

Hand Controller Interface Board

The three hand controllers are connected to the ports of the emulated 82C55 chip on the Measurement Computing CIO-DDA06/Jr Digital-To-Analog and Digital I/O board. The base address of the CIO-DDA06/Jr is 240_{16} .

I/O Port Address CIO-DDA06/Jr	82C55 Port	Hand Controller
BASE + 12	Port A	A
BASE + 13	Port B	B
BASE + 14	Port C	C
BASE + 15	Configure Ports	

The bit mapping for each hand controller port is given in the table below.

Control	Bit numbers	Encoding
Red Button	0	Down = 0_2 , Up = 1_2
Black Button	1	Down = 0_2 , Up = 1_2
Direction Switch	2	Backward = 0_2 , Forward = 1_2
Turn Switch	3-4	Left = 01_2 , Right = 10_2 , Centered = 11_2
	5-7	<i>not used</i>

The potentiometer on each hand controller is connected to one of the ADC channels on the CIO0-DAS08/Jr-AO board. The range of the potentiometer is 0 to 5 volts. The following table gives the ADC channel assignments.

Hand Controller	CIO-DAS08/Jr-AO Base = 260_{16} <i>Analog Input Channel</i>
A	0
B	1
C	2