

Custom GPI with DAD

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CUSTOM GPI FOR DAD

The ISA based CIO-DIO24, 48, 96 and 192 have been used in many custom GPI interfaces designed and built by ENCO. I presume the PCI and (H) versions of these boards will work as well, however, we have never tested them. Here is what you need to know:

1) You do not need InstaCal if you are using an ISA board. The only reason to run InstaCal if you need to run diagnostics on a board. You can also use it to find the address of a PCI board, but this can be determined without InstaCal. Install the board, then look in System Information/Hardware Resources/IO and find out what port the "PCI Device" is using.

2) For DADpro32 to use any GPI board, DADPIO must be installed and running with the correct address and an adequate number of ports allocated. The default DADPIO installation allocates 4 ports at address 300H. The DIO cards use 4 ports for each 24 I/O channels (3 for data, 1 for control). This means the default settings will not work since the DIO96 requires 16 ports. Edit \DAD\DRIVERS\NT\GPI\DADPIO.INI and set the proper parameters:

```
IoPortAddress = REG_DWORD 0x00000300
```

```
IoPortCount = REG_DWORD 0x00000016
```

Then from a Command prompt issue: AUTOINST C:\DAD

Restart and you are on your way.

3) The DIO card must have 4.7K PULL-DOWN resistor SIPS installed to function reliably.

4) The DIO channels can be split between outputs and inputs at any block of 8 boundary. Outputs must be first (lowest number channels) followed by inputs. This means the 96 board can be used as (Out/In): 48/48; 72/24; 8/88; 0/96 etc.

5) The DAD config line GPO_GPI must be set to <outs> <ins> <CIO-DIO board number>. For example:

```
GPO_GPI = 48 48 96    means 48 out, 48 in on DIO96
```

```
GPO_GPI = 8 88 96    means 8 out, 88 in on DIO96
```

```
GPO_GPI = 16 32 48   means 16 out, 32 in on DIO48
```

```
GPO_GPI = 24 0 24    means 24 out, 0 in on DIO24
```

6) For an ISA DIO card, set the DAD config parameter:

```
REMOTE = 300    (or appropriate ISA address)
```

For a PCI DIO card, we have not tested but try:

```
REMOTE = E000   (or appropriate PCI address)
```

If that doesn't work, try this form:

```
REMOTE = PCI E000 OICXOICX
```

7) If the DIO board is used to drive an SSR-RACK24 I/O Module Rack full of SSR (OPTO-22) modules, the logic of the SSR-RACK24 must be inverted. This is accomplished simply by replacing the (4) 74LS245N integrated circuits on the SSR-RACK24 with (4) 74LS640N ICs. These ICs are pin for pin compatible and all are in sockets, making the swap straight forward.

