



AlphaStation FaxModem

Installation Information

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FaxModem Installation

Overview

This booklet describes the configuration tasks necessary to install a FaxModem on an AlphaStation 200, 250, 400, or 600, or an AlphaServer 1000. During the tasks, you will check the firmware configuration database for conflicts and update the database with the information about the FaxModem board. The configuration database is used to track I/O base addresses and allocate IRQ assignments. The information in the database is also used by the OpenVMS and Digital UNIX operating systems. The booklet is divided into the following sections:

- AlphaStation 200, 250, and 400 (ISA systems).
- AlphaStation 600 and the AlphaServer 1000 (EISA systems).
- Operating system modifications.

☞ Refer to the FaxModem Owner's Manual for information about changing Com port jumpers.

There are three major tasks involved in setting up the system to work with the FaxModem:

1. Determine which IRQs and I/O base addresses are currently in use on the system.
2. Reconfigure the configuration database.
3. Modify the operating system (Digital UNIX systems require a kernel rebuild; OpenVMS systems require modifications to the ISA_CONFIG.DAT file).

Systems using the ISA bus are covered in the first section.

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AlphaStation 200, 250 and 400 (ISA Systems)

When installing the FaxModem option on an AlphaStation 200, 250, or 400 system, the first step is to determine which IRQs and I/O base addresses are currently in use, and what conflicts need to be resolved, if any.

At the console prompt (>>>) type :

```
>>> show config
```

This command results in a listing of the resources in use on the system. The ISA section of the display is similar to the following :

```
ISA
Slot Device Name      Type      Enabled BaseAddr  IRQ  DMA
0
      0      MOUSE   Embedded Yes      60      12
      1      KBD     Embedded Yes      60      1
      2      COM1    Embedded Yes      3f8     4
      3      COM2    Embedded Yes      2f8     3
      4      LPT1    Embedded Yes      3bc     7
      5      FLOPPY  Embedded Yes      3f0     6      2
```

The FaxModem option arrives from the factory with its built-in serial port set to COM4. The COM4 port has the following default values:

Parameter	Default Value	Alternate Values
IRQ	3	5
IObase	2E8	See Appendix B of the FaxModem Owner's Manual.

The output of the show config command indicates that IRQ3 is assigned to the COM2 port. The default FaxModem IRQ is also IRQ3. A conflict exists. To make IRQ3 available for the FaxModem card, the COM2 port is disabled. The next section describes how to disable COM2 and add the FaxModem card's configuration information.

NOTES

Of the embedded devices, only the COM2 and LPT1 are allowed to be disabled.

If your system contains an ATI MACH64 graphics adapter, the FaxModem must be changed because a conflict exists at I/O address 2E8, which is used by COM4. Set the FaxModem to use the COM7 port to avoid the address conflict.

Adding the FAX/MODEM option

There are three methods available to make the appropriate changes to the firmware configuration database: script command, forms-based interface, or command line interface.

Script Command

The following commands, which use *only* default values, execute a script that disables COM2 and configures the database to the FaxModem card default values. The `init` command initializes the firmware to save the changes:

```
>>> add_fax  
>>> init
```

Forms-Based Interface

SRM firmware V5.0-29 or later includes support for a forms-based configuration database manager. The forms-based manager permits direct entry of the FaxModem configuration values and is not limited to the defaults of the `add_fax` script command. To start the program, type:

```
>>> iconfig
```

First, disable the COM2 port by moving the cursor to the `ENABLED` field on the COM2 line. Insert an `N` at that position. (Use the `TAB` or `Arrow` keys to move around the form.)

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Next, move the cursor to an empty NAME field at the end of the form. Input the FaxModem values as shown in the following example. The HELP: line at the bottom of the display provides prompts.

Step	Help Line Prompt	Entry
1.	Enter up to 15 char device name	COM4 [Tab]
2.	Enter i/o address in hex	2E8 [Tab]
3.	Enter IRQ channel in decimal	3 [Tab]
4.	Enter dma channel in decimal	[Tab]
5.	Enter memory address in hex	[Tab]
6.	Enter length of memory in hex	[Tab]
7.	Enter N to disable, Y to enable	y [Return]

When you press [Return], the entry is submitted and checked for conflicts. If conflicts exist, a message is displayed. For example, if you entered an IRQ value of 8 instead of 3, the following message is displayed:

```
ISACFG MESSAGE: ERROR: IRQ conflict with reserved IRQ values (0,2,8,11 or 13)
```

You can delete an entire entry by using the [Backspace] key.

Press [Return] again to exit the display. type an init command to save the changes:

```
>>> init
```

Command Line Interface

The following commands are supported on all versions of the firmware.

First, disable COM2, to make IRQ 3 available, with the following command:

```
>>> isacfg -mod -slot 0 -dev 3 -enadev 0
```

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The following commands add the FaxModem configuration information into the database. (Putting the command on two lines makes it more convenient to recall and edit the command line with the Up-Arrow key, if necessary.)

```
>>> isacfg -mk -slot 4 -dev 0 -handle COM4 -irq0 3
>>> isacfg -mod -slot 4 -dev 0 -iobase0 2e8 -etyp 1 -enadev 1
>>> init
```

Where:

-mk	Creates an entry in the database.
-slot	Can be any unused value from 1 - 4.
-dev	Must be 0.
-handle	Must be COM4 (even if the card is set to some other value).
-irq0	May be 3, 4, or 5 (assuming the card is set to those values).
-mod	Modifies an existing database entry.
-iobase0	May be 2E8 or whatever is set on the card.
-etyp	Must be 1.
-enadev	1 if enabled, 0 if disabled.

Proceed to the Operating System Modifications section.

AlphaStation 600 and AlphaServer 1000 (EISA Systems)

On an EISA system, a user can manually add information about ISA cards with the EISA Configuration Utility (ECU). Adding the ISA information with the ECU prevents conflict between the EISA cards, which ECU automatically knows about, and the ISA cards, which it doesn't know about unless the information is manually added.

For this action, an ECU floppy is provided with the systems. Refer to the system's user information. There may be a .CFG file in the system ECU that already provides this support.

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Operating System Modifications

OpenVMS Systems

If the FaxModem card is installed in the system, it must be removed so the OpenVMS operating system can be booted to allow editing of the SYS\$SYSROOT:[SYSMGR] ISA_CONFIG.DAT. If the file is not present, copy SYS\$MANAGER:ISA_CONFIG.TEMPLATE to SYS\$SYSROOT:[SYSMGR] ISA_CONFIG.DAT.

Edit SYS\$SYSROOT:[SYSMGR]ISA_CONFIG.DAT to add the keywords and values as shown below:

Keywords and Values	Description
[TTA0]	A delimiter that indicates the following lines contain ISA configuration information.
NAME=TT	Device name.
DRIVER=SYS\$SDRIVER	Driver to be loaded.
IRQ=3	Same value as was entered for irq0 in the firmware.
NODE=4	Allowable values are 1 - 4.
PORT=(2E8 : 8)	Same iobase value as entered in the firmware. The value 8 represents the number of bytes.

After ISA_CONFIG.DAT is modified, shut down the system, power it off, and install the FaxModem card. When the system is rebooted, the card will show up as TTB0.

To use the FaxModem, the following command must be typed at the system prompt unless you have a FAX/modem utility.

```
$ set term/perm/altypeahd TTB0
```

Digital UNIX Systems

The FaxModem card needs to be configured into the system by booting the genvmunix kernel and rebuilding the kernel with the doconfig command.

1. Type the following command to boot the generic kernel:

```
>>> boot -fi genvmunix
```

The generic UNIX kernel should recognize and report on the new device during the boot process.

2. After the kernel boots, the FaxModem is seen as tty01.
3. Generate a new kernel with doconfig.