SS

COLLABORATORS

	TITLE : SS	

ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY		May 29, 2022	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

SS

1.1 MANUAL

```
                If you have been using OctaMED V6 then it will be reasonable to ↩
                   assume that
you allready know most of the following instructions and therefore you may
as well jump to the new
                 OctaMED Soundstudio V1
                 part and begin there!



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Important note to CD users:

You will find the PROGDIR mentioned in this manual with regards to saving
and loading files, please note that you cannot save to the CD version
and you will therefore have to alter your save path to your Hard Drive
or to a floppy before attempting to save mods, samples etc etc

1.2 Introduction

INTRODUCTION

Welcome to OctaMED Soundstudio V1, the main body of this manual covers
all the features of OctaMED, however, a lot of new additions have been
added and these are featured in the
Soundstudio Features
part of this manual, If you find something that you do not understand,
check in that new section first of this manual.

The MED in OctaMED stands for Music EDitor, and that's exactly what
OctaMED is: a versatile music composer and editor and although capable
and sophisticated, OctaMED is also easy and interesting to learn.
With the program you may compose music for games, demos, animations and
presentations, or simply use the program as a stand-alone editor.
OctaMED offers a multitude of features unseen on any other Amiga music
package available to date.

In the early days of the Amiga, programmers needed a fast, convenient way
to write music for games and demonstrations. A music program called
SoundTracker was written in response to this need. It provided a perfect
way to incorporate sound tracks into programs, and as a result, most Amiga
games and virtually all demo programs had their music written with
SoundTracker (or one of its many imitation programs, known as trackers).

Unfortunately, like many programmer's utilities, trackers required great
patience. Although composing music was not especially difficult, they often
crashed, seldom came with instructions, and refused to multi-task (one of
the Amiga's major attributes). In spite of these problems, trackers became
increasingly popular, a testament to their usefulness.

Recognizing the value of SoundTracker, Teijo Kinnunen began designing an improved program. The first version, MED 1.12, appeared in Autumn 1989. Teijo improved this version with new program code and, in April of 1990, he release MED 2.00. Perhaps the most important new feature was MIDI support. MED gained a reputation as an excellent piece of music software; virtually every Amiga publication of both sides of the Atlantic has praised MED.

In 1991, after being persuaded by Ray of RBF Software, Teijo released OctaMED, a great improvement on MED with its main new feature being the ability to play eight sounds at the same time, breaking out of the Amiga's four-sound limitation. With the release of OctaMED Professional V5, the user interface was completely redesigned to give the program a much more "friendly" appearance. The program thus moved into the 90's by becoming Kickstart 2 only, leaving many users with no choice but to upgrade.

When V6 was released in April 1995 OctaMED further modernized the program, with all gadgets in windows and flexibility of screen mode and font.
The much-requested Standard MIDI File support eas included, together with full

ARexx support
along with 16-bit and stereo samples etc.

This latest version contains some very new and special routines to allow mixing, recording samples to hd, up to 64 channels, extra new MIDI commands, and an awful lot more besides and because of these new special additions it was decided upon the name change at this time.
OctaMED Soundstudio is born!
Enjoy the world renowned and premier Amiga music package!

Credits

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1.3 Credits

OctaMED Soundstudio itself

Teijo Kinnunen Programming, design and graphics
Ray Burt-Frost Suggestions, ideas, beta testing and taking care
of worldwide sales and distribution etc.
Ed Wiles, Andy Soar, Danny Amor, Dean Murray, Mat in Australia,
Tony Horgan, and the many others who chipped in with bug reports and ideas.

Izrael Simila For Some OctaMED icons
Steve Hayes IFF sample loader routines (Fish disk number 64)
Ray/Danny/Ed for final Pre-release testing

Copyright and legal notices

OctaMED is copyright (c) 1991-1996 Teijo Kinnunen and Ray Burt-Frost.
Worldwide distribution copyrights owned by R. Burt-Frost (RBF Software).

OctaMED Soundstudio is NOT public domain or freely distributable.
It is a copyrighted program, available only directly from RBF Software
or via officially registered / contracted companies holding contracts
with RBF Software to retail the program on floppy only..

The CD-ROM version is also available directly from RBF Software but you
may also find it on sale in your local shop or via your favorite distributor.
If they haven't got it in stock, ask them to contact us.

You are not allowed to distribute/pass on OctaMED in any way.
However, as a registered purchaser you may make two backup copies for
retention in case of corruption.
These must be retained for your own, private use.

If you intend to use OctaMED Soundstudio (or any of versions 2 to 5) within
commercial software or hardware, please note that as it is a fully
copyrighted program, you are required by law to contact RBF Software for a
licence. Any person or company found to be using this program for such a
purpose without first having obtained a licence will be deemed to have
broken the copyrighted usage of the program and solicitors will be
instructed. The exception to this is the program titled OctaMEDPlayer, which
may be treated as Public Domain. This will allow enthusiasts to pass out any
songs they've composed to others, without breaking any copyright laws.

The OctaMEDPlayer and the player library may be freely used or distributed
with non-commercial programs (PD or shareware etc.). You do not need
permission from the owners to distribute them with your PD program(s). If
you wish to make use of the source or library routines that are in the
Programmers drawer then please read the file in that drawer.

Powerpacker.library is copyright (c) 1991-1992 Nico François.
Lh.library is copyright (c) Olaf Barthel.

OctaMED is provided "as is". Every effort has been made to keep OctaMED as
bug free as possible, but if you lose anything due to any bugs, please note
that by loading and launching this program you are agreeing to absolve the
author or RBF Software from any liability, and you are agreeing not to
pursue any claim for such losses be they deemed civil or criminal.

Anyone wishing to print and subsequently sell this OctaMED manual must
contact the copyright holder, R. Burt-Frost, for a licence before doing so.

If you have purchased the CD version then please note that you have paid
only for the program titled OctaMED Soundstudio V1, the Med User Group
products and ^{1}Andy Soars OctaMED Technique which are contained on it.

^{1}(if they arrive in time only!)

The remaining files, mods etc, are provided freely and have been taken
from various PD sources, including items sent directly to us for inclusion
by their authors and also from files uploaded to the OctaMED User BBS.
The authors have declared them as PD/Freeware as long as no charge is
made for them and as we have only charged you for this new version of the
OctaMED Soundstudio program plus the two others items mentioned above,
we hope that you will accept that not all the mods will be of professional

standard, however, the composers have at least tried, so now it’s your turn!!

To the authors, we send our greetings, and can only say, "don’t forget".....
If Music Be The Food Of Life.....PLAY ON!! :)

Contact Addresses

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1.4 Contact addresses

For any matters concerning distribution, sales, copyright, licencing, or
such, you should contact the world copyright owners RBF Software:

Address: 169 Dale Valley Road, Hollybrook, SOUTHAMPTON S016 6QX, England
Phone: +44 (0)1703 785680 (Ansa/Fax)

Note that this phone is unmanned at most times, so leave a short message
and we will get back to you as soon as possible, or, if you have a fax,
then please fax us with your enquiry.
You can also E-mail us on: rbfsoft@octamed.co.uk

OR

rbfsoftcix.compulink.co.uk

For matters concerning the program itself, e.g. suggestions, ideas for
any future Amiga versions, (depending on if the Power version arrives),
bug reports, you can write to the author Teijo Kinnunen:

Address: Oksantie 19, FIN-86300 OULAINEN, FINLAND
E-mail: kinnunenstekt.oulu.fi

Main Features

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1.5 Main Features

This really is only an introduction to OctaMED’s main features: the manual
cannot cover all the program’s functions. However, if you discover anything
in OctaMED that you’re unsure how to use, simply press the Help key for full
instructions.

On loading OctaMED, three windows should appear. Main Control provides

access to some important functions, and Information displays useful
information. The middle window is called the Tracker editor; this is where
you create songs.

The best way to learn about creating an OctaMED song is to load in a demo
song and examine it. To load a song, hold down the right mouse button and
select Project menu -> Open (on the left-hand side of the title bar).
A file requester appears; you'll encounter one often when using OctaMED.

Now, besides all the other drawers you will see listed, sitting there
all on it's own, is a module called "MISERY", double-click on it's name
and it will load into the program.

To listen to the loaded song, find the playing buttons on the left-hand side
of the Main Control window. Click on the Play button beside Song.
When you've had enough, click STOP or press the space bar.
The Cont button continues the song from where it left off.

Now let's examine the components which make up the song. Note: Shift-<right>
(for example) means hold down a Shift key and press the right arrow key,
by looking at

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1.6 The Instruments

The current instrument's details are displayed at the top of the Main
Control window. 01 is its number, Major Strings its name and 4911 its size
in bytes. Select the next instrument (number 02) by pressing Shift-<right>.
Repeatedly press Shift-<right> to view all the instruments in the song.

Notice that not all instrument 'slots' (available spaces) are used
by a song, also notice that the numbering system used is
unorthodox: 01 - 09, 0A - 0V, 10 - 19, 1A - 1V. 1V is the final
ins slot, the 63rd.

OctaMED can use four different 'types' of instrument, and easily the most
commonly used type is the sample.
Samples are sounds from real-life, often created by feeding the sound into
the computer from a sound source (e.g. tape recorder).
All the instruments used in this song are samples.

Repeatedly press Shift-<left> until the instrument number becomes 01. Now
let's try playing the instruments; this is done using the Amiga's keyboard.
OctaMED arranges the keyboard into about 2½ piano-like octaves.

Piano keyboard layout: the notes of one octave

```
| |  | |  |  | |  | |  | |  | |
| |  | |  |  | |  | |  | |  | |
| |C#| |D#|  | |F#| |G#| |A#| |   <== Black keys (sharps)
| +--+ +--+  | +--+ +--+ +--+ |
|   |    |   |   |    |   |   |
| C | D  | E | F | G  | A | B |   <== White keys (naturals)
+---+----+---+---+----+---+---+
```

Amiga keyboard layout

```
Lower octave   Middle octave   Upper half-octave

             |  2 3   5 6 7  |  9 0   = \     <== Black keys (sharps)
             | Q W E R T Y U | I O P [ ]      <== White keys (naturals)
             |               |
 S D   G H J |  L ;          |                <== Black keys (sharps)
Z X C V B N M| , . /         |                <== White keys (naturals)
```

Try playing notes with the keys listed above. For example, press the following keys in turn to play a C major scale: Z X C V B N M Q W E R T Y U I O P [ ]. Use Shift-<left> and Shift-<right> to change the instrument the notes are played on.
A song is made up of several small pieces of music called blocks, so let us look at

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1.7 The blocks

Blocks consist of many lines of information, and are displayed in the Tracker editor (the middle window).
Only one block can be displayed at a time.

All the blocks in this song contain 64 lines and 4 columns (or tracks). The lines are numbered 000 - 063 on the far left, and the tracks are numbered in small blue squares at the top of the window. Try using the <up> and <down> keys to scroll through the block. You can also do this by dragging the grey or white scroll bar at the far right of the Tracker editor.

In the Information window, find the block status display (to the right of the B button). It will display something like: 6/25: Synth (part 2)

In this example, block number 6 is currently being displayed in the Tracker editor; that is, it's the current block. The current block's name is Synth (part 2), and block number 25 is the last block in the song. Note that the first block's number is 0 (zero) rather than 1.

Watching the changes to the block status display and the Tracker editor, try
using Shift-<up> and Shift-<down> to select a new current block.
Left Alt - <up> / <down> selects the first / last block.

To listen to the current block, find the playing buttons on the left-hand
side of the Main Control window. Click on the Play button beside Block. Use
STOP or the space bar to stop the block, and Cont to continue the block.
When the block has played through, it will start again. Stop the playing
when you've finished.
So just what do all these letters, numbers and dashes displayed in the
Tracker editor mean?
Lets take a look at
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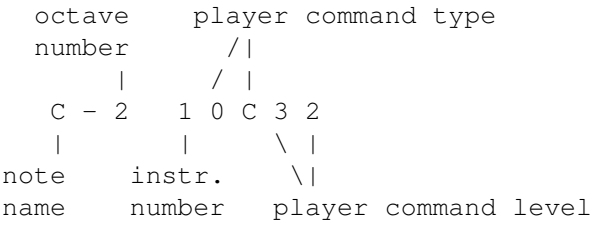
1.8 The block contents

The Amiga plays music using four sound channels, each of which can ↩
play
one sample at a time.
The four tracks (columns) in the Tracker editor correspond to these sound
channels.

Music is composed by entering notes on to these tracks. A typical note might
be C-2 10C32. Here's how this note is made up:



3
So note C is played on instrument number 01 using octave number 2. The note
also has a player command (0C32), which means 'set the note's volume to
level 32'. Octave numbers and player commands will be explained later,
but first, let us look at
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1.9 The playing sequence

To create a song, the blocks are linked together. This involves creating a list of blocks in the order in which they should be played. This list is called the playing sequence.

Look carefully at the Information window, and notice that there are two buttons that seem to be called Sq. Well, the left-hand one is actually Sg. Click on the other one to open the Playing Sequence window.

In this window you'll find a list of block numbers and their names. On the left are two columns of numbers. The left-hand column contains the playing sequence line numbers, the right-hand column contains the block numbers on each line. Although the line numbers are in ascending order, the block numbers can be in any order and the same number can feature more than once in the list.

When the song is played (by clicking Song Play in the Main Control window), the song starts playing from playing sequence line 001. Each block in the sequence is played in turn, with the block currently being played highlighted by a blue bar.

Close the window by clicking either its close gadget (far top left) or its Exit button (bottom).

OK. We've had a look at the basic structure of a song, now let's examine how to

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1.10 Create a Song

Firstly, clear the demo song by selecting Project menu -> New then clicking Clear All in the window that appears.

By default OctaMED has no instruments in memory; they must be loaded in.

You can either select Instr menu -> Load Instrument(s), or click the small GetFile button sandwiched between the instrument number and name in the Main Control window.

Try loading in some samples (if you don't have any, most PD libraries will be happy to help). Remember to select the instrument number first using Shift-<left> and Shift-<right>. Use the Volumes button in the file requester to select the correct disk. You can select more than one instrument by holding down Shift and clicking on several files (then click Ok); the instruments are then loaded into successive instrument slots.

Firstly, select the instrument that you wish the note to be played on. Use Shift-<left> and Shift-<right> as usual. Next, position the cursor where you wish the note to be in the Tracker editor. Use <up>, <down>, Alt-<left> and Alt-<right> for this.

Now switch edit mode on by clicking on the Edit check box (Main Control window), then play the note using the keyboard (see the diagram in

The Instruments

for a reminder.
The note name, octave number and instrument number is entered.

Just what is this octave number? Well, OctaMED arranges the Amiga's keyboard into 2½ octaves.
However, OctaMED's instruments can play using more octaves than this, depending on the instrument's type.
Samples, for example, can play using 3 octaves, numbered 1 - 3
(this is the octave number).

So how do you play the extra octaves? Well, by default the keyboard's lower octave (Z - M) plays using octave number 1, the middle octave (Q - U) using number 2, and the upper half-octave (I -]) using about half of 3. This can be changed by using function keys F1 - F5.

Find the Oct cycle gadget in the Main Control window. The 12 refers to the lower octave and middle octave's current octave numbers, 1 and 2 respectively. Now press the F2 key. The Oct gadget is now 23. So the lower octave's number is 2 and the middle octave's 3. (The upper half-octave uses about half of octave 4, but since samples can only play using 3 octaves you can't use octave 4 with samples).

Confused? Try entering a few notes, using F1 to select octaves 1 and 2 and F2 to select 2 and 3, and examine the octave number of each note.
For example, how about a bass drum instrument on track number 0 every fourth line (000, 004, 008...), and maybe a hi-hat on track 1 every second line?, stick with something really simple like that to start with, and it shouldn't be long before entering notes becomes second nature.

Remember to use the Block Play button in the Main Control window to play the block through. Remove notes (that is, enter a blank note: --- 0) by positioning the cursor over the offending note and pressing the Del key.
Now let us see how to

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1.11 Add new blocks

How do we add new blocks and maybe change their length as well?

By default there is just one block in the song, number 0. To add a new block, select Block menu -> New -> Append. Look at the block status display in the Information window and notice that the last block in the song is now number 1. Select this block by pressing Shift-<down>, and return to the previous block using Shift-<up>.

Usually blocks are 64 lines long. (Note for musicians: this allows for 4 measures of 4/4 time; each line is one sixteenth-note). You can change this length if you so desire by selecting Block menu -> Set Properties. Click inside the Length box in the window that appears, delete the 64 using the Del or Backspace keys, and type in the new length and press Return (maximum length is 3200 lines).

In the Block Properties window you can also name a block by typing its name into the Name box. (Its name appears in the block status display). Using the Tracks slider you can change the number of tracks (maximum is 64), but this is only useful when using 5 - 8 channel mode or MIDI (explained later).

Open the Block List window by selecting Block menu -> Block List. This window provides a list of all blocks and their names. The blue bar highlights the block currently shown in the Tracker editor; select another block by clicking on its name or number in the list. The Append New button is the same as Block menu -> New -> Append; Insert New inserts a new block at the current block position (same as Block menu -> New -> Insert).

The Block List can also be opened by clicking the small B button in the Information window. Holding down a Shift key while clicking this button opens Block Properties.
So, let's see how to

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1.12 Link the blocks together

To create a song blocks are linked together by creating a list of blocks
in the order they should be played.
This list is called the playing sequence, you can open the Playing Sequence
window by selecting Song menu -> Playing Sequence.

There is always at least one line in the list, and by default it's block 000
Change this number using the two arrows just below the list (note that
the number can't be increased beyond the number of the last block in the
song). Add a new line by using the Insert or Append buttons, in the same way
as for blocks. In the Block List, the Ins to Seq and App to Seq buttons
insert and append the block currently shown in the Tracker editor to the
playing sequence.

The display box just below the list shows the current playing sequence line
number and the total number of lines in the list. This is duplicated in the
Information window. When Follow is switched on, the current playing sequence
line number is kept as close to the middle of the list as possible during
play (try clicking Play Song with Follow on to see this effect).

Now let us see how to

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1.13 Save the Song

Select Project menu -> Save. If there is no filename in the box at the top
of the Save Options window, a file requester appears to select a name.

Switching Create Icon off prevents OctaMED saving an icon file with the
song (for use with Workbench and especialy if you save an executable mod).

Clicking repeatedly on the No Compression cycle gadget selects one of
several forms of compression (or none at all), reducing the file size.
Calculate Size calculates the entire song's size using the current settings
(use the Packed button to calculate the song's size when compressed).

Click Save to save the song.

Right, have you got all that?

You have?, ok then, let us now move on and see the
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1.14 Player Commands

So far we've ignored the 0000 appearing to the right of Tracker editor note
names. Well, the four digits are collectively known as the command digits.
They allow you to add special effects to the notes, and to ask OctaMED to
do certain things. These effects and actions are called player commands.

The command digits are divided into two pairs:
The command type is the sort of effect or action, and the command level
allows you to control the effect or action's intensity, depth, speed etc.
(depending on the sort of command).

For example, if you were to see a note with command type 0C and level 32, 0C
means 'set volume', so the player command sets the note's volume level
to 32. A full list of player commands is given in the Appendix section A.

Player commands are entered one digit at a time, simply by moving the cursor
over to each digit (using the <left> and <right> keys) and pressing the
correct key. You'll find that turning Advance Cursor Right on will help
(select Settings menu -> Keyboard Options and click Right - far top left).
Also, to enter command types such as 19, position the cursor over the right-
hand command type digit and press Alt-9 (the left-hand digit is set to 1).

Both the command type and command level are in hexadecimal. If you're
unfamiliar with hexadecimal, please read Appendix section D.
A rough understanding of hexadecimal is important for successful use of
player commands.
Also important is an understanding of
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1.15 Slide creation

Slides can be created automatically, without having to ↩
painstakingly enter
each individual command in the slide. This is done using the Pitch, Volume
and Generic Slide items in the Edit menu.

To use the Pitch Slide function, firstly enter the notes that the pitch is
to slide from and to. (The notes must be on the same track). Now position
the cursor where the pitch slide is to begin; this will be somewhere between
the two notes. Finally, select Edit menu -> Pitch Slide -> Type 1 or Type 2
(try out both: type 1 uses command type 03, type 2 uses types 01 and 02).

For Volume Slide, you need to enter two 'set volume' (command type 0C)
commands in the same track: one to set the starting volume level, one to set
the ending level. Then position the cursor anywhere between the two commands
and select Edit menu -> Volume Slide. Generic Slide works in the same way
except that any command type (not just 0C) can be used.

Of course, the previous sections are only a very simplified guide to song
creation, in particular, OctaMED provides a number of editing features for
use in the Tracker editor that can make entering notes much easier.

Now let us move on to actualy
Editing The Song

Creating a Song

1.16 Editing The Song

The commands Cut / Copy / Paste / Swap

You may recognize the terms cut, copy and paste from wordprocessors. Well, in OctaMED they are exactly the same: Cut removes notes and stores them in a copy buffer, Copy stores notes in a copy buffer without removing them, and Paste transfers the copy buffer to the Tracker editor, overwriting any existing notes.

Items in the Block and Track menus allow you to cut, copy or paste whole blocks or whole tracks respectively. For example, to place a copy of track 0 in track 3: move to track 0 (using Alt-<left> and Alt-<right>), and select Track menu -> Copy. Now move to track 3, and select Track menu -> Paste. The Swap items swap the current block or track's contents with the copy buffer's contents.

You can also cut, copy and paste a rectangular area of notes, known as a range. A range can be as small as a single note or may include an entire block. Mark a range by moving the mouse over notes in the Tracker editor while holding down the left mouse button. The range appears in white. Moving the mouse beyond the limits of the Tracker editor continues the range in the relevant direction (for example, try moving the mouse to the bottom of the screen while holding the left mouse button).

The Edit menu contains Cut, Copy and Paste Range items. Erase Range changes all the notes in the range to blank notes (--- 00000). If you mark a range by mistake, press the left mouse button again to cancel it.

Now we will take a look at the
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1.17 Transpose Window

Select Edit menu -> Transpose. This window contains functions that ↩
alter
the notes in a particular area of the current project.

The gadgets under Affect should be selected before choosing a transpose
function. They select which area of the song the transposition should
affect, and the notes played by which instruments. The pitch-changing
functions are Octave Up / Down and Halfstep Up / Down:
these should be self-explanatory.

The Change Notes functions act on the Source and Destination notes. Select
these notes by holding down the left mouse button on each note box in turn
and pressing the appropriate key (for example, the I key selects note C-3).
The Change button changes all notes in the Affect area (see above) from the
source to the destination note. Swap swaps the source and destination notes.

The Change Instrument functions act on the Source and Destination
instruments. Select these instruments by choosing each required instrument
(using Shift-<left> and Shift-<right>) and clicking the Source and
Destination buttons. The Change button changes notes played by the source
instrument to the destination instrument (in the Affect area). Swap swaps
the source and destination instrument numbers of notes played by either.
Delete deletes notes played by the source instrument.

Ok, lets now look at how to use
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1.18 Track Selection

Look at the top of the Tracker editor; the blue boxes are the track
selectors. They are blue when on, grey when off.
Try clicking on a few to turn them off and on.

You'll notice that there are two types: one displaying the track numbers, one displaying S. The track number type control whether each track is played or not played. For example, load a song and click Song Play (Main Control). Now keeping the song playing, try turning the track numbers on and off. Do you notice the notes in the related tracks being turned off and back on? This can be very useful while editing blocks.

The S stands for Selected, and this type control whether each track is selected or not selected. They are used in editing functions such as Edit menu -> Paste To Selected Tracks and in the Transpose window (Affect Selected Tracks).

At this stage it would be a good idea to looK at the
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1.19 Programmable Keys

(progkeys)

The progkeys allow music to be entered much more easily and quickly.
You can assign notes or groups of notes, including player commands,
to 10 different keys.
The assigned notes can then be inserted anywhere in the Tracker editor
by holding down Shift and pressing key 0 - 9.

Select Settings menu -> Programmable Keys. The cycle gadget in this
window selects whether you wish to edit the normal Shift- 0 - 9 definitions
(default) or the Right Alt definition. The Right Alt definition consists of
the command digits only, and if you enter notes with the Right Alt key held
in the Tracker editor, these command digits will be inserted with the notes.

Select which progkey you wish to edit (0 - 9) using the slider. The box
containing --- 00000 is the definition of the selected progkey. Edit the
progkey one digit at a time, by holding the left mouse button on each digit
and entering a new note or digit using the keyboard.

To make a digit transparent (shown by an x), press Return while holding the
left mouse button. A digit being transparent means that when the progkey is
entered in the Tracker editor, the corresponding existing digit will remain
unchanged. For example, the definition xxxxx0000 would set all command
digits to zero while leaving the note and instrument number unchanged.

The Pick gadgets copy either the note under the cursor, the currently marked
range, or the copy buffer to the current definition.
Whilst you are here, take a look at

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1.20 The Numeric Keypad

The numeric keypad is the small collection of 18 keys on the far right of your Amiga's keyboard (excluding A600 owners). Without alteration (using Settings menu -> Keyboard Shortcuts), the keypad is layed out as follows:

Keys 1 - 9	Select instruments 1 - 9
Key 0	Select instrument 10
Key /	Select last used instrument
Key .	Change the first instrument digit (e.g. 05 -> 15, 15 -> 05)
Key + / -	Next / previous instrument
Key (/)	Decrease / increase current instrument's volume by one
Key *	Pick instrument number nearest the cursor
Key Enter	After pressing Enter, press key A - V to select the corresponding instrument

Some other editing functions in brief

Space (Main Control window): when on, a set number of lines are skipped when a note is entered. Select Settings menu -> Keyboard Options and adjust the Space Value slider to set the number of lines (default = 2).

Expand/Shrink (Block menu): Expand creates empty lines between each note, and Shrink removes lines. If the Factor box in the window contained 3, for example, clicking Expand would insert two empty lines between each note (trebling the block length), and clicking Shrink would remove every second and third line (thirding the block length). It has the effect of slowing or quickening the music. Should become clear with some experimenting.

Highlight Options (Block menu): Here you can highlight the current block's lines in a particular order. This can mark measures and beats for you. Try clicking the 4 gadget to highlight every fourth line: in a normal 64-line block, this highlights every beat.

So now that you are confident with all you have read so far, WHAT?
your not!, then read it all again!, we will look at
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1.21 The Sample Editor

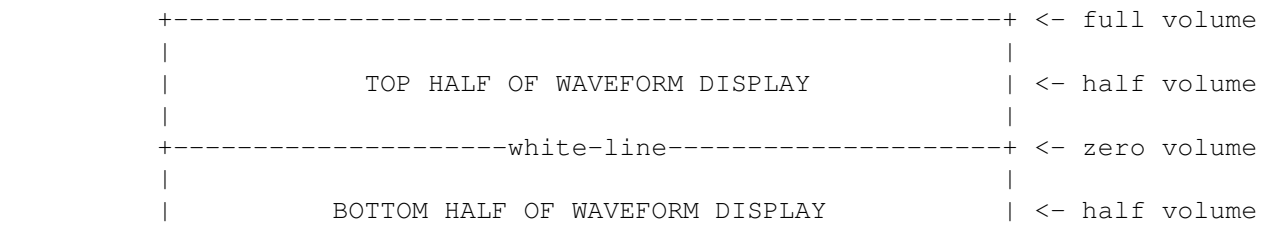
Making sure a sample is loaded into the current instrument slot, select
Display menu -> Sample Editor (or click Edit in the Main Control window).
The squiggly black line in this window is the sample's waveform,
which is a graphic representation of the sample.

The sample editor is used to change the whole or part of the waveform, which
can involve copying sections of waveform to other places in the sample,
changing the volume or pitch of the waveform, creating echo effects, and
much more.

The white line across the center of the waveform marks zero volume.
The further away from the white line a point on the waveform is,
the louder the point's volume.

(let us take a look at a diagram...)

Volumes of points on the waveform display



```
   |                                                    |
   +----------------------------------------------------+ <- full volume
```

The number to the right of Buffsize (above the waveform in the middle) is
the size of the current sample in bytes. (In the diagram above, the sample's
size is 32098 bytes). Type a new number into this box to change the sample's
length.
You can use the sample Zoom In and Out to get
Magnification
Lets see how to use the
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1.22 Magnification

Try using the Zoom In and Zoom Out buttons to magnify and reduce ↩
the
display. The black horizontal scroll bar just below the display shows the
section of sample currently being displayed: drag it or use the <left>
and <right> keys to change the current sample section. The Display box (top
left) shows how many bytes of sample are currently displayed.

You can also magnify and reduce the display using the small vertical zoom
scroll bar (far right). The higher the scroll bar, the greater the
magnification. Click Play Display to play the current display at the pitch

shown just below the display on the right (note C-2 by default). Change this pitch by holding down the left mouse button on the pitch box and pressing a new note. When you've finished, click Show All to display the whole sample.

Take a look at the
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1.23 Sample Range Operations

Just as in the Tracker editor, you can mark a range by moving the mouse over
the waveform while holding the left mouse button. Hold a Shift key while doing this to adjust an existing range. The byte positions of the start and end of the range are shown by Range Start and Range End (top right). Click Range Display to mark a range over the whole display.

Eight range-affecting buttons are situated near the bottom of the window. Show magnifies the range to fill the whole display. Play plays the range at the current pitch, cut and Erase both remove the portion marked by the range: Cut also copies the range to a copy buffer. Clear clears the

range, Copy copies the range to a copy buffer, and Paste inserts this copy buffer at the start of the range. Reverse turns the range backwards.

Some other range-affecting operations are hidden in the Edit menu.
Paste (Overwrite) is like Paste except it overwrites the existing sample contents rather than inserting.
Invert turns the range upside-down, Chop removes the whole sample except for the range.
In the Tools menu, Calculate Range Time works out the time taken for the range to play at the current pitch.

At this stage, why not take a look at some of the
Special Effects
or how to us the
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1.24 Special Effects

These are all found in the Effects menu, and with the exception of ↩
Change
Pitch and Mix, all affect the current range. Here are the most important effects in brief:

Change Volume changes the range's volume. The sliders select the starting and ending volume change, and both are percentages of the original volume. For example, setting Start to 200% and End to 50% fades downwards from double the original volume to half the original volume. Click CHANGE VOLUME to change the volume, or choose from one of four presets (Fade In, Fade Out, Halve, Double). Max increases the volume to the maximum possible without introducing distortion. (Distortion occurs when the maximum volume limits are exceeded).

Mix mixes the current sample (source) with the copy buffer (destination), storing the result in the current sample. The sliders control the volumes of the two waveforms to be mixed (50% is 'normal' volume).

Filter/Boost filters (reduces noise) and boosts (brightens) the range. The Averaging slider controls the strength, and try cranking Distance right up for some weird effects.

Echo allows interesting echo effects to be produced. Before echoing, you usually need to add some extra space to the end of the sample: select Tools menu -> Add Workspace to do this. Mark a range over both the waveform to be echoed and the blank space that the echo is to affect. Echo Rate is the distance, in bytes, between two echoes. Number of Echoes sets the total number of echoes, usually quite low (1 - 10).
Experimentation is the key to this feature.

Create Chord creates chords of two to four notes from the current sample. Specify the chord's notes by pressing keys while holding the left mouse button on the pitch boxes (you can also use the eight preset buttons or the four cycle gadgets). Click Play Chord for a preview, and Create Chord to create the chord and store it in the current sample.
You can, of course also include

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1.25 Sample Loops

A sample loop means that the notes you play with the sample will be
sustained until stopped. This is due to a particular part of the sample
being continually repeated (or 'looped').

Try clicking the Loop check box (bottom left). The two loop pointers mark
the looped section. One way to adjust them is to drag their small black
triangles across the waveform. You can also use the Loop Point gadgets
(bottom of window): use the cycle gadget to choose whether to affect the
start or end loop pointer, then use < and > to move the pointer in steps of
two bytes, or <0 and 0> to move the pointer until a zero is found. The Loop
menu also helps loop positioning: see §12.2.5 for an explanation.

Decent-sounding loops often start and end at the same value, which can often
be zero (i.e. no volume). So <0 and 0> are useful in finding good loop
points. Magnification (see §5.1) allows far more accurate loop positioning,
and good loops are often found by looping any repeating waveform shapes in
the sample (called envelopes).

There are also some
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1.26 Other Instrument Features

Instrument Parameters

Select Instr menu -> Set Parameters or click Inst Params in the Main Control window. With this important window you may alter the characteristics of the current instrument.

From the top down, the slider and arrows select the current instrument in the same way as Shift-<left> / <right>. 1st / Last / L.U. select instrument 01 / 1V / the last used instrument. Flush removes the current instrument from memory.

Set an instrument's default pitch by holding the left mouse button on the box and pressing the appropriate key. Pressing key F then inserts the instrument at this pitch into the Tracker editor.
Useful for percussion instruments whose pitch is often constant.
Repeat and RepLen are the loop start and loop length in bytes..

Transpose raises or lowers the current instrument's pitch in halfsteps. Finetune allows you to tune instruments in small steps. Vol sets the instrument's default (usual) volume: 64 is maximum, 0 is silent.

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1.27 The Sample List

Select Display menu -> Sample List Editor. The sample list is a list of all
the instruments you have in your collection (not just samples in fact), and
is an easy way of organizing and loading instruments.

Notice that the Sample List Editor is split into two lists - a list of your
sample directories, and a list of the samples contained in those
directories. There may in fact be no directories shown: this is because you
haven't yet told OctaMED in which directories your samples are contained.

To add more directories, click Add Dir and select the appropriate directory
in the requester that appears. Repeat for all the directories you wish to
add. OctaMED will load the names of all files in the directories; if some of

these files aren't instruments, click on them in the left-hand list and click Remove.

To load an instrument into the current slot, click on the instrument name then click Load Inst. Alternatively, close the Sample List Editor and click SList in the Main Control window. This is a cut-down sample list editor used specifically for loading instruments. Select the appropriate directory, then simply click on the instrument name to load it. Select the current instrument using the four Prev / Next Inst / Free buttons (or Shift-<left> and Shift-<right> as usual).

In the Save Options window, the Save Instruments check box chooses whether the song should be saved together with its instruments. If you switch it off, only the instruments names are saved with the song; when the song is reloaded, OctaMED uses your sample list to locate and load each required instrument from your sample disks. This saves a lot of disk space.

You can save an instrument to disk using Instr menu -> Save Instrument.

And for all you MIDI freaks, let's look at
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1.28 The MIDI Features

OctaMED can output notes and some player commands to external MIDI devices
(such as MIDI synthesizers) by way of a MIDI interface which you should
connect to your Amiga's serial port.

Note: please refer to your MIDI device's manual if you come across terms in
this section that you aren't sure of.
To glean even more information, press Help then select Menus and MIDI.

A MIDI instrument in OctaMED is not strictly an instrument, but simply a few
settings which result in the notes played with that instrument being sent
through a MIDI interface. Therefore, MIDI instruments are not loaded into
memory like other sounds.

MIDI instruments can also use the full 10½-octave range. Use the Oct cycle
gadget (Main Control window) or the F1 - F5 keys to select these. F1 and F5
cycle through three different octaves if you press them repeatedly.

Before using a MIDI instrument, you need to change some settings in the
Instrument Parameters window to the required values. MIDICh sets the MIDI
channel for the instrument (1 - 16). For example, setting it to 5 means this
instrument's notes are sent through MIDI channel 5. Preset sets the
instrument's preset number. When set to zero, OctaMED uses your keyboard's
default preset for the instrument's MIDI channel.

In order to hear a MIDI instrument, you must also set its default volume to
above zero. MIDI instruments can also use all 64 possible tracks (use the
Block Properties window). In addition, you may mix Amiga samples and MIDI
instruments on the first four tracks.

The MIDI menu contains more MIDI-specific functions and settings. MIDI
Active activates MIDI when selected. Input Active, when selected, allows the
entering of notes into the song using your MIDI device. Edit mode (Main
Control window) and MIDI Active must be on.

Read Key-Up's, when switched on, records key-up events into the Tracker
editor (as 0FFF player commands). Read Volume: If you have a touch-sensitive
keyboard, the volume will be entered as a 'set volume' player command (0C)
when notes are input.

Reset Pitch/Presets resets pitchbenders, modulation wheels and presets on
all channels. (OctaMED sends preset change messages for all MIDI channels).

There are a few
Other Miscellaneous Features

that you should look at.

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1.29 Other Miscellaneous Features

The Tempo window

Select Display menu -> Tempo Window. This window is used to set the playing speed (tempo). For basic use, ignore all gadgets except the Tempo slider.

The higher the Tempo slider value, the quicker the speed. For more advanced use, read on.

There are two tempo modes: SPD (the default) and BPM. Let's look at SPD mode first. The Tempo and TPL sliders are used in this mode. Each slider alters the tempo in a different way, and to fully understand the difference I'll need to explain a few technical aspects. Don't worry, it's all quite simple really!

To keep 'in time', OctaMED responds to regular ticks that come from one of the Amiga's clocks. The tempo depends on two factors relating to these ticks:

(1) The time between each tick (Tempo slider)
(2) The number of ticks per Tracker editor line (TPL slider)

So each Tracker editor line is divided into ticks. The TPL slider controls the number of ticks per line. With TPL set to 3, two typical consecutive lines look like this:

```
                                  Line no.  Tick no.   Action
                               /     000        1       Play note C-3
                              /      000        2
 -000 C-3 10000 --\ ZOOMED --\        000        3
 -001 D-2 10000 --/ ZOOMED --/        001        1       Play note D-2
                              \      001        2
                               \     001        3
```

So notes are played on the first tick of each line. The other ticks are used for effects such as pitch sliding (although using certain player commands, notes can also be played on the other ticks).

The Tempo slider controls the length of time between each tick. The higher the value, the shorter the length of time therefore the faster the tempo. For normal 4 channel or MIDI songs, Tempo slider values 11 - 240 should be used (ignore values 1 - 10). The TPL slider can be values 1 - 32.
The higher the value, the slower the tempo. By default the sliders are set to 33 and 6 respectively.

In BPM mode, the Tempo slider controls the number of beats per minute (just like a metronome). For example, a value of 60 is one beat per second. The LPB slider controls the number of lines per beat. For example, 8 (the default) means eight lines are considered as one beat. In this mode, it's best to leave the TPL slider at 6, otherwise the timing won't be accurate.

If you are interested in the
Channel Modes 5-8
then read this.

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1.30 Channel Modes 5-8

When composing using OctaMED, you may find that the Amiga's ↩
ability to play
a maximum of four samples at once (using its four sound channels) is a bit limiting. Luckily, OctaMED allows you to add up to four extra tracks, extending the maximum number of simultaneous samples to five, six, seven or eight; and this feature is called 5 - 8 channel mode.

Firstly, increase the number of tracks to 5, 6, 7 or 8, using the Block Properties window (see §2.3). Next, select Song menu -> Set Options. On the left of this window, click on the appropriate channel mode button. Click Yes and Halve in the requesters, then close the window. Voilà!

Unfortunately, you'll notice some side effects pretty quickly. The volume of all samples halves to minimize distortion. There's a different method of setting the tempo (see §8.1): in SPD mode, you can only use levels 1 - 10. And the quality decreases, but try selecting High Quality Mode in the Song Options window (if you own an A500 or A600, this will only work in 5 or 6 channel mode).

For more details, press on-line Help and select Special Purpose Topics.

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1.31 Multi-Modules

Multi-modules are projects containing more than one song. Each ↩
song
shares the same set of instruments. This allows you, for example, to
compose different songs for each level of a game, without having to
load or keep the same instrument in memory more than once.

Multi-modules are also very useful when editing just one song, as you can
treat one song in the multi-module as 'workspace', much like Deluxe Paint's
spare screen option. You may design and compose in one song, then cut and
paste to another.

Now lets take a look at

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1.32 Adding and Deleting Songs

Find the Sg 01/01 < > gadgets on the left of the Information window. ↩

Sg opens the Song Selector window, which allows you to add and delete songs in a multi-module, and to choose the current song.

The two numbers (currently both 01) represent the current song and the total number of songs in the multi-module. < selects the previous song. If clicked while holding a Shift key, it deletes the last song in memory after displaying a requester. > selects the next song. If the current song is the last song, it adds a new song after displaying a requester.

Clicking < and > while holding Shift is the same as selecting Delete Last and Add New respectively from the Song menu.

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1.33 Remap Instruments

OctaMED can automatically remap instruments while loading. This feature can save you a lot of work. If you have one or more songs already in memory, and you load an additional song, a Remap instruments? requester will appear.

If you click No: all previous instruments in the entire multi-module will be lost and the instruments of the new song will be loaded. This could be used, for example, to use the new, different instruments with the other songs in the module.

But if you click Yes:

(1) The new song's instruments will be loaded into empty places, so that instruments already in memory are preserved;

(2) The new song's notes' instrument numbers will be redirected (remapped) so that they point to the new instrument positions.

By clicking Yes, several sets of instruments used in several songs can be contributed to one large overall set of instruments. This is the option you'll most often (if not always) choose.

In the Save Options window: the right-hand cycle gadget selects whether to save the whole multi-module (default) or only the current song.

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1.34 Some Other Small Features

Select Song menu -> Set Volumes. This window full of sliders is used to set each track's volume and an overall (master) volume. The 'relative' part in the window's title bar refers to the relativity between the track and master volumes. For example, setting both master and a track volume to half (32) will produce an actual track volume of a quarter (16).

Select Song menu -> Set Options. Set the current song's name (different for each song in a multi-module) by typing it into the Name text box. The name will appear on the screen's title bar.

Many different settings (preferences) can be saved using Settings menu -> Save Settings. For a full list of saved settings, press Help and select Special Purpose Topics (then click The Settings File).

In your country, if the note between A# and C is H instead of B (for example Germany and Finland), select Settings menu -> Miscellaneous, then click H -> B in the window and save settings.

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1.35 Installation

I know installation is boring, so if you have purchased the floppy version with your name/address encoded into it, simply click on the install icon and away you go! ;)

IMPORTANT NOTE TO PURCHASERS OF THIS CD VERSION:

The installer and installation script do not apply to purchasers of the CD.

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1.36 The Screen

As soon as you load OctaMED Soundstudio V1 for the first time, you ↩
'll
see that the main screen is split into four windows: Main Control

Tracker editor, Information and Tempo (Tempo not open by default).
The Notation Editor Window can be opened by holding the right mouse button over the Display menu and highlighting the Notation Editor selection, This new feature will be described later.

If at any time you don't need one of the windows open, you can close it and reopen it later which helps save that cluttered effect of earlier versions. Also, the font (style of writing) used in the windows can be changed: this will be described later.

The Main Control window (Display menu -> Main Control)

This contains the playing buttons, instrument details, four window-opening buttons, Edit/Space/Chord check boxes and the octaves cycle gadget.

The instrument size box has a couple of new features. W is displayed beside the size of a 16-bit sample (W for 'word', meaning '16-bit'). M Cnn is shown for a MIDI instrument, where nn is its MIDI channel number; a * is also displayed if the instrument isn't truly MIDI (perhaps it is a sample with a MIDICh value set).

SList opens the Instrument Load Window (instead of V5's tiny button looking vaguely like a list). Edit opens either the Sample or Synthsound Editor, depending on the current instrument's type (if the type is neither, the Sample Editor is opened).

The Tracker Editor window (Display menu -> Tracker Editor)

Home to the Tracker editor itself and track on/off buttons. The S buttons choose whether or not the track is selected (in V5 you had to cycle the upper screen's On/Off gadget to Select). Scroll bars and a sizing gadget have been added. Tracks have more space between them, too.

The title bar shows the number of the current/last block and the current/last command page (see §12.5). Settings menu -> Display Max Tracks has been removed as you can now select any non-proportional font (see §12.10).

Windowizing the Tracker editor has forced the bar equalizers into a separate window (select Settings menu -> Equalizers -> Bar).

The Information window (Display menu -> Information Window)

Contains the four status displays and window-opening buttons (on the upper screen's fourth row in V5). Plus the channel mode / MIDI / Edit/Space/Chord display, the timer, and the lower screen's free memory and general status displays.

The Tempo window (Display menu -> Tempo Window)

Here you'll find all tempo-related gadgets. The primary tempo is called Tempo, the secondary tempo TPL (Ticks Per Line), and the BPM lines per beat setting LPB. Click the SPD cycle gadget to enable the LPB slider.

The secondary tempo, you'll notice, is set in decimal!

There are some new gadgets too. Slow HQ is a compatibility switch for songs created with OctaMED Pro V3 and V4. In these versions, switching High Quality Mode on slowed the tempo a bit. This check box corrects this, and is saved with songs.

The Edit button opens the following and interesting window...

The Tempo Operations window

Allows conversion between the various methods of setting the tempo in OctaMED. For example, suppose that your song currently uses SPD tempo, but you suddenly decide you'd prefer BPM. In previous versions, you would:

(a) click on the SPD cycle gadget to change to BPM;
(b) adjust the Tempo and LPB sliders until, by trial and error, you find the original speed of your song.

All you need do is click on SPD -> BPM. This both changes to BPM mode and finds the values of Tempo and LPB closest to the your song's original speed. This saves an awful lot of messing around! For example, with a tempo of SPD 32/06 (eight lines per second), clicking SPD -> BPM changes the tempo to BPM 60/08 (also eight lines per second).

Also, if you've ever switched from 4 channel to 5-8 channel mode, you'll know that the song often slows down; a quick click on 4 Ch -> 8 Ch will sort this out.

So, click on one of the four top buttons to convert from:

(1) SPD to BPM (2) BPM to SPD (3) 4 to 8-channel (4) 8 to 4-channel

In each case, only the Tempo slider is changed: the TPL slider is not affected. So conversion is pretty approximate, especially when converting from 4-channel to 8-channel.

If Change Commands is on, all the 0F ('set Tempo slider') player commands in the song will be altered to reflect the new tempo. Insert Tempo Change enters the current Tempo setting as an 0F player command. (You need not have converted the tempo in order to use this button).

Set Current Tempo As Default is the one button not to do with conversion. It stores the current tempo settings in memory - SPD/BPM, Tempo, LPB and TPL. Now whenever you begin a new song, these tempo settings are recalled. To permanently use the settings as default, select Settings menu -> Save Settings.

Ok, now lets take a look at the
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1.37 New Menu Items

Project

Online help Opens the on-line help system. You can now continue using
   OctaMED while it's open (just send its window to the back using its
   depth gadget).

Command Shell Opens a Shell-like window for entering OctaMED's

                ARexx Commands
                , close the window by typing bye,
   or by pressing Ctrl-\ or clicking its close gadget as usual.

Want more ARexx info? See the
                 ARexx Introduction
                Audio Channels Switch this off to temporarily free the audio ↩
                   channels. You
   can then load another music program while OctaMED is still running. Turn
   Audio Channels back on when you've quit the other program (trying to play
   any instrument will switch it back on automatically, if possible).

Display

Tracker Editor Now re-opens the Tracker editor if it's been closed.

Notation Editor Opens the new notation editing window and it's functions.

Main Control Re-opens the Main Control window   see
                 The Screen
                Information Window Re-opens the Information window. (as above)

Tempo Window Opens the Tempo window.   (as above)

Block / Track / Edit

Previously, the Copy/Cut/Paste Block/Track/Range operations all used the
same copy buffer.
Now the Block, Track and Edit menus each have their own separate copy buffer.
So you can have block, track and range info all stored in memory at once.

Edit menu -> Discard Copy Buffers flushes all three copy buffers.

Block menu -> Insert/Delete Line and Split At Cursor / Join With Next
              now react to line highlighting. Also, deleting a block now
              removes any references to that block in the playing sequence.

Instr

Load Instrument(s) Try loading a sample, and notice that the size is now
   displayed on the title bar as n [x bytes] (where n and x are numbers).
   n is the sample's size, x is the actual amount of memory consumed.
   (These two values will be different if a sample is 16-bit or in stereo).

Load from List Opens the Instrument Load Window. Especially useful when the
   Main Control window is closed.

Save Instrument There are three new file formats: MAUD, AIFF and WAVE.
   These are designed to save 16-bit and stereo samples,

(IFF 8SVX is unable to).
You can choose any one you like, but MAUD is generally used for Toccata samples and WAVE for exporting to PC computers.
The new formats can't save loop information.

Saving a 16-bit instrument as Raw adds the header Raw16Bit (so that OctaMED identifies it as 16-bit when it's reloaded).

Halve Loaded Samples In previous versions, a newly-loaded sample's volume was automatically halved while in 5-8 channel mode. To prevent the halving, you had to hold down Shift while selecting an instrument loading function (e.g. Instr menu -> Load Instrument(s)).

Well, there's a less clumsy method now! When Halve Loaded Samples is on, loaded samples will be halved (honestly!). This switch is turned on automatically when 5-8 channel mode is selected (and off when 4 channel mode selected).

So to prevent the halving in 5-8 channel mode, select this menu item (switching it off) before loading a sample.

Settings

Keyboard Shortcuts
Opens the new Keyboard Shortcuts window.

Screen Allows you to change OctaMED's screen mode. In the sub-menu, Screen Mode opens a screen mode requester (see your Amiga's manual for further instructions). Like WB, when on, makes OctaMED's screen have the same resolution and number of colors as the Workbench screen.

A change of screen mode usually requires a change of font (see the next item). OctaMED's screen is now public (name OCTAMED).

Fonts
Opens the new Font window.

Equalizers Now split into two windows. This had to be done because of the new main screen arrangement.

Miscellaneous Options
Opens the new Miscellaneous window.

Aura Sampler Options Opens the Aura Sampler Options window.
(See also
Soundcards
)

Windows Snapshotting a window is storing its current position in memory. Normally OctaMED remembers any changes you make to the window positions automatically, but use Auto-Snapshot to switch this off if needs be.

Using the sub-menu you can snapshot the current window or all windows

currently open. UnSnapshot sets the current window's position to default when it's next re-opened. UnSnapshot All does this for all windows in the program.

Make these window positions permanent using Save Settings. You can't snapshot any window which uses a different set of menus from the main screen (e.g. Sample Editor, Synthetic Sound Editor).

Because of the new Window Builder (see
Fonts
), the layout of many windows have changed quite bit. You'll get used to them quickly.

Save Options (Project menu -> Save)

The filename text box now expands device names. For example, typing in the filename ram:song will expand it to Ram Disk:song.

File Format
Tracker module saving has unfortunately had to be removed.
This is because many companies were known to be using OctaMED, but to avoid paying their registration fee their Composrs would save modules in Tracker format and make use of Protracker replay source instead.
Sad (in every sense of the word) but true.

To make up for it, Standard MIDI File saving (and loading) has been added. This will allow OctaMED to be compatible with virtually all MIDI-based music programs. Only information appropriate to MIDI is saved: notes, effect player commands and SysEx messages (tempo info too).
(See
SMF Load Options
for information on loading SMF files).

Songs saved as Executable File may be loaded and ran from Workbench or a shell. The song will open a small window (displaying just its annotation text) and will begin playing: close the window to stop playing.

MMD0/1/2 now load and save text file annotation (
Song Annotation
)
and instrument output devices and MMD1 and MMD2 support command pages.

Create Icon The icons are named Module.info, Executable.info, MIDI.info and Mix.info, feel free to edit or replace them completely.
You may wish to change Module.info's default tool, for example.

Compression A new option has been added: XPK Compression. XPK is different from the other compressors in that it isn't actually a compressor! It is instead a means of using many different compressors, all of which are in library form and are contained in the LIBS:Compressors directory. For more details, see the
XPK Settings
window.

The Buffer size nnn bytes message now also gives the percentage gain.

Settings Allows you to set PowerPacker and XPK's options. When XPK Compression is selected, the XPK Settings window opens; otherwise, PowerPacker Settings opens. (See Powerpacker Settings)

Packed Like Calculate Size, except it works out the song size when compressed using the selected compression.

Ok, now lets take a look at the

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1.38 PowerPacker Settings

(click Settings in Save Options)

Set PowerPacker compression's options using this window.

Speedup Buffer The larger this buffer, the faster the compression but also the more memory-consuming. Medium is default.

Efficiency The better the efficiency, the smaller the compressed file but also the slower the compression speed. (Decompression speed isn't affected). Good is default.

(PowerPacker compression requires powerpacker.library to be in LIBS:)

XPK Settings

1.39 XPK Settings

(click Settings in Save Options)

You may select an XPK compressor and set its options in this window.

Each XPK compressor is in its own library file. For example, the SQSH (squash) compressor is in a file called SQSH.library. (I've found this compressor to be particularly good). The libraries are contained in the LIBS:Compressors directory.

When the XPK Settings window is first opened, OctaMED loads the names of all the library files in LIBS:Compressors. Select which compressor you'd like to use with the cycle gadget in the top-left corner.

The display boxes show information about the selected compressor. Use the Efficiency slider to set the compressor's efficiency (bear in mind that higher efficiency reduces compression speed).

Some XPK compressors are actually encryptors: they encode the song file using a password, which you must enter again when re-loading the song. Use

the Password text box to set the password. It's ghosted if the selected compressor doesn't encrypt.

Note that by compressing using the apparently useless NONE compressor, song saving can in fact be significantly speeded up (at the expense of memory).

(XPK compression requires xpkmaster.library to be in the LIBS: directory, along with at least one XPK compressor (or encryptor) in the LIBS:Compressors directory. Only a few compressors are provided on the OctaMED disk, but if you have XPK - it's on Fish disk 754 - you're quite welcome to copy over some more. Do make sure you're using a backup of the OctaMED disk though!)

Sample Editor (Display menu -> Sample Editor
Main Control window -> Edit button)

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1.40 Soundcards

Mixing mode Output Devices

Toccata 16-bit

This mode uses MacroSystems' Toccata audio board for high-quality 16-bit output. The support is implemented with toccata.library which accompanies each Toccata board. Any version of toccata.library can be used, but library version V6 or later generally produces better results, allowing higher mixing frequencies and making the playing immune to interruptions by other system tasks.

Current Toccata boards have 14 distinct output frequencies which are available as mixing frequencies.

The size of the mixing buffer is rounded to the nearest 512 samples. Toccata is usable with MIDI, if you use a high mixing frequency in combination with as low a buffer size as possible (512 or 1024).

MaestroPro 16-bit

MaestroPro is a digital 16-bit sound board by MacroSystems. As MacroSystems did not provide a support library for MaestroPro, it has been implemented with the maestix.library which was written by Richard Körber to allow programmers to fully support the card. (oh dear, shame we could'nt say the same for the Aura, see below). This freely distributable library is available e.g. on Aminet,

and a copy is also provided with OctaMED.

MaestroPro can internally clock only at 48 kHz, and this is the only available output frequency.

The size of the mixing buffer is rounded to the nearest 1024 samples. Usually, however, a very large mixing buffer (about 32000 samples or so) is required. This makes MaestroPro output unsuitable for MIDI usage, and real-time editing (due to long response times caused by the long buffer).

Delfina 16-bit

This mode uses the D/A-converter of the Delfina audio board for high-quality 16-bit output. It does not use the DSP features available on the board, simply the output part. Delfina system software (delfina.library) is used. Parts of the support code and testing were made by Teemu Suikki (thanks!).

Delfina has six output frequencies (as of library V2).

The mix buffer can be 32 - 4096 samples in size.

The Aura Window

This window appeared in OctaMED V5.02 under the name Microdeal Sampler Opts.

Unfortunately, unlike other soundcard manufacturers, HiSoft did not and has *still* not, been able to arrange for a programmers support library for their card, making it extremely difficult to support correctly. Allthough we have practicaly pleaded with the manufacturer to help programmers wanting to support their card in music utilities by supplying that much needed Aura.library by themselves, or like the above MaestrPro, a third party, they seem to be unable to do this.

However, give them their due, at the last minute, (two days prior to this CD being pressed), Dave Woodhouse has kindly supplied this for you all to read...

From: David Woodhouse <davew@hisoft.co.uk>
Subject: Re: OctaMED Soundstudio<>Aura Support

Hi Ray

I took another look at the Octamed program last night and got it working.
I just had to set the period value lower as the machine was a basic A1200 with no expansion.
I think it sounds a little better than before, its not brillant but it will probably do.
Perhaps it it would be a good idea to explain in the manual that any period of 360 or less with Aura on a basic machine will be unusable and anything below 200 and the machine needs a reboot.

Regards

Dave
--
David Woodhouse - davew@hisoft.co.uk
HiSoft Systems Tel: +44 1525 718181 Fax: +44 1525 713716
The Old School, Greenfield, Bedford, MK45 5DE, UK

Anyhow, like other programmers, we can do very little to fully
support the Aura card as we sincerely would have liked to due
to the lack of a support library

So, if the software supplied with Aura (or some other sampler),
happens to sample better than it does via OctaMED, simply utilise that and
after saving the sample, load it into OctaMED, it may not be convenient,
but without a support library, it is the only way round these problems.

Believe it or not, when we asked the manufacturers of the Sunrize card
for their library support routines, they said that as they were no longer
supporting the Amiga, they would not supply any help!!
(so much for supporting your previous customers)

Other gadgets in the Aura window:

Minimum Period sets the minimum period limit, i.e. the highest pitch OctaMED
   can play using the card. The smaller the period, the higher the pitch and
   the better the quality BUT the more processor time used.

   The ideal value depends on the speed of your computer, so you have to
   adjust it by hand until you reach the highest possible pitch playable on
   your Amiga. If you set it too high, OctaMED will freeze while playing
   Aura samples (it will return to normal when playing has stopped).

   To set the minimum period, activate Aura.
   Play your 16-bit sample at a high pitch (e.g. A#3), slide the minimum
   period down, play the sample again, and so on, you'll find that your
   Amiga will freeze during play if the minimum period is set too low.
   Set it to such a value that no freezing occurs.

   You can use Settings menu -> Save Settings to save this parameter.

Single Channel Output only outputs sound using the right channel.
This saves processor time.

Fixed Output Rate forces OctaMED always to output sound at the Minimum
   Period rate. All notes are 'scaled' to this rate 'on the fly'.

   Using this option you can play higher notes than the Minimum Period
   correctly (but unfortunately with degraded quality).

Any sound intended to be played through the Aura card must be of the
the 16- bit type. You can easily convert an 8-bit sample to 16 bits by
changing its type to 16-bit (use the Instrument Type window).

Only one 16-bit sample can be played at a time. Although they can be placed on any track, Aura samples always occupy track 3 while they're playing (this track is used for timing). So it's a good idea to enter notes played by Aura samples on track 3. (Both Aura and Toccata can't be used in 5 - 8 channel mode).

Note: The programming tool Enforcer cannot be used while outputting from Aura for technical reasons.

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1.41 SMF Load Options

(Settings menu -> SMF Load Options)

The much-requested support for the Standard MIDI File (SMF) format, used by virually all MIDI programs, is finally here! OctaMED is able to save SMF type 0 songs, and load SMF type 0 and type 1 files. This window provides many loading controls.

To load an SMF-format file, use Project menu -> Open as usual. The file may load correctly first time, but if it doesn't, try changing some of the settings in this window and reload the file (repeat if necessary). OctaMED can't guarantee a completely successful conversion, but with practice the result should be satisfactory (although conversion may take some time).

Gadgets in the SMF Load Options window are:

Max Tracks The maximum number of tracks in the song. The default highest value of 64 may cause 'Not enough memory' reports, so reduce it if necessary. 32 works for almost all MIDI files, 16 for most.

After loading, OctaMED automatically removes unused tracks.

Lines/Block The number of lines per block. As MIDI files are linear (in one long block), OctaMED splits the file into equally-sized blocks and creates an appropriate playing sequence, each block being played only once.

Resolution The number of Tracker editor lines per quarter note (crotchet). So the default value of 8 assumes that there are no notes shorter than a 32nd-note (demisemiquaver).

If you find timing to be inaccurate, try e.g. doubling this value. (This will also double the number of blocks and consequently the amount of memory used).

Offset Adjust Used to adjust minor discrepancies in timing. For example, you may find that a bass drum beat appears on lines 1, 5, 9 (etc.) instead of its correct 0, 4, 8 (etc.). In this case, set Offset Adjust to -1.

Command Pages OctaMED is able to load several MIDI commands and convert them to corresponding OctaMED player commands. You can set the command page each type of command is to use. You may place several types on the same page, but there will be the risk of overlapping commands.

If the command page number is zero (default of all except Tempo), the commands are ignored. The following command conversions are used:

Name	Command	Name	Command	Name	Cmd
Pan	0E	Note Velocity	0C	Modulation Wheel	04
Tempo	0F	Channel Volume	17	Channel Aftertch	0D
		Preset Change	1C		

Don’t Intermix Type 1 Tracks When loading SMF type 1 files, OctaMED tries to interweave the notes in each track in order to use as few tracks as possible. So it won’t normally be the case that each instrument has its own separate track, as is true for MIDI songs.

Select this check box if you’d prefer each instrument to be on its own track.

OctaMED uses instruments 01 to 0G when loading SMF-format files, one instrument for each MIDI channel. The program controls note length by setting every instrument’s Hold value to 6. Default volumes are set to 64.

Stereo support

Finally you can create and use stereo samples with OctaMED!
You’ll find the relevant gadgets at the bottom right corner.

The left-hand display box displays:

(1) 8 or 16, showing whether the current sample is 8-bit or 16-bit

(2) Mono if the sample is mono

(3) L<>R, L> or R> if the sample is stereo. L<>R means that both left and right channels are displayed in the waveform display. L> means just the left channel is displayed, R> means just the right channel.

The right-hand display box displays similar information, but it refers to the copy buffer. (Empty means the copy buffer is currently empty).

Use the S button to toggle between L<>R, L> and R> with stereo samples.

When entering notes with stereo samples, the left channel is played on tracks 0 and 3, and the right channel on 1 and 2. So to play both channels of a stereo sample at once, enter the same note on e.g. tracks 0 and 1.

Edit menu changes

Paste (Overwrite) As Paste except overwrites the existing sample contents, rather than inserting.

Erase To Start/End Erases from the sample start to Range End, or from Range Start to the sample end.

Adjust Y Opens the Adjust Y window

Centralize Centers the range about the white zero line. This allows e.g. Change Volume to be more accurate.

Three items have been moved to the new Tools menu. (Guess which ones!)

The Tools menu

Sample <-> Buffer Swaps the sample with the copy buffer.

Add Workspace Opens the Add Workspace window.

Calculate Range Time Works out the time taken to play the range at the current pitch (to the nearest .001 seconds).

Play Tune Tone Plays a sine sound at the current pitch, for instrument tuning purposes. Stop it using the space bar.

Copy Pitch Copies the current pitch to the instrument's default pitch (in Instrument Parameters), or vice-versa.

The Loop menu

Show Loop Magnifies the loop to fill the whole display (with a bit of leeway either side).

Snapshot Loop Stores the current loop position in memory. Allows you to make adjustments to the loop, then to recall the original loop if you're unsatisfied.

Recall Loop Retries the stored loop position.

Mark Loops the range, current display or whole waveform.

Find Zero Loop In / Out In does a 0> to the loop start pointer and a <0 to the loop end pointer. Out does the opposite.

Play Loop Plays the loop repeatedly.

Range = Loop Marks a range over the loop.

Erase Before / After Loop Removes any portion of sample existing before the loop start or after the loop end.

Pitch In Hz (Settings menu) When on, it displays the Pitch value (near the bottom right of the main window) in Hertz - samples per second - instead of displaying its period.

Create Icons For Samples (Settings menu) saves the PROGDIR:Icons/Sample.info icon with samples when on.

The former Pixel Density (Settings menu) window opener has been changed to Display Settings

Change Volume window changes

(Effects menu -> Change Volume)

Max Clip Allows slight clipping (only active when Check Clip is on). For example, when set to 10, the normal waveform limits are allowed to be exceeded by 10%.

Max Increases the range to the highest possible volume without introducing distortion. (It works by switching Check Clip on and setting Start and End to 999%).

Chord Creation window changes

(Effects menu -> Create Chord)

Major improvement....This window is now the tinkerer’s paradise!

The bank of eight buttons in the window’s center select eight different preset chords. Major, Minor and Sus 4th are three-note chords, the others are four-note.

The Inversion cycle gadget selects which note of the chord is lowest. Root is normal, First makes Chord Note 1 lowest, Second Chord Note 2 etc.

The remaining three cycle gadgets set the actual chord notes:

(1) Basic sets Chord Note 1. Major = E, Minor = D#, Sus 4th = F.
(2) Third sets Chord Note 2. Diminished = F#, Normal = G, Augmented = G#.
(3) Fourth sets Chord Note 3. Sixth = A, Dominant = A#, Major = B.

Here are some examples of chords you can create using these gadgets:

Name	Inversion	Basic	Third	Fourth
Major, 1st inv.	First	Major	Normal	- off -
Minor 7th, 1st inv.	First	Minor	Normal	Dominant
Half-diminished	Root	Minor	Diminished	Dominant
Diminished	Root	Minor	Diminished	Sixth
Major 7th, flat 5	Root	Major	Diminished	Major
Min-maj, 3rd inv.	Third	Minor	Normal	Major

Because higher notes are played more quickly than lower notes, the notes in

the chord won't end together. Switching Erase Trailing Notes on removes the part that doesn't contain all notes in the chord, shortening the sample but ensuring that the notes do end together.

Full Volume doesn't divide each value by the number of notes in the chord, increasing the volume. Distortion may occur.

Play Chord previews the chord by playing one chord note through each sound channel (the final chord will be played through only one channel). Click Mute or press the space bar to stop the chord.

A tip to improve quality: before creating the chord, change the sample to 16-bit (click 16-bit in Instrument Type).
Then click Create Chord, click Max in Change Volume, then change the sample back to 8-bit (click Sample in Instrument Type).
When you've completed reading the ARexx instructions,
try turning it into an
ARexx Script
Pixel Density window changes

(Effects menu -> Display Settings)

(Now called Display Settings)

Minimum Zoom is the minimum value of Display (top left corner of the main sample editor window) in bytes.

Dragging the zoom slider (far right of sample editor) upwards usually zooms in towards the middle of the sample. With Center Zoom Slide on Range on, however, it zooms towards the middle of the current range. Try switching this on, marking a range, and using the zoom slider. Quite neat really.

When Fast Graphics is on (default), the waveform display updates much faster than usual. However, the function occupies about 5K of chip memory, so switch it off if memory is very tight.

The Adjust Y window

(Edit menu -> Adjust Y)

Use this window to adjust the vertical position of the range. Type the required amount of adjustment into the Adjust by numeric box. The number can be -128 to 127; a negative number adjusts downwards.

Clicking Calculate Average Deviation works out the required adjustment to centralize the range; this is probably the most frequent use for this window. To centralize the whole sample, use Edit menu -> Centralize in the sample editor.

Click Adjust to adjust the range. (As usual, shift-click it to close the window as well).

The Add Workspace window

(Tools menu -> Add Workspace)

With this window, you can add extra space (of zero volume) to the sample's start or end. Enter the number of bytes of space to add into the Bytes box.

Alternatively, use the two sliders to calculate the number of bytes:

(1) Factor calculates the number of bytes as whole multiples of the sample size. For example, if the sample size were 2000, a Factor value of 3 would add 6000 bytes to the sample.

(2) Use Adjust to add that little bit extra on to the Factor value. For example, for a Factor value of 2½, set Factor to 2 and Adjust to 50%.

A quick way to add as much space as the sample itself, doubling the sample size, is to set Factor to 1.

Usually you'll probably want to add space to the end of the sample, but use the Add to gadget to add space to the start.

Click Add Workspace to add the space.

Other sample editor changes

An important change: Operations will now act on the whole sample if the range is one byte long (i.e. Range Start = Range End). So an alternative to clicking Range All is to click once anywhere on the waveform, or to leave Range Start and End set to zero.

The scroll bar on the right of the waveform allows magnification of the display. Drag it upwards to zoom in, downwards to zoom out.

Shift-clicking the arrows beside Loop Point (bottom of window) sets the relevant loop pointer to the start or end of the sample. (By the way, dragging the loop pointers is now infinitely faster!)

Input Map Editor

(Display menu -> Input Map Editor)

The Functions window has been removed! There's now a much more flexible way of setting a key's function.
It works like the new Keyboard Shortcuts window (see
Keyboard Shortcuts
),
in that you specify the OctaMED command required to perform the function. You can also run any ARexx script using the keyboard.

The cycle gadget at the top of the Action area states what general action a key should have. Select None if the key is to enter a note as normal.

I'll briefly list the commands required to perform the functions given in the old V5's Functions window.
Make sure the cycle gadget shows OctaMED Command, then type the required command into the Command text box.

Functions	Command	Functions	Command
Play Song	pl_playsong	Prev Block	ed_gotoblock prev
Play Block	pl_playblock	Next Block	ed_gotoblock next
Cont Song	pl_contsong	Edit	op_set edit toggle
Cont Block	pl_contblock	Space	op_set space toggle
Stop	pl_stop	Chord	op_set chord toggle
Curs Up	ed_advanceline up spc	Del	ed_clearnotecmd note
Curs Down	ed_advanceline down spc	Hold (-|-)	ed_enternote hold
Curs Left	ed_movecursor left	Prev Inst	in_select prev
Curs Right	ed_movecursor right	Next Inst	in_select next
Prev Track	ed_gototrack prevnote	First Line	ed_advanceline fkey 6
Next Track	ed_gototrack nextnote	Last Line	ed_advanceline fkey 10

1.42 Song Annotation

(Song menu -> Set Annotation)

Greatly improved: you can now attach a whole text file to a song!
So no need for those 'readme' files you always find on module disks.

Create the file in an external text editor, then click Load File to load it.
Save Text saves the text under a chosen name, and Discard Text removes the
text from memory. The text is (of course) saved with songs.
By clicking on the "Show Upon Loading" selector, you will ensure that
your saved text is opened immediately the module is loaded back in.

Note that tab characters (ASCII code 9) can't be used in the text.

Block Properties

(Block menu -> Set Properties
Information window -> shift-click B button)

Cmd Pages sets the number of player command pages in the current block.
Using this feature, notes can have more than one player command attached to
them. For example, if you wanted the note G-2 to have a sample offset
of $500 (hex) and to play at volume 32, you would use this:

Command page 1: G-2 11905 Command page 2: G-2 10C32

Press Shift-Tab to cycle through command pages in the Tracker editor. So to
enter the above, first increase Cmd Pages to 2 (using the > button). Now
enter G-2 11905 in the Tracker editor, press Shift-Tab, then enter 0C32.

Note: two pitch-changing commands compensate each other
(e.g. 0205 + 0102 = 0203).
Several 00/04/14 commands can be used together, but only the one on
the last page counts. 03 must be on page 1 if used with held (-|-) instrs.

The Tracker editor's title bar shows the current page and the total number
of pages in the block. Editing operations such as Cut / Copy / Paste Range
act on all command pages at once. The number of pages a block can have is
virtually unlimited (well, all right, the maximum is 32767!).

Instrument Type

(Instr menu -> Type
Main Control window -> Type button)

Normal Amiga samples and synthetic sounds are 8-bit, but if you have one
of the supported 16-bit cards (see
Soundcards
) allow you to work with
much higher quality samples.

This window provides some 16-bit options for use with those cards.

Click on the 16-bit radio button (bottom left) to make the
current sample 16-bit.
A 16-bit sample can be converted to 8-bit by clicking on Sample
(but you'll lose sound quality).

The Stereo check box is checked when the current sample is in stereo.
Click on it to change a mono sample to stereo and vice-versa (you'll need
some free memory for mono -> stereo, in fact double the sample's size:
press Ctrl-F and check the largest Chip number).

Output Device selects whether the current sample should be played through
the Amiga or through one of the chosen
Soundcards
(The Toccata option is only shown if a Toccata card is actualy ↩
connected).

Transpose

(Edit menu -> Transpose)

Just the one check box added, Instrument Slots. When on, the three Change
Instrument buttons - Change, Swap, Delete - act on the actual instruments
themselves rather than notes played by the instruments.

Try it yourself! Load an instrument into slot 01 and another into 04. Now
select 01 for Source (i.e. select instrument 01 and click Source in the
Transpose window), and choose 04 for Destination. Finally switch Instrument
Slots on and click Swap. Notice that instrument 01 has swapped slots with
instrument 04.

Delete flushes the source instrument from memory.

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1.43 Keyboard Options

(Settings menu -> Keyboard Options)

All the gadgets involving keyboard shortcuts have been moved to the Keyboard Shortcuts window. These include the two numeric keypad cycle gadgets, and the Space = Del and Protracker Shortcuts check boxes.

The new F6-F10 = Highlights check box affects the F6 - F10 keys (used to move to certain lines in the Tracker editor). It sets the positions moved to by these keys to the first five highlighted lines in the current block. Useful for widely-spaced blocks with few samples in them (the beginning of a rave track, for example?).

Poly Play: When on (and edit mode is off), playing notes using the keyboard will play the notes through alternate sound channels. This gives a kind of resonating effect. Try it!

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1.44 Keyboard Shortcuts

(Settings menu -> Keyboard Shortcuts)

This window allows you to change and add to OctaMED's keyboard shortcuts. You can set practically any key combination to operate almost any OctaMED feature. You can also run any
ARexx Script
script
using the keyboard.

The basic steps to setting a keyboard shortcut are:

Step 1) Create space for a new shortcut and name it.
Step 2) Set the shortcut's key combination.
Step 3) Enter the operation to be performed by the shortcut

Step 1

On the window's left is a list of all shortcuts. Use this list to accomplish step 1) above. Use Ins. New or App. New to insert or append a blank shortcut. Now click inside the Name text box and rename it (maximum name length is 99 characters).

(You may also delete a shortcut in this section. Select the shortcut by clicking on its name in the list, then click Delete)

Step 2

Here you decide which key combination triggers the shortcut. You can set:

(a) A qualifier - the key(s) you hold down (e.g. Shift, Alt, Amiga, Ctrl)
(b) The actual key you press together with the qualifier (e.g. the V key)
(c) Whether the caps lock should be on or off (or to ignore the caps lock)

Set the qualifier using the first four cycle gadgets. The Shift, Alt and Amiga gadgets each have the following options:

Ignore Ignores the status of the Shift/Alt/Amiga key. That is, it doesn't matter whether Shift/Alt/Amiga is held or not.

Either Either of the Shift/Alt/Amiga keys (left or right) must be held.

Left The left key must be held. (The right one can optionally be held)

Right The right key must be held. (The left one can optionally be held)

Both Both left and right keys must be held (rare!).

None Neither key must be held (not quite the same as Ignore).

Left Only Only the left key must be held (not the right).

Right Only Only the right key must be held (not the left).

The Control and Caps Lock cycle gadgets have Ignore, On and Off options. Ignore ignores the status of the Ctrl/Caps Lock key. On means it must be on (or held in Ctrl's case), Off means it must be off.

Set the key you press together with the qualifier using the Mapped and Raw gadgets. If the key is mapped (i.e. a letter, number or symbol appears on the screen when you press it), click inside the Mapped gadget and type it in.

If the key is not mapped, you'll have to type its raw-key code into the Raw gadget. Here's a list of raw-key codes you may need: (NK = num. keypad)

Key	Code	Key	Code	Key	Code	Key	Code
Esc	69	F8	87	NK5	46	<down>	77
F1	80	F9	88	NK6	47	<left>	79
F2	81	F10	89	NK7	61	<right>	78
F3	82	NK0	15	NK8	62	Backspace	65
F4	83	NK1	29	NK9	63	Tab	66
F5	84	NK2	30	NK.	60	Return	68
F6	85	NK3	31	Enter	67	Del	70
F7	86	NK4	45	<up>	76	Help	95

Step 3

Here you decide what effect the key combination will have. Use the cycle gadget to choose from four possible effects:

(a) OctaMED Command — The option you'll use most often: it executes an OctaMED ARexx command. Type it into the Command box, together with any required parameters. To execute more than one command, use the OP_MULTICMD command.

(b) Execute ARexx File — Runs an external ARexx file. Type its name into the Command box (unless the file is in PROGDIR: or REXX:, specify the full path name). The filename should end in .omed.

(c) Ext. ARexx Command — Sends an ARexx command to another program. Type the command into Command, and the program's ARexx port name into ARexx Port.

(d) Launch Program — Loads and runs a program from disk. Type its name into Command.

The maximum length of Command is 255 characters.
Note: To use Execute ARexx File or Ext. ARexx Command successfully, make sure you've run RexxMast.

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1.45 Other Gadgets and Notes

The Window text box allows you to create shortcuts that only work in a particular window. In this way, the same key combination can be used for different purposes in different windows.

Select required shortcut, then type the window's ARexx name into the Window.
If the same key combination is defined more than once as 'global'
(not window-specific) and window-specific, the latter has priority.

Load and Save selectors load and save keyboard shortcut files.
The default name is PROGDIR:Soundstudio.defkeyboard.
(PROGDIR: is the directory in which the OctaMED program resides).
When loading, OctaMED will ask whether you'd like to keep the existing
shortcuts (adding the new file to the end of the list), or to replace them.
(removing them from memory)

Once set, you may alter a shortcut's name, key combination and effect.
Simply click on its name in the list and make the desired changes.

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1.46 Keyboard Directory

You'll find many example shortcut files in the Keyboard directory (or in the Keyboard directory of your hard disk or non-bootable disk). Simply click on Load and select the appropriate file.

Included in the directory are definitions for the shortcuts removed from Keyboard Options.
The four Pad files contain the four numeric keypad settings.
PTKeys defines Protracker shortcuts.
(See the next section for implementing Space = Del)

(1) LAmiga contains many Left Amiga shortcuts which open various windows (to accompany the Right Amiga shortcuts).

(2) Return effectively adds a new feature: press Return to close the currently active window (this doesn't apply to the three main screen windows).

(3) In V5, by switching the caps lock on you could enter programmable keys
without holding Shift and use the playing sequence without holding Ctrl.
Load the Caps file to resurrect this feature.

If you'd like any of these shortcuts to be default, make sure you click Yes
in the 'Retain existing shortcuts?' requester when loading the appropriate
shortcut file. Then save the shortcuts using the Save button.

A fair amount can be learnt about keyboard shortcut creation by studying
these example files. Or try adding the following shortcuts yourself...

Some more example keyboard shortcuts

To add one of these shortcuts, click on Ins. New and type its name into the
Name box. Now type the key into the Mapped box and press Return,
(or type the key's raw-key code into Raw if necessary), now set the correct
qualifier, and finally type the shortcut command into the Command box.

(1) Name: Space = Del. Key: space bar (no qualifier).
Command: pl_playstatecommand "pl_stop" "ed_enternote 0"

You'll have to delete the Space (STOP) shortcut before you can use this.
Find its entry in the list, click on it then click Delete.

(2) Name: Del with Caps. Key: Del (Caps Lock = On).
Command: ed_clearnotecmd note cmd

With the caps lock on, the Del key will now act like Shift-Del.
[Requested by Chris Wright]

(3) Name: Ctrl-9 (90% Vol). Key: 9 (Control = On).
Command: sa_changevol 90 90. Window: sampleeditor (type into Window box)

With the Sample Editor active, press Ctrl-9 to reduce the range's volume
by 10%. Try creating a similar shortcut (perhaps Ctrl-1) to increase the
range by 10%: change the 90 90 to 110 110. [Requested by Dave Sullivan]

Note that this shortcut won't work in the Change Volume window. You'd
have to create an identical shortcut with Window set to sa_changevolume.

(4) Name: Ctrl-P (PolyPlay). Key: p (Control = On)
Command: op_set polyplay toggle

Toggles Poly Play (Keyboard Options window) on/off.

(5) Name: Sh-Ctrl-C (App blk + copy). Key: c (Control = On, Shift = Either)
Command: op_multicmd "op_update off" "rn_copy block"
"ed_newblock clonecurr last" "ed_gotoblock last"
"rn_paste block" "op_update on"

Creates a new block, and copies the current block into this new block.

(6) Name: Ctrl-R (Read file). Key: r (Control = On)
Command: c:ppmore ps OCTAMED. Cycle OctaMED Command to Launch Program

Reads a text file by running PPMore (if it exists) on OctaMED's screen.

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1.47 Fonts

(Settings menu -> Font)

Using this window you may change the fonts (styles of writing) used in three different areas of OctaMED.

This feature has been made possible by a new way of drawing windows, also written by OctaMED's author, called Window Builder. Windows can now use fonts of any size (within reason!) because OctaMED adjusts the size of gadgets and windows to suit the new font size.
If the window wouldn't fit on the screen using the selected font, however, it's drawn in the normal Topaz 8 style.

In fact, OctaMED calculates a window's gadget sizes and positions whenever it's opened, so you may notice a slight delay when you open a window. Also, as a little spin-off the windows' layout has been changed a bit and they all look a bit nicer and centralize on the screen etc. (Lovely!)

You change the font used on the screen (i.e. title bars, menus etc.), in windows and in the Tracker editor separately. Click on the appropriate GetFile gadget (left side of window) to select fonts, or switch the relevant Default check box on to select the system default font (Topaz 8 unless you've changed it from the Workbench).

On clicking a GetFile gadget, OctaMED loads the names of all the fonts currently in your FONTS: directory. If you'd like to use a font from another disk, the easiest way is to copy the font over to your SYS:Fonts dir
Here's how to do it:

(a) On the Workbench screen, open a shell (Project menu -> Execute Command, then type newshell and press Return)

(b) In the shell that appears, type makedir fonts:<font>. For example, if you wish to use Diamond, type makedir fonts:Diamond.

(c) Type copy <fonts_disk>:Fonts/<font>/<point_size> fonts:<font>. For example, if your fonts disk is called Art, and the font you wish to use is Diamond 20, type copy Art:Fonts/Diamond/20 fonts:Diamond.

(d) Finally, type copy <fonts_disk>:Fonts/<font>.font fonts:Diamond. So you might type copy Art:Fonts/Diamond.font fonts:Diamond.

You may use any font except ColorFonts and AGFA Compugraphic^1 scalable fonts (used with many wordprocessors). Also, only non-proportional fonts may be used in the Tracker editor, and proportional fonts may cause slight display problems under Kickstart 2.04.

If the font is too large, you may wish to change the screen mode to a higher resolution e.g. 640 x 512 (select Settings menu -> Screen -> Screen Mode). If you like a large font in the Tracker editor in 4-track blocks, try loading the widetop font found in this disks fonts drawer into Editor Font. (Widetop is installed on a bootable floppy or optionally on a hard disk.).

You can, of course, use the special ^{1}Compugraphic font supplied with this program, to print your scores via the notation editor window in this much nicer format.

@{ "Miscellaneous Options " Link Miscellaneous_Options}

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1.48 Miscellaneous Options

(Settings menu -> Miscellaneous)

All sorts of little settings here. Both H -> B and Workbench Open/Close have moved to check boxes. In the latter case, this means that by switching the check box off and saving settings, OctaMED will attempt to close Workbench every time it loads.

All other options are new. Here they are:

Overwrite Requesters Enables you to switch off those sometimes irritating
'File already exists. Overwrite?' requesters.

Warn if Disk Full

When on, a requester appears if the song you're trying
to save probably won't fit on the disk. Be warned, though:
it's impossible to predict this accurately, and the file might not fit
even if the requester doesn't appear.
Also, the requester always appears when saving to RAM:,
so just ignore it in this case.

(Note that this only applies to saving songs)

Size-Only Window Zoom

Normally, clicking a window's zoom gadget shows only
the window title bar and moves the title bar to its default position.
(For a demonstration, drag any window to a different position, then click
on its zoom gadget. It moves back to its original place, yeah?)

With this check box on, the window won't move back to its default
position, it will stay right where it is.
But only under Kickstart 3.0 or higher...

Use ReqTools

Uses the ReqTools normal / file / screen mode / font
requesters instead of ASL. Requires reqtools.library. If you wish to
reload the available fonts (see
Fonts
), you should switch this off.

(Note that if asl.library isn't available on startup but reqtools.library
is, OctaMED will automatically use ReqTools, regardless of the state of
Use Reqtools).

Load Instr From MainCtrl

When on, typing a name into Main Control's instrument name text box
attempts to load the file.
When off, the instrument is simply renamed.
Even when on, press Alt-Return in the text box to rename the instrument.
Such fine detail in this program...

Default Volume Mode

Selects whether the cycle gadget in Song Options displays Decimal or
Hex Volumes, in other words, cycle this gadget to Hex and save settings
if you prefer using hex volumes with command 0C.

Gadget Shortcut Qual

Choose the qualifier used with gadget shortcuts: Left
Alt (default), Right Alt, Left Amiga or none at all (i.e. gadget
shortcuts are disabled). When using Left Amiga, beware of the system
shortcuts L.Amiga-N and M!

Actually, gadget shortcuts now apply to:

(a) Text and numeric boxes (they activate the box)
(*b) Cycle gadgets (hold Shift with the qualifier to cycle backwards)
(*c) Sliders (hold Shift with the qualifier to decrease the value)

as well as action buttons and check boxes.
Those marked with a * are only available under Kickstart 3.0 or higher.

Default HQ Mode Sets the default High Quality Mode (Song Options).

Default Slow HQ Mode Sets the default Slow HQ (Tempo, see §10.4).

Help Viewer

Selects whether to use AmigaGuide, Hyper or XPKGuide to display the on-line help system.
The advantage of the latter two programs is their ability to load compressed files.
With Hyper, you may compress OctaMED.guide with PowerPacker; with XPKGuide, with an XPK compressor.

Make sure the directory containing Hyper or XPKGuide is in the command path (use the Path command). It's probably safest to keep them in C:.

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1.49 Changes to Other Windows

Save Timer: Active switches the save timer on/off. If Open Save ↩
Window is
off, the Save Options window only opens the first time the time elapses.
After this, the song is saved using the current save settings.

Synthsound Editor: The program-related gadgets are now in a new SynthEd

Program window. You can close it if not required, and reopen it using the Program button (slightly below center of main synth editor window).

There's a new Project menu item, Reset Temp Wave. It 'resets' the right-hand (or temporary) waveform, clearing it and setting its length to 128.

Sample List Editor: After clicking Add Dir and choosing a directory, there's a new Top Of The List button in the requester. Revolutionary! Also, the append/replace requester appearing in V4 when loading a new list has been resurrected. In the menu, Clear List clears the entire sample list (after confirmation).

Song Selector: The display box has changed into a text box.

Playing Sequence:

Two new buttons, Append and Append Curr, work like Insert and Insert Curr except they add the new entry to the bottom of the sequence. This should make creating playing sequences from scratch a bit easier.

Song Options:

If you switch to e.g. 7 channel mode, and some of the blocks in your song have less than 7 tracks, OctaMED will now offer to add the missing tracks to these blocks.
The High Quality Mode gadget can now be switched on in 4-channel mode, but it has no effect on sound quality.

Relative Track Volumes:

Just one layout change, only 8 tracks are now shown simultaneously. (16 previously)
If you use MIDI you may need to use the two arrow buttons a bit more frequently to access tracks higher than 7, but we think the window looks a lot neater for the change.

Block List:

There's a new Show Unused check box. When on, any block that hasn't yet been used in the playing sequence is marked with a *.

Instrument Parameters:

When the new Disable check box is on, OctaMED pretends the current instrument isn't there! All notes played by it in the Tracker editor are completely ignored.
This was added at the request of a user who asked for it for what he calls 'multi-tracking'.
When recording songs on to tape, he likes to record selected instruments on to each track of his tape recorder.

The instrument selection gadgets now update much more quickly when, for example, using the selection slider. Also, the Vol slider now displays its value in decimal and hex (as in the very old V4).

Instrument Load Window: The current instrument number is now shown beside Prev Inst.

Mouse Options: Position Cursor now reacts to clicking on command digits.

Palette Window:

The new check box WB Palette (on by default) uses the palette used by Workbench. Switch the check box off to adjust the color sliders.

Miscellaneous improvements (not concerning windows)

(a) The right mouse button no longer shrinks / expands the currently active window as in V5. Instead, it displays a set of menus as usual. It can also once again be used to mark a range in the Tracker editor (use the Mouse Options window to select this), and menu shortcuts do work over the editor now.

(b) OctaMED now takes advantage of Kickstart 2.04's improved loading and saving routines, so disk operations should be faster.
(We have not used later Kickstarts to enable those with older machines to use this new version, providing they have enough memory and a nice fast accelerator)

(c) The bug which caused OctaMED to sometimes crash on quitting has finally been fixed. Tieijo had in fact made a typing error! :)

Plus, of course, far too many other bugs fixed and minor enhancements made to even think about listing them all!

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1.50 Using the monitor for digitizing

Monitoring/Digitizing

Any user who tried sampling using V5 will be relieved to hear it's been very dramatically improved!

Instead of the quirky, slow window, OctaMED now opens a black area at the bottom of the screen. Almost all multi-tasking is disabled (high priority operations such as mouse pointer moving and disk access are still available).

Controling the monitoring / digitizing process is now much how it was before V5. When monitoring, click inside the black area to quit. You may notice some crackling, this is quite normal and won't affect digitizing (thankfully!). When digitizing, click to start the process or quit using the right mouse button.

The small gadget at the top left corner of the black area selects whether input should be accepted from the left or right channel (half) of a stereo sampler. (If you own a mono sampler, ignore this gadget).

You can now sample from an Aura, Toccata, MaestroPro or Delfina 16-bit card.

You will no doubt notice the dramatic improvment in the Aura support compared with the previous version and this is due in part to the close laison between Dave Woodhouse at HiSoft and ourselves. (Thanks Dave)

Simply type the required sample length into Buffsize.
Then in the Instrument Type window, set the current instrument's type to 16-bit and set its output device to Aura or Toccata etc, providing you have the card fitted of course, now click Monitor or Digitize.
Because of the new 16-bit support, the Mix routines and Sample to Fastmem additions there is now no limit on sample length, the only limit being of course, the amount of memory that you have.

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1.51 tutorial

Soundstudio Features
~~~~~~~~~~~~~~~~~~~~
This material is was written by Teijo - Ed - Ray and is copyright 1996

This file lists just some of the changes and new features between
OctaMED V6 and OctaMED Soundstudio V1. (still more to be added)

(if you have'nt seen V6 and are only using V5, then you're in for a suprise)

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~~~~~~~~~~~~~~~~~~~~

1.52 Mixing Routine

This is the most significant new feature; instead of the old 4- ↩
channel
mode which was tightly tied to the audio hardware of Amiga, the mixing routine is hardware-independent, and can use several output options. Supported output devices are Amiga (8- and 14-bit), Toccata (16-bit), MaestroPro (16-bit) and Delfina (16-bit). It's also possible to record digital sound data directly onto disk at desired resolution (8/16) and sampling frequency.

The mixing routine allows up to 64 independent audio channels, supports both 8- and 16-bit samples, user-specified mixing frequency (constrained by the limitations of the output device), trackwise panning, playing samples backwards, ping-pong looping, playing samples from Fast RAM, a six-octave pitch range, OctaMED synthsounds, stereo and mono modes, real-time echo/cross-echo and stereo separation control and high-quality interpolation for recording digital data on disk.

The mixing routines are written in optimized assembler code, for optimum versions for both 68000 and 68020 + greater, though mixing is very slow on the 68000.

As a rough example on the speed of the routine, the A3000/25 can play about 10 channels at 48 kHz thru Toccata.

Also, to support the mixing routine, OctaMED can now load S3M and also FastTracker 1.0 modules.

As I said, you can store the module (or parts of it) onto disk directly as digital sample data. This could be used, for example, for creating a drum loop sample by constructing it with several tracks, and then saving it...the resulting sample only takes one channel and it can be used anywhere. A special "Smoothing" switch is available for recording onto disk. It filters unwanted frequencies away, resulting better audio quality than what you would get in 4 channel mode. On the 68060, it's useful in real-time playing, as well :-)

The fact that the audio data is mixed by the processor also opens exciting possibilities for performing digital signal processing at the same time. OctaMED Soundstudio offers digital 'Echo' and 'Cross Echo' in real time. I hope to extend the array of DSP functions in the future PC versions.

Playing 8 or more channels....

Choose "Set Options" from the Song menu, click 1-64 Ch Mixing.
Then choose "Mixing Parameters" from the Settings menu and set Max.

Channels to the desired number of channels. Loading a S3M-module or an
OctaMED module using mixing (which are extremely rare at the moment),
will cause these settings to change automatically.

Loading a Tracker or MED mod in Mix mode...

First open the "Settings" window and highlight "Miscellaneuos" then click
either MMD or Tracker Mix and then your old mod will load ready for use
with the new mix settings.

It’s up to you what happens after this, select "Settings" and then
highlight "Mixing Parameters" to see your choices.

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1.53 Notation Editor

The notation editor, which didn’t exist in V6, is now back.
It is vastly enhanced. Main highlights:

* Up to 16 staves, each tracker track can be assigned to any staff.
  The staves can be named, and their vertical positions and width
  can be adjusted. Treble, bass and alto clefs are available.

* Time signature freely selectable (instead of only two choices,
  as in V5). Measures can be added to a block at a single click.

* A Compugraphic notation font is provided for better print quality.

Some people have been longing for a top quality "professional" notation
editor, such an editor won’t ever appear in the Amiga OctaMED version.
It would be practically impossible to cross professional notation with
tracking, and the result would probably be a big kludge that nobody is
satisfied with.
For professional quality notation, OctaMED songs can be exported as
MIDI files to a dedicated "notator" program.

Opened through the Display menu menu_display}, the notation editor is
an alternative method of displaying your song. It uses standard musical
notation - notes, rests, time and key signatures and so on -
rather than the more computer-friendly notation used in the Tracker editor.
The music can also be printed out and played on a musical instrument.

The notation editor is strongly bound to the Tracker editor. After all, the
two editors are just two different ways of displaying the same song. So
when you add a note to the song in the notation editor, the note is also
added in the Tracker editor. Player commands, however, can only be entered
in the Tracker editor.

OctaMED is primarily a tracker-based sequencer, and the notation editor exists as a different way of displaying and entering notes, rather than a comprehensive and professional musical notation system. That said, the Soundstudio's notation editor is much more powerful than the basic editor provided with versions up to OctaMED V5, and should be more than adequate for most of your needs.

Basic operation

By default, two staffs (treble and bass) are displayed, in the key of C major and in 4/4 time. You can change this using the Staff Setup and Signatures windows. Only one set of staffs is ever
shown on the screen at once, but you can set the number of measures shown using the Notation Display Setup window
By default, only one measure is shown at any one time.

Before any notes can be shown on the staffs, you must decide which staffs show which Tracker editor tracks. For example, you might want the treble staff to show notes played on track 0, and the bass staff to show notes on tracks 1 and 2. Set this up in the Assign Tracks window.

On the notation editor's title bar, you'll see something like Block 0/2 - Lines 0 - 15. This means the editor is currently showing lines 000 to 015 of block 0, the last block being number 2. One Tracker editor line is displayed in the notation editor as a 16th note. So, for example, a quarter-note is four Tracker editor lines long.

If the staffs are partially hidden, use the horizontal and right-hand scroll bars to show a different part of the staffs. Because only one set of staffs are shown at once, use the left-hand scroll bar to show a different part of the song on the staffs. The Tracker editor and notation editor are in sync, so that whatever is currently showing in the notation editor is also showing in the Tracker editor, and vice-versa.

To enter notes, make sure Edit is on (Main Control window and select a note in the Tools window Now click where you require
the note to be on one of the staffs.
If you hold down the mouse button and drag over the staffs, you can hear the note corresponding to its staff position: this note is shown in the Tools window. The Tools window also shows the Tracker editor line corresponding to the mouse pointer's horizontal staff position.

The Project menu window lists the following items:

Print Opens the Print Notation window to print the specified measures in the selected degree of quality.

Exit Notation Editor Closes all windows associated with the notation editor.

The Windows menu opens the following windows:

Assign Tracks Where you decide which staffs show which tracks.

Staff Setup You can add and remove staffs, name them, decide

	what clef they have...
Signatures	Set the time and key signature here.
Tools Window	Usually open. Select a note or rest from this window to add to a staff.
Display Setup	Change the width of the staffs, whether their names are shown, the number of measures shown per line and more.

The Print Notation Window

Here you print out the song in standard musical notation; you could use the printout as sheet music for playing on a musical instrument.

Firstly, set where the printout is to start and end. Start gives the starting measure, End the ending measure. The Set buttons set the starting or ending measure to the measure currently displayed in the notation editor, or, if more than one measure is displayed, to the first measure displayed.

Next, choose the print quality using the Resolution cycle gadget. The first option prints using the standard Amiga font, the other three use the better-quality Compugraphic font. The higher the number, the better the quality, but the slower the print speed. (It’s always the way, isn’t it?)

Finally, click Print. In the requester which appears after a while, click Stop to interrupt printing.

The Assign Tracks Window

This window is all about Tracker editor tracks. You can tell OctaMED which tracks should be displayed on which staff. You can also indicate the direction of the stems of each tracks’ notes: up, down, or automatic.

Each row in the window sets the staff and stem direction for one particular track, the number of which is shown on the left.

By default, the staff number of all tracks is 0, meaning that no tracks are displayed. So, for example, to show track 2 on the first staff, set track 2’s slider to 1. If track 2 happens to be empty (in the Tracker editor), you’ll see a rest appear on the first staff; otherwise, some of the notes in track 2 will appear.

You can display as many tracks as you like on one particular staff, but it’s best to stick to a maximum of 2, otherwise it might look a bit messy. If you find you’ve run out of staffs, add some more using the Staff Setup window.

Set the stem direction using the cycle gadgets on the far right. Up means that all the notes played on that track will have their stems going up, irrespective of their pitch. Similarly, Down forces all stems down. This is good for choral music, for example, as you could have all the sopranos’ stems going up and the altos’ going down.

With Auto set, each individual stem goes up or down depending on that note's pitch. If the note is below the staff's middle line, the stem goes up; otherwise, it goes down. This is particularly useful when only one track is displayed on the staff.

The Up and Down gadgets shift the eight track numbers up or down. Use these buttons if you have more than 8 tracks in your song.

The Staff Setup Window

Use this window to add and remove staffs, and change their properties.

The top region contains buttons to add and remove staffs, and to select a staff. Current Staff: shows the staff number currently selected, and the total number of staffs. Use the arrow buttons beside this display to select a staff. (The selection is used by other gadgets in this window).

The name of the selected staff appears in the Staff Name box. Normally the staff is nameless; type a name into the box to name the staff. The name will appear on the staff's left in the notation editor. (To prevent the names appearing, switch off the Display Staff Names check box in the Notation Display Setup window).

The next row of gadgets adds or removes a staff. Insert New Staff inserts a new staff before the selected one. Append New Staff adds a staff after the last one. Delete Staff removes the selected staff. The maximum number of staffs is 16.

TIP: If you use a standard 640 x 256 screen, and you add more staffs, it can be annoying that only two staffs are displayed at any one time. So, try the following:

(1) Outside the notation editor, Select Settings menu - Screen - Screen Mode.

(2) Set the screen's height to, say, 350. Making sure AutoScroll is on, click Ok.

(3) Drag the pointer to the bottom of the screen. You've got some extra space now! So use the notation editor's sizing gadget to enlarge the window as required, and move the windows below the notation editor (perhaps the Tools and Information windows) to the bottom of the screen.

The bottom region contains the properties of the selected staff. Space Above and Space Below contain the vertical space, in pixels, above and below the selected staff. If you'd prefer the staffs to be closer together or further apart, try changing these values. Also, if you find high notes (using many ledger lines) to be cut off in the notation editor, try increasing the Space Above value. Similarly with low notes and Space Below. Select the staff's clef - Treble, Bass or Alto - using the Clef cycle gadget.

When using the notation editor, it's often best to stick to one instrument,

played on one track, per staff. If the selected staff always uses the same instrument, set the Def. Instr (default instrument) slider to the instrument's number. Now when you click on that staff in the notation editor with a view to adding a note, the default instrument is automatically selected. This saves a bit of effort.

The Signatures window sets the song's time and key signature.

Set the time signature using the two upper sliders, both initially set to 4 to represent 4/4 time. The top slider can have a value of 1 - 8, the bottom slider 1, 2, 4 or 8. So strange signatures like 5/8 and 7/1, as well as standard signatures like 3/4 and 2/2, are possible.

Set the key signature using the bottom slider. The slider value is the number of sharps or flats; if the slider knob is right of center, the key is sharp, otherwise it's flat. The selected major key, and its relative minor, is shown below the slider.

The Tools Window

Use this window to select a note or rest to add to a staff. It's opened automatically with the main notation editor, but you can close it using its close gadget, then reopen it through the notation editor's Windows menu.

If the note or rest you require is not shown in any box, you can type its length directly editor lines, into the Length (lines) box. As the above table shows, one Tracker editor line is equivalent to a 16th note. So notes shorter than a 16th note are not allowed.

Now moveing the mouse pointer over one of the staffs. The selected note or rest appears. As you move the mouse, the Tracker editor line number corresponding to the pointer's position on the staff is shown below the Length (lines) box. Now hold down the left mouse button. The Tracker editor note corresponding to the pointer's position is now also shown. Release the mouse button to add that note.

Just the gadgets on the far right, a display box above a slider, are left. They tell you which staff, and more importantly which Tracker editor track, you are currently editing. This is particularly useful when more than one track is shown on one particular staff.

The Notation Display Setup Window contains settings relevant to the general display.

Display Width is the width, in pixels, of each staff. By default it's as wide as the screen, but this doesn't allow space for the window borders and scroll bars, so you need to use the horizontal scroll bar to see the far right of the staffs. Try setting the width to 600 (for a 640-wide screen) to view the whole width of the staff at once.

Switch off Display Staff Names to remove the staff names from the notation editor. (Staff names are set in the Staff Setup window.)

Measures/line is the number of measures (bars in Britain) shown on the screen at any one time. 1 is the usual setting, but 2, 3 and 4 are also good values.

Positioning Mode affects the order in which the song's blocks are shown. In Block-Based mode, dragging the notation editor's left-hand scroll bar shows the blocks in numerical order: block 0, 1, 2 up until the final block. In Song linear mode, the order is taken from the playing sequence.

For example, if the playing sequence was 002 003 002 000 001, dragging the scroll bar would show block 2, 3, 2 again, 0 then 1. So the blocks are shown in the order in which they're played when you click Play Song. This gadget affects printing, so to print the song in the order in which it's played, select Song linear mode.

FastMemPlay

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1.54 FastMemPlay

FastMemPlay is a new feature for use in the 4-channel mode. As the ↩ name implies, when this feature is activated, samples can reside not only in Chip RAM, but also in Fast RAM. You can therefore fully utilize all the memory you have installed. The FastMemPlay-feature also offers a few other advantages; the samples may now be as long as the memory allows (the old limitation was 131072 bytes), and you can also use odd offset and length for repeat. (All of these features are automatically available when using the mixing routine.)

FastMemPlay Window

Triggering ARexx Commands

main

1.55 Triggering ARexx Commands

The new player command 2D is suitable for controlling events that ↩ must be synchronized with playing the song. You can define up to 256 events which can then be launched in the song using the command 2D. The possible events are: sending an ARexx command to OctaMED or some other program, launching an ARexx script or even launching another program.

Replace Notes

main

1.56 Replace Notes

This is a new window which allows you to do powerful search-and-replace operations on notes, instrument numbers, commands, or any combination of them. For example:

```
    C-2 2xxxx -> D-2 3xxxx
    xxxxx0FFF -> xxxxx0000 (remove commands 0FFF)
    xxxxx09xx -> xxxxx0000 (remove all TPL change commands)
```

The functionality of this feature is fully available for use by ARexx scripts.

MIDI Controllers

main

1.57 MIDI Controllers

The set of command numbers 31 - 3F have now been reserved for MIDI users.
The old way of using MIDI controllers required a combination of commands 05 and 00.
Now you can map any controller to a single command 31 - 3F.
Plus, you can also control MIDI Registered and Non-Registered Parameter Numbers with the same set of commands (3 pairs of 05/00 commands would be required for that).

MIDI Slave Mode

Improved ARexx Interface

main

1.58 Improved ARexx Interface

There are 28 new ARexx commands and 9 improved commands.
Some powerful new commands include finding and/or replacing notes/instrument numbers/commands (see
Replace Notes
), direct handling of copy buffer

contents, and sending MIDI messages (useful for keyboard shortcuts).

The above features only the most significant changes since V6, but they
are not by any means the only ones.
I hope, after a years work, you will like it.

Smaller Features

main

1.59 Smaller Features

* A simple window for easy viewing and selecting of instruments in ↩
memory.
* Default directories for loading songs, instruments and executing ARexx
scripts can be set and saved.
* ARexx scripts can be executed with a new menu item + file requester
combination.
* Instead of requesting the file format when saving instruments, the
Sample List Editor now has menu items for default formats.
* The Song Annotation window can be (optionally) opened automatically
when there's information embedded in the song just loaded.
* Cut/Copy operations now optionally affect either all command pages of
the block, or just the current page.
* Re-mark range resurrects the previously selected range.
* A special Slave Mode for using the Amiga as a MIDI slave (for sample
playing).
* Changed settings can be optionally displayed on the title bar.
* The Generic Slide is now clever; it handles unsigned and signed slides,
and special slides in which both digits are independent, depending on
the command and whether MIDI is active or not.
* Command 0FF7 stops playing until all pending SysEx commands are sent.
* AmigaDOS Shell
Opens an AmigaDOS shell, just like the shell you can open on the
Workbench, on the OctaMED screen.
You can now run programs or use AmigaDOS commands like copy or dir.
* The audio channels are now allocated when they are needed
for the first time. So when using Mix mode with Toccata,
MaestroPro or Delfina they aren't allocated at all!

-Teijo Kinnunen

A Quick OverView

main

1.60 A Quick OverView

Now For A Quick Overview Of What The New Additions Do......

These are the most important new features to be added, so far.
(With thanks to Ed Wiles, our Author who has been quite unwell recently)

The Mixing Parameters Window

Probably the Soundstudio's biggest addition is a new channel mode: Mix. Based on the mixing technique used in 5 to 8 channel mode, it can play 64 notes at once using the normal Amiga sound capabilities! You can also bring your song to life with effects such as echo, and use it to record part of your song direct to disk as a sample.

But before you get too excited, remember that the Amiga physically only has four sound channels, so Mix mode uses very special tricks to cram all those notes in and in the process, the notes can lose sound quality on slow processor .
In fact, the faster your processor, the better quality the notes can be. For acceptable quality, you really need a minimum 68020 processor found in the A1200.

The Mixing Parameters window is used to set up Mix mode. But before I explain it, I'll list the enhancements and limitations that Mix mode has, in comparison with 4 channel mode.

Other Enhancements at this time

(1) Can play up to 64 notes at once.

(2) Effects: Echo, Cross Echo, Stereo Separation.

(3) Track Panning: Can alter the stereo location of each track.

(4) Many additional player commands.

(5) Sample length limited only by available memory
(previous limit was 131072 bytes).

(6) Direct-to-disk recording.

(7) Three new octaves: 2 low, 1 high. So the note range is now C-1 to B-6.
The 4-channel notes C-1 to B-3 are now notes C-3 to B-5.

(8) More precise sample loop setting. Previously, only even values of Repeat and RepLen (Instrument Parameters were possible.
Now, all values are allowed.

Limitations

(1) A probable loss of sound quality on old processors, but the faster your processor, the better the quality.
In fact, very fast processors will increase sound quality.

(2) Aura 16-bit samples can't be used

(3) Multi-octave samples can't be used.

(4) The oscilloscope equalizer doesn't function.

So although Mix mode is based on the old 5 to 8 channel mode, you will see that it has hardly any of its previous limitations.

Mixing Mode Section

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1.61 Mixing Mode Section

The Important Mixing Parameters window will now be described

The radio button at the top left selects the output device: the device through which notes will be played.

Mixing mode Output Devices

Amiga 8-bit, Amiga 14-bit

These modes use the built-in Amiga audio chip (Paula), and they work with any Amiga. The 8-bit mode is louder than the 14-bit mode, but it's also more noisy. The "pseudo" 14-bit mode uses a combination of two Amiga channels to produce one "14-bit" channel, which has much better dynamical range.

The mixing frequency may be selected pretty freely. The highest frequency is dependent on the screen mode. OctaMED calculates the upper limit using the mode of its own screen. If you switch screens so that the scan frequency changes, the audio output may become awful.

The mix buffer size can be anything between 32 - 32767, although it's rounded to the nearest even value. For smooth MIDI usage and better overall response, a low value is recommended.

Toccata 16-bit

This mode uses MacroSystems' Toccata audio board for high-quality 16-bit output. The support is implemented with toccata.library which accompanies each Toccata board. Any version of toccata.library can be used, but library version V6 or later generally produces better results, allowing higher mixing frequencies and making the playing immune to interruptions by other system tasks.

Current Toccata boards have 14 distinct output frequencies which are available as mixing frequencies.

The size of the mixing buffer is rounded to the nearest 512 samples. Toccata is usable with MIDI, if you use a high mixing frequency in combination with as low a buffer size as possible (512 or 1024).

If you experience problems (e.g. interruptions or complete stops), you may need to increase the buffer size and/or decrease the mixing frequency. You can experiment with different mix buffer sizes between 512 and 32000 to find the optimal setting for your system.

MaestroPro 16-bit

MaestroPro is a digital 16-bit sound board by MacroSystems. As MacroSystems does not provide a support library for MaestroPro, it is implemented with maestix.library by Richard Körber. This freely distributable library is available e.g. on Aminet, and a copy is also provided with OctaMED.

There are three different output frequencies available (32 kHz, 44.1 kHz and 48 kHz). You should provide a reference signal to MaestroPro's input, and also set the mixing frequency in OctaMED. If no reference signal is provided, its internal 48 kHz clock is used.

The size of the mixing buffer is rounded to the nearest 1024 samples. Usually, however, a very large mixing buffer (about 32000 samples or so) is required. This makes MaestroPro output unsuitable for MIDI usage, and real-time editing (due to long response times caused by the long buffer).

Disk 8-bit, Disk 16-bit

These non-realtime output modes are used for producing a digital "image" of the song on disk. The "image" is a sample file which can be used for almost anything. For example, you can produce drum loops by combining several tracks into one sample. Or you could simply play the song from the HD with little CPU consumption. Or you could directly use the digital image for putting a song onto CD without any unnecessary D/A and A/D conversions. The Smoothing option is particularly useful for producing high-quality samples with these modes.

There are various output file formats available. The available formats depend on the selected bit resolution (8-bit or 16-bit) and whether the song is in Mono or Stereo mode.

The output frequency can be selected freely. The Actual frequency is always the same as the requested.

The mixing buffer size can be selected freely, and it does not affect the resulting sample. However, a longer buffer is faster.

See
The Recording Window
for more details.

The output will be in mono unless you switch the Stereo check box on.
Mono is faster than stereo.

Smoothing mode significantly enhances sound quality, but it's very slow.
Because of its speed, it's only recommended for Disk 8-bit/16-bit modes,
although you're welcome to try it on other modes...

Delfina 16-bit

This mode uses the D/A-converter of the Delfina audio board for high-quality 16-bit output. It does not use the DSP features available on the board, simply the output part. Delfina system software (delfina.library) is used. Parts of the support code and testing were made by Teemu Suikki (thanks!).

Delfina has six output frequencies (as of library V2).

The mix buffer can be 32 - 4096 samples in size.

The Mixing Frequency

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1.62 The Mixing Frequency

The mixing frequency is a very important value.
It specifies, in Hertz (sample values per second), how quickly the samples should be mixed.
The higher the frequency, the better the sound quality, but also the more work the processor has to do.

So - you've guessed it - the highest mixing frequency that you can use depends on your processor. If you try using a frequency that is too high for your computer, the computer will hang: the mouse pointer will move very slowly, or even not at all. If this happens, do a panic stop by holding down both mouse buttons for several seconds.

Believe it or not, the highest possible frequency also depends on the screen mode! If the screen is DblPAL, DblNTSC or Productivity, the Mixing Frequency slider can take any value.
In other screen modes, the slider's maximum value is 28375.

If the output device can't play at your requested frequency, OctaMED chooses the frequency closest to your request.
That request is shown in the Requested numeric box, the actual frequency used in the Actual box.
The reason for this discrepancy is that all of the output devices, excluding Disk 8-bit/16-bit, can only play at certain frequencies.
(This even includes your Amiga...)

Some Technical notes:

The frequency of each note is different in 4-channel mode from Mix mode.
This is because in 4-channel mode, the frequencies are approximated to what
the Amiga DMA can play.

Mix mode doesn't use the Amiga DMA, so it uses the correct frequencies.

The frequencies are very slightly off on Amigas not having an FPU and this
is because the integer version of the frequency calculation has some error.
The difference however is not audible.

Other Gadgets

main

1.63 Other Gadgets

* Max. Channels: The maximum number of channels. For example, if ↩
you want
to play notes on tracks 0 to 5, set this slider to 6. Notes become
quieter as you increase Max. Channels, to make room for the new
channels. This slider doesn't increase processor load by itself:
the load depends on the number of notes actually playing.

* Volume Adjust: Allows you to adjust the overall volume of notes. The
value is a percentage; when 100 %, the notes are at normal volume. Set
the notes to half-volume by sliding to 50%; double volume is 200%.

  In practice, increasing the volume above 100% generally causes unwanted
  distortion (noise), unless the samples in your song are quiet. Also,
  using effects can cause distortion, even at 100%. If this is the case,
  turn the volume down until the distortion is removed. (You can't hear the
  volume adjustment until you release the slider button.)

* Mix Buffer Size: The size of the mix buffer, an area of memory used by
OctaMED to mix samples together. You needn't ever change it, unless:

  (a) in Disk 8-bit/16-bit mode. Increasing Mix Buffer Size to, say, 30000
      greatly quickens direct-to-disk recording.

  (b) using MIDI. MIDI notes are played immediately, while mixed notes are
      played after a slight delay. So it's recommended to set Mix Buffer
      Size to the lowest allowed value, 32. If sound quality suffers as a
      result, compensate by raising the mixing frequency (if possible).

  (c) you use samples with very short loops. Playing a loop shorter than
      about a third of the Mix Buffer Size (i.e. usually 100 bytes)
      considerably increases processor load. So if you must use very short
      loops, try decreasing Mix Buffer Size.

* Panning and Effects: Open the Mix - Track Panning and Mix - Effects
windows. They allow you to adjust the stereo location of each track, and
add effects such as echo to your music.

Other Points Of Interest

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1.64 Other Points Of Interest

(1) 5 - 8 channel mode uses a frequency of 15768 Hz in non-HQ mode ↩
,
and 28867 Hz in HQ mode. As a side note, you could *perfectly* reproduce the 4-channel mode with a mixing frequency of 3.6 MHz... :-)... Though 48 kHz with smoothing is often better in practice.

(2) With 16-bit samples, only volume values 0, 1, 2, 4, 8, 16, 32 and 64 can be used. This means that note volumes may sound a bit strange if you change Volume Adjust or the track panning. Also, the volumes you can use with some player commands (such as Set Volume, type 0C) are limited to the above values.

(3) To allow old 4-channel and 5 to 8-channel songs to use the new Mix mode, the Miscellaneous Options window contains two new Use Mixing check boxes. When on, the samples in loaded songs are transposed up 2 octaves. (This doesn't include synthsounds, MIDI instruments or ExtSamples.)

When using old 5 to 8-channel songs with the new mode, don't try to set Volume Adjust to 200 % to allow for halved samples. Halved samples are in 7-bit quality, so it's best to re-load the original samples.

(4) Internally, OctaMED has three separate parts which control playing, called the players. There's one player for 4-channel mode, another for 5 to 8-channel modes, and another for Mix mode.

When you play a note using the keyboard in 4 or 5 to 8-channel modes, the player is used briefly to start the note off, but then the note is left to play and finish of its own accord. The Mix mode player, however, is used throughout the note's playing, from its start to its finish.

So the Mix mode player is switched on when the first note is started. But it isn't switched off when the note has finished. Instead, to react more quickly to other notes you play, it's kept switched on until you click STOP or press the space bar.

This means that the player is switched on even when no notes are being played. On slower Amigas, this may slow down operation, so simply press the space bar to switch the player off. It also means that if you change anything in the Mixing Parameters window, such as Mixing Frequency or track panning, you must stop playing and restart it for the changes to take effect. (This doesn't include Stereo Separation, Echo Depth, or a change from Echo to Cross Echo or vice-versa.)

(5) Do remember about panic stop! If the computer seems to lock up during play, try holding both mouse buttons down for a few seconds.

(6) 5 to 8-channel mode's split channels don't exist! Amiga volume

registers are set to a fixed volume. The volume is scaled by the mixing routine, so each track does have an independent volume.

(7) Almost all settings in Mixing Parameters, Mix - Track Panning, and Mix - Effect are saved with songs. In particular, Mixing Mode and Mixing Frequency aren't saved. This is so that, for example, a song created on a fast Amiga using a high frequency won't immediately cause a slow Amiga to lock up.

OctaMED uses a special file format for songs using Mix mode: MMD3. This is identical to MMD2. The only reason for its existance is so that older versions/player programs won't attempt to play Mix-mode songs.

(8) You can play samples in either type of memory - Chip or Fast - in Mix mode. By default, though, samples are loaded into Fast memory, because Instr menu - Load Samples To Fast Mem is automatically switched on.

Other Gadgets

Track Panning Window

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1.65 Track Panning Window

Here you adjust the stereo location of the notes played on each individual track, do this using the sliders.

Track numbers are displayed to the left of each slider, the tracks' stereo location to the right. To begin with, all tracks have a stereo location of 0 (center). This means that notes on all tracks are played with equal volume on both speakers; in other words, they're played in mono.

To force a track's notes to be played entirely through the left speaker, drag the track's slider all the way to the left (value -16). Likewise for the right speaker: drag the slider to the far right (value 16). Intermediate values play the notes at different volumes on each speaker.

Free Panning and Sum Of Balances

Because track panning is really altering the volume of each track on each speaker, you must be careful that the volume on either speaker doesn't become too high, causing distortion. For example, setting all tracks to be played on the left speaker (value -16) is bound to cause distortion on the left speaker.

The Sum Of Balances display helps you prevent distortion. It displays all the tracks' stereo locations added together. When the volume is perfectly balanced between the two speakers, the Sum Of Balances is 0, so adjust the sliders until it becomes 0.

Free Panning, when on, allows you to set the stereo locations to whichever values you choose, without worrying about volume distortion. Not surprisingly, Free Panning is usually on.

Special Effects Window

main

1.66 Special Effects Window

Add special effects to your music.

The one you'll be dying to play with is echo. To switch echo on, set the Echo cycle gadget to Echo or Cross Echo. The difference between the two is Cross Echo alternates echoes between the speakers; you must have Stereo mode on to use it.

Echo Rate is the distance, in milliseconds, between each echo.
It can take any value in the range 1 to 32767.

Echo Depth sets the depth of echoing. The larger the value, the deeper the echoes. Technically, it specifies the relative amplitudes of successive echoes. For example, if it's 25 %, the first echo's amplitude is 25 % of the original amplitude, the second echo is 25 % * 25 % = 6.25 % of that.

Stereo Separation is interesting. Dragging the slider to the right separates the sound on each speaker. Dragging to the left brings the speakers' sound closer together. This feature is best understood by experimentation. (Technically, the stereo image is separated by feeding part of the left channel to the right in inversed phase, and vice versa.)

The Recording Window

main

1.67 The Recording Window

This window is displayed during direct-to-disk recording, the act ↩
of
transferring part of your song to disk as an actual sample.

To record directly to disk:

(1) In the Mixing Parameters window, select Disk 8-bit or Disk 16-bit, depending on whether you'd like an 8-bit or 16-bit sample. Also set the Mixing Frequency to any value you wish. (the higher the frequency, the larger the produced sample).

(2) The next time you play a note or your song, a Record as file
requester will appear. In this requester, select the filename of the
produced sample.

(3) Next, you set the file type of your sample in the requester that appears.

(4) Finally, the Record window will open and OctaMED will start recording.
The window displays information on the sample's file format (resolution
(8/16-bit), IFF/RAW/MAUD etc, Mono/Stereo, frequency). It also displays
recording time in minutes and seconds, and file size. These two values
change as the song is being played.

Click the Stop Recording button to stop recording. You must do this
because OctaMED doesn't stop recording automatically at the end of the
song or note. You can now load your sample back into memory.

MIDI Slave Mode

main

1.68 MIDI Slave Mode

Using the MIDI menu's Slave Mode Active item, you can turn your ↩
Amiga into
a MIDI device!
Why on earth would you want to do that?
Well, if you're lucky enough to own two Amigas, you can use the sound
channels of both Amigas together, to play a total of 8 samples at once
rather than the usual 4 and you do this by using one Amiga to control the
other, as if it were itself a MIDI keyboard.

It works best in 4-channel mode, for highest quality. You compose your song
using one of the Amigas (call it the master), and use the other Amiga
(the slave) only as a note player. The blocks in your song should be 8
tracks wide: use tracks 0 - 3 for instruments played by the master Amiga,
and tracks 4 - 7 for those played by the slave Amiga.

The idea is, the slave Amiga's first 16 instruments (01 - 0G) correspond to
the 16 MIDI channels. So when the slave Amiga receives a MIDI message to
play a note on MIDI channel 4, it plays the note using instrument
number 04. One slight drawback is each instrument can only be played
using one particular sound channel, which you designate using the
master Amiga.

Anyway, here's how you set it all up:

(1) Attach a MIDI interface to each of the two Amigas. Connect MIDI OUT on
the master Amiga to MIDI IN on the slave Amiga.

(2) Load OctaMED into both Amigas. Select MIDI menu - MIDI Active on the
master Amiga. Select MIDI Active, Input Active and Slave Mode Active
(all in the MIDI menu) on the slave Amiga. Make sure both Amigas are

in 4-channel mode.

(3) Now to set up the instruments. Go to each Amiga in turn, and load the instruments you want to be played on that Amiga. On the slave Amiga, you're restricted to instrument slots 01 - 0G; on the master Amiga, you can use any slots.

(4) On the master Amiga, you actually need two categories of instrument: those to be played through the master Amiga (which you've just loaded), and MIDI instruments that correspond to each instrument you've loaded into the slave Amiga. OK, let's say you've loaded a sample named Fantasia into slot 06 on the slave Amiga. So on the master Amiga,

a) Select any empty instrument slot

b) Open Instrument Parameters

c) Change the instrument Name to Fantasia [slave] (for example)

d) Slide the MIDICh slider to 6 (because Fantasia is loaded into slot 06 on the slave Amiga)

e) You must also tell OctaMED which sound channel on the slave Amiga that Fantasia should be played through, using the Preset slider. So if Fantasia is to be played through channel 2, slide Preset to 2. Because there are 4 sound channels, each played using one of tracks 0 - 3, you can slide Preset to 0, 1, 2 or 3.

Be careful when deciding which instrument should be played through which channel. If you've loaded up to 4 instruments into the slave Amiga, you just need to assign a different sound channel to each instrument. If you have more than 4 instruments, though, you should take care that no two instruments are set to play through the same channel at the same time, because this is impossible! This depends on your song.

f) Close Instrument Parameters

Now when you want to play, say, note G-2 using the Fantasia instrument, you should enter a G-2 using the Fantasia [slave] instrument on the master Amiga. Repeat steps a to f for each instrument you've loaded into the slave Amiga.

(5) Now compose your song! Use 8-track blocks. For instruments played through the master Amiga, use tracks 0 - 3 as usual. For those played through the slave Amiga, use tracks 4 - 7 and the MIDI instruments you've set up to correspond with the slave Amiga's instruments. Then just play the song: it should be quite an amazing effect!

Other notes:

a) Slave mode only receives and handles MIDI Note On messages. So any effects received, including player commands, will be ignored.

b) You can, however, use player command 0C (set volume) with notes played by the slave Amiga. The instrument's default volume (in Instrument Parameters) changes to the appropriate level when a 0C is received.

The Instrument Parameters slider isn't updated, though, for effciency reasons.

c) To reduce the amount of MIDI data sent, you should really switch on Suppress NoteOff on all of the MIDI instruments defined on the master Amiga.

The MIDI Cmd 3cxx Window

main

1.69 The MIDI Cmd 3cxx Window

As its title suggests, this is one of OctaMED's more technical windows! ↩

Using a combination of player command types 05 and 00, you can set any MIDI controller you choose. Command 05's level is the controller number, command 00's the controller value.
So if OctaMED came across this in a song: 00509 --- 00004 then OctaMED would set MIDI controller number 9 to 4.
The obvious disadvantage with this is that it takes two lines: one to provide the controller number, another to provide the value.

This window cuts the setting of MIDI controllers down to one line. You define command types 31 - 3F to set your chosen MIDI controller numbers to the value given by the command level you use in the song.

For example, you can define player command type 35 to set MIDI controller number 12. Then, if you use command 3506 in your song, OctaMED sets MIDI controller number 12 to 6. So, only one player command is needed to set MIDI controllers, instead of two.

The gadgets

Starting at the top, the slider selects a player command type.
A value of 5, for example, selects type 35. Types 31 to 3F can be selected.

Clear Setting clears the selected player command type's setting. Its controller type is set to Standard [MSB], and its number to 0. Clear All does this to all player command types.

The other gadgets show the selected command type's setting: its controller type and number. The controller type can be Standard, RPN or NRPN, together with [MSB] or [LSB].

More information as and when further developed.

You can make a copy of the current shortcut by holding down Shift while clicking Ins. New or App. New. This is useful for making a new shortcut similar to the current one.

You can now create an empty shortcut for the Help key, thus turning
the press Help for Help feature off - the Project menu item can be
selected instead. This avoids situations where the rather large Help file
is accidentally loaded instead of deleting a note (i.e. Help rather than
Del is pressed).

Playing PC Mods

main

1.70 Playing PC Mods

In preperation for the inevitable release of the PC version of our ↩
program
OctaMED can now load modules created on two different PC sequencers:

ScreamTracker 3 (S3M) and FastTracker 1.0. (see below)
Not all S3M effects are supported, but most modules play without trouble.
The effects that are supported are:

Extra fine slides (commands EEx, EFx); Tremor (command Ixy);
Retrig (+ volume-slide) (command Qxy)

At time of writing the more popular FastTracker2 is not *yet* supported.

FastMemPlay Window

main

1.71 FastMemPlay Window

This poetically-named window allows you to play samples from Fast ↩
memory.

By editing the Buffer Size box, you can alter the FastMemPlay buffer size.
A small value, such as 32 or 64, is recommended to minimise distortion if
your song contains synthetic sounds.

Load Samples To Fast Mem

There are two types of memory: Chip memory and Fast memory.
Fast memory is much faster than Chip memory, so it's preferable to store
things in there. However, the Amiga usually needs all samples to be stored
in Chip memory.

With OctaMED, you can store samples in either
type of memory. However, this depends on the
song's channel mode Samples must be in Chip

memory if the song is in:

(1) 4-channel mode
(2) 5 to 8-channel mode, and contains non-paired tracks.

But even in these modes, samples can be in Fast memory if you use the FastMemPlay facility. All a bit confusing!

Anyway, these 3 menu items allow you to store samples in your chosen type of memory. When Load Samples To Fast Mem is on, any samples you load are stored in Fast memory. When off, they're stored in Chip memory as usual.

Load Samples To Fast Mem is automatically turned on when Mix mode is selected, to take advantage of the increased speed. So to load samples into Chip memory in Mixing mode, switch this item off.

Samples cannot be shared between the two types of memory: they must all be in Chip, or all be in Fast. So if you decide to store samples in Fast memory, any samples currently in Chip memory must be moved to Fast memory. The Move Samples To Fast/Chip Mem exist for this purpose.

Replace Notes

Opens the Replace Notes window Here, OctaMED replaces all Source notes found in a particular area of the song with the Destination note.

Player commands interpret their command level in one of three different ways, depending on the type. Some, like 0C (set volume), take both digits together as a single positive number. Others, like 04 (vibrato), take each digit separately as different numbers. With vibrato, the 1st command level digit represents speed, the 2nd depth.

Still others, like MIDI command 03, take both digits together as a signed number. So command 03's level can range from -128 to 127 (decimal), instead of the normal 0 to 255.

Previously, Generic Slide always assumed the command level to be a single positive number. Now it's more intelligent!

Slave Mode Active

When on, your beloved computer becomes a MIDI device, slave to whatever is controlling it! See

MIDI Slave Mode
for more information.

Immediate Preset Change
When a particular instrument's Preset value is changed (Instrument Parameters usually a preset change message is sent the next time a note is played with that instrument.
With this item on, a preset change message is sent straight away.

FastMemPlay

Raw Sample Conversion

main

1.72 Raw Sample Conversion

If you load a RAW sample that sounds very ↩ distorted and
noisy, try using this submenu to correct it.
OctaMED's samples are stored in 'signed' format.
Most samples originating on PCs are 'unsigned',
so use Unsigned <- Signed to convert them.

Use Swap Byte Order on noisy 16-bit samples. Each value of a 16-bit sample takes 2 bytes of memory. Swap Byte Order swaps the order of each value's bytes. This can solve distortion problems.

ARexx Trigger Setup

main

1.73 ARexx Trigger Setup

The ARexx Trigger Setup Window

This window gives player commands the keyboard shortcut treatment.
Just like with keyboard shortcuts, you can now set player commands (of type 2D) to execute an OctaMED ARexx command or ARexx script, send an ARexx command to another program, or load and run a program from disk.

At the top of the window, select a command level to edit using the slider. For example, to edit command 2D45, set the slider to 45. Clear Current sets the current command's action to None. Clear All does the same to all commands.

The Action area describes what the player command is to do if it appears in a song. It is exactly like the Action area in the Keyboard Shortcuts window (and also in the Input Map Editor).

OctaMED Command
Executes an OctaMED ARexx command (type it into the Command box, together with any required parameters). ARexx itself isn't actually involved. To execute more than one command, use the OP_MULTICMD command.

(See manual for more information on OctaMED commands)

Execute ARexx File
Executes an external ARexx file (type its name into the command box). Unless the file is in PROGDIR: or REXX:, specify the full path name.
The filename should end in .omed

Ext. ARexx Command
Sends an ARexx command to another program. Type the command into Command, and the program's ARexx port name into ARexx Port.

Note: To use Execute ARexx File or Ext. ARexx Command successfully, make sure you have run the program RexxMast.

Launch Program
Launches (runs) an executable program file.
Type its name into Command.

The 1-64 Ch Mixing sets the new Mix mode.
With only a slight loss of sound quality, this gives you up to 64 channels, special effects, track panning and more.
You can also use MIDI in Mix mode.

Other Features

main

1.74 Other Features

Annotation Window

Use this window to attach any text to your song. The text might be a copyright notice, the author's name, explanatory text, or best of all those famous greetings which will no longer be lost.

In the text box at the very top of the window, you may type anything up to 70 characters long. When the song is reloaded, the contents of the text box will be displayed on the screen's title bar.

In the remainder of the window, you can attach any text file to a song.
Create the file in an external text editor, then click Load File to load it.
Save Text saves the text under a chosen name, and Discard Text removes
the text from memory. The text is saved with songs.
Note that tab characters (ASCII code 9) can't be used in the text.

Show After Loading affects what happens when a song with annotation
text is loaded. Normally, the Song Annotation window is immediately opened,
displaying the song's text. Switch Show After Loading off to prevent this.

The Instruments Window

This window displays a list of all your instruments.
You may select one from the list, to make it the current instrument.

The list displays all instrument numbers and names. Click on an instrument
to make it current. So this is an alternative selection method to using
Shift-<left and Shift-<right, or using the Instrument Parameters window.

> Loop Ping-Pong is only used in Mixing mode. When on, OctaMED plays
> the sample's loop (if it exists) in a different way: forwards and
> backwards alternately.
>
> In other words, the sample is played until the end of its looped
> part; the looped part is played *backwards* from its end to its
> start; the looped part is then played forwards from its start to its
> end; then backwards; then forwards; and so on.

The Replace Notes Window

Here, you give OctaMED a source note and a destination note. Then
OctaMED replaces all source notes found in a particular area of the song
with the destination note. For example, you can replace all C-2 10C32's in
the current track with C-2 10C48 if you like.

Setting the source and destination notes

Set the source and destination notes in the Source and Dest boxes, both
initially --- 00000. As you might have guessed from the five 0's, you also
set the note's instrument number and player command.

You set the Source and Dest boxes in exactly the same way as in the
Programmable Keys window. To set a note, hold down the
left mouse button over the note in the box (initially ---), then press
the note's key and release the mouse button.

For example, to set the Source note to G-2: Position the mouse over the
note in the Source box. Now hold down the left mouse button, and press T.
Assuming that Oct is set to 12 (Main Control window), the
note becomes G-2. To set the note to ---, use the Del key.

To set an instrument digit or player command digit, hold the left mouse
button over the digit, then type the digit and release the mouse button.
Quite easy really.

Transparent notes/digits

When setting a note or digit, try pressing Return instead of pressing the note's key or typing the digit. The note or digit is now transparent, and is shown as 'x'.

Transparent notes or digits are ignored by OctaMED. So if the Source box contains xxx x0C32, OctaMED will replace all 0C32 player commands, regardless of their note and instrument number. Similarly, if the Source box contains G-3 4xxxx, then OctaMED will replace all G-3's played by instrument 04, regardless of what their command digits are.

Transparency in the Dest box has a slightly different meaning. If the Dest box contains xxx x0C32, then the player command of all Source notes will become 0C32: the note and instrument number will remain unchanged. Similarly, if the Dest box contains G-3 4xxxx, all Source notes will become G-3 and will be played by instrument 04: their command digits will remain unaffected.

Replacing the notes

In the lower half of the window, the six buttons replace the given notes in one of six different areas. These areas are as in the Transpose window, aside from Note which replaces just the Tracker editor's current note.

For example, clicking Block replaces the Source note with the Dest note throughout the current block. Sel. Tracks replaces throughout the selected tracks (a track is selected by clicking on its S gadget at the top of the Tracker editor).

Transparency and the choice of six areas make this window pretty powerful.

Swap Amiga Channels (Mix)

Sound channels 0 and 3 should be played through your left speaker
and 1 and 2 through your right.
On some Amigas, these are swapped round!
So switch this check box on to correct them.
It only has an effect in Mix mode.

Use Mixing (MMD) or Mixing (Tracker mods)

Makes the necessary changes to MMD (normal) songs and Tracker songs
to use Mix mode.
This involves transposing all instruments, except synthetic
and MIDI, up two octaves.

Thats all for now, we await Ed's belated work with eagerness!!!!

-Ray

RBF Software. May 96

Soundstudios New Features

ARexx Introduction

main
Go back to the very beginning of this guide

1.75 ARexx support

AREXX SUPPORT

ARexx Introduction

ARexx Features

Intro to Commands

First ARexx script

Writing a Script

1.76 Introduction

ARexx is one of these 'buzzwords' used by so many Amiga people, but many
users seem to be in the dark as to what it actually is.
Well, in relation to OctaMED, it is both a way of adding new features to
the program, and a time-saving alternative to many mundane tasks.

You use ARexx by typing in an ARexx script, a set of commands (instructions)
that ARexx is to carry out. If ARexx were to control a toaster, some of
these commands could be start toasting, cancel toasting, set timer,
switch on "frozen bread" indicator and so on. But we'll be using ARexx to
control OctaMED, so commands are more likely to be play song,
open the Font window, or mark a range over track 3.

Well, it would be nice if commands were so informal, but computers find
informal English very difficult to understand!
So commands are actually a lot more precise.
For example, the instruction "set instrument 04's default volume to 32"
would in fact be performed by the two commands:
 IN_SELECT 4 and IN_SETVOLUME 32.

Understanding how to use OctaMED's commands is vital for writing ARexx
scripts, so let's look at them now:
have OctaMED loaded and ready because it's time for a tutorial!
(Admittedly it's a very quick tour but hopefully you'll pick up the basics).

Intro to OctaMED Commands

main

1.77 Intro to OctaMED Commands

First, simple commands and command groups

Close all windows but the main three (Main Control, Tracker editor, Information). Now select Project menu -> Command Shell. The window that appears is used for entering OctaMED commands.

If you enter a command that OctaMED doesn't recognize, or you make a typing mistake, you'll most likely get error code 25. Try this:

(1) Type: fix the car (and press Return)

Not in OctaMED's vocabulary. Pity really. But here's one that is:

(2) Type: ve_octamed (and press Return: do so after each command you type)
[To type a '_', hold Shift and press the key beside 0 (zero)]

OctaMED displays the command result, the version of OctaMED you're using. All OctaMED commands consist of a two-letter group name (VE here), an underscore (_), and the command itself (OCTAMED here). Group names reveal a lot about a command's purpose; for instance, we know immediately that VE_OCTAMED is a version command. Other group names are as follows:

Group name	Purpose	Group name	Purpose
ED	Edit	SA	Sample editor
IN	Instrument	SG	Song
OP	Options	SY	Synth editor
PL	Playing	WI	Window
RN	Range		

(By the way, this guide will tend to show commands in capitals. Do feel free to enter them in lower-case, though, it looks a bit nicer!)

Parameters and command templates

Armed with the knowledge that WI commands apply to windows, perhaps you can guess what the WI_OPEN command does.

(3) Type: wi_open songoptions

Yes, the Song Options window opens. The WI_OPEN command can't be used on its own; it needs a parameter (in this case, SONGOPTIONS). Parameters are extra pieces of information that many commands need to function properly. There can be more than one of them, and they're all separated by spaces.

Find WI_OPEN's template on page 66. It's WINDOW/A. This template describes WI_OPEN's parameter:

(a) WINDOW is its keyword; (b) /A is its specifier

Specifier /A means that the WINDOW parameter is necessary; without it,
WI_OPEN won't work properly.

(4) Close the Song Options window, then type: wi_open

Error code 10, because we didn't provide a window name. If you like, you can
type the parameter's keyword (WINDOW in this case) before the parameter.
This can serve as a reminder of what the parameter actually signifies.

(5) Type: wi_open window tempo

The Tempo window opens. We'll examine a new command now, SG_LOAD, and use it
to load our demo song. Firstly we'll have a look at its template; and
there's a quicker way than finding it in the manual...

(6) Click inside the OctaMED Command Shell window, then type: sg_load ?

A ? beside any command returns its template. Examine the template:

(a) NAME has no specifier: the parameter is a string. (A string is a
series of any letters, numbers or symbols).

(b) FORCE has specifier /S: the parameter is a switch. Type the keyword
to switch FORCE on; leave the keyword out to switch FORCE off.

(7) Type the following exactly:
sg_load name octamed_soundstudio:Misery force (press Return as usual)

If you managed all that, the demo song (Misery by Dave Sullivan) should
load. Let's examine what we've just typed.
OctaMED_Soundstudio_CD:Misery is the NAME parameter, the name of the song.
We could have left the NAME keyword out, as we've seen, but we left
it in to make things clear.

Including the keyword FORCE switches the "force loading" option on.
This loads the song irrespective of whether or not the current song has
been modified in any way.
Omitting the FORCE keyword would switch the "force loading" option off.

So we've seen parameters with no specifier, with specifier /A, and with
specifier /S. Let's look at the SG_SETTEMPO command (sets the song's tempo).

(8) Type: sg_settempo ?

The /N specifier means that the parameter is a number. There are three
keywords (BPM=SPD, TPL and LPB), each of which changes a different tempo
setting. In fact, BPM=SPD is not a single keyword: it means you can use
either BPM or SPD as a keyword for that parameter.

(9) Type: sg_settempo spd 70

In the Tempo window, notice that the Tempo slider is now set to 70.
After entering these tempo-changing examples, feel free to use the
commands PL_PLAYSONG and PL_STOP to try out the new playing speeds.
No, don't reach for that mouse, you're not allowed to!

(10) Type: sg_settempo bpm 57

Again, the Tempo slider changes (to 57 now). So the two keywords SPD and BPM are interchangeable for that parameter. Now let's try the TPL slider.

(11) Type: sg_settempo tpl 12

The slider becomes 12. You can also change both Tempo and TPL sliders at the same time.

(12) Type: sg_settempo tpl 8 spd 25

So far, we've been preceding every parameter with its keyword. A while ago, I mentioned that this is not strictly necessary but it makes things clear. Well, using keywords is in fact necessary if a command's parameters are entered in a different order from that given by its template.

For example, the template for SG_SETTEMPO is BPM=SPD/N,TPL/N,LPB/N. So entering the command SG_SETTEMPO 25 10 4 (without keywords) sets the Tempo slider to 25, the TPL slider to 10, and LPB to 4: the order given by the template. If the desired effect, however, was to set LPB to 25, Tempo to 10, and TPL to 4, then you'd need to use keywords.

This is also true for changing a single slider. SG_SETTEMPO 17 (without keyword) will always set the Tempo slider to 17, as this is first in the template. If you actually wanted to set the TPL slider to 17, you'd have to use SG_SETTEMPO TPL 17 instead.

Perhaps entering these examples will clarify a bit. Notice the changes in slider values after entering each command.

(13) Type: sg_settempo 25 10 4
sg_settempo lpb 25 bpm 10 tpl 4
sg_settempo 17
sg_settempo tpl 17

Another occasion where you must use the keyword is if specifier /K is given. ED_GOTO's parameters use this specifier.

(14) Close the Tempo window, then type: ed_goto ?
ed_goto block 4 track 2

Click on the Tracker editor's window depth gadget (far top right), and confirm that we're now in track 2 of block 4. Click the depth gadget again.

Did you understand ED_GOTO's template?
All of its parameters have specifiers /K and /N, so they're all numbers and they all require their keyword.

The last specifier we'll examine is /F.

(15) Type: wi_showstring ?
wi_showstring message I'm sorry, I can't fix cars.

Now close the OctaMED Command Shell window, and look at the title bar. /F means that all information typed after the keyword will count as that one

parameter. So if the command has other parameters (unlike WI_SHOWSTRING), make sure they come before the one with /F.

Also, parameters containing spaces are usually not allowed, but they are allowed with /F parameters. (Other parameters need to be surrounded by double quotes. For example, "This parameter contains spaces").

There is one other rarely-used specifier: /M (multiple parameters). It means you can enter the same parameter over and over again: different notes of a chord, for example. OP_MULTICMD (see §12.9.6 number 5) uses /M.

OK, now that we have the basics of OctaMED commands under our belt, let's see how to string them all together by creating an ARexx script.

Our First ARexx Script

main

1.78 Our first ARexx script

Entering a script (using the Ed text editor)

Our first script will perform the simple (and admittedly not very useful) task of swapping track 0 with track 2.

You can't use OctaMED to enter an ARexx script: you need a text editor. Any text editor will do, and if you have a favourite by all means use it. I'll describe how to use Commodore's Ed text editor.

(16) Switch to the Workbench screen using the screen depth gadget (far right of title bar), or if you're a keyboard fanatic, press Left Amiga-N

(17) Click anywhere on the Workbench screen, then select Project menu -> Execute Command

(18) In the text box that appears, type the following exactly: ed rexx:swaptracks.omed (and press Return)

Please make sure you're using a backup of your OctaMED disk!
Also make sure that this disk is write-enabled.
(Does not aply to CD users)

If all has gone well, you'll be presented with an empty Ed window.

(19) Now please type in the following script as accurately as you can, pressing Return at the end of every line. (' is on the key above Tab)

```
/* SwapTracks.omed: Swaps tracks 0 and 2 */

address octamed_rexx
options results
```

```
   'ed_goto track 0'
   'rn_copy track'

   'ed_goto track 2'
   'rn_swap track'

   'ed_goto track 0'
   'rn_paste track'

   'wi_showstring Tracks 0 and 2 swapped.'
```

(20) When you've finished, select Project menu -> Save
     Note that if using the CD, you will ned to save your ARexx
     scripts to your Hard Drive or a pre-formated floppy

OK. Let's have a closer look at this script.
The first three lines are very important:

i) /* ... */ A comment. You can type any text between the two symbols:
   a brief description of the script is a sensible move.

ii) address octamed_rexx Tells ARexx that it will be talking to OctaMED.
    OCTAMED_REXX is OctaMED's ARexx port.

iii) options results Necessary if OctaMED is to give ARexx information.
     Not really needed for this particular script, but best form habits.

These three lines, with perhaps a blank line in between lines 1 and 2 for neatness, must be at the start of every ARexx script you write for OctaMED. Yes, you can't even leave the comment out!

Now we progress to the main script. OctaMED is to move to track 0, select Track menu -> Copy, move to track 2, select Track menu -> Swap w/Buff, move to track 0, and finally select Track menu -> Paste. After all this, track 0 will have been swapped with track 2. Trust me!

Notice that all OctaMED commands are enclosed by single quotes ('). Make a habit of this, it's recommended for all commands that control programs. The quotes are actually necessary for some commands, and it also distinguishes OctaMED commands from other commands. Just use them, OK?

The script is rounded off nicely with a confirmation message that the tracks have been successfully swapped. Users like such messages.

(21) Quit Ed by clicking its close gadget, then return to OctaMED's screen
     using the Workbench screen's depth gadget

Executing a script (using the Keyboard Shortcuts window)

OK. From within OctaMED, the only way of executing (running) a script is by setting a keyboard shortcut for it. Our SwapTracks script will be executed by holding Shift and pressing F1.

(22) Select Settings menu -> Keyboard Shortcuts. In the left-hand section,
     click Ins. New. Now click inside the Name text box, delete <unnamed>,
     and type Shift-F1 (Swap tracks) (and press Return)

(23) In the middle (Input) section, click once on the Shift cycle gadget
(it should now show Either). In the Raw box, change the 0 to 80.

(24) In the right-hand (Action) section, click once on the cycle gadget
(it should now show Execute ARexx File).
In the Command box, type swaptracks (and press Return)

(25) Save the shortcuts using Save (click OK in the requester),
then close the window
Remember that you cannot save to the CD version! :)

If you're unsure of the Keyboard Shortcuts window, re-read the Manual.guide

(26) Watching the Tracker editor carefully, press Shift-F1

Notice tracks 0 and 2 swapping? With a nice message afterwards? Very clever.
If you're a perfectionist, you can speed things up a bit by adding a couple
of commands to the script. Do steps 16 to 18 on pages 55-56, then just after
the options results line, type 'op_update off'. Then just before the
wi_showstring line, type 'op_update on'. Save the script and quit Ed. Back
in OctaMED, press Shift-F1 again and you should notice a difference.

You may have noticed that in step 24, we gave the script's filename as
simply swaptracks (the full name is REXX:swaptracks.omed). This is possible
as long as the file is in the REXX: directory and has the extension .omed.

Arexx Features

main

1.79 ARexx Features

We've seen how ARexx can be used to perform a series of OctaMED ↩
commands
with a single keyboard shortcut, thus saving time. But ARexx can be far more
powerful and time-saving than that, as I'll hint at in the next sections.

DO loops (how to repeat commands)

One time-saving ARexx feature is its ability to repeat the same set of
commands as many times as you like. This device is called a DO loop.

We'll now enter another script, which will change every second note in
track 3 to D-3.

(27) Switch to the Workbench screen again, and select Project menu ->
Execute Command. In the text box, type ed rexx:track3d3.omed.
Now enter the following script:

```
/* Track3D3.omed: Changes every 2nd note in track 3 to D-3 */

address octamed_rexx
```

```
options results

'ed_goto track 3'

do currline = 0 to 63 by 2
   'ed_goto line' currline
   'ed_setdata note 27'
end

'ed_goto line 0'
'wi_showstring Notes changed.'
```

(28) Save and quit in one go by selecting Project menu -> Save & Exit
One final reminder, you will need to save to a floppy or
your HD if you are running this from the CD version.
Please remember this in all future dealings with the SAVE command

(29) Back in OctaMED, open the Keyboard Shortcuts window. Click Ins. New, and replace <unnamed> with Shift-F2 (Track 3 D-3). Cycle the Shift gadget to Either, and type 81 into Raw. Cycle the top-right gadget to Execute ARexx File, and type track3d3 into Command. Finally, save the shortcuts and close the window.

(30) Move to one of blocks 0 to 12 in our demo song (C-3 should be on every second line in track 3). Now press Shift-F2 to execute our new script.

This time it really is slow! So perhaps you'd like to add 'op_update' commands as mentioned earlier. (These commands 'switch off' the Tracker editor and Information window for the duration of the script).

Right. Let's puzzle over this script. After the three very important lines - remember? - the cursor moves to track 3. Now we have our DO loop.
The variable currline is set to represent the values 0 to 63 in steps of 2: 0, 2, 4, 6 and so on right up to 63. (Well, 62, 63 is an odd number).

What does this mean? Well, currline is firstly given the value 0. From then on, everywhere that ARexx sees 'currline', it replaces it with 0. So 'ED_GOTO LINE' currline (the first line of the DO loop) is replaced with 'ED_GOTO LINE 0'. So OctaMED moves to line 0.

The next line is ED_SETDATA NOTE 27 which sets note D-3 (I'll explain later). Then ARexx reaches the end of the DO loop, marked by END.
So it adds 2 to the value of currline (0), giving a new currline value of 2.

After checking that this new value is not more than 63, the DO loop starts again. 'ED_GOTO LINE' currline is replaced with 'ED_GOTO LINE 2'. OctaMED moves to line 2, and changes the note to D-3. ARexx reaches the end of the DO loop again, and adds 2 to currline, giving a new value of 4. And so on.

When currline eventually becomes 62, and the end of the DO loop is reached, ARexx adds 2 to currline as usual. This new value is 64, which is more than 63, so the DO loop finishes. ARexx continues with the line after END.

Out of all this come three main points:

i) The DO loop sets up its variable (currline in this case) for the whole loop straight after the word DO. Here, the variable runs from 0 to 63

in steps of 2. If it were to run in steps of 1, you would use DO currline = 0 TO 63 BY 1, or more simply DO currline = 0 TO 63.

ii) Every occurrence of the variable's name in the DO loop is replaced by each value of the variable. Here, 'ED_GOTO LINE' currline is replaced by 'ED_GOTO LINE 0', 'ED_GOTO LINE 2', and so on. (Note the position of the quotes in the line 'ED_GOTO LINE' currline).

Note that if the variable's name doesn't appear in the DO loop at all, the variable is useless. For example, if you just wanted the same set of commands to be repeated 64 times, you need only use:

```
DO 64
<insert commands here>
END
```

(You may have noticed that this script only works for blocks 64 lines long. We'll adapt the script to work for any length of block later).

iii) Don't forget to mark the end of the DO loop with END! Also notice that the part between DO and END has been indented (moved to the right) by three spaces. I'd recommend this, it makes for an easier read.

Oh yes, I promised to explain the line 'ED_SETDATA NOTE 27'. It changes the current note to D-3: the number 27 represents the note D-3. This works by simply counting up from 1. 1 = C-1, 2 = C#1, 3 = D-2, .. 12 = B-1, 13 = C-2, 14 = C#2 and so on. Count up far enough and you'll reach 27 = D-3. (By the way, 0 = ---, the empty note).

IF...THEN statements (how to choose how to act depending on a result)

ARexx, being a friendly system, doesn't always demand OctaMED to do things; it can also ask questions. In the midst of a script, you may need to know the current Tracker editor line, or the name of the current instrument, or whether or not the song has been edited since last saving. Indeed, the very first OctaMED command we entered asked the program its version number.

ARexx's IF and THEN devices enable you to choose a course of action depending on OctaMED's answer to a question. We'll look at how to use IF and THEN, and at how to ask the questions in the first place. Our final ARexx script in this brief tour will set all instruments' Hold value to 6, but it will ignore empty instrument slots.

(31) Load the Ed text editor in the usual way. Call this script rexx:sethold.omed. Here it is:

```
/* SetHold.omed: Sets all instruments' hold values to 6 */
/*               (ignoring empty instruments) */

address octamed_rexx
options results

do inst = 1 to 63
   'in_select' inst
```

```
      'in_isslotused'
      if result = 1 then 'in_setholddecay hold 6'
   end

   'in_select 1'
   'wi_showstring Hold values set.'
```

Save and quit when you've finished.

(32) Using the Keyboard Shortcuts window, set Shift-F3 to execute sethold. (Set Raw to 82. Look back at steps 22 to 25 if you're unsure).

(33) Now press Shift-F3. Open the Instrument Parameters window to check that all instruments' Hold values are now 6, apart from empty slots.

So how does this one work? A DO loop is set up, with variable inst running from 1 to 63 in steps of 1 (remember: if BY is left out, the step size is 1). Each instrument is selected in turn by replacing 'IN_SELECT' inst with 'IN_SELECT 1', 'IN_SELECT 2' and so on. (Note that IN_SELECT uses normal decimal values: IN_SELECT 10 selects instrument 0A rather than 10).

Now comes the new part. You can perhaps guess its meaning without further explanation. Is slot used? If result = 1, then set hold to 6. What actually happens is the following:

(a) IN_ISSLOTUSED asks OctaMED if the current instrument slot has been used (i.e. isn't empty). OctaMED answers by giving the variable result a value. It becomes 1 if the slot is used, or 0 if the slot is empty.

(b) The next line is straightforward. IF the variable result is 1, i.e. the slot is used, THEN set the current instrument's Hold to 6. This implies that if the result is 0, i.e. the slot is empty, then don't touch the Hold value and continue with the next instrument instead.

So there are two main points to be made:

i) OctaMED's 'question' commands, such as IN_ISSLOTUSED, return their answer in the variable result.

   In fact, they can be returned in any variable you wish, with a little more effort. Remember our second script, Track3D3? I mentioned at the time that the script only worked for 64-line blocks. Well, try making these two alterations:

   I) Before DO currline =..., insert: 'ed_getnumlines var numlines'
   II) Change TO 63 to TO numlines - 1

   The command in step I returns the number of lines in the current block in variable numlines (notice the use of VAR). In step II, currline now runs from 0 to the number of lines in the block minus 1. (Why minus 1? In a 64-line block, the last line number is 63. So...)

   By using the same technique, you can get our most recent script to stop when it reaches the last used instrument, instead of carrying right on to instrument 63. See if you can work out how!
   (Hint: The commands IN_SELECT LASTUSED and IN_GETNUMBER VAR last will return the last used instrument in variable last)

```
  ii) The IF and THEN devices can be used to act in various ways depending
      on the result of an OctaMED command. Try replacing the IF...THEN line
      in our script with the following:

         if result = 1 then do
            'in_setholddecay 6'
            'in_setvolume 32'
         end
         else 'in_setname Empty'

      Now, if result is 1 then Hold will be set to 6 and the default volume
      will be set to 32. (Notice the use of DO and END: this is necessary if
      OctaMED should carry out more than one command. It isn't a DO loop!).

      Also, if result is NOT 1 (i.e. if it's 0, or if it's anything else for
      that matter), then the instrument's name will be changed to Empty. So
      ELSE tells ARexx what to do if the required condition is not met.

      Note that you can use symbols other than '=' with IF...THEN. Try < for
      less than, > for greater than, <= for less than or equal to, >= for
      greater than or equal to, or ~= for not equal to. Also use & for and
      and | for or. For example, IF result = 1 & last < 15 THEN... .

Now you have a go at
                 Writing a Script

                 main
```

1.80 Writing a Script

```
                So you've followed all the examples, and you've (at least, sort of ↩
                   )
understood how they work. The next obvious step is to start writing your own
scripts. But where on earth do you start?

The answer is quite simple: with an idea. You are composing in OctaMED, and
suddenly you think, "Wouldn't it be nice if I could write a script to...".
Presto, you have an idea for a script. You're a quarter of the way there
already.

But the idea's kind of vague. Next you need to form a precise idea. For
example, my original idea for the previous example script was,

 (1) IDEA: "How about a script that sets all instruments' Hold values to 6?"

But then I thought, "Hold on a minute, what if the instrument is empty?
Changing an empty instrument's Hold value is no good to anyone!" The key
words there are "what if". Think of all the possibilities. All the things
that could go wrong. So I came up with:

 (2) PRECISE IDEA: "How about a script that sets all instruments'
                    Hold values to 6, but ignores empty instruments?"
```

Now it's time to translate informal English into more formal pseudo-code.
This is the transitory stage between your idea and the final script.

(3) PSEUDO CODE:

```
One    Let variable inst run from the first to the last instrument
Two    Select the 'inst' instrument number
Three  Is the current slot used?
Four   If so, set the current instrument's Hold value to 6
Five   If not, continue
```

Finally think, "What commands does OctaMED and ARexx provide to do this?"
And come up with your AREXX CODE (step 4).

(A quick word about quotes while I've space! If the variable newname
contains a string, use the following command to set the current block's
name to newname: 'ED_SETBLOCKNAME "'newname'"' . Don't ask why!)

You might find the ARexx command EXIT useful when dealing with things that
may go wrong. For example, if the script is to quit if no range is marked:

```
'RN_ISRANGED'
IF result = 0 THEN DO
   'WI_SHOWSTRING Please select range first.'
   EXIT
END
```

Of course, it's quite rare that scripts work first time (unless they're very
simple). Errors do tend to creep in. The trouble with running ARexx scripts
directly from OctaMED is that no output is given: if there is an error, you
have no way of telling what the error is. Here's one way around this:

(1) Select the Workbench screen, and select Project menu -> Execute Command.
    No, don't start to type ed, instead type newshell (and press Return)

(2) Assuming your script is called newscript.omed, and you've saved it in
    the REXX: directory, in the AmigaShell window type the following:
    copy rexx:newscript.omed ram:newscript.rexx (and press Return)

(3) Now type rx ram:newscript (and press Return)

RX is a program for running ARexx scripts (as long as they have the
extension .rexx, which is why you need to copy it to RAM:). Any error
messages output by the script will appear in the AmigaShell window.

Well, I hope you've gained sufficient interest to want to find out more!

What now follows is a *long* list of all OctaMED commands and templates.

Some description is given, but for more detailed explanation it's best to
read Teijo Kinnunen's own instructions, titled "OctaMED ARexx.doc"
which you will find in the Rexx Drawer.

If you'd like more information on ARexx itself, I would try a shareware
ARexxGuide, there is one on the Fish disk and Aminet collections.
The comparatively little I know about ARexx has been gleaned from these

very guides, so they come with my highest recommendations!
There are also many, many books on the subject.

Please also read the OctaMED ARexx Commands Guide

Keyboard Appendix

OctaMED Soundstudio Features

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APPENDIX

Player Commands

MIDI Commands

Player Commands Reference

Keyboard Shortcuts

Hexadecimal Values

1.82 Player Commands

Four points of note:

(1) Both the command type and the command level are in HEXADECIMAL. (Please read through Appendix D before continuing, just to make sure...)

(2) Please note the following abbreviations:

Level 1 = 1st command level digit Level 2 = 2nd command level digit

(3) When entering command types, you can set the first digit to 1 by holding down an Alt key. For example, to enter command 19, position the cursor over the second command digit and press Alt-9.

(4) In the list that follows, you'll notice that some commands are indicated as being Protracker compatible. When loading Protracker modules, OctaMED makes any necessary command conversions automatically.

Player commands can be split into two groups: normal commands, and MIDI commands, for a list of MIDI commands, see the Manual.guide

Command 00: ARPEGGIO

This command changes the pitch of the note quickly (once every tick).
It's usually used to create special effects. If you've ever listened
to Commodore 64 music, you must have heard arpeggios!

The pitch is changed between three different pitches (1 to 3) during each
note. Level 1 contains the number of halfsteps between pitch 1 and pitch 2,
level 2 the number of halfsteps between pitch 1 and pitch 3.

For example, to create a C major arpeggio:

```
   Pitch 1:  C-2
   Pitch 2:  E-2 = 4 halfsteps higher than pitch 1
   Pitch 3:  G-2 = 7 halfsteps higher than pitch 1

This produces:  C-2 10047
                --- 00047
                --- 00047 and so on... Note that the command level with a
                          blank note (---) continues the arpeggio.
```

As with most commands, experimentation often produces the best results. This
effect can sound pretty bad with some instruments but pretty good with
others. Use command level 37 for a minor arpeggio, 57 for a sustained 4th.

Commands 01 and 02: SLIDE PITCH UP and DOWN

These two commands slide the pitch of the current track up or down. They
actually work by changing the period of the note the amount of the command
level every tick. Sounds a bit technical? Dead right! It's best to leave the
donkey work to the automatic slide creator.

Command 03: PORTAMENTO

Again a slide command, and again it's best to use:
Edit menu -> Pitch Slide -> Type 1.
The difference between this and commands 01 and 02 is that the
latter replay the note they slide to: command 03 doesn't replay the note.
The command level is the slide speed. Here's an example:

```
   C-2 50000  <= Note C is played
   E-2 50305  <= This note isn't played! Instead, the slide target note is
   --- 00300     set to E-2 with a slide speed of 5
   --- 00300  <= Level 00 uses the previous speed (5 here)
```

This example would slide from C-2 to E-2, but the slide stops dead when E-2
is reached (with commands 01 and 02 you can slide beyond the note).

Command 04: VIBRATO

Rapidly slides the pitch up and down (causing a 'wobble'). Level 1 is the
vibrato's speed, level 2 the depth (the length of the pitch slide).

```
   E-3 4043B  <= Low speed, high depth
   --- 004A1  <= High speed, low depth
   --- 00400  <= Level 00 uses the previous speed and/or depth (A1 here)
```

Command 05: SLIDE PITCH AND FADE (Protracker-compatible)

This command combines commands 0300 and 0Dxx. The slide continues at the last speed entered with command 03, and the command level is the fade speed.

```
C-1 10000
D-3 10303  <= Slide pitch at speed 3
--- 00300  <= Continue sliding
--- 00502  <= Continue sliding + fade at speed 2 (see command 0D later)
```

Command 06: VIBRATO AND FADE (Protracker-compatible)

Combines commands 0400 and 0Dxx. Again, the vibrato continues at the previous speed and depth, and the command level is the fade speed.

Command 07: TREMOLO (Protracker-compatible)

This command is a kind of volume vibrato. Level 1 is the tremolo speed (the higher the value, the greater the speed), and level 2 is the depth. The depth must be quite high before you notice the effect (try A - F).

Command 08: HOLD AND DECAY

Sets the hold and decay values for the note (press Help and click Windows then Instrument Parameters). Level 1 is decay, level 2 is hold.

Command 09: TPL SLIDER

This command sets the TPL slider (the number of ticks per line,
The command level must be $01 - $20 ($ means hexadecimal).

Command 0A: VOLUME SLIDE (equivalent to 0D: for Tracker compatibility only)

Please use command 0D instead of this.

Command 0B: PLAYING SEQUENCE POSITION JUMP

This command allows you to create songs that have an introduction, which is only played once, and a main part, which is repeated over and over again. OctaMED jumps to the entry in the playing sequence given by the command level. You must, however, remember that level 00 is the first entry, and 01 the second, so e.g. 03 will be the fourth.

```
--- 00B06  <= Jump to playing sequence entry 007
```

Note that when more than one playing sequence is defined (i.e. sections), the specified entry in the CURRENT playing sequence is jumped to. At present, no command exists to jump to an entry in the section list.

Command 0C: SET VOLUME

Without doubt the most commonly-used player command. It overrides the default volume of the instrument.
For example, A-3 40C32 is played with volume 32.

There are 65 volume levels (0 - 64): 0 = silent, 64 = maximum. You may enter the level in either decimal or hex, depending on the state of the cycle gadget in the Song Options window.

It's also possible to change the volume of an already played note:

```
A-3 40000
--- 00000
--- 00C10  <= Change note A-3's volume to 10
```

In addition, with this command you may actually set the default instrument volume. The value MUST be in HEX!, and is between 80 and C0: 80 = level $0, C0 = level $40 (hex). In other words, add 80 to the normal volume in hex.

Command 0D: VOLUME SLIDE

You can increase or decrease volume smoothly with this command. Level 1 increases the volume, level 2 decreases. If both level digits have a value greater than zero, level 2 is ignored.

```
C-2 30C32  <= Sets volume to 32
--- 00D01  <= Decreases volume slightly
--- 00D01  <= Decreases volume a little more
--- 00D20  <= Increases volume back up to 32
```

For techies only: in this command the volume is changed every tick.
So if the TPL tempo slider were 6, a decrease volume value of 1 would lower the volume by 6. Using 0C commands, the above example would look like this (except it doesn't sound as smooth):

```
C-2 30C32  (volumes are decimal in this example)
--- 00C26  <= Subtract 6
--- 00C20  <= Subtract 6
--- 00C32  <= Add 12
```

Command 0E: SYNTH JUMP

Only applies to synthetic or hybrid instruments. It is used to trigger a jump in the waveform sequence. The command level is the line number you wish to jump to.

```
C-4 40000  <= Starts playing the synthetic or hybrid sound
--- 00000
--- 00E05  <= Jumps to waveform line number 5
```

Command 0F: PRIMARY TEMPO / MISCELLANEOUS

Command 0F has many different actions depending on the command level.

* Level 00: causes an immediate jump to the next entry in the playing sequence (or to the beginning of the block if you are using Play Block). It's actually better to make the block shorter, as it takes less memory, so this function mainly exists for Tracker compatibility.

* Levels 01 - F0: changes the Tempo slider. Levels 01 - 0A really exist for Tracker compatibility, but you should use command 09 instead as it's directly compatible (but make sure Tempo = 33).

Commands 0FF1 - 0FFF are reserved for special functions, most of which are currently in use:

- 0FF1 makes a single note play twice. Useful for creating fast rhythms. It's identical to command 1F03. When the TPL slider is 6:

```
C-3 20FF1 is the same as C-3 20000
                         C-3 20000 with double tempo (i.e. 3)
```

- 0FF2 delays the start of a note by half a line (as long as TPL is 6). It's identical to command 1F30.

- 0FF3 works like 0FF1 except the note is played three times! It's identical to command 1F02.

- 0FF4 delays the note one-third of a line.

- 0FF5 delays the note two-thirds of a line. Commands 0FF4 and 0FF5 can be used, for example, to create triplets:

```
C-2 10000  Here, the three notes will be evenly spaced throughout
D-2 10FF4  the four lines (they'll have a length of one-and-a-third
E-2 10FF5  lines each)
--- 00000
```

- 0FF4+5 will only work accurately when TPL is divisable by 3 (3, 6, 9 etc.).

- 0FF8 turns the low-pass filter off.

- 0FF9 turns the low-pass filter on. Commands 0FF8 and 0FF9 work like the Audio Filter Active check box in the Song Options window.

- 0FFA (MIDI only) sends the MIDI hold pedal on command.

- 0FFB (MIDI only) sends the MIDI hold pedal off command.

- 0FFD (not MIDI) causes the pitch of the previous note to be set to the new note, but it's not replayed.

```
C-1 20000  <= Play note
--- 00000
D#2 20FFD  <= Don't replay the note, just set the pitch to D#2
```

This is especially useful in playing long samples or samples with a loop set (such as strings and choirs), as the undesirable "click" that you can sometimes hear when playing a new note is eliminated.

- 0FFE stops the song playing. (When used in 5 - 8-channel mode, the song's notes are also stopped). Can be entered by shift-clicking STOP.

- 0FFF stops the note on the current track. Is almost like 0C00 with Amiga samples, but while 0C00 sets the note's volume to zero, 0FFF turns the note off completely (there is a subtle difference :-).

Commands 11 and 12: SLIDE PITCH UP and DOWN ONCE (Protracker cmds E1 / E2)

Whereas commands 01 and 02 change the pitch on every tick, these commands only change the pitch on the first tick of each line (greater accuracy).

Command 14: PROTRACKER-STYLE VIBRATO

As command 04, except command 14's depth levels produce exactly half the depth as command 04. Protracker pioneered this more accurate command.

Command 15: SET FINETUNE

Overrides the instrument's default finetune value.

Since these are hex numbers, negative numbers must be entered as follows:

-1 => FF	-3 => FD	-5 => FB	-7 => F9
-2 => FE	-4 => FC	-6 => FA	-8 => F8

```
   C#3 21503  <= Finetune +3
   D-2 315F8  <= Finetune -8
```

Command 16: REPEAT LINES (LOOP) (Equivalent to Protracker command E6)

This interesting command enables you to set up a repeated section (loop) within a block.

```
-   004 C-3 11600  <= Command level = 00: mark loop beginning
-   005 D#2 10000
-   006 --- 11603  <= Command level = 03: repeat this section three times
```

When the loop has finished, the block continues. You can't nest loops!

Command 18: CUT NOTE (Equivalent to Protracker command E8)

Almost like hold (command 08), except it sets the volume to zero instead of actually switching the note off. (Much the same as the difference between commands 0C00 and 0FFF). The command level must be less than TPL for the command to function.

Command 19: SAMPLE START OFFSET (Protracker command 9)

When playing a sample, this command sets the starting byte in steps of 256 bytes (= $100 in hex). Useful for speech samples.

```
   C-2 11904  <= Play the sample starting at byte $400 = 1024
```

Commands 1A and 1B: SLIDE VOLUME UP / DOWN ONCE (Protracker EA / EB)

Whereas command 0D changes the volume on every tick, these commands only change the volume on the first tick of each line (for greater accuracy).

Command 1D: JUMP TO NEXT PLAYING SEQUENCE ENTRY (Protracker command D)

"But doesn't command 0F00 jump to the next entry?" Quite right. But with this command you can specify the line number of the first line to be played. The line number is (as usual) given in hex.

```
   --- 01D0A  <= Jump to next playseq entry, and start at line 010 (skip
                 000 - 009)
```

Command 1E: REPLAY LINE (Protracker command EE)

Replays the commands (not the notes) in the current line the specified number of times.

```
   C-2 11B01 --- 01E3F  <= If instrument 01 had a default volume of 64,
                           these two tracks would fade note C-2 away
```

Command 1F: NOTE DELAY AND RETRIGGER (Protracker commands EC and ED)

Gives you accurate control over note playing. You can delay the note any number of ticks, and initiate fast retrigger. Level 1 = note delay value, level 2 = retrigger value.

```
  C-2 11F20  <= Delay 2 ticks  ||  C-2 11F02  <= Retrig every second tick
                               ||
   => tick  0  ---             ||   => tick  0  C-2
            1  ---             ||             1  ---
            2  C-2             ||             2  C-2
            3  ---  etc.       ||             3  ---
                               ||             4  C-2  etc.
```

Command 0FF1 is equivalent to 1F03, 0FF2 to 1F30, and 0FF3 to 1F02.

MIDI COMMANDS

main

1.83 MIDI COMMANDS

This section is a bit like an "erratum" for MIDI, in that it describes the changes to the above command descriptions required for MIDI use.

Commands 0B, 0F, 16, 1D, 1E, and 1F all work identically with MIDI to Amiga instruments. Commands 15, 18, 19, 1A, and 1B have no effect with MIDI.

If you are unfamiliar with any of the MIDI terms used in this section, please consult your MIDI device's manual.

Commands 05 and 00: CONTROLLER NUMBER and CONTROLLER VALUE

These two commands allow you to change any MIDI controller (command $Bx nn vv, where nn = controller number, vv = value).

Firstly, set the controller number you wish to change with command 05. Then, select the value with command 00. Subsequent uses of command 00 will affect the controller previously set with command 05. Remember that each MIDI channel has its own controller number.

If you need to use a controller value of $00, you can't use 00 as a command level because command 0000 means do nothing. Instead, use level 80. Acceptable controller numbers are $00 - $7F, and values $01 - $80.

Assuming instrument 03 is set to MIDI channel 1:

```
   C-2 30000
   --- 00507  <= Controller $07 = volume (according to the MIDI standard)
   D-2 3007F  <= Sets max. volume ($7F). Command $B0 07 7F is sent (this is
   --- 00000     easier to do with command 17)
   F-3 30001  <= Low volume ($01)
   --- 0055C  <= Sets controller $5C (tremolo depth)...
   G-4 30080  <= ...to 0 (note: level $80 = value $00)
```

Commands 01 and 02: PITCHBENDER UP / DOWN

These commands "turn" the pitchbender 8 x command level steps up or down on every tick. Sounds a bit technical? Indeed, but unfortunately automatic slide making cannot be used. Because the ranges of pitchbenders differ with various MIDI instruments, you must find the right value by experimenting.

The pitchbender isn't automatically reset when a new note is played. To reset it, issue the command again with a level of 00.

```
   C-2 101FF  <= Turns the pitchbender up very quickly...
   --- 00100  <= ...then resets the pitchbender
```

Commands 03 and 13: SET PITCHBENDER

With these commands you may set the pitchbender to an exact value, instead of sliding as with commands 01 and 02. The command level is the pitchbender value, expressed as a signed hexadecimal digit (aaaarrrgh!!! Better read Appendix D again?!?)

$00 = center position, $80 ($-7F) = smallest value, $7F = largest value

The two commands are identical, except that command 13 can be used when

there's a note next to the command: command 03 cannot.

```
   C-2 31380  <= Sets pitchbender to maximum value: use cmd 13 beside notes
   --- 0037F  <= Sets pitchbender to minimum value
   --- 00300  <= Resets pitchbender
```

Command 04: MODULATION WHEEL

Affects the current MIDI channel's modulation wheel. (Modulation is usually vibrato). The command level can be $00 - $7F: $00 = no modulation, $7F = maximum. All notes played using the current MIDI channel will be affected.

Command 08: SET HOLD ONLY

Just to underline that decay can't be used with MIDI instruments. (This is because with MIDI, the volume of an already played note can't be altered).

Command 0A: POLYPHONIC AFTERTOUCH

Changes the polyphonic aftertouch of the most recent note. (Aftertouch is squeezing a key down harder than when it was initially pressed). With this command, each note has an individual amount of pressure (compare with command 0D). The level should be $00 - $7F.

Command 0C: SET VOLUME

Again, just to underline that the volume of a note can't be changed after it has been played (as it can with Amiga samples). The normal Amiga sample volume range of 0 - 64 is converted to the MIDI range of 0 - 127.

Command 0D: CHANNEL AFTERTOUCH

Sends a channel aftertouch message to the most recently used channel. As with command 04, all notes using the most recent channel are given the same pressure (compare with command 0A). The level should be $00 - $7F.

Command 0E: PAN CONTROL

Controls the stereo location of the note. As usual, use levels $00 - $7F.

```
         left        mid        right
          |           |           |
Level:   00          3F          7F
```

Command 10: SEND MIDI MESSAGE

Sends a MIDI message, created using the MIDI message editor. The command level is the message number. Note that with this command the first message is number 0, so you need to subtract one to convert the message number from the message editor for use with this command.

```
   C-2 11003  <= Sends the fourth message, then plays note C-2 (messages are
                 always sent before notes)
```

MIDI timing pulses are sent immediately even if a message is being sent.

NEW Command 17: CHANGE VOLUME CONTROLLER

Changes the volume controller value for the most recently used channel.

```
   --- 00507  <= is the same as =>  --- 0173A
   --- 0003A
```

Command 1C: CHANGE MIDI PRESET

Changes the current instrument's MIDI preset number. As with all commands which modify the song parameters, you should be *very* careful when using this command in multi-modules:

That's all the commands OctaMED currently has. The main point, I feel, is that you must experiment with each command until you are happy with each of them. After you've tried them all out, you can push aside the ones you're not so keen on and concentrate on perfecting the ones you do like.

Player Commands Reference

main

1.84 Player commands Reference

Type(s)	Name	Command level (1/2 = level 1/2)
00	Arpeggio	1: 1st pitch, lvl 2: 2nd pitch
01 / 02	Slide pitch up / down	Pitch slide speed
03	Portamento	Pitch slide speed
04	Vibrato	1: speed, 2: depth
05	Slide pitch and fade	Fade speed
06	Vibrato and fade	Fade speed
07	Tremolo	1: speed, 2: depth
08	Hold and decay	1: decay, 2: hold
09	TPL slider	Tempo value
0A	Volume slide	Volume slide speed
0B	Playseq position jump	Position to jump to - 1
0C	Set volume	(Default) volume level
0D	Volume slide	Volume slide speed
0E	Synth jump	Waveform seq. line number
0F	Tempo slider / Miscell.	Various
11 / 12	Slide pitch up / down once	Pitch slide speed
14	Protracker-style vibrato	1: speed, 2: depth
15	Set finetune	Finetune value (signed hex)
16	Loop	Number of times (00 = start)
18	Cut note	Number of ticks
19	Sample start offset	Starting byte $\div$ 256
1A / 1B	Slide volume up / down once	Volume slide speed
1D	Jump to next playseq entry	Starting line number
1E	Replay line	Number of times
1F	Note delay and retrigger	1: delay, 2: retrig.

M I D I C O M M A N D S

05 / 00	Controller number / value	Controller number / value
01 / 02	Pitchbender up / down	Pitchbend speed
03 / 13	Set pitchbender	Pitchbend value (signed hex)
04	Modulation wheel	Modulation level ($00 - $7F)
08	Set hold only	Lvl 1: unused, lvl 2: hold
0A	Polyphonic aftertouch	Aftertouch level ($00 - $7F)
0D	Channel aftertouch	Pressure level ($00 - $7F)
0E	Pan control	Pan value ($00 - $7F)
10	Send MIDI message	Message number - 1
17	Change volume controller	New value
1C	Change MIDI preset	New preset number

Keyboard Shortcuts

main

1.85 Keyboard shorts

IMPORTANT NOTE FOR USERS OF NON-U.S. AND NON-BRITISH KEYBOARDS

The keyboard layout used in this manual corresponds to the standard U.S. keymap (and, by coincidence, to the British keymap). Users of other keyboards, therefore, have slight changes to make to the keys given:

A = Q on a French keyboard (and vice-versa)
Z = W on a French keyboard, and Y on a Swiss or German keyboard (and v-v)

Key(s)	Position is immediately...	Key(s)	Position is immediately...
~	Below Esc	[and]	Right of P
\	Left of Backspace	< and >	Right of M (except French: right of ,)
=	As + (see below)		
/	Left of Right Shift	, and .	Same as < and > above
- and +	Right of 0 (zero)		

* Note that these changes DON'T apply to menu or gadget shortcuts. For example, to open the Input Map Editor window using a French keyboard, hold down the Right Amiga key and press the normal A key (immediately to the right of Tab).

==> Remember that most keyboard shortcuts can be changed using the Keyboard Shortcuts window (see Keyboard Shortcuts in Manual.guide)

Editing shortcuts (used in editing with the Tracker editor)

Esc	Edit mode on/off
Shift-Esc	Chord mode on/off
~	Space mode on/off

Del	Delete note or command digit under cursor
Shift-Del	Delete note and command digits (on current page)
Alt-Del	Delete only command digits (on current page)
Amiga-Del	Delete note and command digits on all pages

Left Amiga-Del Delete chord. When L-Amiga is held down, every time you press Del the note under the cursor is deleted and the cursor moves to the next selected track. When L-Amiga is released, the cursor advances (as defined in the Keyboard Options window).

Return or A	Insert hold symbol (-|-)
Shift-Return	Insert hold symbols to all tracks of the previous chord
F	Insert / play note at default pitch
Backspace	Delete note and move following notes up
Shift-Backsp	Insert empty note slot
Alt-Backspace	Delete current track
Alt-Shift-Bksp	Insert new track
Amiga-Bksp	Delete line
Sh-Amiga-Bksp	Insert line
Shift- 0 - 9	Enter programmable key 0 - 9
Shift-Ctrl-0-9	Pick note under cursor as programmable key 0 - 9
Tab	Highlight current line
Shift-Tab	Cycle command pages
Ctrl-O	Create volume slide (using command 0C)
Shift-Ctrl-O	Create generic slide (using any command)
Ctrl-T	Create type 1 slide (using command 03)
Shift-Ctrl-T	Create type 2 slide (using commands 01 and 02)
Shift-Alt-Z	Swap block
Shift-Alt-X	Cut block
Shift-Alt-C	Copy block
Shift-Alt-V	Paste block
Ctrl-Z	Erase range
Ctrl-X	Cut range
Ctrl-C	Copy range
Ctrl-V	Paste range
Shift-Ctrl-V	Paste to selected tracks
Ctrl-B	Range current track
Shift-Ctrl-B	Range current block
Ctrl-J	Join block with next
Shift-Ctrl-J	Split block at cursor
Ctrl- <	Swap note under cursor with following note, taking account of the current spacing value
Ctrl- >	Swap notes on adjacent tracks
Ctrl-K	Kill notes to end of track
Shift-Ctrl-K	Kill notes to end of block

Alt-Ctrl-K	Kill notes to end of block and actually remove the deleted part of the block. In other words, the current line becomes the last line of the block.

Cursor movement shortcuts (allow cursor movement in the Tracker editor)

The cursor keys move the cursor one place up/down/left/right.

Alt-<left>	Cursor to previous track
Alt-<right>	Cursor to next track
Ctrl-<left>	Previous screenful of tracks
Ctrl-<right>	Next screenful of tracks
Shift-Ctrl-<left>	Cursor to track 0
Shift-Ctrl-<right>	Cursor to last track
Shift-<up>	Previous block
Shift-<down>	Next block
Left Alt-<up>	First block (Can't use R.Alt to avoid accidental
Left Alt-<down>	Last block jump when using Alt-<left>/<right>)
Right Alt-<up>	Up *one* line, whether or not Space is on
Right Alt-<down>	Down *one* line, whether or not Space is on
Ctrl-NK(	Previous song (NK = numeric keypad)
Ctrl-NK)	Next song / Add song
Shift-Ctrl-NK(	Delete last song
Shift-Ctrl-NK)	Add song with no confirmation requester
Alt-Ctrl-NK(	Delete current song
Alt-Ctrl-NK)	Add and select song (no requester)
F6	Cursor to first line of block
F7	Cursor to second quarter of block
F8	Cursor to middle of block
F9	Cursor to last quarter of block
F10	Cursor to last line of block

Alt-Ctrl-<left>	Go to where sample previously appeared in the song. The sample number is taken from either the number under the cursor, or (if it's --- 00000) from the current instrument number.
Alt-Ctrl-<right>	Go to where sample next appears in the song

Other shortcuts

Shift-Alt-Space	Play song	Remember that you may also use
Shift-Space	Continue song	the Left Alt shortcuts underlined
Amiga-Space	Play block	in the Main Control window
Alt-Space	Continue block	
Space bar	Stop playing	
Ctrl-Space bar	Reset MIDI presets / pitchbenders / mod. wheels	

```
Shift-<left>       Previous sample
Shift-<right>      Next sample
Alt-Shift-<left>   16 samples backward
Alt-Shift-<right>  16 samples forward
Shift-Ctrl- <      Previous free sample slot
Shift-Ctrl- >      Next free sample slot

F1 - F5            Select octaves 1+2 - 5+6 in normal mode,
           3+4/2+3/1+2 - 7+8/8+9/9+A in MIDI mode (pressing F1 and F5
           cycles through several octaves)

Ctrl- - (minus)    Decrease Tempo slider
Ctrl- + (plus)     Increase Tempo slider
Shift-Ctrl- -      Decrease TPL slider
Shift-Ctrl- +      Increase TPL slider

Ctrl-I             Insert new block
Shift-Ctrl-I       Insert new default block
Ctrl-N             Append new block
Shift-Ctrl-N       Append new default block
Alt-Ctrl-N         Append and select new block
Shift-Alt-Ctrl-N   Append and select new default block
Ctrl-D             Delete current block
Shift-Ctrl-D       Delete last block

Ctrl-S             Save IFF instrument
Shift-Ctrl-S       Save raw instrument
Ctrl-G             Flush current instrument

Shift-Ctrl-G       Flush all unused instruments

Ctrl-A             Automatic Advance Down on/off (Keyboard Options)
Shift-Ctrl-A       Automatic Advance Cursor Right on/off
Alt-Ctrl-A         Automatic Advance to Next Track on/off
Ctrl-W             Advance with sound on/off

Ctrl-F             Display free memory

Alt-~              Set spacing value to length of current range - 1.
    For example, marking a range from 000 - 002 sets spacing to 2.
    (It's logical to subtract 1 since with a spacing of 2, the cursor
    skips from line 000 to 002 which is 3 lines long).
```

The following shortcuts apply to the numeric keypad, and all affect the playing sequence (note: playseq = playing sequence).

Shortcut	Effect	Shortcut	Effect
Ctrl-4	Decrease current playseq entry	Ctrl-8	Scroll playseq up
Ctrl-6	Increase current playseq entry	Ctrl-2	Scroll playseq down
Ctrl-5	Insert current block to playseq	Ctrl-7	Top of playseq
Ctrl-0	Duplicate current playseq entry	Ctrl-1	Bottom of playseq
Ctrl-.	Delete current playseq entry		

* In numeric / text boxes:

```
    Shift-<left>    Move to beginning of box (also Ctrl-A)
    Shift-<right>   Move to end of box (also Ctrl-F)

    Amiga-Q         Restore box's initial contents

    Ctrl-X          Delete box's contents (also Amiga-X)
    Shift-Bksp      Delete from cursor to beginning of box (also Ctrl-U)
    Shift-Del       Delete from cursor to end of box (also Ctrl-K)
    Ctrl-W          Delete current word
```

In addition, the Tab key accepts the edited information (like Return) and activates the next text or numeric box in the window. Shift-Tab accepts and activates the previous box. Remember to press Tab, Shift-Tab or Return after editing a box's contents.

Hexadecimal Values

main

1.86 Hexadecimal Values

Hexadecimal (or 'hex' for short) is basically just a different way of representing numbers. It is more convenient for the computer because of the way it works, and allows the user to specify a greater range of numbers using the same amount of digits.

Hex values are used in the player commands, MIDI message editor, and the synth editor, so they're quite important in OctaMED.

==> In the usual decimal system, a digit can be ten different values: 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9.

In the hex system, however, a digit may have sixteen values: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E or F. The decimal numbers 10 - 15 are represented by the letters A to F:

Decimal 10 = A; 11 = B; 12 = C; 13 = D; 14 = E; 15 = F

With two digits in a number, the decimal system can represent 10 x 10 = 100 different values. The hex system, however, can represent 16 x 16 = 256 values: well over twice the amount of the decimal system. (The lowest hex number is 00 = zero, and the highest is FF = 255 decimal).

Converting between the two systems

So although it feels strange to work in at first, it has its advantages. In a two digit hex number (e.g. 8A), the first digit represents multiples of 16. So, to convert a two-digit hex number to decimal:

Decimal number = (Hex digit 1) x 16 + (hex digit 2)

And to convert decimal to hex, divide the decimal number by 16. The quotient is hex digit 1, the remainder is hex digit 2.

```
e.g. (1) Hex 8A -> decimal:   Hex digit 1 = 8, hex digit 2 = A (10).
                              Decimal number = (8 x 16) + 10 = 106.

     (2) Decimal 200 -> hex:  200 $\div$ 16 = 12 remainder 8.
                              Hex digit 1 = C (12), hex digit 2 = 8.
                              So hex number = C8.
```

Hex numbers are sometimes distinguished from decimal numbers by preceding hex with a $ sign. For example: $C8, $FF.

Signed hexadecimal

There is a further complication! Luckily in OctaMED you'll only need to use this in two player commands: MIDI command 03 (set pitchbender) and command 15 (set finetune). (See pages 86 and 83 respectively)

The sign of a number denotes whether the number is positive or negative: that is, the + and - signs.

In hexadecimal, however, there are no - signs. So, negative numbers are represented by positive numbers (it will become clearer!).

==> In signed hex, the numbers $00 - $7F are positive as usual: they represent the decimal numbers 0 - 127. However, the numbers $80 - $FF represent the decimal values -1 to -128:

```
                    Decimal    -1 = $FF
                               -2 = $FE
                               -3 = $FD
                               -4 = $FC etc.

                              -16 = $F0
                              -17 = $EF
                              -18 = $EE etc.

                             -126 = $82
                             -127 = $81
                             -128 = $80
```

So to convert negative decimal numbers to signed hex numbers, first add 256 to the number, then convert to hex as above.

```
e.g. Decimal -67 -> signed hex:  -67 + 256 = 189.
                                 õ189 $\div$ 16 = 11 remainder 13.
                                 Hex digit 1 = 11 (B), hex digit 2 = 13 (C)
                                 So signed hex number = $BC.
```

Hex numbers will crop up in many areas of computing, so if you've never worked with them before, it's a good idea to get used to them!

Full ARexx Commands
Soundstudios New Features

main

1.87 Full ARexx Commands

OCTAMED'S AREXX COMMANDS

Option names

Window Names

VE and WI Commands

PL (Playing) Commands

IN (Instrument) commands

SA (Sample editor) commands

SG (Song) Commands

OP (Options) commands

SY (Synth editor) commands

ED (Edit) commands

ED (Edit) Other Commands

RN (Range) commands

1.88 Option names

(use with e.g. OP_GET/SET.

AddPaths	AdvCurs	AdvLine
AdvTrk	AdvVoice	AudioChannels
AuraActive	AuraFixedRate	AuraMinPer
AuraSingleCh	AutoFlush	AutoFreeze
AutoTerminate	Chord	CloseWB
Compression	CreateIcons	CreateIconsForSamples
DefHQMode	DefLPB	DefSlowHQ
DefTempo	DefTempoBPM	DefTPL

```
DefVolMode                DestrSpc                  Edit
ExpShrk_Factor            F6_F10_Highlights         FollowSeq
FourBitPalette            HalveLoadedSamples        HelpViewer
HtoB                      InstCtrlStrLoad           KeymapActive
KeypadMap                 KeypadMode                KillBx7B00
KillNOff                  LMB                       MIDIActive
MIDIActSensing            MIDIExtSync               MIDIInput
MIDIReadKeyUps            MIDIReadVolume            MIDISendOutInput
MIDISendSync              MMB                       OverwriteReq
Palette_WB                PolyPlay                  PlayAfterLoading
PPBuffer                  PPEfficiency              RemPaths
ReqTools                  ResetChord                RMB
RoundSpc                  SaveAllInfo               SaveInstruments
SaveMultiMod              SaveNotation              SaveTimer
SaveTimerOpenWin          ShowUnusedBlocks          SizeOnlyWindowZoom
SMFL_CmdPage_ChAftertouch SMFL_CmdPage_ChannelVol   SMFL_CmdPage_MIDIPreset
SMFL_CmdPage_ModWheel     SMFL_CmdPage_Pan          SMFL_CmdPage_Pitchbend
SMFL_CmdPage_Tempo        SMFL_CmdPage_Velocity     SMFL_DontIntermix
SMFL_LinesPerBlock        SMFL_MaxTracks            SMFL_OffsetAdjust
SMFL_Resolution           SmpEdCrNoise_Level        SmpEdDensity
SmpEdDigiWVoice           SmpEdEcho_Num             SmpEdEcho_Rate
SmpEdEcho_VolDecr         SmpEdFastGfx              SmpEdFB_Averaging
SmpEdFB_Distance          SmpEdFreehand             SmpEdMaxVolClip
SmpEdMinZoom              SmpEdMix_Dest             SmpEdMix_Source
SmpEdPitch                SmpEdPitchChg_AntiAlias   SmpEdPitchChg_Dest
SmpEdPitchChg_Source      SmpEdPitchInHz            SmpEdPixelDisp
SmpEdVolChg_End           SmpEdVolChg_Start         SmpEdVolClip
SmpEdZoomRngCent          SmpEd_LoopPoint           Space
SpaceIsDel                SpaceVal                  SpreadVal
TempoOpChangeCmds         Toccata_LevelDisp         Transpose_InstSlots
WarnDiskFull
```

```
                Window Names

                main
```

1.89 Window Names

```
               (use with WI commands)

BLOCKLIST            BLOCKPROPERTIES    EDITOR              EQBAR
EQOSC                EXPANDSHRINK       FONT                HIGHLIGHTOPTIONS
INFORMATION          INSTLOAD           INSTPARAMS          INSTTYPE
INPUTMAP             KEYBOARDOPTIONS    KEYBOARDSHORTCUTS   MAINCONTROL
AURAOPTIONS          MIDIINPUTCHANNEL   MIDIMESSAGEEDITOR   MISCOPTIONS
MOUSEOPTIONS         NEW                NOTEECHO            PALETTE
PLAYINGSEQ           PROGKEYS           PRINTOPTIONS        SAMPLEEDITOR
SAMPLELIST           SAMPLELISTEDITOR   SAVEOPTIONS         SAVETIMER
SAVE_PPSETTINGS      SAVE_XPKSETTINGS   SA_ADDWORKSPACE     SA_ADJUSTY
SA_CHANGEPITCH       SA_CHANGEVOLUME    SA_CHORDCREATION    SA_NOISE
SA_DISPLAYSETTINGS   SA_ECHO            SA_FILTERBOOST      SA_MIX
SECTIONLIST          SMFLOADOPTIONS     SONGANNOTATION      SONGOPTIONS
SONGSELECT           SPREADNOTES        SYNTHSOUNDEDITOR    SY_PROGRAM
```

```
SY_STRETCH            SY_VOLUME          TEMPO               TEMPOOP
TOCCATA_CAPTURE       TRACKVOLUMES       TRANSPOSE
```

VE and WI Commands

main

1.90 VE and WI Commands

```
                (Commands marked * return a value)

*VE_OCTAMED: Returns OctaMED version number
*VE_OCTAMEDREXX: Returns version number of OctaMED ARexx implementation
 WI_ACTIVATE WINDOW/A: Activates the specified window
 WI_CHANGEBOX WINDOW/A,X/N,Y/N,W=WIDTH/N,H=HEIGHT/N: Changes win.
dimensions
 WI_CLOSE WINDOW/A: Closes a window
*WI_ISOPEN WINDOW/A: Tests if the specified window is currently open.
 WI_OCTAMEDTOBACK: Sends the OctaMED screen to back.
 WI_OCTAMEDTOFRONT: Brings the OctaMED screen to front.
 WI_OPEN WINDOW/A: Open a window. See above for a list of supported names.
 WI_OPENSHELL: Opens a new command shell window. Can be more than one open.
*WI_REQUEST BODYTEXT/A,GADGETTEXT/A: Displays a requester with one or more
    gadgets. GADGETTEXT specifies the gadget labels, separated by "|".
    Result: 0 for rightmost choice; 1, 2.. for other choices (left to right)
 WI_SHOWSTRING MESSAGE/F: Displays a message on OctaMED's title bar. If no
    message is specified, resets the title bar to its default state.
 WI_TOBACK WINDOW/A: Moves specified window behind all other windows.
 WI_TOFRONT WINDOW/A: Moves specified window in front of all other windows.
 WI_ZIP WINDOW/A: Shrinks or unshrinks the specified window.
```

PL (Playing) Commands

main

1.91 PL (Playing) Commands

```
                PL_CONTBLOCK: Play block (continue from current position).

 PL_CONTSONG: Play song (continue from current position).
*PL_GETSTATE: Get player's current state. Returns STOPPED/PLAYSONG/PLAYBLOCK
 PL_JUMPTOTIMERZERO: Jumps to the position where the timer was last reset.
 PL_NEXTALPHAKEYCHANGESINSTR: "Alpha-enter" facility
 PL_PLAYBLOCK: Play block (from the beginning).
 PL_PLAYSONG: Play song (from the beginning).
 PL_PLAYSTATECOMMAND CMD,ELSE: If playing, executes CMD; if not, ELSE.
 PL_RESETMIDI: Resets MIDI pitchbenders, mod. wheels and inst. presets.
```

```
PL_RESETTIMER: Resets the play timer.
PL_STOP: Stop playing.


                IN (Instrument) Commands

                main
```

1.92 IN (Instrument) commands

```
                IN_FLUSH CURR=CURRENT/S,ALL/S,UN=UNUSED/S: Flush one or more  ↩
                   instruments.
*IN_GETFINETUNE: Returns current instrument's finetune value (-8 - 7).
*IN_GETHOLD: Returns Hold value.
*IN_GETDECAY: Returns Decay value.
*IN_GETDEFAULTPITCH: Returns default pitch (note number, 0 = none).
*IN_GETEXTENDEDPRESET: Returns 0 if Extended Preset off, 1 if on.
*IN_GETMIDICHANNEL: Returns instrument's MIDI channel (1 - 16, 0 = none).
*IN_GETMIDIPRESET: Returns MIDI preset.
*IN_GETNAME: Returns current instrument's name.
*IN_GETNUMBER: Returns number of current instrument (1 - 63).
*IN_GETNUMOCTAVES: Returns number of octaves in the current sample (1 - 7).
    Returns 0 if the instrument is not of type SAMPLE.
*IN_GETOUTPUT: Returns current sample's output device (AMIGA/AURA/TOCCATA)
*IN_GETSUPPRESSNOTEOFF: Returns 0 if Suppress Note Off is off, 1 if on.
*IN_GETTRANSPOSE: Returns transpose value (-128 - 127).
*IN_GETTYPE: Returns EMPTY/SAMPLE/SYNTH/HYBRID/EXTSAMPLE/SAMPLE16/UNKNOWN.
*IN_GETVOLUME: Instrument's volume (0 - 64).
*IN_ISSLOTUSED SL=SLOT/N: Returns 1 if the specified instrument slot (1-63)
    is used, 0 if empty. Caution: could be a MIDI instrument even if empty.
*IN_ISSTEREO: Returns 1 if sample in stereo, 0 if mono (or not a sample)
 IN_LOAD NAME/A,NOSL=NOSLIST/S,CN=COMPARENAMES/S: Loads an inst. from disk.
    NOSLIST = don't search the sample list; COMPARENAMES = don't load if
    NAME and the name of the current instrument are equal.
 IN_LOADREQ: Opens the Load Instruments requester.
 IN_MONO: Convert this sample to mono.
 IN_SAVE NAME,RAW/S,EIGHTSVX/S,MAUD/S,AIFF/S,WAVE/S: Saves sample. NAME
    should be a full path name. Default format = EIGHTSVX or MAUD.
 IN_SAVEREQ RAW/S,EIGHTSVX/S,MAUD/S,AIFF/S,WAVE/S: Opens save requester for
    saving in the specified format (default: EIGHTSVX).
 IN_SELECT INS/N,NEXT/S,PREV/S,LAST/S,LU=LASTUSED/S,NEXTFREE/S,PREVFREE/S,

           MINUS16/S,PLUS16/S,PREVFOUND=NEARCURSOR/S,SWITCH/S:

    Changes current instrument number. e.g. INS 3 = go to instrument 3;
    NEXTFREE / PREVFREE = next/previous free instrument slot;
    MINUS16 / PLUS16 = go back/forward 16 instruments; PREVFOUND selects
    instrument nearest cursor; SWITCH toggles first inst no. (e.g. 05 -> 15)

 IN_SETDEFAULTPITCH NO=NOTE/N/A: Sets instrument's default pitch.
 IN_SETFINETUNE FT=FINETUNE/N/A: Sets finetune (-8 - 7).
 IN_SETHOLDDECAY H=HOLD/N,D=DECAY/N: Sets hold and/or decay value(s).
 IN_SETMIDICHANNEL CH=CHANNEL/N/A: Set instrument's MIDI channel (0 - 16).
 IN_SETMIDIPRESET PR=PRESET/N/A,EXT=EXTENDED/S: Sets MIDI preset.
```

```
    EXTENDED = use extended preset.
 IN_SETNAME NAME/A: Sets current instrument's name (up to 39 characters).
 IN_SETNUMOCTAVES OCTS/N/A: Set number of octaves (1 - 7). Only valid if
    the instrument type is SAMPLE.
 IN_SETOUTPUT AMIGA/S,AURA/S,TOCCATA/S: Sets instrument's output device.
 IN_SETSUPPRESSNOTEOFF ON/S,OFF/S,TOGGLE/S: Set/clear/toggle Suppr. NoteOff.
 IN_SETTRANSPOSE TR=TRANSPOSE/N/A: Sets transpose value (-128 - 127).
 IN_SETTYPE SAMPLE/S,EXTSAMPLE/S,SYNTHETIC/S,HYBRID/S,SAMPLE16/S: Changes
    instrument type. Not all type changes are allowed (see docs on disk).
 IN_SETVOLUME VOL/N,INCREASE/S,DECREASE/S: Sets instrument's volume (0-64),
    or optionally INCREASE or DECREASE it by one.
 IN_STEREO: Convert this sample to stereo.
 IN_SWAPINSTRUMENTS SLOT1/N/A,SLOT2/N/A: Swaps the two given instruments.
    It only exchanges the instruments, song data is not modified.


                SA (Sample editor) commands

                main
```

1.93 SA (Sample editor) commands

```
                SA_ADJUSTYRANGE S=SHIFT/N/A: Adjusts range about x-axis (zero  ↩
                   line).
    SHIFT is an 8-bit adjust value.
 SA_BOOST AVG=AVERAGING/N,D=DISTANCE/N: Boosts range. If either or both
    values aren't supplied, the values in the Filter/Boost window are used.
 SA_BUFFERTOSAMPLE: Copies the copy buffer to the sample.
 SA_CENTRALIZESAMPLE: Centralizes entire sample about x-axis.
 SA_CHANGEPITCH S=SOURCE/N,D=DEST/N,AA=ANTIALIAS/S: Changes current sample's
    pitch. SOURCE and DEST are period values. If not supplied, uses values
    in Change Pitch window. ANTIALIAS turns antialiasing on (otherwise off).
 SA_CHANGEVOL S=START/N,E=END/N,CLIP/S,NOCLIP/S: Changes range volume.
    START and END are percentage values. CLIP/NOCLIP set Change Volume
    window's Check Clip gadget, otherwise current setting is used. To
    maximize the volume, use SA_CHANGEVOL 999 999 NOCLIP
 SA_CHANGESIZE SIZE/N/A,C=CLEAR/S,RE=RETAINATEND/S,REQ/S: Changes current
    sample's size. By default, retains existing sample at the start. CLEAR =
    entire sample cleared, RETAINATEND = retain at end, REQ = request user.
 SA_CHOPRANGE: Chops the selected range.
 SA_CLEARRANGE: Clears the selected range.
 SA_COPYRANGE: Copies the selected range to the copy buffer.
 SA_CREATECHORD

N=NOTES/N/M/A,FV=FULLVOL/S,NFV=NOFULLVOL/S,ET=ERASETRAIL/S,

    NET=NOERASETRAIL/S: Creates chord of given notes. NOTES =
    chord's note numbers (up to 4 can be given). FULLVOL/NOFULLVOL override
    Chord Creation's Full Volume; ERASETRAIL/NOERASETRAIL override Erase
    Trailing Notes. For example, to create a three-note major chord:
    SA_CREATECHORD 1 5 8

 SA_CREATENOISE L=LEVEL/N: Adds noise to the selected range.
 SA_CUTRANGE: Cuts the selected range.
```

```
 SA_DELRANGE: Erases the selected range.
 SA_ECHO NUM/N,R=RATE/N,VD=VOLDECR/N: Creates echoes. Parameters' purpose
    given in Echo Window instructions (see the on-line help).
 SA_ERASE TS=TOSTART/S,TE=TOEND/S,BL=BEFORELOOP/S,AL=AFTERLOOP/S:
    Erases part of current sample. TOSTART = Range start to sample start;
    TOEND (default) = Range end to sample end; BEFORELOOP = Loop start to
    sample start; AFTERLOOP = Loop end to sample end.
 SA_FILTER AVG=AVERAGING/N,D=DISTANCE/N: Filters range.
*SA_GETBUFFERLENGTH: Returns copy buffer size (0 if empty).
*SA_GETDISPLAYCHANNEL: Returns currently displayed channel of a stereo
    sample (LEFT/RIGHT/BOTH).
*SA_GETDISPLAYSIZE: The size of the currently displayed part of the sample.
*SA_GETDISPLAYSTART: Position of the display start (from the sample start).
*SA_GETLOOPLENGTH: Returns the length of the loop.
*SA_GETLOOPSTART: Returns the beginning of the loop.
*SA_GETLOOPSTATE: Returns 1 if loop is on, 0 if off.
*SA_GETRANGEEND: Returns the range end position.
*SA_GETRANGESTART: Returns the range start position.
*SA_GETSAMPLE O=OFFSET/N/A: Returns the sample value at byte number OFFSET.
    OFFSET range is 0 to (SAMPLELENGTH-1). Sample value always given
    in 16-bit, even for 8-bit samples (-32768 to 32767).
*SA_GETSAMPLELENGTH: Returns the length of the current sample.
 SA_INVERTRANGE: Flips the selected range upside down.
 SA_MIX SL=SOURCELEVEL/N,DL=DESTLEVEL/N: Mixes copy buffer with range.
 SA_MONITOR AS=ALLOWSAMPLING/S: Starts monitoring. Only the user can close
    the monitoring area. ALLOWSAMPLING = like clicking Digitize.
 SA_PASTE OW=OVERWRITE/S: Pastes buffer at Range Start. Will insert unless
    OVERWRITE specified.
 SA_PLAY D=DISPLAY/S,R=RANGE/S,CB=CBUFF/S,LO=LOOP/S,TU=TUNING/S:
    Plays the display / range / loop / tuning tone.
 SA_RANGE S=START/N,E=END/N,A=ALL/S,LO=LOOP/S: Sets range. START / END =
    Range Start / End values. ALL ranges whole sample, LOOP ranges loop.
 SA_RANGETOSYNTHED: Copies the range to the synth editor wave buffer.
 SA_REFRESH: Refreshes the sample display (see SA_SETSAMPLE).
 SA_REMUNUSEDSPACE: Removes unused space from both ends of the sample.
 SA_REVERSERANGE: Reverses the selected range.
 SA_SAMPLETOBUFFER: Copies the whole sample to the copy buffer.
 SA_SETDISPLAYCHANNEL BOTH/S,L=LEFT/S,R=RIGHT/S: Change stereo display mode.
 SA_SETLOOP S=START/N,L=LENGTH/N,KE=KEEPEND/S,R=RANGE/S,D=DISPLAY/S,
            SA=SAMPLE/S: Sets the loop. START/LENGTH = Repeat / RepLen.
    If only START given, length is unchanged unless KEEPEND set (keeps the
    end position intact). RANGE/DISPLAY/SAMPLE loops the range/disp./sample.
 SA_SETLOOPSTATE ON/S,OFF/S: Turns the loop on or off.
 SA_SETSAMPLE O=OFFSET/N/A,V=VALUE/N/A: For editing the actual sample
    waveform. Sets the sample value at byte number OFFSET. OFFSET range is 0
    to (SAMPLELENGTH-1). Sample value should always be given in 16-bit, even
    for 8-bit samples (-32768 to 32767). Call SA_REFRESH to refresh display.
 SA_SHOW S=START/N,L=LENGTH/N,R=RANGE/S,A=ALL/S,LO=LOOP/S:
    Sets the display to the specified part of the sample. START/LENGTH
    specify absolute bytes; RANGE/LOOP/ALL shows the range/loop/sample.
 SA_SWAPBUFFERWITHSAMPLE: Swaps the copy buffer with the sample.
 SA_ZOOM IN/S,OUT/S: Zooms in/out (havling/doubling the display size).


                 SG (Song) Commands

                 main
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1.94 SG (Song) Commands

```
                SG_CLEARALLSONGS: Clears all songs (without confirmation).
 SG_CLEARCURRENTSONG: Clears the current song.
 SG_DELETESONG CURRENT=HERE/S,LAST/S: Deletes CURRENT (default) or LAST
    song of a multi-module. Has no effect if only one song exists.
 SG_DISCARDANNOTEXT: Discards the long annotation text (if it exists).
 SG_FORGETMODIFICATIONS: After using this command, OctaMED thinks there have
    been no changes since song was last saved - careful! (See SG_ISMODIFIED)
*SG_GETANNOSTRING: Returns the current (short) annotation string.
*SG_GETCHANNELMODE: Returns the current channel mode (4 - 8).
*SG_GETCURRENTSONGNUMBER: Returns current song number (1 - NUMBEROFSONGS).
*SG_GETFILESIZE MMD2/S,MMD1/S,MMD0/S,MOD/S,SMF0/S,MULTIMOD/S,CURRSONG/S:
    Calculates and returns the unpacked file size of the multi-module
    (default) or the current song in the desired file format.
*SG_GETFILTER: Returns the state of Audio Filter Active (1 or 0).
*SG_GETHQ: Returns the state of High Quality Mode (1 or 0).
*SG_GETMASTERVOL: Returns the master volume (1 - 64).
*SG_GETNAME: Returns the name of the current song (a string).
*SG_GETNUMBEROFSONGS: Returns the total number of songs.
*SG_GETPLAYTRANSPOSE: Returns the play transpose value (-12 - 12).
*SG_GETSLIDEMODE: Returns the slide mode (NO1ST/STD).
*SG_GETTEMPO: Returns the main SPD or BPM tempo (Tempo slider).
*SG_GETTEMPOLPB: Returns the Lines per Beat value (only used in BPM mode).
*SG_GETTEMPOMODE: Returns the current tempo mode (SPD/BPM).
*SG_GETTEMPOTPL: Returns the Ticks Per Line value (a.k.a. secondary tempo).
*SG_GETTRACKVOL TRACK/N/A: Returns the track volume (1 - 64) of the
    specified track (0 - 63).
*SG_GETVOLMODE: Returns the current volume mode (HEX/DEC).
 SG_GOTOSONG SONGNUM/N,NEXT/S,PREV/S,LAST/S,NEXTORAPPEND/S: Selects a song.
    SONGNUM = song number; NEXT/PREV = next/previous song; LAST = last song.
    NEXTORAPPEND = NEXT with requester to add new song if current is last.
*SG_ISMODIFIED: Returns a non-zero value if the song has been modified since
    it was last loaded or saved. Otherwise returns 0.
*SG_ISTRACKON TRK=TRACK/N: Returns the on/off (1/0) state of the specified
    track. If track not specified, current track is assumed.
*SG_ISTRACKSELECTED TRK=TRACK/N: Returns the selected/deselected (1/0) state
    of the specified track. If track unspecified, current track is assumed.
 SG_LOAD NAME,FORCE/S: Loads song into memory. IF NAME omitted, opens file
    requester. Returns an error if song modified, unless FORCE is set.
 SG_LOADANNOTEXT NAME: Loads annotation text file NAME (or opens requester).
 SG_NEWSONG HERE/S,LAST/S: Adds new song at curr. pos. (HERE) or after LAST.
 SG_SAVE NAME,FULLNAME/K,MMD2/S,MMD1/S,MMD0/S,MOD/S,SMF0/S,MULTIMOD/S,
         CURRSONG/S: Saves current song (CURRSONG) or multi-module
    (MULTIMOD, default) in the given format (MMD2/MMD1/MMD0/MOD/SMF0). Saves
    under name NAME (if given) using current save path (see SG_SETSAVEPATH).
    FULLNAME = save path + name.
 SG_SAVEANNOTEXT NAME: Saves annotation text to NAME (or opens requester).
 SG_SETANNOSTRING STRING/F: Sets/clears (if no STRING) short anno string.
 SG_SETCHANNELMODE MODE/N/A: Sets the current channel mode (4 - 8).
 SG_SETFILTER ON/S,OFF/S: Sets the state of Audio Filter Active (1 or 0).
 SG_SETHQ ON/S,OFF/S: Sets the state of High Quality Mode (1 or 0).
 SG_SETMASTERVOL VOL/N/A: Sets the master volume (1 - 64).
```

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 SG_SETNAME NAME/A/F: Sets the name of the current song.
 SG_SETPLAYTRANSPOSE TRANSP/N/A: Sets the play transpose (-12 - 12).
 SG_SETSAVENAME NAME/A: Sets the current project's default save filename.
    But use the next command to set the save path.
 SG_SETSAVEPATH PATH/A: Sets the default save file name and save path.
    You should specify the volume name, the directory and the filename.
 SG_SETSLIDEMODE STD/S,NO1ST/S: Sets the slide mode.
 SG_SETTEMPO BPM=SPD/N,TPL/N,LPB/N: Sets the current tempo.
 SG_SETTEMPOMODE SPD/S,BPM/S: Sets the tempo mode (BPM is now recommended).
 SG_SETTRACKSTATE TRK=TRACK/N/A,ON/S,OFF/S,TOGGLE/S,SEL/S,DESEL/S,
                  TOGGLESEL/S: Sets the state of the specified track.
    ON/OFF/TOGGLE = track playing status; other switches = selected state.
 SG_SETTRACKSTATES ON/S,OFF/S: Sets all tracks ON or OFF.
 SG_SETTRACKVOL TRACK/N/A,VOL/N/A: Sets TRACK's (0-63) track volume (1-64).
 SG_SETVOLMODE DEC/S,HEX/S: Sets the volume mode (DECimal or HEX).
 SG_SHOWFREEMEMORY: Displays free memory on the title bar (used for Ctrl-F).
 SG_TEMPO_DECREASE TPL/S: Decreases the Tempo (or TPL if set) slider.
 SG_TEMPO_INCREASE TPL/S: Increases the Tempo (or TPL if set) slider.
 SG_VOLCONVERT TOHEX/S,TODEC/S,REQ/S: Converts the volume commands of the
    song. TOHEX = dec -> hex; TODEC = hex -> dec; REQ asks the user.


                OP (Options) commands

                main
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1.95 OP (Options) commands

```
                *OP_GET OPT/A: Returns specified option's current value. (See p ↩
                   .65) See docs
    on disk for returned value details.
*OP_GETKEYBOARDOCT: Returns current octaves: 0 = 1+2, 1 = 2+3, 2 = 3+4 etc.
 OP_LOADKEYBOARDSHORTCUTS NAME/A: Loads shortcut file (NAME = full path).
 OP_LOADSETTINGS NAME/A: Loads settings file (NAME = full path name).
 OP_MULTICMD CMD/M: Multiple commands (see §12.9.6 part 5). You can't use
    commands which need spaces in their parameters (even with quotes).
 OP_REPEATCMD TIMES/N,CMD/F: Repeats command CMD the given number of times.
    Can use with OP_MULTICMD to repeat a sequence of commands.
 OP_SAVEKEYBOARDSHORTCUTS NAME/A: Saves shortcut file (NAME = full path).
 OP_SET OPT/A,VAL/N,ON/S,OFF/S,TOGGLE/S: Changes specified option's value or
    state. ON/OFF/TOGGLE affect check boxes and 'toggling' menu items; VAL
    affects other options. Make sure the value you give is valid!!
 OP_SETKEYBOARDOCT OCT/N,FKEY/K/N: Sets current edit octaves. OCT = 1 - 9
    (1 = 1+2, 2 = 2+3 etc.) or use FKEY 1 - 5: corresponds to key F1 - F5.
 OP_TOGGLEBETWEEN OPT/A,VAL1/N/A,VAL2/N/A: Toggles options between two
    possible values (not check boxes / toggling menu items).
 OP_UPDATE ON/S,OFF/S: Turns Editor and Information updating on/off.


                SY (Synth editor) commands

                main
```

1.96 SY (Synth editor) commands

```
                SY_ADDWAVES: Adds the right waveform to the left one.
 SY_CHANGEVOL VAL/N/A: Changes range volume (VAL = percentage of original).
 SY_CLEARRANGE: Clears range.
 SY_CLEARWAVE: Clears current waveform.
 SY_COPYRANGE: Copies range to the right waveform.
 SY_COPYWAVE TOTEMP/S,FROMTEMP/S: Copies waveform (TOTEMP = right to left).
 SY_CUTRANGE: Cuts the selected range.
 SY_DELPROGCOMMAND VOL/S,WF/S: Deletes entry from VOLume or WaveForm seq.
 SY_DELWAVE L=LAST/S: Deletes current waveform (unless LAST specified).
 SY_DOUBLERANGE: Doubles range.
*SY_GETNUMBEROFWAVES: Returns number of waveforms in current synthsound.
*SY_GETPROGCOMMAND O=OFFSET/N/A,VOL/S,WF/S: Returns an sequence entry.
    OFFSET specifies the position in either the VOLume or WaveForm sequence.
*SY_GETPROGCURSORX: Returns the horizontal cursor position (0 - 5).
*SY_GETPROGLENGTH VOL/S,WF/S: Returns length of VOL or WF sequence.
*SY_GETPROGLINE: Returns current line number. (May exceed program length).
*SY_GETPROGSPEED VOL/S,WF/S: Returns program (= sequence) execution speed.
*SY_GETSAMPLE O=OFFSET/N/A: Returns a sample value from the current waveform
    at position OFFSET (-32768 to 32767: in 16-bit even though 8-bit!).
*SY_GETSELECTEDWAVE: Returns selected wave (0 = left, 1 = right).
*SY_GETWAVELENGTH: Returns length of curr. waveform (2 - 128, even number).
*SY_GETWAVENUM: Returns the number of the currently selected wave.
 SY_GOTOPROGLINE L=LINE/N/A: Moves to specified sequence line.
 SY_GOTOWAVE WAVE/N,NEXT/S,PREV/S: Moves to specified waveform.
 SY_MIXWAVES: Mixes the right waveform to the left.
 SY_MOVEPROGCURSOR POS/N,LEFT/S,RIGHT/S,UP/S,DOWN/S,FKEY/K/N: Moves sequence
    cursor. POS = horizontal position 1 - 5; FKEY: 0 = F6, 1 = F7 etc.
 SY_NEW: Creates a new synthsound.
 SY_NEWWAVE H=HERE/S: Creates new waveform (adds to end unless HERE given).
 SY_NOISE: Sets the current waveform to the Noise preset.
 SY_PASTERANGE: Pastes the right waveform to the left.
 SY_PULSE: Sets the current waveform to the Pulse preset.
 SY_RAMPDOWN: Sets the current waveform to the Ramp Down preset.
 SY_RAMPUP: Sets the current waveform to the Ramp Up.
 SY_RANGE S=START/N,E=END/N,A=ALL/S: Sets the range.
 SY_REVERSERANGE: Reverses the selected range.
 SY_SETPROGRAM PROGRAM/M/A,VOL/S,WF/S,INS=INSERT/S: Enters a VOL or WF seq.
    Entire sequence is set unless INSERT given. (See docs on disk for more)
 SY_SETPROGSPEED VOL/K/N,WF/K/N: Sets sequence(s) execution speed.
 SY_SETSAMPLE O=OFFSET/N/A,V=VALUE/N/A: Set sample value at position OFFSET
    (-32768 to 32767: 16-bit values). Display refreshed automatically.
 SY_SETSELECTEDWAVE TEMP/S,ACTUAL/S: Selects right (TEMP) or left waveform.
 SY_SETWAVELENGTH LENGTH/N/A: Sets current waveform length (2 - 128).
 SY_SHIFTRANGE L=LEFT/S,R=RIGHT/S: Shifts range left or right.
 SY_SINE: Sets the current waveform to the Sine preset.
 SY_STRETCH DIST/N/A: Stretches curr. waveform at cursor (DIST = distance).
 SY_SWAPWAVES: Exchanges the left and right waveforms.
 SY_TRIANGLE: Sets the current waveform to the Triangle preset.
 SY_UNDO: Undoes (reverses the effects of) the last editing operation.
 SY_WAVETRANSFORMATION START/N/A,END/N/A: Transforms START to END waveform.


                ED (Edit) commands
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main

1.97 ED (Edit) commands

(Playing Sequence and Section List)

```
 ED_CLEARSEQ FORCE/S: Clears the current playseq. FORCE overrides requester.
 ED_DELETEPLAYSEQ: Deletes the current playseq entry.
 ED_DELETESECLIST: Deletes the current section list entry.
 ED_DELETESECTION: Deletes the current section (playing sequence list).
*ED_GETCURRPLAYSEQ: Returns current playseq position in current section.
*ED_GETCURRSECLIST: Returns the current section list position.
*ED_GETCURRSECTION: Returns the current section number.
*ED_GETNUMPLAYSEQ: Returns the current section's length.
*ED_GETNUMSECLIST: Returns the section list's length.
*ED_GETNUMSECTIONS: Returns the total number of sections.
*ED_GETPLAYSEQBLOCK O=OFFSET/N: Returns the playseq block no. at pos OFFSET.
*ED_GETSECLISTSECTION O=OFFSET/N: Returns seclist section no. at pos OFFSET.
*ED_GETSECTIONNAME: Returns the current section's name.
 ED_GOTOPLAYSEQ NUM/N,PREV/S,NEXT/S,FIRST/S,LAST/S,BOTTOM/S,JUMPED/S,
    JUMPPLAY/S: Changes current playseq position. NUM = absolute position;
    BOTTOM = under the last entry; JUMPED instructs Tracker editor to jump
    to first line of block in that position; JUMPPLAY = same while playing.
 ED_GOTOSECLIST SECPOS/N/A: Changes current section list position.
 ED_GOTOSECTION SECT/N/A: Changes current section.
*ED_ISBLOCKINSEQ B=BLOCK/N: Returns 0 if block BLOCK doesn't exist in any
    section, 1 if it does. (cf. Block List window -> Show Unused)
 ED_NEWPLAYSEQ BLOCK/N,CURRBLOCK/S,COPYBLOCK/S: Inserts new playseq entry
    at current position. CURRBLOCK inserts current block number, COPYBLOCK
    copies current playseq entry.
 ED_NEWSECLIST INSERT=HERE/S,APPEND=LAST/S: Adds new entry to section list.
 ED_NEWSECTION INSERT=HERE/S,APPEND=LAST/S: Creates new section.
 ED_SETPLAYSEQBLOCK O=OFFSET/N,B=BLOCK/N,INCREASE/S,DECREASE/S: Edits the
    current section. INCREASE/DECREASE change selected/current value by 1.
 ED_SETSECLISTSECTION O=OFFSET/N,SC=SECNUM/N: Edits the section list.
 ED_SETSECTIONNAME NAME: Sets the current section's name.
```

ED (Edit) Other Commands

main

1.98 ED (Edit) Other Commands

```
ED_ADVANCELINE LINES/N,UP/S,DOWN/S,FKEY/K/N,SPC=SPACING/S,USESETT ↩
    /S:
   Advances the cursor UP or DOWN lines LINES (default 1). SPACING uses
   current Space Value (ensure Space is on). FKEY (6 - 10) moves to F6 -
   F10 position. USESETT uses current Keyboard Options advance settings.
ED_CLEARNOTECMD NOTE/S,CMD/S,ALLPAGES/S: Clears note and/or command digits
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    on the current page (default) or ALLPAGES. Takes Space into account.
 ED_CREATESLIDE VOL/S,GEN/S,PITCH1/S,PITCH2/S: Creates slide (Edit menu).
 ED_DELETEBLOCK HERE=CURRENT/S,LAST/S: Deletes CURRENT (def.) or LAST block.
 ED_DELETENOTE B=BLOCK/K/N,L=LINE/K/N,T=TRACK/K/N,DELSPACE/N: Like pressing
    Backspace. Default: current cursor pos. DELSPACE = no. of removed notes.
 ED_ENTERNOTE NOTE/N,PROGKEY/K/N,HOLD/S: Enters NOTE/PROGKEY/HOLD symbol.
 ED_FINDSAMPLEOCCURRENCE PREV/S,NEXT/S: Like Alt-Ctrl-<left>/<right>.
*ED_GETBLOCKNAME B=BLOCK/N: Returns current/specified block's name.
*ED_GETCURRBLOCK: Returns the current block number.
*ED_GETCURRLINE: Returns the current line number (in decimal).
*ED_GETCURRPAGE: Returns the currently displayed command page.
*ED_GETCURRTRACK: Returns the track that the cursor is on.
*ED_GETDATA B=BLOCK/K/N,L=LINE/K/N,T=TRACK/K/N,P=PAGE/K/N,NOTE/S,INUM/S,
    CMDNUM=CMDTYPE/S,QUAL=CMDLVL/S,PRTALL/S: Returns song data. Default is
    cursor pos but can use BLOCK/LINE/TRACK/PAGE. The switches set what data
    to return (note/inst no/cmd type/cmd level/string e.g. 'C-3 20C48').
*ED_GETLINEHIGHLIGHT B=BLOCK/K/N,L=LINE/N: Returns 1 if line highlighted.
*ED_GETNUMBLOCKS: Returns the total number of blocks in memory.
*ED_GETNUMLINES B=BLOCK/N: Returns the current/specified block's length.
*ED_GETNUMPAGES B=BLOCK/N: Returns the curr/spec block's number of pages.
*ED_GETNUMTRACKS B=BLOCK/N: Returns the curr/spec block's number of tracks.
*ED_GETPREVIOUSINUM: Returns the current track's previous instrument number.
 ED_GOTO B=BLOCK/K/N,L=LINE/K/N,T=TRACK/K/N,P=PAGE/K/N: Moves the cursor.
 ED_GOTOBLOCK PREV/S,NEXT/S,FIRST/S,LAST/S,FIRSTLINE/S,FIRSTPAGE/S: Mainly
    for keyboard shortcuts. FIRSTLINE/PAGE jumps to block's first line/page.
 ED_GOTOCMDPAGE PAGE/N,NEXT/S,PREV/S,CYCLEFWD/S: Selects current command
    page. CYCLEFWD cycles forward, jumping to page 1 after the last page.
 ED_GOTOTRACK PREVNOTE/S,NEXTNOTE/S,NEXTCHORD/S,FIRST/S,LAST/S,PREVDISP/S,
    NEXTDISP/S: Mainly for keyboard shortcuts. NEXTCHORD = next chord note.
 ED_HIGHLIGHTLINE B=BLOCK/K/N,L=LINE/N,ON/S,OFF/S,TOGGLE/S: Highlights,
    dehighlights, or toggles the current or specified line
 ED_INSERTEMPTYNOTE B=BLOCK/K/N,L=LINE/K/N,T=TRACK/K/N,INSSPACE/N: Like
    Shift-Backspace. INSSPACE = number of inserted notes (default = 1).
 ED_KILLNOTES CURRTRACK/S,ALLTRACKS/S,CBS=CHANGEBLOCKSIZE/S: Kills notes
    below cursor. (See keyboard shortcuts (Shift/Alt)-Ctrl-K)
 ED_MOVECURSOR
 LEFT/S,RIGHT/S,NOTE/S,INUM/S,CMDNUM1=CMDTYPE1/S,CMDNUM2=
               CMDTYPE2/S,QUAL1=CMDLVL1/S,QUAL2=CMDLVL2/S: Moves cursor.
 ED_NEWBLOCK HERE=INSERT/S,LAST=APPEND/S,TRACKS/N/K,LINES/N/K,PAGES/N/K:
    INSERTs/APPENDs new block. You can also specify its size.
*ED_NUMBERTONOTE NOTE/N/A: Converts note number to string. E.g. 2 -> 'C#1'.
 ED_PICKPROGKEYNOTE PROGKEY/N/A: Like keyboard shortcuts Shift-Ctrl- 1 - 0.
 ED_PLAYNOTE NOTE/N,INUM/N,TRACK/N: Plays a note. Defaults = current.
 ED_SETBLOCKLINES B=BLOCK/N/K,LINES/N/A: Sets curr/spec block's length.
 ED_SETBLOCKNAME B=BLOCK/K/N,NAME: Sets current/specified block's name.
 ED_SETBLOCKPAGES B=BLOCK/N/K,PAGES/N/A: Sets block's no. of pages to PAGES.
 ED_SETBLOCKTRACKS B=BLOCK/N/K,TRACKS/N/A: Sets curr/spec block's tracks.
 ED_SETDATA
B=BLOCK/K/N,L=LINE/K/N,T=TRACK/K/N,P=PAGE/K/N,NOTE/K/N,INUM/K/N,
    CMDNUM=CMDTYPE/K/N,QUAL=CMDLVL/K/N,ALTCMD/S: Changes notes/data (see
    ED_GETDATA). ALTCMD enters the Right Alt programmable key definition.
 ED_SETDATA_UPDATE ON/S,OFF/S: Turns ED_SETDATA updating on/off.
 ED_SWAPNOTEWITH FOLL=FOLLOWING/S,RIGHT/S: Like Ctrl-< / >.


                  RN (Range) commands
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main

1.99 RN (Range) commands

```
                RN_CANCELRANGE: Discards the range.
 RN_CHANGEINUM
SRC/N,DEST/N,CHANGE/S,EXCHANGE=SWAP/S,DELNOTES/S,AFFECT/K/N:
    Changes instrument numbers (see the Transpose window). AFFECT is 1 - 5.
 RN_CHANGENOTES SRC/N,DEST/N,CHANGE/S,EXCHANGE=SWAP/S,AFFECT/K/N: Chg
notes.
 RN_COPY RANGE/S,TRACK/S,BLOCK/S: Copies a RANGE/TRACK/BLOCK.
 RN_CUT RANGE/S,TRACK/S,BLOCK/S: Cuts a RANGE/TRACK/BLOCK.
 RN_DELETELINE LINE/N: Deletes the current or specified line.
 RN_DELETETRACK TRACK/N,WHOLESONG/S: Deletes the current or specified track.
    WHOLESONG deletes the same-numbered track throughout the entire song.
 RN_DISCARDBUFFERS: Discards all copy buffers.
 RN_ERASE RANGE/S,TRACK/S,BLOCK/S: Clears a RANGE/TRACK/BLOCK.
 RN_EXPANDBLOCK FACTOR/N: Expands the block. Can specify FACTOR.
*RN_GETRANGEENDLINE: Returns the line number of the last ranged line.
*RN_GETRANGEENDTRACK: Returns the track number of the last ranged track.
*RN_GETRANGESTARTLINE: Returns the line number of the first ranged line.
*RN_GETRANGESTARTTRACK: Returns the track number of the first ranged track.
 RN_GETSPACINGFROMRANGE: Like keyboard shortcut Alt-~.
 RN_INSERTLINE LINE/N: Inserts an empty line at current/specified line.
 RN_INSERTTRACK TRACK/N,WHOLESONG/S: Inserts an empty track.
*RN_ISRANGED: Returns 1 if a range is marked, 0 if not.
 RN_JOINBLOCKS: Joins the current block with the following one.
 RN_NOTEECHO DIST/N,MINVOL/N: Echoes the range (see the Note Echo window).
 RN_PASTE RANGE/S,TRACK/S,BLOCK/S,TS=TOSELECTED/S: Pastes. (See Edit menu)
 RN_SETRANGE STARTTRACK/N,STARTLINE/N,ENDTRACK/N,ENDLINE/N,TRACK/K/N,
             LINE/K/N,CURRBLOCK/S,CURRTRACK/S: Sets range. Can specify
    absolute values, or range a given line/track, or range current trk/blk.
 RN_SHRINKBLOCK FACTOR/N: Shrinks the block. Can specify FACTOR.
 RN_SPLITBLOCK LINE/N: Splits the block at the current/specified line.
 RN_SPREADNOTES WIDTH/N: Spreads the ranged notes (see Spread Notes window).
 RN_SWAP TRACK/S,BLOCK/S: Swaps a track or block with the copy buffer.
 RN_TRANSPOSE HSUP/S,HSDOWN/S,OCTUP/S,OCTDOWN/S,AFFECT/K/N,ALLINSTRS/S,
    CURRINSTR/S: Transposes (see the Transpose window).


 MM_MOVECURSOR LEFT/S,RIGHT/S,UP/S,DOWN/S: For the MIDI Message Editor.


Well, that's all of them, have fun!
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main