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# ***HUNT ENGINEERING***

## ***Testint API Example***

### ***For VXWORKS***

***Document Rev A***  
***API Testint Example Rev 1.8***  
***J.Thie 21-05-02***

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The testint example is a small example program that tests if a board's interrupts work as expected. The example will work with HERON module carrier boards, such as the HEPC8 and HEPC9. It will also display at what address the HEPC9 or HEPC8 is configured.

(This example will **not** work with TIM-40 carrier boards such as the HEPC2E, HEPC3, HEPC4 or HECPC11. It will also **not** work with the HEPC6, a one 'C6x processor board.)

## Compiling, linking and running the example

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### Compiling/Linking the Example

To compile and link the example, please use the 'makefile' that is present in this directory. This makefile is set-up to use the GNU C/C++ 32-bit compiler. You can simply use the standard Tornado IDE, load 'testint.c', and do a 'Project → Make Current Source File'. This will create the example executable 'testint.o'.

### Running the example

To run the example, you need to load the API ('heapi.o') and the program itself ('testint.o').

```
ld<heapi.o
```

```
ld<testint.o
```

To run the example with an HEPC9 type:

```
sp TestInt,"hep9a 0 a"
```

Typically, you will see the following:

```
Board hep9a is mapped to memory address and IRQ:-
IoBase f0000000
IRQ      b
```

```
Interrupt test:-
Interrupts OK
```

However, the IoBase address and IRQ are likely to be different in your case. You can use this information to map memory addresses in your VxWorks boot image.

Interrupts are not necessarily tested OK. Possible results are:

```
Interrupts work fine.
Interrupt test failed.
Interrupts disabled.
Interrupt test failed, due to a driver problem.
```

In the case of the last result, check that the red board switch is set to 0. If not, reboot, and try again. If the application seems to hang, you probably have to change your VxWorks boot image, to tell it that accessing the HEPC8 or HEPC9 is safe. (These boards are memory mapped and VxWorks needs to be told it's safe to address the HEPC8 or HEPC9 space.) Please refer to the VXWORKS Installation & User Manual on how to do that.

Else, if you have any other response than the first one ('Interrupts work fine.'), then you first need to resolve an interrupt problem. Please refer to the 'Troubleshooting' section in the VXWORKS Installation & User Manual.

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