

PLAYSTATION TECHNICAL NOTE

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Date:
Ref:
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Subject: Use of H2500BIOS

ABSTRACT

H25BIOS is a Psy-Q Driver for the H2500 PCI Playstation card.

Files in this distribution:

TESTMESS	C	Fileserver test program to run on Playstation
TESTMESS	CPE	
TESTMESS	SYM	
SN	BIN	Debug stub image 7.04 - to be used with SCE's PFLASH
H25BIOS	COM	Psy-Q Driver for H2500 PCI card
MESS1	COM	Message buffer TSR
TESTMESS	COM	Simple message-stream terminal program
RESETPS	EXE	v1.06 utility to reset the Playstation (H2000 or H2500)
README	TXT	This file

(See revision history at end of this file)

You need to run H25BIOS.COM before you can run any of the Psy-Q tools. You should **not** install SCE's H25DRV.EXE if you intend to use Psy-Q as the two drivers are not compatible. When you first run H25BIOS it will locate the Playstation PCI card and report the address and interrupt allocated to the board.

In addition to debugger access to the Playstation, H25BIOS will allow your program to access the PC filing system using the library calls in LIBSN.LIB (see include file LIBSN.H for details).

To de-install the driver just run it again.

If you have any problems with this driver please let us know.

Andy Beveridge @ SNSystems
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COMMAND LINE SYNTAX HELP

Psy-Q BIOS for Sony DTL-H2500. Version 1.39

Usage: h25bios <options>

Options : /b <size> specify file transfer buffer size (in K bytes:
 2 to 32) (default of 2K is generally quite adequate)

 /p set PAL video mode (NTSC is default)

MESSAGE OUTPUT & PRINTF() REDIRECTION

Fileserver writes that are made to handle -1 will be sent to the debugger message stream. Although H25BIOS will accept these messages, it will look for a message driver to pass them on to. If you wish to see these messages in the debugger (or in the TESTMESS DOS program) then you need to also install the tiny MESS1.COM driver. If this driver is not present, H25BIOS will just accept and then immediately discard any text messages from the Playstation.

It does not matter whether MESS1.COM is installed before or after H25BIOS. MESS1 can be installed at any time, although messages transmitted before MESS1 is installed will not be buffered.

Since there is no kernel from SCE with re-directed stdout, I have hooked putchar() myself. You need to be using the latest SN.BIN debug stub to have putchar() redirection. Just copy the SN.BIN from this ZIP into your PFLASH directory and execute PFLASH.BAT to install the new debug stub version 7.01 (RUN.EXE will thereafter report this version as part of the target ID string).

All character output to putchar() or printf() will be redirected to the debugger message stream. If you are using replacement printf() or putchar() functions rather than kernel functions, these functions will not be redirected. For this reason, you should **not** use the character output functions in LIBC2, as these substitute functions do **not** use the Playstation kernel. Functions in LIBC.LIB are correct.

Unlike the DEX2000 and Psy-Q Cart Plug-in, this redirection does not get installed until after the kernel is initialised, so you will not see kernel start-up messages.

Fileserver response (including printf()) is much faster if you make use of the H2500 interrupt. If the interrupt is not set-up correctly (e.g., if there were no spare PCI interrupts available), then character output will be very slow.

SELECTING PAL or NTSC

I have attached new versions of H25BIOS and RESETPS. You have two ways of setting the video mode

1. You can specify /p on the H25BIOS command line to select PAL mode. If you don't then H25BIOS will default to NTSC.
2. At any future time you can override the H25BIOS setting by specifying the mode as a command line switch to RESETPS (v1.04). If you don't specify the video mode in RESETPS command line, RESETPS

will default to using the last mode you set (with either RESETPS or H25BIOS).

SONY PLAYSTATION DTL-H2000 RESET UTILITY 1.04
(Copyright (c) 1994-1996 S N Systems Ltd.)

RESETPS <optional switches> <num> <optional switches>

If DEXBIOS is **not** loaded then for DTL-H2000 (not PCI) you must specify the port address of the DTL-H2000 hardware:

/a### where ### is hexadecimal base port address

Switches for DTL-H2500 only:

/n set NTSC video mode
/p set PAL video mode

If /n and /p are omitted, the video mode will default to the setting of H25BIOS

Examples:

RESETPS 0 will boot DTL-H from CD drive
RESETPS 1 will reset DTL-H to debug stub
RESETPS 2 will reset DTL-H to console device

H25BIOS.COM REVISION HISTORY

- 1.31 1-Jul-96, Alpha - no timeouts, poor error handling.
- 1.32 Beta - timeouts and error handling but no FS ints.
- 1.33 Beta - FS ints supported for faster fileserver response (note debug stub 7.01 is required for printf() support).
- 1.34 This version needs debug stub 7.03 or better. Has the option to generate PIO interrupts to the target. This is a really useful debugging option so you can break into runaway code or connect without pollhost in your code. See README.TXT with DBUGPSX ver 4.94 or higher for details.
- 1.35 This version fixes a fileserver bug where the length returned by read/write BREAK operations was sign extended (it should be unsigned). Therefore a read of 32K returned length=\$FFFF8000! This caused any PCread() of a large file to fail!
- 1.36 /p switch added to allow PAL mode (NTSC is default). (See also /n and /p over-ride switches in RESETPS)
- 1.37 Added long filename support. Re-did PCI interrupt code.
- 1.39 Long filename PCcreate() bug-fix and RESETPS 0 fixed.
- 1.40 RESETPS really fixed this time. Previous version was the subject of an accident with MS VSS.

1.41 Another fix to RESETPS 0 (I'm not having a good week!).

RESETPS.EXE

1.00 18/07/94
1.01 25/07/94
1.02 15/08/94 DTL-H2000 direct + DEXBIOS support
1.03 20/02/95 if CDBIOS detected also resets CD emulator (by SCSI bus-
reset)
1.04 17/10/96 DTL-H2500 PAL/NTSC support
1.05 06/11/96 moved CDBIOS bus-reset call to *before* PSX reset also
made CDBIOS reset conditional on cmdline switch
1.06 07/11/96 minor update: removed the message from /b switch

Any problems should be reported to SN Systems.
Email to: Andy@snsys.com (Andy Beveridge)