Maestix-AHI

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Chapter 1

Maestix-AHI

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AHI driver for the MaestroPro sound board

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Maestix AHI (C) 1997-99 Richard Körber -- All Rights Reserved -- FreeWare

1.2   Introduction

I N T R O D U C T I O N

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AHI is a kind of Retargetable Audio System, written by Martin Blom.

It supports several sound boards, and now also the MacroSystem's

MaestroPro digital sound board.

This wasn't a piece of cake to do, since the MaestroPro is somewhat

special. For example, AHI isn't much into changing sampling rate

lists, but as you know, the sampling rate of the board depends on

the incoming signal's rate.

Thus, the usage of the AHI driver is somewhat different (see the

chapter about it's usage).

Richard Körber

1.3 Requirements

R E Q U I R E M E N T S

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MaestixAHI requires:

· 68020 or higher. A 68000 version is available from the

Author upon request. You do not need a FPU.

· The maestix.library V40.10 or higher (V40.00 won't do!)

· AHI V4 (it might also run with V2, but I tested it on V4).

· A MaestroPro sound board (of course).

The old Maestro isn't supported, and will never be!

1.4 Copyright

C O P Y R I G H T

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Please read the following parts carefully.

If you do not agree to these Copyright notes, you must delete this

archive and all related files.

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COPYRIGHT

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NOTE: You accept the following terms by starting the software,

even for a test drive only.

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FREEWARE

MaestixAHI is FreeWare. You are allowed to use the packet without

paying a fee or similar to the author. Of course I would appreciate

a small donor! ;-)

COPYING

You can copy the packet as long as it remains entire and unchanged.

You are allowed to compress the packet using a customary compression

software (as lha, lzh, lzx, dms). You must not compress single files of

the packet (e.g. PowerPacker or Imploder).

DISTRIBUTION

You must not exceed an usual price on the market for your working

and material. This means a maximum of 5 DM (or the equivalent amount

in other currencies) for disks and 35 DM for CD-ROMs containing a PD

software collection.

I explicitly permit the distribution via AmiNet, Meeting Pearls,

Fred Fish and other well-known PD series.

I also explicitly permit Martin Blom to add MaestixAHI and the

maestix.library to the AHI main archive.

LIABILITY

You are using the program as it is, with all flaws, and on your

own risk! I grant no warranty for the software meeting a special

purpose. This software may cause financial damage or harm people.

LIMITATIONS

You are not allowed to use this software and its results

· for fascism or military purposes

· if you do not agree to the copyright note

In this case you must delete the software and all related and

generated files immediately!

CONTENTS OF THE PACKAGE

The package is only entire with these files:

MaestixAHI/devs/AHI/maestropro.audio

MaestixAHI/devs/AudioModes/MAESTROPRO

MaestixAHI/MaestixAHI.guide

MaestixAHI/MaestixAHI.guide.info

MaestixAHI.info

COPYRIGHTS AND TRADEMARKS

AHI is © Martin Blom <lcs@lysator.liu.se>

MaestroPro is © MacroSystem, Witten, Germany

Maestix is © Richard Körber <shred@chessy.aworld.de> and

should usually be a part of this archive too.

URL: http://www.is-koeln.de/einwohner/shred/

1.5 Address

A D D R E S S

_____

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You can reach me through one of the following ways:

E MAIL

Use e-mails if ever possible. My address is:

shred@chessy.aworld.de

richard.koerber@koeln.netsurf.de

Please do not send mails larger than 40KB without prior permission.

If you should have serious trouble reaching me, check my web page for

other e-mail addresses.

SNAIL MAIL

If you do not have an e-mail account, you may also write a snail mail.

Include a preformatted floppy disk and sufficient stamps if you want to

get an update this way!

Richard Körber

Überm Rost 13

51465 Bergisch Gladbach

Germany

WORLD WIDE WEB

Updates are available through my web page. URL:

http://shredzone.home.pages.de

SUPPORT BBS

You can also get the latest update from my official support BBS

Eratosthenes in Germany.

Number: +49-228-239522 (V.34, ISDN)

Login: SUPPORT (no password required)

Board: /SUPPORT/SHRED

Please note that even though the BBS is also to use in English,

the main language is German.

PRETTY GOOD PRIVACY

If you feel that way, you may also use PGP (note that the use of

PGP is restricted in some countries). My PGP public key is attached

below.

_____

_____

Type Bits/KeyID Date User ID

pub 1024/3D5D331D 1997/01/08 Richard Koerber <shred@chessy.aworld.de>

-----BEGIN PGP PUBLIC KEY BLOCK-----

Version: 2.6.3i

mQCNAjLTMucAAAEEAOMY/3jzWBFV2Annpc6/VPhZQqF81btsqjyRR670uOELH+iO
PXkrXX7IEo1vtNbKAc/MKDkcn2p4g5159yK2OoZkoqFsCs1JXzFLVfAM41tvaNG0
RTibFJAYCZ03umli5q4EtCj1DCMMeZGzmyAO9mpfuyIC+k6qu/NEvrU9XTMdAAUR
tChSaWNoYXJkIEtvZXJiZXIgPHNocmVkQGNoZXNzeS5hd29ybGGQuZGU+iQCVAwUQ
M0R4IfNEvrU9XTMdAQGe5gQAizTK/KmKymt5GtQQL1PW7m7tmZYBqglwtbSf7RBF
fnntdkyeTQvRlbfjSAKjMYD0ZV34JtjMPJrRifIF6J6abSMQ1xT8IrEpyV8JrRcW
Tjb4YEz+qEqo0Pj+l/87fqez1vUpTz19C5R5KNqHBk7/icCBGKuoLGtAmR6oifj4
PKc=
=GI6y

-----END PGP PUBLIC KEY BLOCK-----

1.6   FAQ

F A Q

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MaestixAHI crashes all the time!

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Make sure you have maestix.library V40.10 or higher installed. V40.00

won't do it!

From some programs (e.g. AUDIO:), I only hear the sound on the left channel.

(It is also rather quiet.)

Start AHI-Prefs and set the audio mode of Unit 0 to one of the '++'

modes. You will gain best volume results if you set the number of

channels to 2.

Output sounds somewhat wierd

Are you using the wrong AudioMode? If so, your processor is too slow.

Try to increase the number of buffers and/or the buffer size. This will

sometimes help a little.

The player locks up

You must make sure that the player's task has a priority below 120. If

this is a problem, increase the driver's task priority (AHImproTaskPri).

AUDIO: still locks up

Make sure you have AHImproTaskPri properly set. Or just delete this

file from ENVARC: and ENV:.

Playback stumbles if I use the system during playback

This is because some AHI player use a task priority of 0, and they send

rather small buffers. You will get a little improvement if you raise the

player's task priority to about 15 (never raise it to AHImproTaskPri or

above!). Sometimes, giving more playback buffers (AHImproPBBufNumber)

will also reduce down this effect.

MaestixAHI is extremely instable or fails all the time

Delete your env variable settings, e.g. using this shell line:

delete Env:AHImpro#?

delete EnvArc:AHImpro#?

1.7 History

H I S T O R Y

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V2.3 (28.10.1997)

· Increased task prioritiy to 120, AUDIO: works now

· AudioModes: Stereo++ modes implemented again (Quick before)

V2.2 (27.9.1997)

· Adjustments via env variables added

· Improved execbase access: speed improvement on DraCo and all

accelerated Amiga

· Driver loads even if maestix.library isn't available [Martin Blom]

V2.1 (25.9.1997)

· AudioModes reworked, Quick is not necessary any more

· Bugfix: Input was not selectable

· Bugfix: Record buffers were not properly initialized

· Bugfix: AHI *requires* 1 as "TRUE" (this is rather a bug in AHI)

V2.0beta (13.9.1997)

· After several crashes and tests, I finally managed to write

an AHI driver that seems to work. ;-)

1.8 Credits

C R E D I T S

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I wish to thank all the people who wrote me! :-)

I also want to credit:

Martin Blom for AHI and his lots of help

Thomas Wenzel for his help

Frank Wille for PhxAss, the best FreeWare assembler available

Dietmar Eilert for his great Editor GoldEd

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//
\\ // -- Amiga - Cow inside --
\X/

1.9 Install

I N S T A L L

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INSTALLATION

Make sure that maestix.library and AHI is properly installed.

Just copy the devs drawer of this packet to DEVS:, and this guide file

into whereever you store good documentations. ;ˆ)

Then open a shell and enter the command

AddAudioModes REFRESH

or just reboot your system. That's all... :-)

1.10 Usage

U S A G E

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MODE ID

You can use MaestixAHI like the other AHI drivers, just by selecting it.

Anyhow, there is a slight difference. AHI cannot handle a list of sampling

rates that depend on the selected input and its signal. Thus, you must

select the AudioMode corresponding to the signal of the desired input.

MaestixAHI offers these AudioModes:

MaestroPro: Fix 48k (ModeID E0001)

Select this Mode if you have no signal attached to the selected

input. MaestixAHI then uses the internal 48kHz source. Of course,

there is no recording available in this mode.

MaestroPro: Input 48k (ModeID E0002)

You have a 48kHz source connected. This is e.g. a DAT recorder.

Full duplex recording is possible.

MaestroPro: Input 44.1k (ModeID E0003)

You have a 44.1kHz source connected. This is a CD player, or a

DAT recorder playing a CD copy, or some other digital devices.

Full duplex recording is possible.

MaestroPro: Input 32k (ModeID E0004)

You have a 32kHz source connected to the selected input. This is

e.g. a DSR receiver or a DAT recorder in Long Play mode. Full

duplex recording is possible.

MaestroPro: Fix 48k++ (ModeID E0005)

Like "Fix 48k", but with stereo++ (panning) mode.

MaestroPro: Input 48k++ (ModeID E0006)

Like "Input 48k", but with stereo++ (panning) mode.

MaestroPro: Input 44.1k++ (ModeID E0007)

Like "Input 44.1k", but with stereo++ (panning) mode.

MaestroPro: Input 32k++ (ModeID E0008)

Like "Input 32k", but with stereo++ (panning) mode.

SPEED

MaestixAHI is quite fast, since the audio data are directly transmitted

to the MaestroPro hardware. Anyhow, you will gain the best speed when

using stereo output.

I already managed to listen to MPEG-III sounds in full CD quality using

this driver on the DeliTracker. Anyhow, you will need at least an

68040/50 and some luck. On a 68060/50 system, the system is still

useable while playing MPEG-III sounds! :-)

1.11 Env Variables

E N V V A R I A B L E S

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You can modify MaestixAHI parameters by setting these env variables:

AHImproTaskPri

This is the task priority of the AHI audio task. You should never

set it below 5 for proper operation. The system will deadlock if

the task priority is too low. Beware!

Type: numerical, range -128..127

Default: 120

Example: SetEnv AHImproTaskPri 35

AHImproPBBufNumber

This is the number of playback buffers to be allocated. A higher

value results in a higher resistance against multitasking dropouts,

but it is also more memory consuming and results in a longer pause

before playback.

Type: numerical, range 2..65535

Default: 4

Example: SetEnv AHImproPBBufNumber 8

AHImproRecBufNumber

This is the number of record buffers to be allocated. A higher

value results in a higher resistance against multitasking dropouts,

but is is also more memory consuming.

Type: numerical, range 2..65535

Default: 4

Example: SetEnv AHImproRecBufNumber 8

AHImproRecBufSize

This is the size of each record buffer in bytes. A higher value

results in a higher resistance against multitasking dropouts, but

also extends the reaction time of the recording software. The

buffer size must be a multiple of 4. Use a multiple of 1024 to

get best performance.

Type: numerical, range 256..2147483647 (< 2GB ;-)

Default: 4096

Example: SetEnv AHImproRecBufSize 16384

If you use very small buffers (< 1024), you should give at least

8 record buffers!

NEVER get out of the described range. This will lead to unexpected

behaviour and/or system crash.

If you want to make the adjustments permanent, please remember to copy

them into "ENVARC:", e.g. using this shell line:

copy ENV:AHImpro#? ENVARC: