Software Manual

Digi AccelePort Xr Family

Novell NetWare AIO Device Driver Package

92000275 Rev A

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Introduction

Digi's support for Novell® compatible asynchronous applications is provided through a universal driver conforming to the "AIO" (Asynchronous Input/Output) specification. Use the AIO driver when Digi hardware is being installed in the file server (or machine with run-time NetWare®).

AIO drivers are loaded on the file server from the system console (or **RCONSOLE**) command line or the **AUTOEXEC.NCF** file. Installation is performed simply by copying the driver files from the distribution diskette to the system directory of the file server.

Supported Adapters

The following Digi AccelePort® adapters are supported by this device driver:

- AccelePort Xr ISA (up to 7 adapters per system)
- AccelePort Xr PCI (up to 7 adapters per system)
- AccelePort Xr 920 ISA (up to 7 adapters per system)
- AccelePort Xr 920 PCI (up to 7 adapters per system)

Unsupported Hardware Features

This driver uses no interrupts from the AccelePort Xr adapter.

Installation

To install the Digi AIO driver, simply copy the relevant files to your file server (although the driver can be loaded from the file server floppy, this will not be a typical way to set-up a system). The Digi AIO driver files should be copied to the system directory of the file server, typically called **F:\SYSTEM**. Copy the files from a workstation to the file server with these commands:

```
COPY A:\XR\AIODGXR.NLM F:\SYSTEM
COPY A:\XR\AIODGMEM.NLM F:\SYSTEM
COPY A:\XR\AIODGXRI.ADI F:\SYSTEM\AIO
COPY A:\XR\AIODGXRP.ADI F:\SYSTEM\AIO
COPY A:\XR\AIODG8RI.ADI F:\SYSTEM\AIO
COPY A:\XR\AIODG8RP.ADI F:\SYSTEM\AIO
```

Loading the Device Driver

If you are running NetWare Connect 2.0, the driver load command line is configured from within the NetWare Connect Console. See the NetWare Connect 2.0 manual for information on installing AIO device drivers. Note that the driver files listed above must be in the **SYS:SYSTEM** directory (**SYS:SYSTEM\AIO** for the **.ADI** files) so that Connect 2.0 can select **AIODGXR.NLM** as a loadable driver.

If you are running NetWare Connect 1.x, you must load the driver by hand. The user supplies information to the driver through a set of command line parameters at load time. Some or all of the parameters are optional, depending upon the type of adapter you are using. On ISA bus servers, the driver must be loaded for each adapter. On PCI bus servers, the driver must be loaded for each ISA adapter, if present, then once for all PCI adapters.

The **load** command has the following general syntax:

> **load aiodgxr** {*parameters*}

The final form of the command is determined by which adapter is installed, and the bus type of the computer (PCI or ISA). The variants of the command syntax follow. Parameters enclosed in brackets [ ] are optional parameters.

Important! In systems with both PCI and ISA adapters, the ISA drivers must be loaded *before* the PCI driver.

AccelePort Xr - ISA adapters:

load aiodgxr port=*xxx* **mem=***xxxxx* [**name=***bname*][**node=0**][**altp**[=*mask*]]
            [**fastbaud**]

AccelePort Xr - PCI adapters (load *after* ISA adapters):

load aiodgxr [**altp**[=*mask*[,*mask*[,*mask*[,*mask*[,*mask*[,*mask*[,*mask*]]]]]]]]
            [**fastbaud**]

port=*xxx* This parameter is the adapter's 3 digit hex I/O port address. For example: **port=324**. Valid port addresses are **104**, **114**, **124**, **204**, **224**, **304** and **324** for ISA adapters.

Each adapter must have a unique I/O port address, which must not be used by any other device in the system.

mem=*xxxxx* This parameter is the 5 digit hex starting address of the adapter's dual-ported memory. For example: **mem=d0000**. The device driver supports the following 32K starting addresses: **80000**, **88000**, **90000**, **98000**, **A0000**, **A8000**, **B0000**, **B8000**, **C0000**, **C8000**, **D0000**, and **D8000**—typically, the addresses from **C0000** to **D8000** will be the only addresses available in your server. AccelePort Xr ISA adapters may share the same memory address, since only one adapter's memory is turned on at a time.

name=*bname*:

> This parameter is optional and allows you to specify up to a 10 character name to identify the adapter. *bname* may consist of any combination of alphanumerical characters. If you do not specify a name, one will be assigned by the driver. Following is a list of the adapter's I/O port addresses or slot numbers and the associated default names and adapter numbers:

Port Address	Default Name	Adapter Number
104h	DigiXr00	0
114h	DigiXr01	1
124h	DigiXr02	2
204h	DigiXr03	3
224h	DigiXr04	4
304h	DigiXr05	5
324h	DigiXr06	6

> PCI adapters are numbered in the order in which they were found.

node=0   This parameter must be used if you are using **AIO.NLM** version 1.0.2 or earlier. These versions of AIO need sequential adapter numbers based on the load order of the driver. (The first adapter loaded will be assigned #0, the second adapter will be assigned #1 and so on.) Using the **node=0** parameter informs the driver to assign adapter numbers sequentially. If this parameter is omitted, the driver will assign adapter numbers based on the I/O port address as defined above. The parameter is effective only when used in the first **load** command, and determines the method by which subsequently loaded adapters will be numbered.
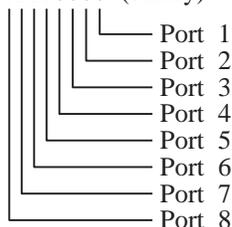
`altp[=`*mask*`]`

The standard wiring for AccelePort Xr adapters equipped with RJ-45 connectors places the modem control lines RI (Ring Indicator) and DCD (Data Carrier Detect) on pins 1 and 10, respectively, which makes them inaccessible to an 8-pin RJ-45 plug. While RI is seldom used, DCD is necessary for most modem applications. To facilitate the use of 8-pin RJ-45 plugs, a software feature called "**ALTPIN**" has been included with this device driver. When ALTPIN is active, DCD is swapped with DSR (Data Set Ready), which is on pin 1 of an 8-pin RJ-45 plug.

This parameter is optional and allows you specify that you want to activate the driver's ALTPIN option. When this parameter is entered as just "**altp**", all ports on the adapter will operate with the ALTPIN option active. When entered as "**altp=***mask*" the driver uses the hex mask to determine which ports will use the ALTPIN feature. For example :

    altp=f0

        F0 (hex) = 11110000 (binary)
```
                        ┌──── Port 1
                        ├──── Port 2
                        ├──── Port 3
                        ├──── Port 4
                        ├──── Port 5
                        ├──── Port 6
                        ├──── Port 7
                        └──── Port 8
```

This will activate ALTPIN on ports 5-8. The mask can be up to 16 hex digits long to activate ALTPIN on up to 64 ports.

fastbaud To operate an AccelePort Xr adapter at 230K baud, include the **fastbaud** parameter and set the port's baud rate to 300. **fastbaud** maps 300 baud to 230K baud.

To operate the adapter at 460K baud, include the **fastbaud** parameter and set the port's baud rate to 600. **fastbaud** maps 600 baud to 460K baud.

To operate an AccelePort Xr 920 adapter at 920K baud, include the **fastbaud** parameter and set the port's baud rate to 4800. **fastbaud** maps 4800 baud to 920K baud.