HSML_English

Matthias Henze Tesch

COLLABORATORS

	TITLE : HSML_English	

ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY	Matthias Henze Tesch	August 13, 2022	

REVISION HISTORY

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Chapter 1

HSML_English

1.1 Contents

1.2 introduction

Introduction: ~~~~~~~~~~~~~~

The "HSMathLibs" replace the libraries "mathieeedoubbas.library", "mathieeedoubtrans.library", "mathieeesingtrans.library" and "mathtrans.library" and patch or replace the libraries "mathffp.library" and "mathieeesingbas.library" with versions optimized for the MC68040. The precision is as high as that of the original libraries shipped with AmigaOS 3.x (some functions are even more precise). "HSMathLibs" are completely written in assembler to achieve maximum speed gain.

Background: The libraries of AmigaOS 3.x and FMath406 (Fast Math Libraries v40.6 by Martin Berndt) are quite slow (they use instructions the MC68040 has to emulate). The MC68060 isn't even supported. So I decided to develop "HSMathLibs". Because MC68881/82 is not supported very well by the OS and many users requested a version which supports this FPU, I decided to develop a version of HSMathlibs for MC68881/82.

1.3 special features

Special features of "HSMathLibs": ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

1.) Completely written in assembler to achieve maximum speed gain.

2.) Special versions of "HSMathLibs" for MC68881/82, MC68040 and MC68060.

3.) Much faster than the libraries of AmigaOS 3.x and FMath406 (Fast Math Libraries v40.6 by Martin Berndt); an MC68040 is up to 21 times as fast as with AmigaOS 3.x and up to 10 times as fast as with FMath406.

4.) The "HSMathLibs" work on the DraCo.

5.) Full support of the programs "BlizKick", "LoadResident" and "LoadModule".

6.) The "HSMathLibs" are inexpensive.

1.4 requirements

Requirements: ~~~~~~~~~~~~~~

- An Amiga or DraCo - AmigaOS 2.0 (V37) or higher - MC68040

If you choose one of the options "mathffp.library" or "mathieeesingbas.library" during installation, you may need one of the following programs:

- BlizKick (on Internet at "http://www.iki.fi/sintonen/sw.html" or on Aminet in "util/boot/") if you choose option "BlizKick" or "LoadResident" - LoadModule (on Aminet in "util/boot/") if you choose option "LoadModule"

1.5 installation

Installation: ~~~~~~~~~~~~~~

The installation of "HSMathLibs" uses the system's Installer and is very simple. Start the installation program "Install_xxx" (xxx stands for your preferred language) and perform the steps as described here.

NOTE!!! If you already have an older, full version of "HSMathLibs", which either was installed manually or has been modified manually afterwards, you may in some circumstances run into problems. Therefore you are advised to undo all modifications or completely remove "HSMathLibs" manually, before you install this new version.

First the welcome page and the options page are shown. Then the installation proceeds as follows.

1.0.0 'Please select installation mode:' Here you may choose the installation mode of "HSMathLibs". You can choose either 'Complete installation' (item 1.1.0) or 'Change the installation' (item 1.2.0).

1.1.0 'complete installation' With this option you choose the standard mode of installation, which can be used for a first-time installation or an update. All necessary files are copied and all necessary changes (e.g. to the "startup-sequence") are made. If you already have "HSMathLibs" V.44.50 beta 8 or higher installed, the update mode is automatically engaged. In this case the items 3.0.0 through 4.2.5 are skipped. The patch or load method of "mathffp.library" and "mathieeesingbas.library" can then only be changed after the completed installation with 'Change the installation' (item 1.2.0). If you are installing "HSMathLibs" for the first time, or have another version installed than the one described here, you must use this option. The installation is continued at item 2.0.0.

1.2.0 'change the installation' With this option you can change the patch or load method of "mathffp.library" and "mathieeesingbas.library". Exact information about the patch or load methods are found in items 3.0.0 through 4.2.5. This option can only be used if the installed version of "HSMathLibs" is identical to the one about to be installed.

2.0.0 'During installation of "HSMathLibs", some files will be changed or overwritten. Would you like to make a backup of those files?' Here you may state whether a backup should be made or not. You have the choices 'yes' (item 2.1.0) and 'no' (item 2.2.0).

2.1.0 'yes' If you choose this option, which is recommended, then all files which get modified or overwritten during the installation are saved. This backup can be restored (written back) using the program Uninstall . If you have OS3.9 and the math libraries from BoingBag 1 or BoingBag 2 installed, then you should create a backup (see Uninstall item 3.0.0). If you selected the 'change the installation' mode (item 1.2.0) because a warning during the previous installation told you to do so, or because there are problems with the current configuration, then you should not create a backup.

2.1.1 'Creating backup. Please select a drive or a directory. A subdirectory with the name "HSML-BAK" will be created.' Here you may select the drive or directory where the backup directory "HSML-BAK" exists or should be created. If an old backup is already present there, it will be deleted. The default path is either "LIBS:" or the path which is set in the ENV variable "HSML-bakdir". The installation is continued at item 3.0.0, or in update mode at item 5.0.0.

2.2.0 'no' If you choose this option, which is not recommended, then no backup is created. In this case, the program Uninstall can only be used in the "Removal" mode. In update mode the installation is continued at item 5.0.0.

3.0.0 'Should the "mathffp-Patch", "Load-mathffp" + "mathffp.library" or just the "mathffp.library" be installed?' Here you may choose the patch or load method of the "mathffp.library". You can choose either '"mathffp-Patch"' (item 3.1.0), '"Load-mathffp" + "mathffp.library"' (item 3.2.0) or '"mathffp.library"' (item 3.3.0).

3.1.0 '"mathffp-Patch"' If you choose this option, the command "mathffp-Patch" is copied to the C: directory, and an entry is created in the "user-startup" or "draco-startup". The "mathffp-Patch" command patches the ROM-based "mathffp.library", replacing all functions with optimized versions. So far there has never been any problem with this choice on any AMIGA or DraCo. If you are not so experienced with your system, or you just prefer playing it safe, you should choose this option. The installation is continued at item 4.0.0.

3.2.0 '"Load-mathffp" + "mathffp.library"' If you choose this option, the command "Load-mathffp" is copied to the C: directory, the "mathffp.library" is copied to the LIBS: directory, and an entry is created in the "startup-sequence". The "Load-mathffp" command loads and opens "mathffp.library". There has been only one problem with this option so far, on an Amiga 500 with a Blizzard 2040ERC 68040/40 Turbo card. The installation is continued at item 4.0.0.

3.3.0 '"mathffp.library"' If you choose this option, a special version of "mathffp.library" is copied to the LIBS: directory. This version of "mathffp.library" can be loaded into memory and made resident or reset-proof using "BlizKick", "LoadModule", "LoadResident" or a similar program (these programs should have been installed prior to the installation of HSMathLibs). The changes to the "startup-sequence" needed for "HSMathLibs" are automatically made. But since programs like "BlizKick", "LoadModule", "LoadResident" etc. almost always have to be installed by hand, you should only choose this option if you are familiar with that.

3.3.1 'Which program should be used to load "mathffp.library"?' Here you may choose which program should be used to load "mathffp.library". You can choose either '"BlizKick"' (item 3.3.2.), '"LoadModule"' (item 3.3.3), '"LoadResident"' (item 3.3.4) or 'other' (item 3.3.5).

3.3.2 '"BlizKick"' If you choose this option, the program "BlizKick" will be used to load "mathffp.library". This choice really only makes sense if you are already using "BlizKick" (e.g.: because you are using "EXEC V44", or to use a different Kickstart version). If "BlizKick" is already installed, all necessary changes to the "startup-sequence" are automatically made. This choice is recommended to users who are already using "BlizKick". To be able to install "HSMathLibs" automatically, you must already have "BlizKick" (Version 1.24 beta 6 or higher) installed. The installation is continued at item 4.0.0.

3.3.3 '"LoadModule"' If you choose this option, the program "LoadModule" will be used to load "mathffp.library". Use this if you only want certain modules, not the full ROM image, to be loaded into memory as reset-proof. If "LoadModule" is already installed, all necessary changes to the "startup-sequence" are automatically made. This choice is recommended to users who are already using "LoadModule" or who only want to load specific modules reset-proof. To be able to install "HSMathLibs" automatically, you must already have "LoadModule" (Version 40.7 or higher) installed. The installation is continued at item 4.0.0.

3.3.4 '"LoadResident"' If you choose this option, the program "LoadResident" will be used to load "mathffp.library". This choice only makes sense if you are already using "LoadResident" as an extension of "BlizKick". If "LoadResident" is already installed, all necessary changes to the "startup-sequence" are automatically made. To be able to install "HSMathLibs" automatically, you must already have "BlizKick" (Version 1.24 beta 6 or higher) and "LoadResident" (Version 1.0.1 or higher) installed. The installation is continued at item 4.0.0.

3.3.5 'other' If you choose this option, "mathffp.library" is just copied to the LIBS: directory. No changes are made to the "startup-sequence". Choose this only if you want to use "mathffp.library" but cannot use the programs "BlizKick", "LoadModule" and "LoadResident" or if you are already using another program for that purpose. Be sure you know exactly what you are doing!

4.0.0 ’Should the "mathieeesingbas-Patch" or the "mathieeesingbas.library" be installed?’ Here you may choose the patch or load method of the "mathieeesingbas.library". You can choose either ’"mathieeesingbas-Patch"’ (item 4.1.0) or ’"mathieeesingbas.library"’ (item 4.2.0).

4.1.0 ’"mathieeesingbas-Patch"’ If you choose this option, the command "mathieeesingbas-Patch" is copied to the C: directory, and an entry is created in the "user-startup" or "draco-startup". The "mathieeesingbas-Patch" command patches the ROM-based "mathieeesingbas.library", replacing all functions with optimized versions. So far there has never been any problem with this choice on any AMIGA or DraCo. If you are not so experienced with your system, or you just prefer playing it safe, you should choose this option. The installation is continued at item 5.0.0.

4.2.0 ’"mathieeesingbas.library"’ If you choose this option, a special version of "mathieeesingbas.library" is copied to the LIBS: directory. This version of "mathieeesingbas.library" can be loaded into memory and made resident or reset-proof using "BlizKick", "LoadModule", "LoadResident" or a similar program (these programs should have been installed prior to the installation of HSMathLibs). The changes to the "startup-sequence" needed for "HSMathLibs" are automatically made. But since programs like "BlizKick", "LoadModule", "LoadResident" etc. almost always have to be installed by hand, you should only choose this option if you are familiar with that. If you are installing "HSMathLibs" on a DraCo or an A3000, you should not choose this option. Almost all users of those systems had serious problems with it.

4.2.1 ’Which program should be used to load "mathieeesingbas.library"?’ Here you may choose which program should be used to load "mathieeesingbas.library". You can choose either ’"BlizKick"’ (item 4.2.2.), ’"LoadModule"’ (item 4.2.3), ’"LoadResident"’ (item 4.2.4) or ’other’ (item 4.2.5).

4.2.2 ’"BlizKick"’ If you choose this option, the program "BlizKick" will be used to load "mathieeesingbas.library". This choice really only makes sense if you are already using "BlizKick" (e.g.: because you are using "EXEC V44", or to use a different Kickstart version). If "BlizKick" is already installed, all necessary changes to the "startup-sequence" are automatically made. This choice is recommended to users who are already using "BlizKick". To be able to install "HSMathLibs" automatically, you must already have "BlizKick" (Version 1.24 beta 6 or higher) installed. The installation is continued at item 5.0.0.

4.2.3 ’"LoadModule"’ If you choose this option, the program "LoadModule" will be used to load "mathieeesingbas.library". Use this if you do not want to make a full ROM image reset-proof, only specific modules. If "LoadModule" is already installed, all necessary changes to the "startup-sequence" are automatically made. This choice is recommended to users who are already using "LoadModule" or who only want to load specific modules reset-proof. To be able to install "HSMathLibs" automatically, you must already have "LoadModule" (Version 40.7 or higher) installed. The installation is continued at item 5.0.0.

4.2.4 ’"LoadResident"’ If you choose this option, the program "LoadResident" will be used to load "mathieeesingbas.library". This choice only makes sense if you are already using "LoadResident" as an extension of "BlizKick". If "LoadResident" is already installed, all necessary changes to the "startup-sequence" are automatically made. To be able to install "HSMathLibs" automatically, you must already have "BlizKick" (Version 1.24 beta 6 or higher) and "LoadResident" (Version 1.0.1 or higher) installed. The installation is continued at item 5.0.0.

4.2.5 ’other’ If you choose this option, "mathieeesingbas.library" is just copied to the LIBS: directory. No changes are made to the "startup-sequence". Choose this only if you want to use "mathieeesingbas.library" but cannot use the programs "BlizKick", "LoadModule" and "LoadResident" or if you are already using another program for that purpose. Be sure you know exactly what you are doing!

5.0.0 ’Would you like to install the manual for "HSMathLibs"?’ Here you may state whether or not the manual should be installed. You can choose either ’yes’ (item 5.1.0) or ’no’ (item 5.2.0). If you selected ’change the installation’ as installation mode (item 1.2.0), items 5.0.0 through 5.2.0 are not displayed, since in that mode no manual is being installed. The installation of "HSMathLibs" is then completed.

5.1.0 ’yes’ If you choose this option, the manual will be installed.

5.1.1 ’Please select the language for the manual.’ Here all available languages for the manual are displayed. Please select your preferred language.

5.1.2 ’Installation of the manual. Please select a drive or a directory. No subdirectory will be created.’ Here you may select the directory for the manual. The default path is "HELP:xxx" (xxx stands for the language you have chosen for the manual). The installation of "HSMathLibs" is then completed.

5.2.0 ’no’ If you choose this option, no manual will be installed. The installation of "HSMathLibs" is then completed.

The installation directory of "HSMathLibs" contains the following files:

Main directory: This directory contains the manuals and the Installer script for all supported languages, and the file ATO.readme.

Directory C: - Load-mathffp (the command "Load-mathffp" is used to load "mathffp.library" - from the directory Libs3 - and open it) - mathffp-Patch (the command "mathffp-Patch" replaces all functions in "mathffp.library" with optimized versions) - mathieeesingbas-Patch (the command "mathieeesingbas-Patch" replaces all functions in "mathieeesingbas.library" with optimized versions)

Directory Install: This directory contains a few programs which are invoked by the Installer during installation and uninstallation. They should not be started separately.

Directory Libs: - mathieeedoubbas.library - mathieeedoubtrans.library - mathieeesingtrans.library - mathtrans.library

Directory Libs2: - mathffp.library (special version of "mathffp.library", which can be loaded reset-proof with programs like "BlizKick", "LoadModule" etc.) - mathieeesingbas.library (special version of "mathieeesingbas.library", which can be loaded reset-proof with programs like "BlizKick", "LoadModule" etc.)

Directory Libs3: - mathffp.library (special version of "mathffp.library", which can be loaded with the command "Load-mathffp")

Directory S: - HSMathLibs

Directory Uninstall: This directory contains the Uninstall program for all supported languages.

During the installation of "HSMathLibs", the following files are installed:

Directory C: - Load-mathffp (only if the option "Load-mathffp + mathffp.library" was chosen during installation) - mathffp-Patch (only if the option "mathffp-Patch" was chosen during installation) - mathieeesingbas-Patch (only if the option "mathieeesingbas-Patch" was chosen during installation)

Directory LIBS: - mathffp.library (only if the option "Load-mathffp + mathffp.library" or "mathffp.library" was chosen during installation) - mathieeedoubbas.library - mathieeedoubtrans.library - mathieeesingbas.library (only if the option "mathieeesingbas.library" was chosen during installation) - mathieeesingtrans.library - mathtrans.library

Directory S: - HSMathLibs

Directories ENVARC: and ENV: - HSML-bakdir - HSML-mathffp - HSML-mathieeesingbas

other directories or drives: The backup and the manual (if requested to be installed) are placed in the directory or on the drive designated by you.

Information about "mathffp-Patch" and "mathieeesingbas-Patch" - if item 3.1.0 ("mathffp-Patch") and/or item 4.1.0 ("mathieeesingbas-Patch") was chosen during installation:

It is not so important where the patches ("mathffp-Patch", "mathieeesingbas-Patch") are located. They may be called from any place in "user-startup", "draco-startup" or the "startup-sequence", after "SetPatch" (even after "LoadWB"). During the installation of "HSMathLibs" it is checked whether "draco-startup" is present. If so, the patches are inserted into "draco-startup". If "draco-startup" does not exist, the patches are inserted into "user-startup".

Information about "Load-mathffp" - if item 3.2.0 ("Load-mathffp" + "mathffp.library") was chosen during installation:

The command "Load-mathffp" is inserted at the beginning of the "startup-sequence". Since the "Load-mathffp" command, which loads the new "mathffp.library", can only work if the ROM-based "mathffp.library" has not yet been opened, this should not be changed.

Important

You must remove all other patches (e.g. "FASTIEEE", "ffppatch", "msbpatch", math-patch from "MCP") of mathlibraries.

The patches from "SetPatch", "DraCoSetPatch", "OxyronPatcher", "DraCo040Emu" and "68040.library" are OK.

1.6 uninstall

Uninstallation: ~~~~~~~~~~~~~~~~

With the program "Uninstall" you can restore (write back) the backup you have created during installation, or remove "HSMathLibs" completely from your hard disk. Start "Uninstall_xxx" (xxx stands for your preferred language) and perform the uninstallation as described here.

First the options page is displayed. Then the uninstallation proceeds as follows.

1.0.0 'Please select uninstallation mode:' Here you may choose the mode for uninstalling "HSMathLibs". You can choose either 'Restore (write back) backup' (item 1.1.0) or 'Removal' (item 1.2.0).

1.1.0 'Restore (write back) backup' If you choose this option, the backup you have created during installation is restored (written back). The files contained in the backup are restored (written back) and all "HSMathLibs" files which are not in the backup but exist on the boot partition are deleted. Thereby the system configuration, which was in effect before the installation of "HSMathLibs", is re-established. Changes (e.g. to the "startup-sequence"), which have been made after the installation and are therefore not contained in the backup, are thus overwritten. If for some reason an error occurred during installation of HSMathLibs, you should definitely use this option.

1.1.1 'Please select the drive or directory containing the "HSML-BAK" directory.' Here you may select the drive or directory which contains the backup directory "HSML-BAK". The default path is either "LIBS:" or the path set in the ENV variable "HSML-bakdir". Please check whether this matches in your case. The uninstallation of "HSMathLibs" is then completed.

1.2.0 'Removal' If you choose this option, it is attempted to completely remove all "HSMathLibs" files and entries (e.g. in the "startup-sequence") and re-install the original math libraries. If you have performed the installation of "HSMathLibs" manually, or you have changed it, problems may arise under some circumstances. If, during installation, you chose the option "mathffp.library" or "mathieeesingbas.library" and then the option "other", then only the installed files are removed and the original math libraries installed. All entries (e.g. in the "startup-sequence"), which you have created manually, must also be manually removed (before the uninstallation, if possible).

2.0.0 'Would you like to delete the "HSMathLibs" manual?' Here you may state whether or not the "HSMathLibs" manual should be deleted. You can choose either 'yes' (item 2.1.0) or 'no' (item 2.2.0).

2.1.0 'yes' If you choose this option, the manual will be deleted.

2.1.1 'Please select the manual.' Here you may select the manual which should be deleted. The default path is "HELP:xxx" (xxx stands for the language which you have chosen for the uninstallation). Please check whether this matches in your case. The uninstallation is continued at item 3.0.0.

2.2.0 'no' If you choose this option, the manual is not deleted.

3.0.0 'Please select the directory containing the original math libraries.' Here you may select the directory which contains the original math libraries. The original math libraries can e.g. be found on the Workbench diskette or CD, but under no circumstances in the "Libs" directory of the boot or system partition. The default path is set according to the OS version installed. Under OS 2.0 this is "Workbench2.0:Libs", under OS2.1 "Workbench2.1:Libs", under OS3.0 "Workbench3.0:Libs", under OS3.1 "Workbench3.1:Libs", under OS3.5 "AmigaOS3.5:OS-Version3.1/Workbench3.1/Libs" and under OS3.9 "AmigaOS3.9:OS-Version3.9/W
Please check whether this matches in your case. If you have installed OS3.9, and had the math libraries from BoingBag 1 or BoingBag 2 installed before installing "HSMathLibs", then you should not select the directory "AmigaOS3.9:OS-Version3.9/Workbench3.9/
as source. In that case you should rather select the directory "*HSML-BAK/Libs" ("*" stands for the drive or directory containing the backup) as source (this of course assumes that you have created a backup). On the OS3.9 CD (this is also true if you have installed BoingBag 1 or BoingBag 2), the "mathtrans.library" is not placed in the same directory as the other libraries. Therefore the uninstallation is continued at item 3.1.0. Under all other OS versions, the uninstallation is continued at item 4.0.0.

3.1.0 'Please select the directory containing the original "mathtrans.library".' Here you may select the directory which contains the original "mathtrans.library", The default path is "AmigaOS3.9:OS-Version3.9/Workbench3.5/Libs". Please check whether this matches in your case. This item is only displayed if OS 3.9 is installed.

4.0.0 'Would you like to delete the backup of "HSMathLibs"?' Here you may state whether or not the backup of "HSMathLibs" should be deleted. You can choose either 'yes' (item 4.1.0) or 'no' (item 4.2.0).

4.1.0 'yes' If you choose this option, the backup and the ENV variable "HSML-bakdir" will be deleted.

4.1.1 'Please select the drive or directory containing the "HSML-BAK" directory.' Here you may select the drive or directory which contains the backup directory "HSML-BAK". The default path is either "LIBS:" or the path set in the ENV variable "HSML-bakdir". Please check whether this matches in your case. The uninstallation of "HSMathLibs" is then completed.

4.2.0 'no' If you choose this option, the backup and the ENV variable "HSML-bakdir" will not be deleted. The uninstallation of "HSMathLibs" is then completed.

1.7 known bugs

Known bugs: ~~~~~~~~~~~

- The registered version of UltraConv V3.x will not work with HSMathLibs. UltraConv V4.x works fine with HSMathLibs.

1.8 updates

Updates: ~~~~~~~~

The newest version can be found on the homepage "http://WWW.HSMathLibs.de/".

Updates can be obtained directly from the author . If you would like to get the newest version via snail mail just send me a disk (HD or DD) and an addressed envelope including postage or 3,- EUR (Euro) 3,- $ (US Dollar) or 2,- £ (UK Pound).

1.9 restrictions

Restrictions of the Demo-Version: ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

The demo-version of "HSMathLibs" shows frequently an informationrequester.

1.10 registration

Registration: ~~~~~~~~~~~~~

The "HSMathLibs" are Shareware. If you want to use the unrestricted version, you have to register first and pay the fee. Plaese use the registerform on our homepage "http://WWW.HSMathLibs.de/" for registration. If you would like to get the full version via snail mail just send me a disk (HD or DD) and an addressed envelope including postage or 3,- EUR (Euro) or 3,- $ (US Dollar) or 2,- £ (UK Pound) additional. You can find my address at author . Contact me for my Bankaccount. When I have the money then I'll send you your registration number and login to download the full version and all updates from our Homepage.

price version for MC68881/82: 5,- EUR (Euro) or 7,- $ (US Dollar) or 5,- £ (UK Pound) version for MC68040: 5,- EUR (Euro) or 7,- $ (US Dollar) or 5,- £ (UK Pound) version for MC68060: 5,- EUR (Euro) or 7,- $ (US Dollar) or 5,- £ (UK Pound)

1.11 copyright

Copyright: ~~~~~~~~~~

1.12 history

History: ~~~~~~~~

HSMathLibs V.44.50 (01.02.1999 - 12.10.2002): ——————————————————

HSMathLibs V.44.40 (06.09.1998 - 30.01.1999): —————————————————— - the functions "IEEEDPCos", "IEEEDPSin", "IEEEDPSincos", "IEEEDPTan", "IEEEDPExp", "IEEEDPAtan", "IEEEDPAcos", "IEEEDPAsin", "IEEEDPLog", "IEEED-PLog10", "IEEEDPPow", "IEEEDPCosh", "IEEEDPSinh", "IEEEDPTanh" (mathieeedoubtrans.library), "IEEEDPCmp", "IEEEDPTst"

"IEEEDPFloor", "IEEEDPCeil" (mathieeedoubbas.library), "SPAdd", "SPSub", "SPMul", "SPDiv", "SPFlt", "SPFloor", "SPCeil" (mathffp.library), "IEEESPCos", "IEEESPSin", "IEEESPSincos", "IEEESPTan", "IEEESPExp", "IEEESPAtan", "IEEESPAcos", "IEEESPAsin", "IEEESPLog", "IEEESPLog10", "IEEESPPow", "IEEESPCosh", "IEEESPSinh", "IEEESPTanh" (mathieeesingtrans.library), "SPCos", "SPSin", "SPSincos", "SPTan", "SPExp", "SPAtan", "SPAcos", "SPAsin", "SPLog", "SPLog10", "SPPow", "SPCosh", "SPSinh", "SPTanh", "SPFieee", "SPSqrt" (mathtrans.library), "IEEESPCmp", "IEEESPTst", "IEEESPFloor" and "IEEESPCeil" (mathieeesingbas-Patch) optimized

- Bugfixing of the functions "IEEEDPCos", "IEEEDPSin", "IEEEDPSincos", "IEEEDPTan", "IEEEDPExp", "IEEEDPPow", "IEEEDPCosh", "IEEEDPSinh", "IEEEDPTanh", "IEEEDPAsin", "IEEEDPAtan", "IEEEDPAcos" (mathieeedoubtrans.library), "IEEESPCos", "IEEESPSin", "IEEESPSincos", "IEEESPTan", "IEEESPExp", "IEEESPAtan", "IEEESPAsin", "IEEESPAcos", "IEEESPTanh", "IEEESPPow" (mathieeesingtrans.library), "SPCos", "SPSin", "SPSincos", "SPTan", "SPExp", "SPAtan", "SPAsin", "SPAcos", "SPTanh", "SPPow" (mathtrans.library), "SPAdd", "SPSub", "SPMul", "SPDiv" and "SPCeil" (mathffp.library)

- revised and extended the manual

- revised and extended the installer script

HSMathLibs V.44.33 (11.11.1998 - 15.11.1998): ---------- - Bugfixing of the functions "IEEESPSin" (mathieeesingtrans.library) and "IEEEDPSin" (mathieeedoubtrans.library)

HSMathLibs V.44.32 (17.09.1998 - 10.11.1998): ---------- - Bugfixing of the functions "SPCos", "SPSin", "SPExp" (mathtrans.library), "IEEESPCos", "IEEESPSin", "IEEESPExp" (mathieeesingtrans.library), "IEEEDPCos", "IEEEDPSin", "IEEEDPExp" (mathieeedoubtrans.library) and many other functions

- revised and extended the manual

HSMathLibs V.44.31 (06.09.1998 - 16.09.1998): ---------- - Bugfixing of the function "IEEEDPPow" (mathieeedoubtrans.library)

HSMathLibs V.44.30 (26.07.1998 - 05.09.1998): ---------- - the mathffp.library and a patch to load this lib written

- the functions "SPExp", "SPLog", "SPLog10", "SPPow", "SPAcos", "SPCosh", "SPSinh", "SPTanh" (mathtrans.library), "IEEESPExp", "IEEESPLog", "IEEESPLog10", "IEEESPPow", "IEEESPAcos", "IEEESPCosh", "IEEESPSinh", "IEEESPTanh" (mathieeesingtrans.library), "IEEEDPLog", "IEEEDPLog10", "IEEEDPPow", "IEEEDPAcos", "IEEEDPCosh", "IEEEDPSinh", "IEEEDPTanh" (mathieeedoubtrans.library) and many other functions optimized

- Bugfixing of the function "InitLib" in all libraries

- Bugfixing of the functions "SPPow", "SPCos", "SPSin", "SPTan" (mathtrans.library), "IEEESPPow", "IEEESPCos", "IEEESPSin", "IEEESPTan" (mathieeesingtrans.library), "IEEEDPPow", "IEEEDPCos", "IEEEDPSin", "IEEEDPTan" (mathieeedoubtrans.library), "IEEEDPFloor", "IEEEDPCeil" (mathieeedoubbas.library) and many other functions

- revised and extended the manual

- revised and extended the installer script

1.13 future

The future: ~~~~~~~~~~~

The following topics are on my wishlist for the next versions of "HSMathLibs".

- even faster ???

- Your suggestions

1.14 thanks

Thanks: ~~~~~~~

I want to thank the following persons and companies: ----------

- all registered users
- Uwe Schienbein; for betatesting
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1.15 author

Author: ~~~~~~~

Matthias Henze Gorkistrasse 127 04347 Leipzig Germany
fon: +49 (0) 341/2326414
email: Matthias.Henze@HSMathLibs.de
URL: http://WWW.HSMathLibs.de/

I am always looking for bug reports and suggestions. Please tell me your opinion about "HSMathLibs".

English guide: ~~~~~~~~~~~~~~~ For bug reports or suggestions concerning the english guide please email:

Niels Bache <nbache@privat.dk>

1.16 Index

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