Background

The Amptek DP4 digital processor family originally used the APAUSB driver for Windows USB communication. That driver only operates in 32-bit Windows environments (Windows 98SE/ME/2000/XP/Vista 32-bit, Windows 7 32-bit). Many new PC's are equipped with the 64-bit version of Windows 7. To address this issue Amptek has released new software that uses the WINUSB driver that is compatible with all operating systems both 32 and 64-bit. This document describes the upgrade paths available for older Amptek products. All currently shipping products use the WINUSB driver and are compatible with both 32 and 64-bit platforms (they do not require upgrades).

DP4 Family

Includes

- DP4
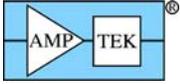- X-123 with DP4 inside (used Si-PIN and CdTe detectors)
- Gamma-RAD
- PX4

Which products need the upgrade?

- All DP4, X-123 with DP4, and Gamma-RAD units require the upgrade to be compatible with the WINUSB driver. The Gamma-RAD must be returned to the factory for the upgrade, the other products can be serviced by the user.

- PX4 units sold before August 1, 2010 require the upgrade to be compatible with the WINUSB driver.

- PX4 units sold after August 1, 2010 do NOT require the upgrade.

Option 1) The DP4 family with the old APAUSB driver can be used in Windows 7 64-bit if the Windows XP emulator is used. The Windows XP emulator is only available in Windows 7 64-bit Professional. This is not ideal as you are forced to run the software inside of the emulator window. This basically defeats the purpose of using Windows 7 to begin with but does allow for an easy upgrade path.

Option 2) The DP4 can be returned to Amptek for a firmware upgrade that makes the DP4 compatible with the WINUSB driver. The cost is US $300 and turnaround time is less than one week. Alternatively, the user can perform the upgrade for $150. Amptek will mail the necessary instructions and hardware. The user must remove the old EEPROM and install the new one. It is a socketed part so no soldering is required. The WINUSB driver requires the use of ADMCA version 2.0 and DPPAPI version 2.0 (for custom software development).

NOTE: If you have written custom software using the old APAUSB driver with the DPPAPI and you statically linked the dll, you will have to re-compile your software with the new dll. Dynamically linked software does not require a re-compile, only copying the new dll into your installation. No source code changes are necessary in either case.

DP5 Family (no upgrades required)

Includes

- DP5 (FW5 ships from factory, FW6 can be uploaded)
- X-123SDD (FW5 ships from factory, FW6 can be uploaded)
- X-123 Si-PIN or CdTe with DP5 inside (FW5 ships from factory, FW6 can be uploaded)
- DP5G (FW6 only)
- Gamma-RAD5
- PX5 (FW6 only)

NOTE: DP5 family products DO NOT require the upgrade to be compatible with WINUSB.

The DP5 and the X-123 variants that use the DP5 are the only products that can run two different firmware programs, FW5 and FW6. FW5 is shipped with those products from the factory. FW6 can be uploaded in the field by the user. Once FW6 is uploaded, the DP5 cannot be downgraded to FW5 by the user.

The DP5G, Gamma-RAD5, and PX5 only run FW6.

FW5

FW5 makes the DP5 as backwards compatible as possible to the DP4. The WINUSB driver requires the use of ADMCA version 2.0 and DPPAPI version 2.0 (for custom software development).

NOTE:

- If you have written custom software using the old APAUSB driver with the DPPAPI and you statically linked the dll, you will have to re-compile your software with the new version 2 dll. Dynamically linked software does not require a re-compile, only copying the new dll into your installation. No source code changes are necessary in either case.

- DP5 and X-123 units will continue to ship from Amptek with FW5.

FW6

FW6 only uses the WINUSB driver and a new communication protocol that is identical over all interfaces (RS232, USB, and Ethernet). The ADMCA software and the DPPAPI are NOT compatible with FW6. The DPPMCA display and acquisition software has replaced the ADMCA software and the DPPSDK has replaced the DPPAPI.
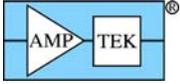
The DP5G, Gamma-RAD5, and PX5 all ship with FW6.

If you upgrade a DP5 or X-123 to FW6 you will have to re-write custom software (the examples are very clear and you copy and paste them into your code).

Amptek recommends that new users upload FW6 into the DP5.

Advantages to FW6

- Supports RS232, USB, and Ethernet (FW5 does not support Ethernet)
- Easier to understand text based configuration format
- All future upgrades, enhancements, and bug fixes will only be applied to FW6

Hardware Compatibility Matrix

	Windows 98SE/ME/2000/ XP/Vista 32-bit/Windows 7 32-bit	Windows 7 64-bit Running XP Emulation Mode	Vista 64-bit/ Windows 7 64-bit
DP4/PX4 APAUSB	X	X	
DP4/PX4 WINUSB (requires upgrade at the factory)	X		X
DP5 FW5 APAUSB	X	X	
DP5 FW5 WINUSB	X		X
DP5 FW6 WINUSB	X		X

Software

Please visit the Amptek Software Download page for the latest software and information:
http://www.amptek.com/software.html

Questions

There are many options discussed in this document. Please feel free to contact Amptek to discuss the appropriate upgrade or software package.

Amptek Inc.
14 Deangelo Drive
Bedford MA 01730

PH: +1 781 275 2242
FAX: +1 781 275 3470

sales@amptek.com