
S232 Device Driver Release Notes

S232 is the operating system software for Tucker-Davis Technologies' AP2 Array Processor and OP2 Optical Controller cards. S232 supercedes the previous APOS, XBDRV, and PD1 Supplemental software drivers.

S232 contains more than 250 software procedures, including memory management, data generation, mathematical calculation, FFT (Fast Fourier Transformation), filtering, signal recording, and signal playing operations. S232 enables the integration of signal acquisition, processing, and output via System II hardware. S232 provides programmability of a variety of System II hardware modules, including wave generators, A/D and D/A converters, filters, signal attenuators, spike discriminators, timers, parallel interface ports, and analog signal switches.

S232 Device Driver & Controller

The S232 Device Driver is a System II software solution that provides 32-bit Windows performance. It incorporates dynamic link libraries (DLL) as a standard interface tool and works through a generic Windows device driver. In addition to offering better system compatibility and Windows NT support, the S232 Device Driver allows for multiple applications to simultaneously gain access to System II hardware. The S232 Controller is an application that provides a means to monitor and override other application's control of System II hardware. **The S232 Controller is required for all System II 32-bit application.**

For a complete explanation, the reader is referred to "*Chapter 2 System II 32-bit Device Driver & Controller*" of *S232 Device Driver & Controller*.

S232 Software Interface Suite

The S232 Software Interface Suite is a collection of software productivity tools for Tucker-Davis Technologies System II. It was designed to allow access to hardware through a suite of software packages familiar to scientists, researchers, and engineers. The S232 Software Interface Suite serves as a conduit between the 32-bit System II Applications Programming Interface (API) and a number of popular programming environments.

For a complete explanation, the reader is referred to "*Chapter 2 Programming with the S232 Software Interface Suite*" of *S232 Software Interface Suite*.

New S232 Functions

The following is a synopsis of S232 functions that are new to the System II programmer. The System II procedures are logically grouped by their function. For complete definitions, the reader is referred to “Chapter3 New Function Reference” of *S232 Software Interface Suite*.

APOS/XBDRV Functions Not Supported by the 32-bit API

- apinit(dev), refer to S2init(dn, mode, apt)
- ap_select(dev), refer to S2init(dn, mode, apt)
- ap_present(dev), refer to S2init(dn, mode, apt)
- ap_active(dev), refer to APactive()

APOS/XBDRV Variables Not Supported by the 32-bit API

- ap_eflag, refer to getS2err(emess[])
- ap_err[], refer to getS2err(emess[])
- xb_eflag, refer to getS2err(emess[])
- xb_err[], refer to getS2err(emess[])

APOS/XBDRV Modes of Operation Not Supported by the 32-bit API

- COM ports are not supported. Refer to information regarding the OP2 Optical Controller in the “System II 32-bit Controller.”
- AP2 macros are not supported.

Initialization, Status, and Error Functions

- S2init(dn, mode, apt)
- S2close()
- APactive()
- getS2primary()
- getS2err(err[])

Locking and Unlocking Functions

- APlock(mtry, fstart)
- XBlock(mtry, fstart)
- getAPlockstatus()
- getXBlockstatus()
- APunlock(fend)

PD1 Supplemental Functions

- PD1export(varcode, ind[])

S232 Version Update History

1.10 01 January 1999

- S232 inaugural release. S232 supercedes APOS, XBDRV, and PD1 Supplemental software drivers.

1.11 01 February 1999

- The HTIreadAER() & HTIreadXYZ() commands previously (v1.10) reported inaccurate values by transposing the high & low data bytes received from the HTI.
- The S232 libraries, S2drv32c.lib and S2drv32s.lib, were rebuilt for compatibility with Microsoft Visual C++ 5.0

1.20 22 March 1999

- Fixed memory leaks in the disk access routines, e.g. disk2dama16(), pushdiska(), popdiskf, etc.
- Enhanced the ISA-bus protocols to improve data integrity.

1.21 5 May 1999

- Fixed bug in improper rounding of filter coefficients that were downloaded to PF1.

1.22 11 August 1999

- Fixed bug reading negative values for HTIreadAER(), HTIreadXYZ(), HTIfastXYZ(), HTIfastAER()