

# NeXTDimension Questions

**Q: What files are required for a NeXTdimension board to function properly?**

**A:** The NeXTdimension-related files on Release 2.1 and later (NeXTdimension systems only) are as follows:

## **ND PostScript Driver:**

In the directory `/usr/lib/NextStep/Displays/NeXTdimension.psdvr:`

<code>reloc</code>	dynalloads into WindowServer
<code>ND_MachDriver_reloc</code>	loaded into Mach
<code>NDserver</code>	loads i860 code and provides I/O support

**NOTE:** The size of the virtual memory space on the i860 is directly related to the `VSIZE` that `ps` reports for the `NDserver` task. This task shows up in the output from **ps aux** as:

```
root      149    0.0   3.4 28.3M  280K ?    S      40:47  (NextDimension) -NDSlot 2
```

CPU use by this task directly reflects I/O activity, including paging, by the i860.

**Video Support:**

/NextDeveloper/Headers/appkit/NXLiveVideoView.h	include file for video view
/usr/lib/NextStep/GraphicsPackages/video_reloc	dynalloads into WindowServer
/usr/shlib/libMedia_s.A.shlib	shlib image
/usr/lib/libMedia_s.a	shlib archive

(Prior to Release 3 the video library is libvideo\_s instead of libMedia\_s.)

**Demos & Examples:**

NeXTtvvideo/grab Demo	
ScreenScape	video out Demo
VideoApp	generic video Example

QA803

Valid for 2.0, 3.0

**Q: I've purchased a NeXTdimension system and wish to expand the memory. What performance advantages can I expect to gain from adding memory to the NeXTdimension board as opposed to the CPU board? Is there a mini-Mach running on the i860? Can the i860 swap**

**to disk? Can I memory-map the memory on the ND board?**

A: The DRAM on the NeXTdimension is used for displaying all windows which appear on the NeXTdimension monitor. The NeXTdimension board is driven by a Mach loadable device driver (which loads into the Mach kernel on the host) and a NeXTdimension screen driver, part of which loads into the WindowServer, and another part which loads into the i860. This i860 software consists of a mini Mach-like kernel, specially designed to support low-level PostScript drawing, 3D rendering, and virtual memory for window backing stores. It is NOT possible to program the i860 directly.

Neither the DRAM nor the VRAM on the NeXTdimension can be memory mapped by the application. When it becomes necessary, the i860 pages to disk via the host 68040. It does not write directly to disk itself.

Whether you increase memory on the 68040 or the NeXTdimension depends upon how you plan to use the system. In general we recommend that you keep them fairly balanced. If you are going to be keeping lots of windows on the ND system then we suggest that you keep the memory on the i860 somewhat ahead. The less paging you do the better. You cannot extend the VRAM [video ram] on the NeXTdimension.

QA802

Valid for 2.0, 3.0

