Real Time Train Hand Controller Pin-Outs.

Flat 8-pin	"D" Connector	Colour in	DDA06	Function
connector		cable	Bit	
1	1	Red		+5V
2	6	Green		Ground
3	2	Orange	0	Horn *
				(red button)
4	7	Black	1	Bell * /Halt
				(black button)
5	3	Yellow	2	Backwards
6	8	Blue	3	Left
7	4	Brown	4	Right
8	9	White		Speed voltage
	5	Grey		Spare (not
		-		connected)
2	Shield/ground	(bare)		Ground

All signals from the hand controllers are active LOW (0).

DDA06/jnr I/O card setup

DIP	Base Address	
switch	(Hex)	
^^^^	24 0	

82C55 Registers

Address	Register	Usage
Base+12	PA	Controller A
Base+13	PB	Controller B
Base+14	PC	Controller C
Base+15	CNTL	configure

The 8255 chip is also used on the DIO192 cards so Control Register (CNTL) settings are similar. Here we want input so the value should be **x0011011** (x=1 set config, subsequent x=0 enables tristate)

^{*} Horn and bell installed Jan 2012.