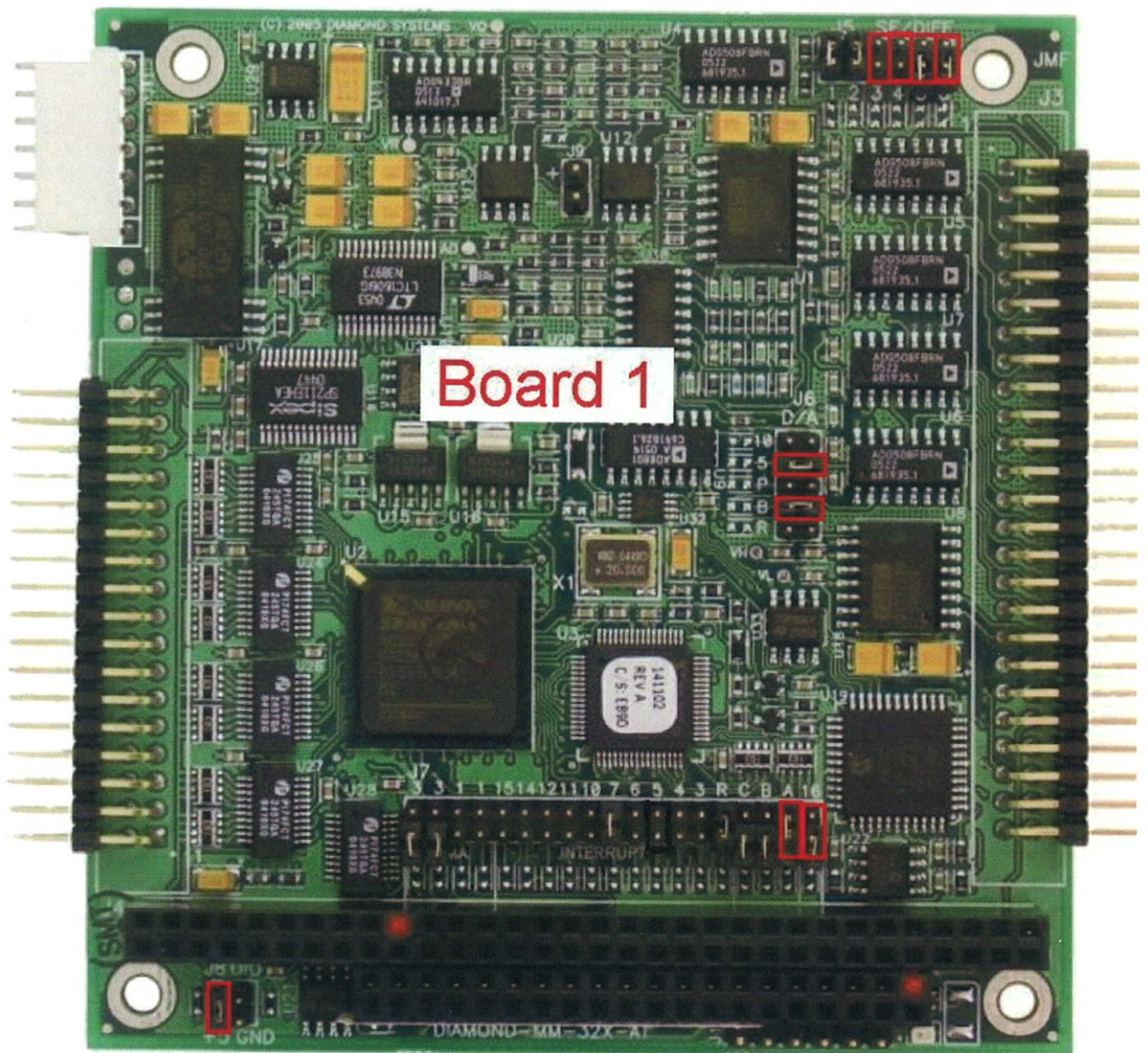
The various jumpers on each board should be configured as follows. Consult the Diamond documentation for the jumper locations as the labels can be hard to read.

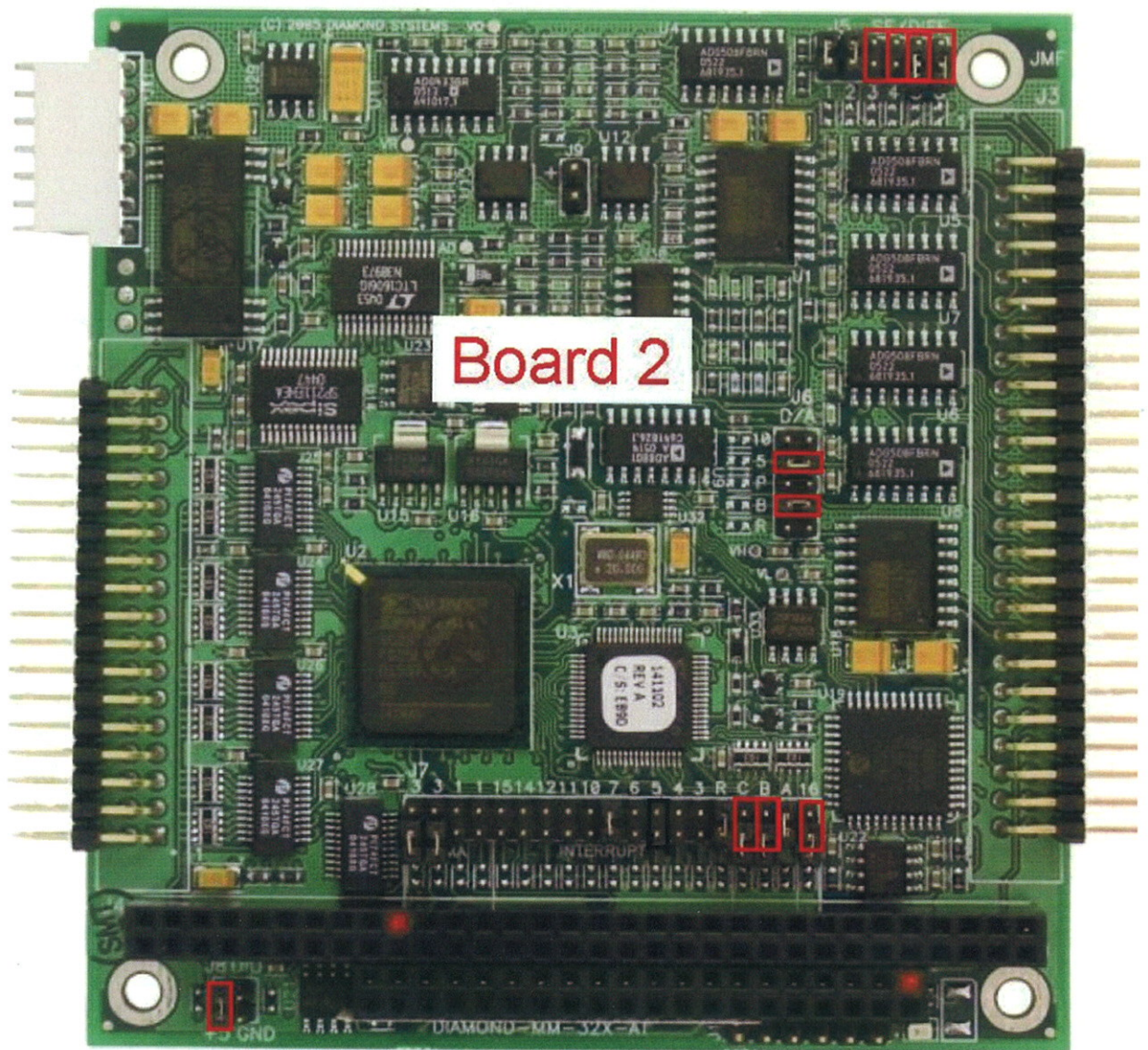
- Board0:
 - Base Address = 0x280 (J7 settings: C=out, B=in, A=out)
 - IRQ = 5 (jumper J7), also install jumper in "R" position
 - A/D configuration:
 - channels 0-31 single-ended
 - jumper J5 settings: 1=in 2=in 3=out 4=out 5=out 6=out
 - DIO setting: pull-up (set jumper J8 to +5v)
 - 16-bit bus enabled (jumper J7, 16=in)
- Board1:
 - Base Address = 0x300 (J7 settings: C=out, B=out, A=in)
 - IRQ setting does not matter, do not install jumper in "R" position
 - all other settings same as Board0
- Board2:
 - Base Address = 0x340 (J7 settings: C=in, B=in, A=out)
 - all other settings same as Board1
- Board3:
 - Base Address = 0x380 (J7 settings: C=out, B=out, A=out)
 - all other settings same as Board1.

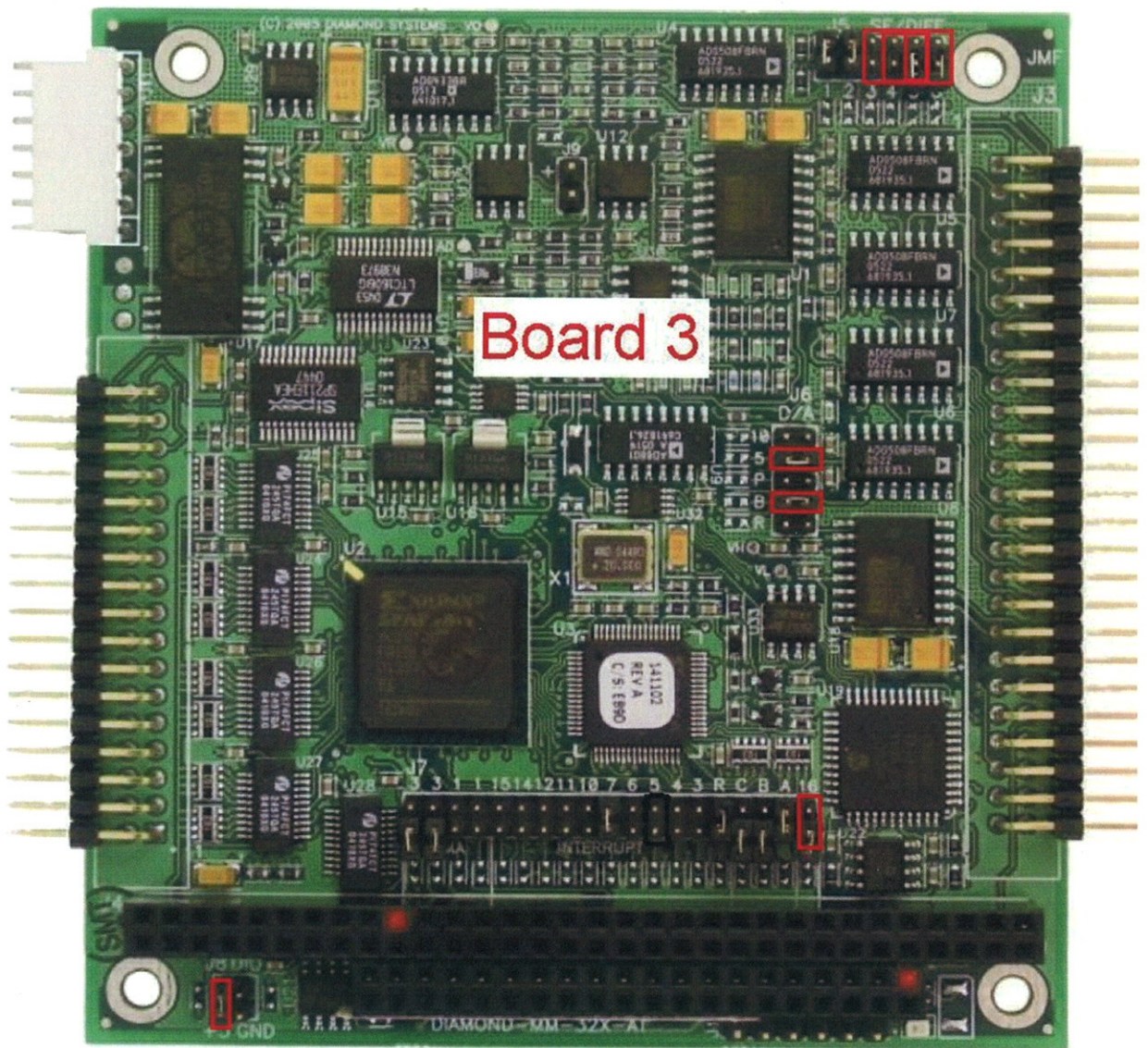
Added 2007-01-30: As of the January2007 FAT we've started using soldering these jumpers in place (using bus wire rather than the stock removable jumpers).

For the January2007 FAT we generated the following diagrams for setup. There was some discussion as to jumpering the IRQ5 pin on J7. It was decided not to jumper the pin (previous iterations of the stack had not jumpered it), hence the marks were removed in the diagrams.









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