midiln

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            Contact Us

            Najakotiva Software
             it is pronounced: [Nayakoteeva]
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1.2   The Idea behind midiIn

############
Introduction
############

midiIn is a MIDI-controlled sample player for Amiga.

It can be used as a part of sound studio system. Because of usage

of midi.library it can be controlled from programs running on the same

Amiga (using midi.library), as well as external sequencer, or

keyboard.

This program has been tested in extreme situations (on stage,

during Najakotiva performances and in studio during recording the

Najakotiva album, not to mention many hours homeworks) and it has

NEVER hang up nor acted strangely (of course ANYTHING can happen, so

check it out by Yourself).

Features:
^^^^^^^^^

- loads 16-bit 8SVX, AIFF and WAV samples (mono and stereo)

- mixes up to 32 samples (on 060...)

- uses midi.library for easy cooperation with other MIDI programs

working on the same Amiga

- sample volume and panorama, also controlled in real time by MIDI

- standard ADSR envelope for each sample

- 60 banks for samples

- stores samples in Fast memory (samples can be as long as memory

permits)

- Pitch Bender (yes!)

- MIDI Monitor window displaying important MIDI Controllers

(Volume, Panorama, Pitch Bender) for every MIDI channel

- Scope window displaying played waveforms

- Velocity and Aftertouch implementation

- keyboard split to any number of ranges assigned to specific

samples

- very flexible, nice and user-friendly

- intuitive program with "live feeling" (the users say so!)

- heavily tested, stable, system-friendly

This is a pre-release version. It is fully working and it is free!!

We want to give all Amiga musicians chance to use and check this

program. We want feedback - bug reports, ideas, etc. Version with

AHI support will be shareware. But so far - use it as You want, copy

it to Your friends, spread it all around the world,

a-round-the-wo-orld!

One more thing: if You use midiIn for making a good piece of music

You should send me a tape or CD (or vinyl!!!). If You release Your

music You might write inside the cover "Created on Amiga using

midiIn".

Have fun and be creative!

1.3   Copyright

"midiIn" package is Copyright (c) 1997-98 Najakotiva Software .

"midiIn" version 32.0+ is FreeWare. All rights are reserved.

It may change in future versions.

The program package is freely distributable as long as all files listed in this

document are preserved.

It`s even desired to spread it, as long as the fees are not more than 5.-

DM or $3.-.

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1.4   midiIn installation

############
Installation
############

Requirements:

To work with midiIn version 32+ you need:

- an Amiga with MC68020 CPU or better

- an Amiga OS 2.1 or higher (3.0+ recommended)

- a bit of FAST memory

* NOTE: midiIn v32+ will not work on a bare A1200. It must be

equippet with at least external memory board.

How to install midiIn:

It is very simple, you probably have already done it.

You have to unpack the archive file (what you probably did).

midiIn32.lha archive should contain:

midiIn 216200 - the main program (v32.015b)

midiIn.info 6057 - its icon

midiIn.guide 49905 - this documentation

midiIn.guide.info 2780 - guide's icon

projects/ <dir> - an empty directory to store Your projects in

libs/reqtools.library 46148 - shared library

libs/midi.library 6372 - shared library

If you don't have those two libraries installed yet, copy them to your

LIBS: directory.

What you should know:

No assigns nor environment variables are needed for midiIn.

However if you want to launch midiIn from it's project icon you should

make an ASSIGN "midiIn:" to midiIn main program's directory.

The assign can be hidden (DEFER option).

The configuration file is saved in the same directory, the main

program is in ('PROGDIR:midiIn.pref').

Configuration file contains: sound and MIDI settings ,

default "paths" to projects and samples, default "sample list" and

layout information. The program doesn't need this file to operate.

* NOTE: midiIn requires both: reqtools.library and midi.library to be in LIBS:

directory.

How to upgrade midiIn:

Configuration ('midiIn.pref') and project files from previous

versions of midiIn (also pre v32) will be recognized by midiIn v32+.

So if you want to upgrade just copy the contents of this archive to

the directory where you have installed previous version of midiIn.

You can then use and enhance all your existing projects using new

version.

* NOTE: because there are lots of new features in midiIn v32+

projects created with later version of midiIn can not be opened by

older midiIn.

1.5 midiIn startup parameters

###################
Startup parameters
###################

The midiIn program can be launch both from SHELL or Workbench.

If you run it from SHELL you can use the following template:

midiIn PROJECT, PUBSCREENNAME, FONTNAME, FONTSIZE/N, CX_POPKEY,

CX_PRIORITY/N

where:

- PROJECT is the path and filename for midiIn project to load at

startup. All preferences are then being loaded from this project.

- PUBSCREENNAME is the name of PUBLIC SCREEN to open midiIn windows

on.

- FONTNAME is the name of font that will be used with midiIn

windows.

- FONTSIZE is size (in pixels) of font described above (this

parameter must be used only with FONTNAME)

- CX_POPKEY defines hotkey combination for commodity's show

operation. (default: "ctrl shift m")

- CX_PRIORITY defines midiIn hotkey priority.

examples:

midiIn projects/myproject

midiIn "" MIDIINPUB XHelvetica.font 11 "ctrl shift esc"

midiIn "" "" XHelvetica.font 13

When you use Workbench, all above parameters can be add to midiIn main

program's or project's icon TOOLTYPES.

1.6 How to work with midiIn

#######################
How to work with midiIn?
#######################

On the bottom of the midiIn window there are 60 small squares.

They represent 60 independent banks. Each bank may contain one sample

and has it's own parameters. To edit the specific bank's parameters

You have to choose the bank either by clicking on it's small gadget,

or with Amiga keyboard, using the < > cursor keys. The "up" and

"down" cursor keys jump 10 banks up - down.

The current bank is hilighted. All non-empty banks change their color, too.

You can Copy, Paste and Delete (clear all data) banks using the corresponding entrys from the Edit menu or keyboard shortcuts (ramiga + c,v,x).

The bank parameters are:

- Midi chan - the MIDI channel assigned to this bank.

- Bank priority - samples with higher priority mute samples with lower priority. If there are no free channels (see sample playback) and the NoteOn message comes, then the sample with lowest priority is stopped. However, if the new sample has the lowest priority, it is not played.

- duration:

ON->OFF means that the sample is played as long as You keep the key on Your MIDI keyboard pressed. When the NoteOff message comes the sample stops according to release time from the <envelope window>.

ON->ON means that to stop the sample You have to press the same key again. It's good especially for long, looped samples - You don't have to keep the key pressed.

DRUM means that the sample is played from beginning to the end no matter how long You keep the key pressed; note that it's impossible to loop the DRUM sample

- Mono - if checked, this particular bank is monophonic - You cannot play more than one sample at once; the new note mutes the previous one; the muted sample is not cut in a moment - it's faded according to it's envelope

- Loop - if the gadget is checked, the sample is looped.

- Mute group - allows to link banks in groups wich mute themselves. For example You may have an open and closed hihats. You want the closed hihat to mute the open one. You have to assign both of them to the same mute group. If bank has mute group = 0 it is not muted by anything. Again, samples are muted according to their envelope.

- Base - the note being a base note of the sample. You choose it by pressing the SET gadget nearby and pressing the required key on MIDI keyboard or pointing it with mouse. The current base note will flash during editing. When editing the base note be careful not to feed Amiga with random MIDI notes for example from sequencer, because it all affects the base note! If You play the

sample above its base note it will sound higher, below the base note it will sound lower. It's easy and natural.

- Fine tune - here You can tune Your samples. This parameter is scaled in cents (1 cent = 1/100 of halftone). So -100 means halftone lower and 100 means halftone higher. You can control Fine tune from keyboard "+"increases, "-" decreases and "*" resets the Fine tune.

Notice, that Fine tune works in realtime, as You move the slider during sample playback.

- Every bank is assigned to a RANGE on the keyboard. The range may be the whole keyboard, few octaves or even one key. The sample will be played only in this range. This allows to use many different samples on one MIDI channel. To edit range You have to check the Edit range gadget below the keyboard. The range assigned to active bank will turn blue (or whatever colour You have assigned in Your WB).

You can edit the range dragging its ends with mouse, or You can use the MIDI keyboard - just press two limiting keys at once.

If there are any banks on the same MIDI channel, their range is shown as a blue stripe in the upper part of the keyboard. The small gadgets representing these banks turns blue also.

If You move the base note of the bank when Edit mode is active, the Range will move parallely with the base note. It is a fast and easy way to transpose sample.

When You finish editing the range, press the Edit range gadget again to leave the edit mode.

When editing the range be careful not to feed Amiga with random MIDI notes for example from sequencer, because it all affects the range!

The Instrument List

It is a list on the right part of midiIn window. To assign a sample to a bank You have to load it to the list first. Every sample from the list can be assigned to any number of free banks.

To load a sample to the list click on the Add gadget below the list. A standard file-requester will appear. Now select the samples You want to load (multi-select option is available with shift key). You can also select the project file - this will add all samples from chosen project to the List.

You can also add samples to List by dragging their icons onto the

Instrument List (the same goes to dragging project icons onto the
List).

midiIn recognises the 8SVX (also 16 bit), AIFF and WAV samples.
Trying to load different sample formats will fail.

* NOTE: The samples are NOT loaded to memory now. They are loaded
when You assign them to specific banks. Of course if You assign one
sample to more than one bank, the sample is loaded to memory only
once.

To remove the sample from the list click on the Delete gadget below
the Instrument list and then double-click on the samples You want to
remove. To leave the Delete mode click on the Delete gadget again.

To assign a sample to an empty bank just select the bank and click
on the sample's name on the list. The sample will be loaded to memory
now. If there's not enough free memory a requester will apprear.

* NOTE: Samples are stored in Fast memory. This allows You to have
them as many as Your Amiga permits.

To remove the sample from the bank click on the Free gadget near
the Instrument (sample) name field.

If You duble-click on sample in the Instrument List it will be
loaded to active bank even if it is not empty. It is the same as if
You'd press the Free gadget and then choose the sample, but faster.
Good for fast scan through the List.

To clear the Instrument List press the Clear gadget. midiIn will
ask then if You want to clear all samples, the unused samples (the
ones that are not used in any bank), or You changed Your mind.

There are four important gadgets in the upper right corner of the
midiIn window:

- Follow - if checked, midiIn will automatically activate played
bank; it is a good feature during editing banks - You don't usually
remember the number of bank, or sample name, You rather associate
the sound with key, or range that is assigned to it; now after
pressing Your key on MIDI keyboard and hearing Your sample You can
edit its parameters immidately, without scrolling through non-empty
banks and wondering which sample that was. During playback from
sequencer, when many samples are played, it is good to turn Follow
mode off to avoid useless jumping from bank to bank and leave some
processor power for Scope ;)

- the Edit gadget enters/leaves the Edit mode, where You assign the
keyboard range to the bank. It is described above.

- the Audio gadget allocates and frees the audio channels - You can
use it when You want to run another program using audio channels
and You don't want to quit midiIn; if audio channels are allocated
midiIn always asks You for confirmation before quitting - this
prevents You from unwanted quitting the program during performing
(on stage for example)
- the Midi control gadget turns on/off the external MIDI
keyboard/sequencer control of midiIn.
When the Midi control gadget is NOT checked You can play samples
with mouse clicking on the midiIn keyboard. The range values are
not important. You can play the active bank's sample on the whole
keyboard. Pressing the Enter key plays the sample with the base
frequency.
These gadgets can be also controlled by Audio enable and Midi
control entries from the Settings menu and with keyboard shortcuts
(keys 'e', 'm', 'f' and 'a'+ right Amiga key).
If these two gadgets are active, You can perform. midiIn waits for
MIDI messages and plays samples as You assigned them.

1.7   midiIn User Interface

################
midiIn Interface
################
There are five midiIn windows: Main window, details window,
envelope window, scope window and monitor window. All windows (except
Main window) may be opened or closed. Closing Main window quits
midiIn. You can toggle between Main, Details and Envelope with TAB
key, or choose the window with right Amiga + 1,2,3,4,5 keys. 'Esc'
key closes active window (except Main window, of course).
Position and size of all windows are saved with the Save defaults
function if the Save layout flag in the Settings menu is checked.
There is an additional Advanced Settings window open by right Amiga
+ [p].
Main window
^^^^^^^^^^^

On the top of the midiIn main window there is a MIDI keyboard. On
this keyboard You can select ranges of banks, base notes and play
samples with mouse if the Midi control is turned off Incoming NoteOn

messages are displayed on this keyboard highlighting the corresponding
keys.

In a box under the keyboard appears the note and MIDI number of
selected key, incoming NoteOn message, or base note of selected bank.

To the right there are four important gadgets : Edit range (it
turns on/off the range edit mode), Midi control (turns on/off MIDI
control of midiIn), Audio (it allocates/frees audio channels) and
Follow (turns on/off the Follow mode).

If MIDI control is turned off You can play samples with a mouse
clicking on keyboard (sample range is not taken into consideration -
You can play on the whole keyboard), or with Enter key - playing the
base frequency.

Below there is the bank description section (the biggest part of
window), and the Instrument List (on the right).

In the bank description section there is the Instrument (sample)
name in a box and a big Free gadget. This gadget removes sample from
active bank (the sample still remains in the Instrument list and other
parameters of bank are not changed, so You can easily exchange one
sample with another from the list). There are also slider gadgets for
Midi channel, Bank priority, Fine tune and Mute Groups, gadgets for
sample duration mode, Loop, Mono and Base key - all described in
How to work with midiIn chapter.

The Instrument List is described in the same chapter.

The Reload gadget placed below the Free gadget reloads sample in
active bank from disk. If You want to edit the sample You use in
external sample manipulation program, You can do it, and after saving
Your changes back to disk You have to reload it using this gadget.
There is also a Reload All entry in Project menu, which causes midiIn
to reload all samples.

Details window
^^^^^^^^^^^^^^

At the top there are some important informations about sample
loaded to active bank: base frequency (read from the sample file),
duration of sample played with its base frequency, and full path to
sample file.

Below, You can change essential parameters of the sample. These
are:

- Offset - this allows You to select from which moment the sample
starts. You can choose between 0 ms (from the beginning) and 3000

ms (from the 3rd second of sample). If You select bigger offset
than sample duration (seen in the upper right corner of this
window) the sample isn't played.

Offset is scaled in miliseconds and may value from 0 ms to 3000 ms
(= 3 s). This time values are correct only for base frequency of
the sample - they get shorter as You play the sample higher, and
longer as You play lower than the base frequency.

With Offset You can achieve various interesting and useful
effects: cut the unwanted miliseconds of silence before drum hit,
fix the attack of a base drum by cutting first 3-4 miliseconds, or
even make drumloop start from snare - all without leaving midiIn
and using external sample processor.

- Volume (%) - sets the Volume of sample; note that it works in real
time - You can alter this parameter while playing and hear the
difference as You move mouse! 100 means normal volume, exactly the
same loudness as the original sample. You can choose between 0 (no
sound at all) and 200 (200 % of original volume).

There are two gadgets near the slider: "Max" gadget calculates
the maximum volume without distorting the sample (so it will be
more that 100 only for samples in which no data byte has maximum
value), "Nor" gadget sets volume to 100.

* NOTE: using standard Amiga audio with 14 bit output disables
hardware volume control of sound. Therefore samples are
recalculated in realtime to achieve requested volume. Lower volume
means worse quality, because of bit resolution.

- Velocity - how much velocity from NoteOn message affects sample
volume. If set to 0 sample is always played with maximum (set in
Volume field) volume. If set to 100 the volume depends on
velocity. Maximum velocity means maximum possible volume, minimum
(0) velocity means no sound at all.

- Aftertouch - how much the Aftertouch message affects the sample
being played. If set to 100 it lets You control dynamically volume
of played sound by pressing and depressing the key. This is a VERY
COOL function, especially if You play some groovy loops and
experiment with Aftertouch - sounds like DJ tricks with mixer
faders. Check it out by Yourself!

- Sub - This sets the implementation of Aftertouch feature. If this
option is disbled Aftertouch acts in its "normal" way - it only can
add loudnes to the existing sample loudness.

- Panorama - nothing more, nothing less; -128 is maximum left, 0 is center, 128 is maximum right; there is a 'Center' gadget under the slider

- AutoPan - this spreads the sample in panorama. If set to maximum, sample played on the upper edge of range will be moved to right channel, and sample played on the lower edge of the range - to the left channel. If set to 0, samples will be placed depending on Panorama slider no matter where played on the keyboard.

- midi Volume - decides if the active bank's volume depends on MIDI Volume Controller; if yes, then maximum MIDI volume (127) means volume set by You in this window; volume = 0 means no sound

- midi Pan - decides if the actives bank's panorama depends on MIDI Panorama Controller; if yes, then Pan in the middle means panorama set by You in this window, maximum left means maximum left, maximum right means maximum right; Panorama = 63 OR 64 means the middle. 0 is maximum left, 127 is maximum right

- Pitch Bender note range - another COOL FEATURE - realtime pitch shift controlled by MIDI joystick; set the amount of semitones to transpose (maximum is 12, what means one octave).

Remember, that Pitch Bend is a channel message, so it affects all samples on the channel You send it on.

* NOTE: Due to processor power limitations this function may mute sound sometimes during fast joystick movements.

Envelope window
^^^^^^^^^^^^^^^

This is a standard ADSR (Attack, Decay, Sustain, Release) envelope, like the ones You can find in most synthesisers. In case You don't know: Attack means how fast after pressing the key volume reaches maximum. Decay says how fast will the volume change from maximum (attack) level to Sustain level. Volume stays on the Sustain level until the key is released. Release is time from releasing the key (Note Off) to total lack of sound.

Attack, Decay and Release are measured in seconds (max 25.5 sec), Sustain is measured in percents (%).

Edition is very easy and intuitive. You can change the parameters dragging the corresponding parts of the envelope with mouse. Movement to the right increases the parameters (A, D and R), movement to the left decreases them. You can set the Sustain level just by clicking on the desired level on the Sustain field (the big "X").

The alternative way of editing the envelope is to press and keep for
a while LMB for decreasing or RMB for increasing specific field.

Scope window
^^^^^^^^^^^^

This is a nice scope. It shows actual waveform played by both
audio channels. The Scope has the lowest priority in midiIn system,
so it may freeze sometimes during heavy mixing.

If audio channels are not allocated, scope is empty. If channels
are allocated, two lines representing two channels appear.

Try to make the Scope window full screen! (if You have enough CPU
power...)

Monitor window
^^^^^^^^^^^^^^

In this window You can see the values of midi Volume and Panorama
controllers and Pitch Bender message. You can switch between these
three possibilities using the 'ctrl' gadget. Of course, the values
are shown in real time.

The values are shown in 16 rows, for 16 midi channels.

Advanced window
^^^^^^^^^^^^^^^

You can open this window by choosing "Advanced..." from the
Settings menu of the midiIn Main window, or by pressing right Amiga +
[p] keys.

In this window You can set the mixing frequency, the number of
virtual audio channels (max polyphony), Amiga audio filter, MIDI
channels and messages received by midiIn and MIDI messages source.

Advanced window is divided into two parts - upper, smaller part
controls audio output settings, the lower, bigger part controls MIDI
input settings. Each part has its own Undo gadget bringing back
situation from last Save defaults function. Usually, if You don't
save settings it brings back situation from starting midiIn, even if
You loaded settings with project. In case You load a project with
unwanted settings pressing these Undo buttons will bring back the
previous situation.

More about mixing frequency and virtual channels can be found in
the Sample playback chapter.

You can choose which MIDI messages and from which MIDI channels are
received by midiIn by selecting the appropriate gadgets.

More about MIDI sources can be found in MIDI implementation
chapter.

1.8   Dealing with midiIn projects

####################
Dealing with projects
####################

To begin a new project just double click on midiIn icon ;)

After loading the program is ready to work. You may be surprised

that Instrument List may contain some samples - don't worry,

everything is OK, You must have saved settings with these samples in

the List. They are now default. You can always clear the list and

save settings again.

To clear the current project and start the new one choose the New

entry from Project menu. It will free all samples from memory and

reset all banks' settings. If the current project is unsaved (it

should have an asterisk (*) by it's name on midiIn window's drag bar)

midiIn will ask if You really want to loose it.

Projects are saved by default in the PROGDIR:projects/ directory

(PROGDIR: in AmigaOS means the directory from which You start the

program - in this case midiIn). You can change this by saving a

project in a different place and saving settings. The new path will

be saved then.

Projects do not contain the sound data (samples). They just

contain the sample path and filename, so they are quite short files.

To load a project from disk select Open. A standard file requester

will appear.

When You choose the project file, midiIn will load it and then try

to load all samples assigned to banks. The name and type of currently

loaded sample is shown in a small window. If the sample cannot be

found, a requester appears asking if You want to replace this sample

with another one (choose which one...), abort loading, or skip to the

next sample.

You can also load a project by dragging it's icon to midiIn Main

Window.

* NOTE: When changing the sample path in file requester window, the

next sample will be loaded from the directory you have chosen. So the

best thing is to keep all samples assigned to one project in the same

directory. It is only important for people who often move files from

one directory (or computer) to another.

You can add an existing project to the current one. For example You

may have a nice drumset spread over the keyboard and saved as "drums"

project. Now while working on a project You want to use this drums.

You have to choose as current bank an empty one and select AddProject

from Project menu. After selecting the desired project midiIn will

load it to banks starting from the current one. In case of

overlapping the new banks with old ones, midiIn will ask if You want

to overlap banks, skip used banks - fill only empty ones, or cancel

loading.

To save a project to disk choose Save from the Project menu. If

Your project is new ("untitled"), a filerequester will appear asking

You for project's path and filename.

Every project saved to disk contains all settings of midiIn:

sample playback parameters, MIDI configuration, audio filter, and

depending on the Save layout flag in the Settings menu, size and

position of midiIn windows.

If the Load with project flag in the Settings menu is set, this

settings are loaded with project. Sometimes it is good to have

different settings for different projects (for example audio filter),

sometimes only the default settings are used. You always have to

remember about this flag to avoid problems.

1.9   midiIn Menus

#####

Menus

#####

This is a description of midiIn Main window's menu. Sample detail

window and Envelope window have the same menu except the Settings

entry. Scope window and Advanced settings window have no menu at all.

Project

^^^^^^^

-- New Prepares a new projects

-- Open - loads a project from disk

-- AddProject - inserts an existing project starting from the

active bank; useful for adding made-before drums

sets etc.

-- ReloadAll - reloads all samples used in banks. You should

reaload samples if You edited them in external

sample editor not quitting midiIn.

-- Save - saves the project with the current name

there is the project name displayed on the midiIn

window's drag bar; if it is followed by an asterisk (*)

it means that the project is changed and You have to

save it to store the changes

-- Save as - saves the project opening a file-requester allowing

You to change the path and the name of the project

-- Info - displays information about number of loaded samples,

memory allocated by them, free memory available and how

long You are working with midiIn

-- Hide - closes all midiIn windows except the Scope and Monitor

windows without stopping to play; to restore the windows

You have to press the combination of keys defined in

midiIn's parameter CX_POPKEY. Default combination

is "control shift m". midiIn is a system commodity, so

You can also use the Exchange program and its "Show

interface" function.

-- About - opens the intro window with picture and introtext

-- Quit - quits midiIn; if the project is unsaved midiIn asks You

for confirmation

Edit

^^^^

-- Copy - copies the current bank to buffer

-- Paste - pastes buffer to current bank

-- Delete - clears all data in current bank

see How to work with midiIn for details

Settings

^^^^^^^^

-- Audio enable - allocates and frees audio.device

-- Midi control - allows/permits MIDI control of midiIn

see How to work with midiIn for details

-- Follow mode - turns on/off Follow mode, which changes the

current bank to the one played recently

-- Advanced - opens an advanced window in which You can

change the midi.library and sound player parameters

-- Save defaults - saves advanced settings , default paths

to projects and samples, default Instrument List ,

and depending on the "Save layout" flag,

size and position of all midiIn windows in

'PROGDIR:midiIn.pref' file, which is loaded

after starting midiIn.

-- Save layout - this flag tells midiIn if size and position

of windows should be saved together with

settings. It should be turned off to avoid

saving random moves of windows with every

project. You should turn it on to set the

preferred layout and save it with "Save

default" function.

-- Load with project - if turned on, midiIn will load settings

saved with every project on disk.

-- Save icons - if checked, saves icon with every project; the

icon is "def_midiIn_project.info" which should

be in the "project", "ENV:Sys", or "PROGDIR:Icons"

directory; if there's no such icon it uses the

system default project icon. The DEFAULTTOOL of

that icon is set to "midiIn:midiIn", so if you

want to launch "midiIn" from project's icon you

need the assign "midiIn:" to midiIn's directory.

See Installation chapter.

* NOTE: There's no "def_midiIn_project" icon so far. You can design

one. It has to be both MagicWB and NewIcons compatible and a pretty

one, of course. We're waiting!!!

Windows

^^^^^^^

-- Main - activates the midiIn main window

-- Details - activates, and opens if necessary the Details window

-- Envelope - activates, and opens if necessary the

Envelope window

-- Scope - activates, and opens if necessary the Scope window

-- Monitor - activates, and opens if necessary the

Monitor window

1.10 midiIn sample playback

###############

Sample playback

###############

This version of midiIn doesn't support AHI.

midiIn uses standard Amiga audio hardware with 14 bit sample
resolution. We tried to make the audio routines as good as possible.
Mixing is made with 32 bit resolutions, overloads do not cause random
values of signal (too high values are set to maximum values) - it
means that in case of too many samples played too loud You won't hear
ticks and crackles, but a usual distortion.
The mixing frequency is set in the advanced window .
You can choose between 14 kHz, 20 kHz, 28 kHz, 41 kHz and 48 kHz.
* NOTE: that due to Amiga hardware limitations frequencies above 28 kHz
are available only when using higher video modes (Double or VGA
modes).
Mixing frequency has influence on frequency range of played sound.
Maximum played frequency cannot be higher than half of the sampling
frequency. For example when You choose 28 kHz, maximum frequency
Amiga can play is 14 kHz. For professional use (as far as Amiga audio
hardware can be called professional...) You should use 48 kHz to get
full audible frequency range (more than up to 20 kHz).
The higher frequency, the more processor power is used, what means
that on the same computer You can get more/less virtual channels
depending on the mixing frequency.
VIRTUAL CHANNELS
midiIn uses its own procedures to mix sound. The number of samples
mixed depends on the speed of the processor. On A1200 with MTec 1230
running at 42 MHz, 12 samples can be mixed with no problems. On A1200
with Blizzard 1260 @ 50 MHz 32 channels can be mixed and there is
still lots of power for other tasks... We have not checked other
machines (please report!).
To avoid problems You should set the number of virtual audio
channels (the number of samples played and mixed at one time) in
midiIn advanced window correctly. The best way is to set it to
maximum (32) first and play as many looped samples as possible. When
midiIn can't mix any more it cuts off the sound. You have to count
how many samples Your machine is able to mix and set the Chan poly
value correctly.
Note that stereo samples take more processor power than mono
samples (although not twice as much). Be sure not to set the Chan
poly too high to avoid cutting off the sound during playback!
If You try to play more samples than You have channels
(Max polyphony), samples with lowest priority (see How to work...)
are muted.

1.11   MIDI implementation

####################
MIDI implementation
####################

midiIn uses wonderful midi.library (C) Bill Barton, Pregnant Badger

Music, 1987, 1988. This is a very good software which enables many

programs to receive MIDI data at one time and to send MIDI data

through virtual wires and ports inside Amiga. It is a pity, that so

few MIDI programs for Amiga use this excellent solution.

By the way: if You know about a good sequencer working with

midi.library, please let us know.

Thanks to midi.library midiIn may receive MIDI messages from many

sources - MIDI interface and/or another programs using midi.library.

The list of available MIDI sources can be found in the Advanced

Window. You can select/deselect sources by clicking on them. "+"

before source means that midiIn receives messages from it. After

pressing the Refresh gadget midiIn will scan midi.library's resources

to make a new list of available sources. You have to refresh the list

every time You run a new program supposed to send MIDI messages to

midiIn.

If there are no programs using midi.library for output running,

the only possibility is MidiIn - what means external MIDI interface

connected to the serial port.

MIDI messages understood by midiIn:

^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^

- NoteOn with Velocity parameter - starts the sound with volume

depending on sample Velocity parameter, sample volume and

velocity sensitivity set in Details window .

- NoteOff - stops the sound; note that if You set duration to

ON->ON in the Main window , You start and stop the sound with

the NoteOn message; if a bank is set to DRUM mode Note Off

doesn't stop the sound

- Aftertouch - changes the volume of played sample depending on the

Aftertouch value and the Aftertouch sensitivity set in the

Details window . It lets You control the volume dynamically, by

changing the power of key pressure. Of course You must have a

dynamic keyboard.

- Pitch Bend - detunes the sample depending on movement of Pitch

Bender joystick and Pitch Bender note range parameter from
Details window .

- Volume - sets the overall volume on specific MIDI channel; only

banks with midi Volume gadget checked are affected by it

- Panorama - sets the overall pan on specific MIDI channel; only

banks with midi Pan gadget checked are affected by it

- ResetAllControllers - sets Volume on all channels to maximum,

Panorama and Pitch Bender to the center

- AllSoundsOff - immidately cuts all sounds played by midiIn

- AllNotesOff - stops all sounds; unlike AllSoundsOff it fades

samples according to their envelope

In future versions of midiIn we will try to implement the

Modulation message to control special effects on sample (AM, FM,

chorus, delay...) and control them with MidiClock.

1.12   midiIn Tips & Trix

###########

Tips & Trix

###########

Here are some ideas about using midiIn without frustration that it

doesn't work correctly or it is acting strange. Most of it should be

written in other chapters, but this is a kind of summary. I also

remind You here about a few handy features.

- it is important which of midiIn windows is active if You use

keyboard shortcuts; moreover, be carefull because some

shortcuts mean different things for different windows (for

example 'm' turns on/off MIDI control in Main window and sets

maximum possible volume in Details window); more about windows

managment can be found in the midiIn Interface chapter

- if the Load with project flag in Settings menu is set You can

unconciously change fundamental parameters of midiIn, just by

loading an old project with strange settings, like for example

turned off NoteOn message; You can always open the Advanced

window and Undo the settings; anyway it is safer to have this

flag unset and use it only if really necessary

- if the midi Volume gadget in Details window is set it may happen,

that a sequencer sends Volume Controller = 0; the sample is

then played with 0 volume (no sound), even if midiIn volume

is normal; the value of Volume Controller for every channel is
shown in the Monitor window

- when You load a new sample to the bank, first select it's base
note, then the range, because if You make it opposite You move
the range by interval between the new and old (default) base
note; by the way, I remind You that this is very convinient
methode of moving the range together with the base note

- use the Offset slider! sometimes cutting off first few
miliseconds of sound (base drum, for example) makes it have a
better attack; You can also achieve different effects, like
starting a drum loop from the snare

- if You don't like the default bank settings (Velocity,
Aftertouch, midi Volume and midi Pan set to 0), make Your own
'empty' project using copy & paste and load it before You build
a new one

- if You want a specific looped sample to play in background and
play other short samples, set the looped sample's priority to
lower number, than other samples' priority; it is impossible then
that one of short samples mutes the loop when running out of
audio channels

- you can launch midiIn by double-clicking on midiIn's project
icon . All midiIn settings (including position and size of all
windows) will be imported from that project.

- if you experience strange sound distortion while moving windows
you probably have installed a patch called HOGWAITBLIT. It
causes interrupts to halt when graphics system performs blitter
operations. You should disable it prior using midiIn.

1.13   Future versions of midiIn

###############
Future versions
###############

We are still developing midiIn. When You read this, there are
probably few new beta versions in testing. We are waiting for
feedback from the users. Please send us suggestions, bug reports and
ideas. We want to make midiIn a professional audio application for
Amiga - an application, which helps Amiga to be considered as a
serious tool in sound studio system.

This version of midiIn is FREE. However, next version will be

shareware. It will have lots of new features. Our todo list (I can't

promise all of this will exist in next version - everything depends on

the user feedback):

- AHI support

- for soundcards users: 4 channels audio output!!! (2 AHI channels

thru soundcard, plus two Amiga hardware 14-bit channels)

- new Mixer window with faders and panorama pots for each bank

- Amplitude and Frequency Modulation (or tremolo and vibrato)

controlled by Modulation Controller and LFO's syncronised to MIDI

Clock

- new audio level display (LED-like)

- real-time effects like delay, chorus controlled by MIDI

- tap tempo for easy synchronisation of drum loop samples with

playing musicians

- harddisk samples maybe...

- improved Monitor window - it contains bugs now (all controllers are

treated as 14-bit wide)

- more controllers in Monitor window

- reverse sample and reverse loop

- Preview Mode for quick scan thru the Instrument List (clilck&hear)

- intelligent AddProject function

- faster response to MIDI messages

- portamento (glide) in Mono mode

- whatever You want ;)

Please don't send us complains about sound quality. The next

versions of midiIn will use AHI for mixing and playback, so we will

not work on audio routines, rather concentrate on using AHI.

1.14   About Najakotiva Software

##########################

About Najakotiva Software

##########################

Najakotiva Software is a team of two Amiga fanatics:

- Rafal 'Royal' Michalski - programming and coding.

23 years old student of The Technical University in Warsaw. His major

is Physics. His hobby is travelling and especially yachting. He is

good in computers and prefers Amiga before any other computer. He is

also a chief engineer in a computer reseller company in Warsaw. He
joined NAJAKOTIVA group as a part of Najakotiva Software and video
operator.

- Sebastian Witkowski - idea, beta-testing and documentation.
23 years old, student of Sound Engineering Faculty on Academy of
Music in Warsaw, musician, member of Najakotiva group. The only sports
are in Winter - snowboarding, the rest of the year - paragliding.
We have an additional beta tester - Daniel Gagnon from Canada.
Thanx for Your support, Daniel!
Najakotiva Software is a part of a big project - Najakotiva.
Najakotiva is the multimedia art group from Warsaw, Poland, engaged
in various forms of artistic creation. Having started in 1994 as an
experimental music project, Najakotiva developed its activity to
photography, computer graphics, video and performance.
However, the most important branch of our activity is music. It
may be described as electro industrial with live instruments.
The players are:
Renata Gontarz - violin

Kostek Usenko - cello

Filip Rakowski - drums

David Price - percussions

Sebastian Witkowski - Amiga, Atari, Korg 01W, Roland SH-101, mixer
and other stuff
Martin Schmitz - Macintosh, Atari, Roland D-5, Korg DDD, things like that
Pawel Kaczmar - didjeridou
We use the old-style but still alive Atari ST as a sequencer, Amiga
1200 with midiIn and Macintosh with some Mac soft as sample players.
BTW: if someone can help us in getting a HARD DISK controller for
Atari 1040 ST we would be grateful!
Look out for the first Najakotiva album which should be available in
December 1998 in Poland, probably released by S.P.Records!!!

1.15 Contact Us!

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            ############
            Contact us!!!
            ############

  Contact Najakotiva Software:

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```

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