

**Models: PCIRWDT & PCIXWDT**  
**PCI Watchdog Timers for Windows NT** CE

**Introduction**

The PCI Watchdog Timer Cards are designed to overcome the dangers or annoyances associated with PCs locking up. The NT device driver will try a software reboot before it does a hardware reboot, saving the time it takes to get your server back on line. PCs used in remote or dial-up applications, to control external devices, or performing data acquisition can all benefit from a watchdog. If the controlling software hangs or crashes, the watchdog will timeout and reset the computer. The application software must reset the card's counter every timeout period to prevent the watchdog from rebooting the computer. The PCI watchdogs have a SPDT Form C Relay output to allow an external device or alarm to be controlled.

Model **PCIRWDT** uses the reset lines from the motherboard to reset the computer.

Model **PCIXWDT** uses the ATX/ATX12V power supply to turn the computer off for 10 seconds, then turn it on again causing the computer to reset.

**Features**

- Software selectable timeout period from 0.5 to 512 seconds.  
Range can be increased with hardware modifications
- 4 bit read/write timeout register
- Software enable and disable
- Form C relay output to control external device
- PCIRWDT: Non-splicing connection to the motherboard's reset pins
- PCIXWDT: Non-splicing connection to ATX/ATX12V power supply

**Specifications**

O/S: Win 98, 2000, ME, NT  
 Dimensions: 2.5H x 6.9L in (6.35 x 17.5 cm)  
 Address: PCI Plug and Play  
 Power: 1.5W maximum  
 Output spec: Form C Relay, SPDT output  
 Maximum ratings  
 24 VDC at 1.0 A  
 115 VAC at 0.5 A  
 Connector: DB-9 male


**Connections**

In order for the PCIRWDT to reboot the host computer, a connection must be made to the reset pins on the motherboard in parallel with the reset switch. A jumper wire is provided with the PCIRWDT to make this connection. Note that some PCs do not include these pins on the motherboard.

In order for the PCIXWDT to restart the host computer, a connection must be made between the ATX/ATX12V power supply and the PCIXWDT. A jumper wire is provided with the PCIXWDT to make this connection. Note that some PCs do not have the ATX/ATX12V power supply. The ATX/ATX12V power supply will be a single 20-pin connector to the motherboard. If there are two connectors from the power supply to the motherboard this is not an ATX/ATX12V power supply. An additional Form C Relay output connection can be made through the DB9 connector to an external alarm or to shut down another device.

**DECLARATION OF CONFORMITY**

Manufacturer's Name: B&B Electronics Manufacturing Company  
 Manufacturer's Address: P.O. Box 1040  
 707 Dayton Road  
 Ottawa, IL 61350 USA  
 Model Numbers: PCIRWDT, PCIXWDT  
 Description: PC Watchdog Timer for Windows NT  
 Type: Light industrial ITE equipment  
 Application of Council Directive: 89/336/EEC  
 Standards: EN55022  
 EN50082-1:  
 EN61000 (-4-2, -4-3, -4-4, -4-6)

  
 William H. Franklin III, Director of Engineering

**Operation**

A program calls a DLL function from Windows NT to write to the PCI watchdog device driver. The device driver will then write or read from the watchdog. When the timeout is reached the device driver will try a software reboot. If this fails the PCI watchdog will do a hardware reboot.

**Software**

The PCIXWDT and PCIRWDT come with the NT device driver and sample code.

**B&B's Watchdog Family Selection Guide**

Model	Bus	Timeout Register	Operating System	Output Relay Connector	Reboot Connector
ATRWDT	ISA	4-bit, read-write, 1-bit reset flag	DOS, Win 9x, Windows NT	DB9 Male	Motherboard reset pins
ATXWDT	ISA	4-bit, read-write	DOS, Win 9x, Windows NT	DB9 Male	ATX/ATX12V Power Supply Connector
PCWDT	ISA	4-bit, write only	DOS, Win 9x, Windows NT	DB25 Male	Motherboard reset pins
PCIRWDT	PCI	4-bit, read-write, 1-bit reset flag	Windows 98/2000/ME/NT	DB9 Male	Motherboard reset pins
PCIXWDT	PCI	4-bit, read-write	Windows 98/2000/ME/NT	DB9 Male	ATX/ATX12V Power Supply Connector

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