



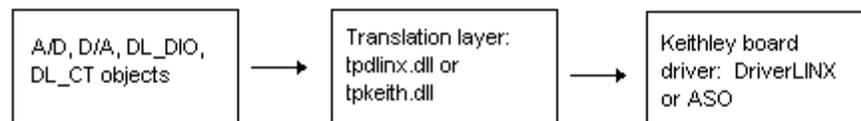
## How does TestPoint find my board?

Each A/D or D/A object in a TestPoint application is associated with a data acquisition board. Up to 4 boards can be used from application. TestPoint can auto search for boards or can be manually configured to associate a specific board with an A/D object. The testpt.ini file in the c:\testpt directory controls the method by which TestPoint will interface with data acquisition hardware.

The A/D and D/A objects of TestPoint rely upon a "translation layer". This translation layer converts the TestPoint commands to the A/D or D/A object into function calls that the Keithley data acquisition driver can implement with the hardware.

For many years, TestPoint interfaced to Keithley's ISA board products and their Advanced Software Option (ASO) drivers for Windows 95/98 (tpkeith.dll is the translation layer). For WinNT, Windows 2000 or WinXP, Keithley's DriverLINX drivers are required (tpdlinx.dll is the translation layer). Some ISA boards have both an ASO driver and a DriverLINX driver, so when operating in Windows 95 or Windows 98, there is a choice between using the ASO driver or the newer DriverLINX driver. For PCI boards, the DriverLINX driver is always required, regardless of which version of Windows is in use.

Boards supported by the DriverLINX driver access digital I/O or counter/timer features of the hardware with TestPoint's new DL\_DL\_CT objects. These objects can be found in dldio.tst or dlct.tst example programs located in the c:\testpt folder where TestPoint is installed.



TestPoint's use of the ASO or DriverLINX driver can be controlled by settings in the testpt.ini file. For some ISA boards and DriverLINX boards, a second file, tpdlinx.ini, may also need to be edited. (tpdlinx.ini may be a read only file on your system. First remove the read only attribute from this file and then open the file with NotePad to edit the settings)

**When and how to use ASO:** Keithley's ASO driver was written for many of our ISA cards. ASO works in Windows 3.x, Windows 95, or Windows 98, but does not work in WinNT or Win2K/XP. The ASO driver requires a valid configuration file for the installed board. TestPoint provides the configuration utility in the TestPoint install directory (c:\testpt\cfg1800.exe for the DAS1800 series for example). The default configuration utility will be a text file called das1800.cfg. This utility does not "read" the board and report the settings, but rather prompts you to enter the base address, IRQ, DMA, channel configuration and other information for your board.

**When and how to use DriverLINX:** If the board is a PCI card, then only a DriverLINX driver is provided. If the version of Windows is higher than Windows 98, then DriverLINX is required for both ISA and PCI boards. Install and configure DriverLINX before proceeding to use of TestPoint.

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**NOTE for users of DAS-1200, DAS-1400 or DAS-1600:** for these boards, TestPoint will always interface through the ASO driver. The use of DriverLINX for these boards is limited to Windows 3.x, Windows 95 or Windows 98. Run the cfg1600.exe configuration utility to create a valid configuration file (das1600.cfg). Installation of DriverLINX for these boards will have no impact on use of the board with TestPoint.

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**TestPoint Auto Configuration:** If you use the Auto configuration approach for TestPoint to find your hardware, then the ASO driver file must be named keithley.cfg. For Auto configuration and DriverLINX drivers, TestPoint will search in the system registry for the driver installation; of course, the DriverLINX driver for the board must be installed and functioning properly before TestPoint can successfully use it. Below is how the testpt.ini file will look when using auto configuration:

[AD0]

manufacturer=AUTO

[AD1]

manufacturer=AUTO

[AD2]

manufacturer=AUTO

[AD3]

manufacturer=AUTO

**TestPoint Manual Configuration:** By editing the testpt.ini file (and maybe the tpdlinx.ini too for ISA boards and DriverLINX in can explicitly tell TestPoint which driver to load for which board. Below on the left is shown the testpt.ini file when using manual In this example, two boards have been configured. The first one will make use of the DriverLINX driver for the KPCI-3108 board Device0. The second board, [AD1], will make use of the ASO driver for one of the DAS-1600 series of boards; this board has a file called das1600.cfg in the c:\testpt folder. In this scenario, the A/D objects later used in the TestPoint program would need to board 0 (KPCI-3108) and board 1 (DAS-1600).

| Manual Configuration  | tpdlinx.ini file for ISA boards and DriverLINX  |
|---|---|
| <pre>[AD0] manufacturer=driverlinx driver=kpci 3108. dll device=0  [AD1] manufacturer=Keithley driver=DASSHELL. DLL family=DAS1600 cfgfile=c:\testpt\das1600. cfg  [AD2] manufacturer=AUTO  [AD3] manufacturer=AUTO</pre> | <pre>[EXCLUDE] ; The [EXCLUDE] section applies in Win95/98 kmb1600= kmbdas16= ; DriverLINX can not be the interface for kmbdas16 ; insert a semi colon at beginning of line ; to make that line a comment ; if you want the DriverLINX driver to be used for your ISA ; DAS- 800, DAS- 1700, DAS- 1800, DAS- TC/B board, insert a semi colon ; as first character for the driver name kmb1800= kmb1700= ; &lt;-----DriverLINX will be excluded, e.g., not loaded for DAS-1700 ; kmb800= ; &lt;---- DriverLINX can be loaded for DAS- 800 kdastc= kdda816= ; DDA- 08/16 boards</pre> |

Above on the right is shown the contents of the tpdlinx.ini file. If you have an ISA board and are in Win9x, then you may have to in order for TestPoint to make use of the DriverLINX driver. If the driver name shows up in the exclude section, then TestPoint DriverLINX for your board. Simply place a semicolon in front of your driver name to remove it from the list of excluded DriverLINX

Consult the table below for summary information for Windows version support and ASO or DriverLINX driver support:

## TestPoint and Keithley A/D Boards

|                         | A/D, D/A object to ASO driver | A/D, D/A object to DriverLINX driver | TestPoint 4.1 and DriverLINX ActiveX | DriverLINX driver name   | WinNT/: possible |
|-------------------------|-------------------------------|--------------------------------------|--------------------------------------|--------------------------|------------------|
| DDA-08, DDA-16          | YES                           | YES                                  | YES                                  | kdda816                  | DriverLINX       |
| DAS-8 series            | NO                            | NO                                   | YES                                  | c:\drvlinx4\kmbdas8.dll  | register lev     |
| DAS-16 series           | NO                            | NO                                   | YES                                  | c:\drvlinx4\kmbdas16.dll | register lev     |
| DAS-1600 series         | YES                           | NO                                   | YES                                  | c:\drvlinx4\kmbdas16.dll | register lev     |
| DAS-1800 series         | YES                           | YES                                  | YES                                  | kmb1800                  | DriverLINX       |
| DAS-1700 series         | YES                           | YES                                  | YES                                  | kmb1700                  | DriverLINX       |
| DAS-800 series          | YES                           | YES                                  | YES                                  | kmb800                   | DriverLINX       |
| DAS-TC/B                | YES                           | YES                                  | YES                                  | kdastc                   | DriverLINX       |
| DAS-4000 series         | YES                           | NO                                   | NO                                   | NONE                     | register lev     |
| KPCMCIA                 | NO                            | YES                                  | YES                                  | kpcaciao                 | DriverLINX       |
| KPCI-3108 series        | NO                            | YES                                  | YES                                  | kpci3108                 | DriverLINX       |
| KPCI-3101/2/3/4         | NO                            | YES                                  | YES                                  | kpci3100                 | DriverLINX       |
| KPCI-3110 and KPCI-3116 | NO                            | YES                                  | YES                                  | kpci3100                 | DriverLINX       |
| KPCI-180xHC             | NO                            | YES                                  | YES                                  | kpci1800                 | DriverLINX       |
|                         |                               | <b>other board types:</b>            |                                      |                          |                  |
| KPCI-PIOxx              | NO                            | YES, DL_DIO object                   | YES                                  | kpcipio                  | DriverLINX       |
| KPCI-3160               | NO                            | YES, DL_DIO object                   | YES                                  | kpci3160                 | DriverLINX       |
| KPCI-PDISO8A            | NO                            | YES, DL_DIO object                   | YES                                  | kpciiso                  | DriverLINX       |
| KPCI-PIO32IOA           | NO                            | YES, DL_DIO object                   | YES                                  | kpciiso                  | DriverLINX       |
| KPCI-3130 and KPCI-3132 | NO                            | YES, D/A object                      | YES                                  | kpci3130                 | DriverLINX       |
| KPCI-3140               | NO                            | YES, DL_CT object                    | YES                                  | kpci3140                 | DriverLINX       |

A final trouble shooting hint: To get an idea of what is going on when TestPoint is searching for hardware or loading a software run the Addebug.exe utility (in TestPoint directory). Then invoke the TestPoint development environment. Open or create a prc contains an A/D or other object (A/D, D/A, DL\_DIO, etc) for board access. Change from edit to run mode. The addebug.exe utility process of the search and load efforts for a data acquisition driver.