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Application Note

Windows NT Driver for Parallel Port Based Cameras

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This document describes the SBIG Windows NT Driver for our parallel port based cameras. You should already be familiar with the Windows 95/98 Parallel Driver described in a separate Application Note. What's discussed here are the differences between the NT driver and the 95/98 driver.

Note: *If you plan to distribute the NT driver with any software product (commercial, shareware, etc.) you need to do that under a License agreement with SBIG. Please contact SBIG for the terms of such a License.*

What's Included

The NT driver archive contains the following files:

PARDRV.H - The latest header file for the driver

SBIG32M.DLL - The latest Win 95/95 DLL wrapper to the SBIG32.VXD driver

SBIG32.VXD - The latest Win 95/98 driver

SBIGNT.DLL - The new NT wrapper DLL for the SBIG.SYS driver

SBIG.SYS - The new NT driver. This gets installed into the \WINNT\SYSTEM32\DRIVERS directory

What's Different

1. For Win 95/95 your code calls the SBIG32M.DLL which in turn calls the SBIG32.VXD exactly like it was before except a few new calls have been added (more later).
2. For Win NT your code call the SBIGNT.DLL which in turn calls the SBIG.SYS driver. The function prototype in the DLL is:

short ParDeviceCommandNH(short command, void *Params, void *Results)

This function works just like the ParDrvCommand() you are used to except as detailed below.

3. Make sure you link to the Parallel Driver (both Win 95/98 and Win NT) using 1 byte struct align. If you don't most things will work except for example StartExposure. You already have to link to the old driver with 1 byte so this should not be too hard.
4. Before you make any calls to the driver you must Open it with the CC_OPEN_DRIVER command and when you're done with the camera call the CC_CLOSE_DRIVER command. If these aren't called first and in pairs you won't be able to talk to the camera or open the driver again.
5. Two new commands have been added for NT support: CC_OPEN_DEVICE and CC_CLOSE_DEVICE. Under NT you have to call these right after you call CC_OPEN_DRIVER and right before you call CC_CLOSE_DRIVER. These actually load the low-level driver and you need to know the LPT port when you call CC_OPEN_DEVICE. If you ever try to switch LPT ports you need to call CC_CLOSE_DEVICE first then call CC_OPEN_DEVICE with the new port.

6. Two other new commands have been added for NT support: CC_SET_IRQL and CC_GET_IRQL. Under NT these allow you to set the priority of the driver. We use three settings in our CCDOPS software: High = 27. Medium = 15, Low = 2. Under fast machines Low will work fine. On slower machines the mouse may get sluggish unless you select the Medium or High priority.
7. The CC_GET_DRIVER_INFO now supports a new DRIVER_REQUEST of value DRIVER_EXTENDED (the old one was DRIVER_STD). This returns the same information as DRIVER_STD but for the wrapper DLL, as opposed to the low-level driver.
8. As described above, you need to install the SBIG.SYS driver into the user's \WINNT\SYSTEM32\DRIVER directory. At this time the user must be the Supervisor to both Install the driver and to Access it. We are working on making the driver accessible to all Users.