# PCI INTERFACE BOARD

This User’s Manual describes the PCI interface board product number ARC-63, Revision 3B, dated

extensive DSP code development is done by the user since the ADS  incorporates many useful development tools such as breakpoint insertion, and register, memory and program inspection, program assembly and disassembly. All the interface board software development was done in this mode.

A software reset button is located on the front panel of the PCI interface board. It does not assert the hardware RESET* line to the DSP, which is only asserted on power-up, but rather asserts the interrupt line IRQC* that causes the DSP program to jump to an interrupt service routine that sets the program counter to the beginning of the program INIT and sets the stack pointer to the top of the stack. This switch can be used to get out of locked up DSP code without having to reboot the host computer. The switch on the board is OR'd with two pins from the external 26-pin connector so a switch external to

The address line AA1 is mapped to two different places - it selects the EEPROM during power-on boot and also selects reading the

The signal labeled AUX1 = SRD0 = PC4 is programmed as a general purpose I/O bit and is wired through the PAL U14 to the LED on the corner of the board and to the external connector. It can be manipulated by the user to indicate that data transfer is active, or for any other purpose. It is presently simply left off.

There is a 26-pin, three row DB connector installed on the front panel of the board to support several input and output functions. The connectors are available from Newark, with the following part numbers -

Board connector, female, AMP 5120262
Cable connector, male, Amphenol 174D026PAA000

The connector pinout is given below -

| Pin # | Function | Pin # | Function |
|---|---|---|---|
| 1 | Output Data 1 | 14 | Output Data 8 |
| 2 | Output Data 3 | 15 | Output Data 10 |
| 3 | Output Data 5 | 16 | Output Data 12 |
| 4 | Output Data 7 | 17 | Output Data 14 |
| 5 | Output Data 9 | 18 | |

the LED that indicates that the fiber optic receiver line has received a valid signal. The LED pin 2 is connected through the PAL to the DSP general I/O pin AUX1 = PC4 discussed above. The two pins for operating a switch can be wired to a remote switch that is more accessible than the one located on the board for software resetting during development sessions. Finally, +5 volts and ground are made

```
        MOVEP   X:DRXR,X1               ; Get most significant word
        JSR     <SQUASH

; Convert 2 x 16-bit PCI words in X0 and X1 into one 24-bit DSP word in A1
SQUASH MOVE     X1,A
        LSL     #16,A
        ADD     X0,A
        RTS
```

The DSP writes words to the PCI bus in a more involved