OctaMED

COLLABORATORS			
	TITLE : OctaMED		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY		May 29, 2022	

REVISION HISTORY			
NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

OctaMED

1.1 Help Contents (Omissions can occur, if so, Sorry!)

```
                (NOTE: This help system assumes you've read the manual in the Docs ↩
                    drawer!)

Welcome to the OctaMED help system. The following topics are available:


                                Menus

                %%   Very latest changes

                           Windows

                          Main screen

                         Player commands

                        Keyboard shortcuts

                       Amiga Copyright

                          Special purpose topics
                    * Click on any boxed text to see more information on that subject.

* Use the up and down arrow keys to reveal more of a topic.

 Please note that all references to "Save" can only be made to your HD
 or to a floppy disk as obviously, you cannot save files to this CD.

 When you open a window to save a mod, (or anything else), the pathfile
 in the requester window will show that of the CD and you "must" therefore
 alter this to your hd path or floppy prior to attempting a save.
```

1.2 Amiga Copyright notice

Amiga is a registered trade mark of Amiga Technologies at this time.

However at time of writing their is news of yet another possible owner,
(if it happens, we think it can only be for the better!)

1.3 %% Very latest changes:

Numerous bugs have been fixed and tidy-ups made since version 6.00,
particularly in the sample list editor. (For example, Add Dir and Del Ins
now handle .info files correctly).
Also, 16-bit Toccata samples are now played correctly.

We also hope that by the time of release, we will have much better
sampling response via the HiSoft Aura card, unfortunatly at time of
writing, (close to CD deadline), we still do not have further word
of this, so all that can be said is, keep an eye on the magazine
reviews as it is obvious that should this support be increased,
it will get a mention by the reviewers and, of course, those of
you who own an Aura will soon know anyhow!

Some users may have noticed the disappearance of V5's "Set/Clr tracks"
buttons (upper screen, bottom left), and also the solo-track feature. Well,
these are now back! (with the exception of Clr). Shift-click a track number
button in the Tracker editor to "solo" the track, and alt-click (click with
an Alt key held) a track number to set all tracks.

For a deeper insight into Soundstudio and all it's new features,
read the Manual within the Docs drawer.

1.4 OctaMED Menus

The OctaMED menu bar contains the following menus:

Project

Display

Song

Block

Track

Instr

Edit

MIDI

Settings

1.5 The Project Menu

```
                New    Opens the
                New Project window
                 to discard the current project and
       begin a new one.

Open    Displays a
                file requester
                 to load a new song into memory. The
        current song will be discarded. If the current project has been
        changed since last saving, a requester will offer to save it first.

        When loading songs without instruments, a requester will appear if
        an instrument can't be located on disk, offering to continue
        loading the other instruments or to stop loading the song
        altogether. If you continue until the song is loaded, OctaMED will
        load the instruments it can find and put the names of the
        instruments it can't find in their proper numbered places. You must
        then locate and load appropriate instruments into these positions;
        otherwise, the notes played by those instruments will be silent.

        Note that although you can load normal Tracker modules, you can't
        load packed Tracker modules. Tracker player commands will be
        converted to the OctaMED equivalent.

        If a song isn't identified as any format listed in the

                Save Options window
                , a requester will offer to try loading the file
        as an old Soundtracker song. If it IS an old Soundtracker song it
        should load correctly, but if not OctaMED may crash.

  *NSS* OctaMED can now load
                Standard MIDI File
                 Type 0 and 1 songs.
  *NSS* OctaMED can also load modules created on two different PC
        sequencers: ScreamTracker 3 (S3M) and FastTracker 1.0. 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)

        Note that the more popular FastTracker 2 is not yet supported.

        Upon successful loading, the song's annotation text (if any) is
        displayed on the title bar: see
                Song menu -> Set Annotation
                .

Save    Opens the
                Save Options window
                 to save the current project on to
        disk.
```

Save Timer Opens the
Save Timer window
, providing an option similar to
the "automatic save" function in many wordprocessors.

Delete Files Displays a
file requester
to delete one or more files from
disk (after confirmation). WARNING: THE FILES WILL BE
PERMANENTLY ERASED FROM DISK!

Print Opens the
Print Options window
, where you may print the current
song in various ways.

Last Message Displays the last message (error or information) appearing
on the screen's title bar.

Online help Opens OctaMED's help system (you're using it now!).

About Displays information about OctaMED.

Command Shell Opens a Shell-like window for entering OctaMED's ARexx
NSS commands. Close the window by typing "bye", by pressing
Ctrl-\ or by clicking the close gadget as usual. (See §13
of the printed manual for more ARexx information).

ARexx Script Opens a file requester to execute an ARexx file. You can
NSS also do this in the
Keyboard Shortcuts window
,

Input Map Editor
and
ARexx Trigger Setup window
.

AmigaDOS Shell Opens an AmigaDOS shell, just like the shell you can open
NSS on the Workbench, on the OctaMED screen. You can now run
programs or use AmigaDOS commands like "copy" or "dir".

Audio Channels Switch this off to temporarily free the audio channels.
NSS This will allow you to use other music programs that need
these channels. When you've finished with the programs,
switch this back on (trying to play any instrument will
automatically switch this back on, if possible).

NSS The audio channels are now allocated when they are needed
for the first time. So when using Mix mode with Toccata
or MaestroPro, they aren't allocated at all!

Quit OctaMED Quits the program. Will display a confirmation requester if
the current project has been changed since last saving.

1.6 The Display Menu

```
                Tracker Editor    Re-opens the Tracker editor (if it's been closed ↩
                   ).

Notation Editor    Opens the
                main notation editor window
                 with its
                Tools
                *NSS*
                window
                .

Main Control    Opens the
                Main Control window
                .

Information Window    Opens the
                Information window
                .

Tempo Window    Opens the
                Tempo window
                .

Synth Editor      Opens the
                Synthetic Sound Editor window
                .

Sample Editor     Opens the
                Sample Editor window
                .

Sample List Editor    Opens the
                Sample List Editor window
                .

MIDI Message Editor    Opens the
                MIDI Message Editor window
                .

Input Map Editor    Opens the
                Input Map Editor window
                .

ARexx Trigger Setup...    Opens the
                ARexx Trigger Setup Window
                . Here you can
*NSS*                     set certain player commands to execute ARexx
                          scripts, run programs and much more.
```

1.7 The Song Menu

```
                Select    Opens the
                Song Selector window
                , with which you may select the
           current song (of a multi-module).

           [ Keyboard shortcut: Left Alt-G with Information window active ]

Add New    Adds a new song after the last song.

           [ Keyboard shortcut: Shift-Ctrl-NK) ]

Delete Last    Deletes the last song of a multi-module. Has no effect if
               there is only one song in memory.

               [ Keyboard shortcut: Shift-Ctrl-NK( ]

Playing Sequence    Opens the
                Playing Sequence window
                .

                    [ Keyboard shortcut: Left Alt-Q with Info win active ]

Section List    Opens the
                Section List window
                .

                [ Keyboard shortcut: Left Alt-C with Info window active ]

Set Options    Opens the
                Song Options window
                . This window contains several
               song-specific options.

Set Volumes    Opens the
                Track Volumes window
                , used to set the volumes of
               the song's tracks.

Set Annotation    Opens the
                Song Annotation window
                . Here you can attach
                  any text to your song, which might be a copyright notice,
                  a description of the song, or greetings.
```

1.8 The Block Menu

```
                New -> Insert    Inserts a new block at the current block position ↩
                   . OctaMED
                 will correct the entries in the playing sequence, so the
                 song isn't changed. The length and width of the newly-
                 created block will be taken from the current block.

                 [ Keyboard shortcut: Ctrl-I ]
```

New -> Append Adds a new block after the last block. The length and width will be taken from the current block.

[Keyboard shortcut: Ctrl-N]

New -> Insert Def As Insert, but uses the built-in default size: 64 lines of 4 or 8 tracks (8 if 5-8 channel mode is on).

[Keyboard shortcut: Shift-Ctrl-I]

New -> Append Def As Append, but again uses the built-in default size.

[Keyboard shortcut: Shift-Ctrl-N]

Delete Deletes the block selected by the sub-menu (Current or Last). OctaMED removes and corrects the appropriate playing sequence entries. WARNING: There is no confirmation requester!

Set Properties Opens the Block Properties window, which contains some block-specific settings.

Block List Opens the Block List window. This window allows easy block management.

[Keyboard shortcut: Left Alt-B with Info window active]

Highlight Opens the Highlight Options window, where you may highlight the lines in a block in a particular order.

NSS The Copy/Cut/Paste items in the Block, Track and Edit menus now each have their own separate copy buffer. So you can have block, track and range information all stored in memory at once.

Cut Copies the current block to the copy buffer, and clears the block.

[Keyboard shortcut: Shift-Alt-X]

Copy Places a copy of the current block in the copy buffer.

[Keyboard shortcut: Shift-Alt-C]

Paste Overwrites the block with the copy buffer's contents.

[Keyboard shortcut: Shift-Alt-V]

Swap w/Buff Swaps the contents of the current block with the contents of the copy buffer.

[Keyboard shortcut: Shift-Alt-Z]

All Cmd Pages *NSS* When on (default), Cut and Copy affect all command pages. When off, only notes in the current command page are cut or copied.

Insert Line Inserts a new line at the cursor position, increasing the block length by one line.

[Keyboard shortcut: Shift-Amiga-Backspace]

Delete Line Deletes the line at the cursor position, reducing the block length by one line.

[Keyboard shortcut: Amiga-Backspace]

Expand/Shrink Opens the Expand/Shrink Block window .

Split At Cursor Splits the current block into two blocks; the current line becomes the first line of the next block.

[Keyboard shortcut: Shift-Ctrl-J]

Join With Next Joins the current block with the following one.

[Keyboard shortcut: Ctrl-J]

1.9 The Track Menu

NSS The Copy/Cut/Paste items in the Block, Track and Edit menus now each have their own separate copy buffer. So you can have block, track and range information all stored in memory at once.

Cut Copies the current track to the copy buffer, and clears the track. (The "current track" is the track that the cursor is on).

Copy Places a copy of the current track in the copy buffer.

Paste Overwrites the track with the copy buffer's contents.

Swap w/Buff Swaps the contents of the current track with the contents of the copy buffer.

All Cmd Pages *NSS* When on (default), Cut and Copy affect all command pages. When off, only notes in the current command page are cut or copied.

Insert Empty Inserts an empty track. Tracks on the right of the current track will be shifted right. The number of tracks doesn't increase, so the rightmost track will be discarded.

The sub-menu allows you to apply the operation to either the current block only or the entire song.

```
                [ Keyboard shortcut: Curr. Block = Alt-Shift-Backspace ]

Delete    Deletes a track. Tracks on the right of the current track will be
          shifted left. The sub-menu allows you to apply the operation to
          either the current block only or the entire song.

          [ Keyboard shortcut: Curr. Block = Alt-Backspace ]
```

1.10 The Instr Menu

```
                Select       Opens the
                Instruments
                 window. This window lists all your
*NSS*         instruments, and allows you to select one from the list.

Type    Opens the
                Instrument Type window
                .

        [ Keyboard shortcut: Left Alt-T with Main Control active ]

Set Parameters    Opens the
                Instrument Parameters window
                , which allows you
                  to change various instrument parameters.

                  [ Keyboard shortcut: Left Alt-P with Main Control active]

Load Instrument(s)    Opens a
                file requester
                 to load instruments into
                      memory. OctaMED can load any type of instrument
                      listed in
                Instrument Type
                . The instrument is loaded
                      into the sample slot displayed in
                Main Control
                .
                      If an instrument already exists in that slot, the new
                      one will replace it.

                      If the instrument is a sample or synthetic sound, the
                      title bar displays its size in bytes, in the form
                      "n [x bytes]" (where n and x are numbers). n is the
                      number of sample values in the instrument, x is the
                      actual amount of memory consumed. (These numbers will
                      be different if a sample is 16-bit or in stereo).

                      The number of waveforms used in a synthetic sound
                      will also be displayed on the title bar.

                      If more than one instrument is selected, they are
                      loaded into consecutive sample slots in alphabetical
                      order.
```

Load from List Opens the
Instrument Load Window
.

Save Instrument Opens a
file requester
to save the current instrument
on to disk. The sub-menu gives you a choice of five
different formats: see
Instrument Type
for a brief
description of each. Note that loop information is only
saved with IFF 8SVX files. This format cannot be used
with 16-bit or stereo samples.

It's recommended to use 8SVX for 8-bit samples and AIFF
or MAUD for 16-bit and/or stereo samples. Use WAVE when
exporting samples to PC computers. When saving synthetic
or hybrid sounds, you may choose any format (since they
are saved as none!). For ExtSamples, save as IFF 8SVX.

[Keyboard shortcuts: IFF = Ctrl-S, Raw = Shift-Ctrl-S]

Flush Current Removes the current instrument from memory, frees the
memory used by it, and clears all its parameters.

[Keyboard shortcut: Ctrl-G]

Flush All Unused Removes all instruments unused by the current project
(after a confirmation requester). If there are no
unused instruments, no requester appears.

[Keyboard shortcut: Shift-Ctrl-G]

Automatic Flush When selected, a requester to flush unused instruments
will appear on pressing the Clear Current button in the

New Project window
.

The following two items affect instrument names when loading songs or
instruments.

Add Path Adds the full path of the instrument when loaded. (The "path"
is the disk and directory name, for example: "Samples1:Bass/").

This is useful when a song including instruments not in your

sample list
is saved without its instruments. When the song is
reloaded, the instruments will be loaded using the new full
path names.

Remove Path Usually songs made with Trackers have instrument names which
include the full path. This option removes the paths of the
instruments, so that they can be loaded using the

sample list
instead of directly from the appropriate disk.

Both Add and Remove Path may be active at once. In this case, the original path is removed, the instrument is loaded using the sample list, and the path name from the sample list is added.

Note that the maximum length of an instrument name is 40 characters, so characters at the end of the name may be lost if the path is very long.

Halve Loaded Samples *NSS* — In previous versions, a newly-loaded sample's volume was automatically halved while in

5-8 channel mode
. To prevent the halving, you needed to hold down Shift while selecting Instr menu -> Load Instrument etc.

Well, there's a different method now. When Halve Loaded Samples is on, loaded samples will be halved (surprise!). 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 before loading a sample.

Load Samples To Fast Mem
Move Samples To Fast Mem
Move Samples To Chip Mem
NSS — 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.

1.11 The Edit Menu

Most items in this menu act on the current range, selected by dragging the mouse in the Tracker editor. (The button used to drag is defined in the Mouse Options window).

NSS The Copy/Cut/Paste items in the Block, Track and Edit menus now each have their own separate copy buffer. So you can have block, track and range information all stored in memory at once.

Cut Range — Copies the range to the copy buffer, then clears the range.

[Keyboard shortcut: Ctrl-X]

Copy Range — Places a copy of the range in the copy buffer.

[Keyboard shortcut: Ctrl-C]

Paste Range — Transfers the copy buffer to the Tracker editor at the cursor position, overwriting any existing data.

[Keyboard shortcut: Ctrl-V]

Paste To Selected Tracks — As Paste Range, but inserts consecutive tracks in the copy buffer to consecutive selected tracks in the block.

For example, imagine that the copy buffer contains 3 tracks, the cursor is on track 2, and tracks 2, 5 and 8 are selected. Choosing Paste to Sel Tracks pastes the copy buffer to tracks 2, 5 and 8 (instead of 2, 3 and 4 as with Paste Range above).

Tracks in the block are selected by clicking their S buttons in the Tracker editor.

[Keyboard shortcut: Shift-Ctrl-V]

Erase Range Clears the notes in the range.

[Keyboard shortcut: Ctrl-Z]

All Cmd Pages *NSS* When on (default), Cut and Copy affect all command pages. When off, only notes in the current command page are cut or copied.

Discard Copy Buffers Flushes all three copy buffers and frees the memory they occupied.

Transpose Opens the Transpose window, which allows transposing and changing of notes, and changing of instrument numbers.

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.

Range Current Track Ranges the whole of the track the cursor is on.

[Keyboard shortcut: Ctrl-B]

Range Current Block Ranges the whole of the current block.

[Keyboard shortcut: Shift-Ctrl-B]

Spread Notes Opens the Spread Notes window, which allows spreading of the notes in the range across consecutive tracks to the right of the range.

Pitch Slide Creates a pitch slide, starting from the cursor position and ending at the next note encountered in the current track.

The sub-menus select which sliding command to use (see Normal Commands), but the better result is usually achieved using Type 1. (The difference is that type 2 replays the note after sliding to it, whereas type 1 doesn't replay the note).

[Keyboard shortcuts: Type 1 = Ctrl-T, 2 = Shift-Ctrl-T]

Volume Slide Creates a volume slide, with the cursor position between the starting and ending volume commands (that is, the "0C" commands: see Normal Commands).

[Keyboard shortcut: Ctrl-O]

Generic Slide

Creates a slide using any type of player command. Position the cursor somewhere between the starting and ending commands before selecting this function.

NOTE: If you want to create a volume slide, this command will do it just as well as the Volume Slide function above. However, in Decimal Volumes mode the slide will be created in hexadecimal, which is bound to cause problems. So for volume slides, use Volume Slide! :^)

One use of Generic Slide is to repeat a single player command several times throughout a track. Just make the starting and ending commands identical.

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!

a) Command types taking a signed number now slide in a signed way. For example: (in MIDI mode)

	Initial values	Old Gen. Slide	New Gen. Slide
	--- 003FD	--- 003FD	--- 003FD
	--- 00000	--- 003AA	--- 003FF
~	--- 00000	--- 00356	--- 00301
~	--- 00303	--- 00303	--- 00303

b) Command types intepreting each digit separately have the digits slid independently of each other. E.g.:

	Initial values	Old Gen. Slide	New Gen. Slide
	--- 00457	--- 00457	--- 00457
	--- 00000	--- 00444	--- 0044A
~	--- 00000	--- 00432	--- 0042C
~	--- 0041F	--- 0041F	--- 0041F

So in this example, level digit 1 (speed) slides downwards from 5 to 1, while digit 2 (depth) slides up from 7 to F. Previously, this wasn't possible.

[Keyboard shortcut: Shift-Ctrl-O]

Note Echo Opens the
Note Echo window
, which can produce echoes
automatically using the 0C command.

1.12 The MIDI Menu

OctaMED can output notes and some player commands (see
MIDI Commands
) to
external MIDI devices, by way of a MIDI interface which you should connect to your Amiga's serial port. This menu contains the required functions and settings for MIDI operation.

You also need to set the MIDI channel and preset number of each MIDI instrument, using the
Instrument Parameters window
. (This window also
contains the "Suppress NoteOff" gadget used with some MIDI instruments).

You may use MIDI instruments on any track, and you may also mix Amiga samples and MIDI instruments on the first four tracks.

Note: please refer to your MIDI device's manual if you come across terms in this topic that you aren't sure of.

MIDI Active Activates MIDI when selected. If the serial port is being used by another program, however, you must quit the other program before you can use MIDI. When this option is on, an "M" appears in the
Information window
's display box.

Input Active When selected, you may use your MIDI device to enter notes into the Tracker editor. Edit mode and MIDI Active must be on. An "I" appears in the display box mentioned above when this function is active.

You can also use your MIDI device to both enter samples and perform many editing functions using the
input map editor
.

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.

Input Channel Opens up the
Input Channel window
, with which you may set

the MIDI input channel.

Ext Sync and Send Sync — "Synchronization" (or "sync" for short) involves OctaMED sending information which allows MIDI devices to keep in time with OctaMED.

When "Send Sync" is activated, this information is sent when you click either Song Play or STOP (note that it isn't sent with Song Cont, Block Play or Block Cont).

When "Ext Sync" is activated, OctaMED can be synchronized "externally", meaning that an external MIDI device sends the sync information instead of OctaMED. As well as (of course) "MIDI Active", "Input Active" must be selected for Ext Sync to work.

Send Active Sensing — After "MIDI Active" has been selected, OctaMED periodically sends "active sensing" ($FE) messages when this is turned on. These messages assure your MIDI devices that OctaMED still exists, so usually it's advisable to keep it on.

Send Out Input — When activated, OctaMED replays input MIDI notes. Useful for owners of a separate sound module and keyboard.

Read Key-Up's — When switched on, OctaMED records key-up events in the Tracker editor (as 0FFF commands, or 08 hold commands if the instrument's hold value isn't zero).

This switch actually works with normal Amiga keyboard input. Enter notes while the block is playing: 0FFF or 08 commands will be inserted at the points where you release keys (after holding them down). Chord mode works well too.

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 (see Normal Commands).

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.

Reset Pitch/Presets — Resets pitchbenders, modulation wheels and presets

on all channels. (OctaMED sends "preset change" messages for all MIDI channels - but only when an instrument is next played).

[Keyboard shortcut: Ctrl-Space]

Send MIDI Reset Sends a "MIDI Reset" message ($FF).

Send Local Control Sends a "Local Control On / Off" message. When using a keyboard synthesizer, the local control (when on) routes the keyboard directly to the internal synthesizer. In a multi-timbral setup, switch local control off; otherwise, it's usually best to keep on.

Note Killing Selects the method for turning off all notes (by clicking "STOP" or pressing the space bar).

"$Bx 7B 00" sends "All Notes Off" messages for each MIDI channel, whereas "Note Off Msgs" sends standard "Note Off" messages for each track.

The former is recommended if your MIDI device supports it, because it stops all notes, not just those OctaMED triggers.

Command 3cxx Settings... Opens the MIDI Cmd 3cxx window. Here, you set player command types 30, 31, 32 and so on up to 3F, to send the control change commands of your choice.

(Also see the MIDI Message Editor)

1.13 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. You do this by using one Amiga to control the other, as if it were 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.

1.14 The Settings Menu

Mouse Options Displays the
Mouse Options window
, which allows you to
change the function of each mouse button when editing.

Keyboard Options Displays the
Keyboard Options window
, which contains
several parameters concerning using the keyboard when
editing.

Programmable Keys Opens the
Programmable Keys window
, where you may edit
the programmable keys (Shift-0-9).

Keyboard Shortcuts Opens the
Keyboard Shortcuts window
, where you may
NSS edit OctaMED's keyboard shortcuts.

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

OctaMED's screen is now public (name OCTAMED).

Font Opens the
Font window
, where you may change the font used in
NSS three different areas.

Palette Opens the
Palette Window
, with which you can alter the screen's
colors.

Equalizers Opens two different "equalizer" windows. They're useful as a
quick check to see which track is playing, or to monitor
rhythm.

Miscellaneous Opens the
Miscellanenous Options window
.
NSS

Aura Sampler Opens the
Aura Sampler Options window
, which contains
controls for the Aura 16-bit soundcard.

SMF Load Options Opens the
SMF Load Options window
. (SMF is short for
Standard MIDI File).

Mix Routine Opens the
Mixing Parameters window
, where you alter
certain characteristics of playing in Mix mode.

FastMemPlay Opens the
FastMemPlay window
, which allows you to store
samples in Fast memory when playing in 4-channel mode.

Play After Loading When set, OctaMED automatically starts playing a song
after it is loaded. Useful, for example, when
listening to other people's songs.

Auto-Freeze Screen When on, this automatically "freezes" the screen
~ when the OctaMED screen is not the frontmost. This
frees more processor time for multitasking.

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

Using the sub-menu you can snapshot the current window or
snapshot 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 usual ones (e.g. Sample Editor, Sample List Editor).

Load Settings Opens a

```
                file requester
                 to load a new settings file. The
                 default name is "PROGDIR:Soundstudio.config".
                 (note that this is required on this CD version and allthough
                  you can load these files, you cannot save altered configs to the ↩
                      CD


Save Settings    Saves the current settings under your chosen name to
                 any area of your choice.(not CD)
                 OctaMED will attempt to load a file of this name on startup
                 from the CD, however, as stated, you can only save your
                 configs, mods etc, to your HD or floppy disk

Save Settings As    Opens a
                file requester
                 to save the settings under a
~                   non-default name.

For a list of settings saved with the config file, see
                The Settings File
                .
```

1.15 OctaMED Windows

```
                These are the windows included in OctaMED.

    Project menu                          Block menu
    ------------                          ----------

                 New Project

                 Block Properties

                 Save Options

                 Block List

                 PowerPacker Settings

                 Highlight Options

                 XPK Settings

                 Expand/Shrink Block

                 Save Timer

                 Print Options
                           Instr menu
                                         ----------
    Display menu
                 Instrument Parameters
                    ------------
                 Instrument Type
```

Main Control

Instrument Load Window

Information

Tempo
Edit menu

Tempo Operations

Synthetic Sound Editor

Transpose

Synthsound Volume

Spread Notes

Synthsound Stretch

Note Echo

SynthEd Program

Sample Editor
MIDI menu

Toccata Capture

Adjust Y

Input Channel

Add Workspace

Change Volume
Settings menu

Change Pitch

Mix

Mouse Options

Filter/Boost

Keyboard Options

Echo

Programmable Keys

Noise

Keyboard Shortcuts

Chord Creation

Palette Window

Display Settings

Font

Sample List Editor

Miscellaneous Options

MIDI Message Editor

Aura Sampler Options

Input Map Editor

SMF Load Options
Song menu

Song Selector

Playing Sequence

Section List

Song Options

Relative Track Volumes

Song Annotation

1.16 The New Project Window [Keyboard shortcut: Amiga-N]

With this window you can discard the current project and begin a new one.
Open it using the
Project menu
.

If the current project has been changed since last saving, the window's title bar will display "WARNING: Current project modified!". This is the only warning you are given: no confirmation requesters are displayed.

The three buttons are:

Clear All Discards all samples and songs.

Clear Current Clears the current song only. If

Instr menu -> Automatic

Flush
is selected, a requester to flush unused
instruments will also appear.

Cancel Closes the window, canceling the operation.

1.17 The Save Options Window [Keyboard shortcut: Amiga-S]

This window allows you to save the current project on to disk. ↩
Open it
using the
Project menu
.

Type the project's filename into the text box at the top of the window. If the box is empty on opening the window, a file requester appears as an alternative method. The file requester can also be opened by clicking the small GetFile gadget to the left of the text box.

Miscellaneous section

Save Secondary Data — Toggles whether to save "extra" information with the song: instrument names, line highlighting, block names, and the song name. Otherwise, only what is essential to play the song is saved (meaning that the saved file is slightly smaller).

Create Icon — When selected, a Workbench icon file is saved with the song (a different icon is used for Executable File). The icons used are contained in the OctaMED:UTILITIES/Icons directory, named Module.info and Executable.info. Feel free to replace the icons for your mods if you so desire.

The default tool for a module is written as OctaMEDPlayer. If you use a different player, you may wish to change the Module.info file's default tool.

Save Notation Data — Saves relevant information in the
Notation Editor
NSS with the song: ...

Save Instruments (only applies to MMD2 and MMD1 modules) — Chooses whether the song should be saved together with its instruments. If not, only the instrument names are saved; when the song is reloaded, the instruments are loaded from your sample disks. This is done either by using the full path name of each instrument (see
(see
Instr menu -> Add Path
), or more commonly by way
of the
sample list
.

When this gadget is on, instruments unused in the song won't be saved. MMD0 modules are always saved with instruments.

By default, all these check boxes are switched on.

The cycle gadget applies to multi-modules, and selects whether to save all the songs in the multi-module or only the currently selected song. By default, all songs are saved.

File Format section

This radio button selects which file format to use when saving. Options are:

MMD2 (OctaMED V5-V6) The OctaMED V5 - V6 format. Supports multiple playing sequences (sections), 1 - 64 tracks and *NSS* command pages. If the song requires any of these features, MMD2 is selected when the Save Options window is opened.

MMD1 (OctaMED V3-V6) The V3 - V6 format, so is (of course) compatible with these versions. MMD1 is selected on opening Save Options if MMD2 format is not required.

MMD0 (MED & OctaMED) The pre-OctaMED V3 format, introduced in MED V2.10. Files saved with this format lack the following:

* 2-digit commands (the first digit is always zero)
* Notes above D-6 (replaced by a -|- symbol)
* Multiple command pages
* Blocks that are NOT 4, 8, 12 or 16-track
* Block names
* Line highlighting

==> NOTE: Tracker Module saving removed! <==

SMF Type 0 *NSS* The Standard MIDI File type 0 format. Use this to export OctaMED modules to MIDI-based programs. (Also see
The SMF Load Options Window
)

Executable File *NSS* Creates an executable file from the song. In other words, you can run the song from Workbench or a shell. It will open a small window displaying just the annotation text: close the window to stop playing.

You need the three code files: Player_8.code, Player_midi.code and Player_std.code to use this.

Only MIDI-specific information is saved under SMF Type 0: notes, effect player commands and SysEx messages. (Also tempo information)

With MMD1 and MMD0 songs, song sections are converted into one long playing sequence, by ordering the sections in the arrangement defined by the

section list. Songs requiring MMD2 format can be saved almost perfectly under MMD1 (only song sections aren't saved, as described above). MMD0 modules are always saved with instruments (even if Save Instruments is switched off).

Even most options new in V5 (Loop On check box, ExtSamples, default pitch, extended MIDI preset) are properly saved under MMD1 and MMD0.

NSS all MMD formats now support text file annotation and
instrument output devices. MMD2 and MMD1 support command pages.

The further down the File Format button you go, the simpler the format becomes, and therefore the smaller the file produced. So for example, if you don't require notes above D-6, block names, line highlighting, song sections or two-digit commands to be saved, you could choose the MMD0 format, since it produces a smaller file than either MMD1 or MMD2.

Compression section

The cycle gadget selects the compression (if any) to use before saving the module:

No Compression	Does not compress the module (default).
PowerPacker Compr.	Uses the popular powerpacker.library by Nico François to compress.
SFCD Compression	The Stephan Fuhrmann Compact Density algorithm is used for compression (requires lh.library).
XPK Compression *NSS*	One of the XPK libraries is used. Requires xpkmaster.library and at least one of XPK's libraries in LIBS:Compressors. SQSH.library is particularly well suited to modules.

NSS "Settings" allows you to set PowerPacker and XPK's options. When XPK Compression is selected, the
XPK Settings window
opens; otherwise, the

PowerPacker Settings window
opens.

"Calculate Size" calculates the size in bytes of the project if it were saved using the current status of File Format, Save Secondary Data, Save Instruments and the multi-module cycle gadget.

NSS "Packed" is like Calculate Size but it works out the compressed size.

Save Saves the song using the above parameters.

** OctaMED can emulate the "automatic save" function of many wordprocessors using the

Save Timer window

1.18 The PowerPacker Settings Window *NSS*

Set the PowerPacker compression's settings using this window, ↩
opened
through the
Save Options window
.

The speed-up buffer can be Large, Medium (default) or Small. The smaller
the buffer, the less memory-consuming but the slower the compression speed.

Efficiency can be Fast, Mediocre, Good, Very Good or Best. The better the
efficiency, the smaller the compressed file but the slower the compression
speed.

"Exit" closes the window.

1.19 The XPK Settings Window *NSS*

Select an XPK compressor and adjust its settings using this window ↩
, opened
through the
Save Options window
.

The cycle gadget cycles through all the compressors you have in your
LIBS:Compressors directory. Information is displayed about each one.

"Efficiency" controls the efficiency of the compression. The better the
efficiency, the smaller the compressed file but the slower the speed.

"Password" is unghosted only with encryption compressors.

(See the documentation provided with your copy of XPK for more details)

Note: By compressing using the seemingly useless NONE compressor, song
saving can be significantly speeded up (at the expense of memory).

1.20 The Save Timer Window

This window, opened using the
Project menu
, emulates the "automatic save"
function of many wordprocessors. You can automatically open the

Save Options window
every given number of minutes.

The numeric box contains the time in minutes between subsequent openings of the Save Options window.

Typing in a number above 0 or *NSS* switching "Active" on enables the save timer. Typing in 0 or turning Active off disables it (the default).

NSS Turning "Open Save Window" off only opens the Save Options window the first time the time elapses. After this, the song is saved using the current save settings.

1.21 The Print Options Window [Keyboard shortcut: Amiga-P]

This window, opened using the Project menu, allows printing of the song and various song information.

The gadgets are as follows:

Output File — Consists of a text box and a GetFile gadget to the left of the text box. With these you may redirect output to a file instead of the printer.

Start Block / End Block — Set the starting and ending block of the printout. You may type in any valid block numbers.

All Blocks — Sets the boxes to the first and last block of the song.

Current Block — Sets the boxes to the current block number.

Print Header — Selects whether to print the header before the song contents. The header consists of a list of instruments and their parameters, the default tempo, play transpose, track volumes and the playing sequence(s). It is printed as ordinary text.

Form Feed — Sends a form feed after printing each block.

The remaining cycle gadget selects whether to print as text (default), or not to print the blocks at all (i.e. only the header, if Print Header is checked).

Highlighted lines are printed as bold text.

"Print" prints using the specified options, and "Exit" closes the window.

1.22 The Notation Editor *NSS*

Opened through the Display menu, 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.

To print the song, use the
                Print Notation window
                .


Menus
~~~~~
The Project menu 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.
```

1.23 The Print Notation Window *NSS*

```
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.

1.24 The Assign Tracks Window *NSS*

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.

1.25 The Staff Setup Window *NSS*

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. Offs/oct is under considerable debate and I won't bother documenting it until Teijo's reached a decision about it. I hate it :-)

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.

1.26 The Signatures Window *NSS*

This 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.

A reminder of the number of sharps or flats used in different keys:

Number of sharps/flats	Sharps		Flats	
	Major key	Minor key	Major key	Minor key
0	C	A	C	A
1	G	E	F	D
2	D	B	Bb	G
3	A	F#	Eb	C
4	E	C#	Ab	F
5	B	G#	Db	Bb
6	F#	D#	Gb	Eb

So, for example, the major key containing 3 flats is Eb major.

The Harmonical Minor Scale check box automatically sharpens the 7th note of the minor scale. So if you're in the key of E minor, trying to enter a D (the 7th note) in fact enters a D#. This gives a different sound to your music - try it!

1.27 The Tools Window *NSS*

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.

Starting from the left, there are 8 note boxes and 8 rest boxes. Select one of these notes or rests by clicking on the appropriate box. The length of the selection, in Tracker editor lines, is shown in the "Length (lines)" box. The notes available, together with their length, are:

American name	British name	Length (in lines)
Whole note	Semibreve	16
Dotted half-note	Dotted minim	12
Half-note	Minim	8
Dotted quarter-note	Dotted crotchet	6

Quarter-note	Crotchet	4
Dotted 8th-note	Dotted quaver	3
8th-note	Quaver	2
16th-note	Semiquaver	1

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 move 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.

For a demonstration, clear the current song, then in the Assign Tracks window, assign both tracks 0 and 3 to staff 1. So staff number 1 now shows the notes contained in both track 0 and track 3.

The display box should now show "S1 Trk 1/2: 0". This means that, on staff number 1, you are currently editing the 1st track shown out of 2, and this is track 0 in the Tracker editor.

So to edit the other track shown, number 3, drag the slider to the right. The display should now be "S1 Trk 2/2: 3". Now, any notes you add will be entered into track 3. This solves the problem of which track notes should be entered into when adding notes to staffs showing more than one track.

1.28 The Notation Display Setup Window *NSS*

This 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.

1.29 The Tempo Window

This window, opened using the
Display menu
, allows you to set the playing
speed ("tempo").

Two tempo modes can be used: SPD (the default) and BPM.

SPD mode

In this mode, the Tempo slider controls the time between each tick, and the TPL slider the number of ticks per line. (For an explanation of ticks.

The Tempo slider can be 1 - 240. The higher the number, the faster the speed, and the default is 33. For 4 channel or MIDI songs, values 11 - 240 should be used (1 - 10 can also be used, but they only exist for Sound/ Noise/Protracker compatibility). For 5-8 channel songs, values 1 - 10 should be used; 11 - 240 are equivalent to 10.

The TPL slider can be 1 - 32, and the default is 6. The lower, the faster. This allows a fairly rough tempo setting (it's the way the other Trackers set their tempos). For MIDI use (especially for synchronization), you should leave this at 6 and adjust the Tempo slider instead. Note that the TPL slider doesn't affect the speed of effects, unlike Tempo.

(Note for upgraders the TPL slider is now in DECIMAL!!
Even the Teijo can't remember why it was in hexadecimal....

BPM mode

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 means that 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. (But this may, in fact, be useful to some users. For example, obtain double the normal BPM accuracy by setting TPL to 3).

[Shortcuts:	Ctrl- - (minus)	Decrease Tempo
	Ctrl- + (plus)	Increase Tempo
	Shift-Ctrl- -	Decrease TPL (or LPB in BPM mode)
	Shift-Ctrl- +	Increase TPL (or LPB)]

Others

The right-hand cycle gadget affects the overall tempo. The song plays at normal speed when NRM, two-thirds speed when at 2/3, and half-speed when at 1/2. This is useful for editing while the song is playing: you can slow the song down without changing the tempo values, to make entering notes easier.

NSS "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 slightly. This check box corrects this, and is saved with songs.

NSS "Edit" opens the
Tempo Operations window
.

NOTE: It's possible to make a song which takes up all of the processor time. It will therefore be impossible to stop it. This shouldn't happen accidentally, but it can be done, for example, by filling a block with notes and setting Tempo to 240 and TPL to 1... To stop playing, hold both mouse buttons down for about five or six seconds.

1.30 The Tempo Operations Window *NSS*

This window, opened through the Tempo window, allows conversion ↩
between the
various methods of setting the tempo provided 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.

In Soundstudio, all you need do is click on "SPD to BPM". This both changes to BPM mode AND finds the values of Tempo and BPM closest to the your song's original speed.

For example, with a tempo of SPD 32/06 (eight lines per second), clicking SPD to BPM changes the tempo to BPM 60/08 (also eight lines per second).

The gadgets

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 rather 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 (
Project menu -> New
), these tempo settings are recalled. To permanently use the settings as default, select

Settings menu -> Save Settings
.

1.31 The Synthetic Sound Editor

Synthetic sounds (or "synthsounds") are made from simple waveforms ↩
, which can be linked together and have their volume and pitch altered by using a simple "programming language". This window contains the functions to construct these sounds, and is opened either by using the
Display menu
or
by clicking the "Edit" button in the
Main Control window
.

The main advantage of synthsounds is that they take up far less memory than normal samples. However, this doesn't mean that synthsounds are a poor substitute, especially if you enjoy the sounds produced by analogue synthesizers and the good old Commodore 64! Synthsounds are particularly useful when composing in certain styles of music, Acid House and Rave being notable examples. They also have a 5-octave range, compared to the 3-octave range of ordinary samples.

If you don't have an appropriate synthsound for your purposes, the first step is to design a waveform with the tools found in the Synthetic Sound Editor. Next, you write a simple program that instructs OctaMED how to use the waveform you've designed. Finally, use the synthsound in your song as you would any other instrument.

Waveform editing

To set up the Synthetic Sound Editor:

a) Select Display menu -> Synthetic Sound Editor
b) In the window that appears, select Project menu -> New Synthsound
c) Switch edit mode off

There are two waveform displays. The left-hand waveform is the actual current instrument, and you may play it from the keyboard. The right-hand waveform is for temporary editing, and it doubles as a copy buffer. Either of the waveforms can be activated by clicking on them, and the current waveform appears to "go into" the screen. Initially the right waveform is active.

The buttons between the displays are mostly used for transferring and mixing waveforms between displays:

Copy — Copies one waveform to the other (in the arrow direction).

< Swap > — Exchanges both waveforms.

<Mix — Mixes the left waveform to the right waveform.

<Add — Like Mix, but it doesn't produce any average between the waveforms. If a waveform exceeds the upper limit, the editor cuts the waveform's peaks (producing distortion).

UNDO — Reverses the effects of the last editing operation.

Program — Opens the SynthEd Program window.

Drawing a freehand waveform

One way to create a waveform is to draw it from scratch. Do this by dragging the left mouse button along a waveform display.

There are four drawing modes, selected by clicking the two Draw Mode cycle gadgets.

Pixel — Draws in pixels (default).

Line — Used for drawing straight lines.

Mix — Mixes the drawn lines or pixels with the existing data.

Direct — Draws without mixing (default).

(The upper cycle gadget also selects Range, with which you can select a part of the waveform: see "Range operations" below).

The Preset and Project menus

Instead of drawing freehand (which can be inaccurate), some often-needed basic waveforms are available from the Presets menu. Selecting a waveform inserts it into the active waveform display. Also in this menu is "Clear Wave", which clears the active display.

The following items are included in the Project menu:

New Synthsound	Clears the whole synthsound (take care...). Also forces the current instrument to be a synthsound (if it's e.g. a sample).
Reset Temp Wave *NSS*	Clears the right-hand ("temporary") waveform and sets its length to 128.
Exit Synth Editor	Closes the window.

Multiple waveforms

You can construct a synthsound from up to 64 different waveforms. Gadgets for moving between, adding and deleting these waveforms are as follows:

```
Waveform:  0  $00/000 < >      (below the left waveform display)
```

From left to right: current waveform number in decimal and hex, total number of waveforms, move to next waveform (Alt-<right>), move to previous waveform (Alt-<left>). Shift-clicking an arrow gadget moves to the first or last waveform.

"New Waveform" adds a new waveform after the last waveform.

"New Here" inserts a new waveform at the current waveform position.

"Delete Last" deletes the last waveform.

"Delete Current" deletes the current waveform.

Waveform length

Each synthetic waveform can be any even length between 2 and 128 bytes. The shorter the waveform, the higher the pitch (the pitch also depends on the waveform itself). Usually, to make the pitches harmonically compatible with other instruments, you should use length 2, 4, 8, 16, 32, 64 or 128. The length can be changed by using the "Length" slider.

Range operations

Some basic editing operations exist that act on the current range. Mark a range by cycling the upper Draw Mode cycle gadget to "Range", then drag the left mouse button over a waveform display (as in the
Sample Editor
). To
range the whole waveform, click "Range All" (middle of window). Use the "Range" and "End" numeric boxes at the lower-right of the window to make small corrections to the range area.

A range of one byte in length is displayed as a single vertical white line. This is the cursor; some editing operations make use of it. It may be set either by clicking on a waveform display (with "Range" cycled), or by using the "Cursor" gadgets (bottom right): from left to right, they move the cursor to the start, middle and end of the waveform.

```
The range gadgets are as follows:

Range All Selects the entire current waveform as the range for editing
          operations.

Cut       (only works on left waveform) Moves the range contents to the
          right waveform, and clears the range.

Copy      (only works on left waveform) Copies range to right waveform.

Paste     Copies right waveform to cursor position on the left waveform.

Clear     Clears the range.

Double    "Doubles" the range, making the pitch one octave higher.

Reverse   Turns the range backwards.

<< / >>   Shifts the ranged data to the left or right.


The Waveform menu
-----------------
Change Volume       Opens the
                Synthsound Volume window
                .

Stretch             Opens the
                Synthsound Stretch window
                .

Start / Do
   Transformation   Change one waveform to another smoothly, by generating
                    the intervening waveforms. For example:

        1) Create 9 new waveforms by clicking New Waveform nine times
        2) Move to waveform 0 (arrow gadgets), and select a pulse wave
           (Presets menu)
        3) Select Waveform menu -> Start Transformation
        4) Now move to waveform 9, and select a sine waveform
        5) Select Waveform menu -> Do Transformation
        6) Move to waveforms 1 - 8 in turn, and notice the smooth
           transition between the pulse and sine waves


(For information on writing synthsound programs, see
                SynthEd Program
                )
```

1.32 The Synthsound Volume Window [Keyboard shortcut: Amiga-V]

```
                This allows you to increase / decrease the volume of a selected ↩
                   range, in
the
                synthetic sound editor
```

. It is opened by selecting "Change Volume" from
the editor's Waveform menu.

The numeric box contains the percentage of volume change required. For
example, 50 would halve the volume, while 200 would double the volume.
Pressing Return while the gadget is active executes the function.

The OK button carries out the operation, the Cancel button aborts it.

1.33 The Synthsound Stretch Window [Keyboard shortcut: Amiga-S]

This allows you to stretch a point on the waveform towards another ↩
point,
in the
synthetic sound editor
. It is activated using the editor's Waveform
menu.

For example: select a sine wave. Then position the cursor at the middle of
the waveform. Now open this window and type the amount of movement into
the numeric box (e.g. 32).

Typing in a negative number stretches the point to the left. Pressing
Return while the gadget is active executes the function.

The OK gadget carries out the operation, the Cancel gadget aborts it.

1.34 The SynthEd Program Window

Note: Please read this section carefully before experimenting, ↩
because you
can crash your Amiga with improper use of the synthsound programming
language (as with any other language).

The synthsound programming language is used for controling the volume,
pitch, and order of waveforms in a synthsound. It consists of simple
commands, of which most have a command value. For a full description of
these commands, see
Synthetic Sound Language Commands
.

Programming uses two sequences of commands and numbers: the volume
sequence, and the waveform sequence. They are displayed in this window,
opened using the
synthetic sound editor
.

```
Sequences:  Waveform   Volume
                    |   |
            000 00  40  00
            001 01 END END
            002 02
```

```
                        003 03
                        004 04  (etc.)
                         |   |
    Line numbers:  Decimal   Hexadecimal
```

Notes:
---

1) Both sequences are a maximum of 127 entries long.

2) To scroll around the sequences, use <up> and <down> or the scroll bar, or use
the F6 - F10 keys
as in the Tracker editor.

3) Before editing either sequence, switch edit mode on.

4) To enter commands, move the cursor to the leftmost position of either list (using <left> and <right>), and press the command's key (see
Synthsound Commands
). Inserting a command that requires a value also inserts a new 00 value.

5) To change command values, position the cursor over the number to be changed and type in the new value.

The "Insert" gadget (or the Return key) inserts a sequence entry.
The "Delete" gadget (or the Del key) deletes the current entry.
JMP commands are renumbered when entries are inserted or deleted.

The "Transition" gadget creates transitions. For example, consider this short waveform sequence:

```
                            00  00
            line numbers =>  01  0F   <= waveform sequence
                            02  END
```

If you position the cursor at line 01, making sure that edit mode is on, clicking Transition creates all the numbers between 00 and 0F (01, 02, 03, 04 ... up to 0E). This saves a lot of typing!

=========> ALL COMMAND VALUES IN THE SEQUENCES ARE HEXADECIMAL <=========

*** I repeat: all values are hexadecimal. Remember this and you'll be fine!

If you'd rather your computer didn't crash, read on...

Make sure all loops (repeated sections of program) contain at least one of the following commands:

WAI, set volume, set waveform (the latter two commands consist of just a command value)

otherwise the computer would do nothing but execute sequences, and crash.

Execution speed

You can adjust the speed at which each sequence's entries are handled by using the Speed sliders. The speeds can be $1 - $F in hex (1 - 15 decimal).

During program execution you can change either speed using the SPD command. The speed values are in fact the number of ticks between the execution of each sequence entry. For example, a speed of 4 executes entries every fourth tick. (See §8.1 in the printed manual for an explanation of ticks)

Jump-triggering player commands

1) Player command 0E in songs causes a jump to another position in the waveform sequence. For example, if you wanted to decrease the pitch after a certain point, you could create this sequence and track part:

```
  Waveform sequence             Part of a track (in the Tracker editor)

    00   00  <= Set waveform 00    C-2 30000
    01  HLT  <= STOP               --- 00000
    02  CHD  <= Jump point         --- 00000
    03   01                       --- 00E02  <= Jump to position 02
    04  END                       --- 00000     (pitch starts to slide)
```

   Using command JVS, player command 0E can affect the volume sequence too.

2) When
   Hold and Decay
   is used with synthsounds, the decay value causes a jump to another position in the volume sequence. In this way, you can handle decay in any way you wish. For example:

```
  Volume sequence

    00   40  <= Set volume $40 (full)   [ The decay for this synthsound
    01  HLT  <= STOP                      should be 2. Decay values are
    02  CHD  <= Decay point               saved and loaded with
    03   03                               synthsounds. ]
    04  END
```

   Using the JWS command, Decay can also affect the waveform sequence.

Note that volume-changing player commands (05, 06, 0C, 0D, 1A and 1B) don't work with synthsounds. The set volume synthsound command acts like player command 0C, and the CHU and CHD commands like player command 0D.

Hybrid sounds

Hybrid sounds are normal samples that use the same programming language as synthsounds. All synthsound commands can be used with hybrid sounds, except the set waveform command: since there's only a single waveform, it neither works nor is necessary. You can add extra synthetic waveforms for use with the EN1, EN2 and VWF commands if you wish.

To create a hybrid sound: load a sample, select
Instr menu -> Type

, click
Hybrid and close the window, then create a synthsound program using the
Synthetic Sound Editor.

And finally...

Don't worry if you don't completely understand synthsounds at first glance!
The language used in this section has been necessarily technical, but read
it through again... :)

Anyway, you don't need to learn any of this information to use synthsounds,
only to design them; and you don't need to learn even half this information
to design great-sounding synthsounds!

1.35 The Synthetic Sound Language Commands

During this topic, "Keypress:" refers to the keypress needed to ↩
enter each
command.

Commands that can be used in either sequence
---
1) Command: END Keypress: n/a Name: End sequence

This command marks the end of each sequence, and always exists. You can't
insert other commands below the END command. Press the Return key while
the cursor is on this command to create a new position at the end of the
sequence.

2) Command: HLT Keypress: H Name: Halt

HLT has the same effect as the END command, but it can be inserted anywhere
in either sequence (not just at the end). For example:

```
03  HLT
04  CHD  <= other instructions (could be accessed with the JMP
05   02  <= command, for example: see next command)
```

3) Command: JMP Keypress: J Name: Jump

The JMP command jumps to another position in the sequence in which it
resides. Used to skip sections or to create repeated sections. For example:

```
05  JMP
06   0A  <= Jump forward to line 0A
```

4) Command: WAI Keypress: W Name: Wait

Pauses for a specified number of ticks. Can be $01 - $7F.

```
       03  WAI
       04   10  <= Wait for 16 ticks ($10 = 16 decimal)
```

5) Command: SPD Keypress: S Name: Set execution speed

Sets the execution speed of the appropriate sequence.

```
       0A  SPD
       0B   01  <= speed 1 (quickest)
```

Volume sequence commands

1) Command: n/a Keypress: n/a Name: Set volume

This is the default command (no command name is required: only a value). It sets the volume of the synthsound, and is like player command 0C . It should be 00 - 40 in hex as usual. Note that the relative track volumes (Song menu) cannot be used with synthsounds.

```
       00  20  <= Volume set to $20  (half volume)
       01  10  <= Volume set to $10  (quarter volume)
```

2) Command: CHD Keypress: D Name: Set volume change down speed
3) Command: CHU Keypress: U Name: Set volume change up speed

These two commands set the speed at which the volume changes on each tick. The volume starts changing directly after the command. To stop the volume slide, issue the command again with the speed set to 00.

```
       00  CHD  <= Decrease the volume...
       01   05  <= ...at speed 5
   ... 0A  CHD
       0B   00  <= Stop the volume slide (speed = 0)
```

4) Command: JWS Keypress: Shift-J Name: Jump waveform sequence

Causes a jump in the waveform sequence. This can, for example, trigger a pitch change at the end of the volume sequence. It's just like using the JMP command in the waveform sequence.

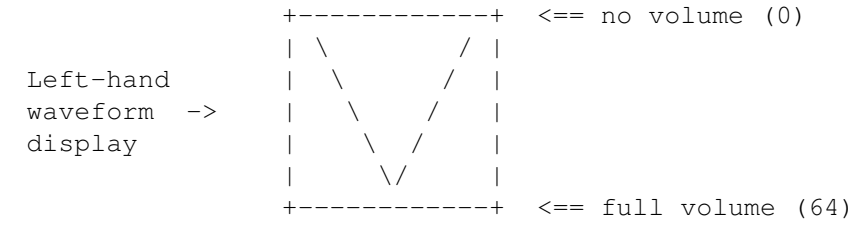
```
       04  JWS
       05   0F  <= Jump to line 0F in the waveform sequence
```

5) Command: EN1 Keypress: E Name: Once-only volume shape
6) Command: EN2 Keypress: Shift-E Name: Repeating volume shape

These commands allow you to set the synthsound's volume shape. You draw the volume shape on the left-hand waveform display, then use the EN1 or EN2 command to set it. So if you've drawn the volume shape in waveform 01, use the following:

```
10  EN1  <= (Or EN2)
11   01  <= Set volume shape to waveform 01
```

The further down a point on the volume shape is, the louder the volume. Consider this volume shape:



In this example, the volume will gradually increase to maximum, then fade away to nothing. You can change the volume shape's speed using the SPD command. The volume is actually set to full (64) before the volume shape begins (so if the shape starts at no volume, you may hear a small "click"). The volume shape waveform must always be 128 bytes long.

The difference between EN1 and EN2 is that EN1 only plays once (then stops), whereas EN2 repeats continuously. (The EN is short for "envelope", which you must admit is a peculiar name for a volume shape... :).

Waveform (and pitch) sequence commands

1) Command: n/a Keypress: n/a Name: Set waveform

This is the default command (no command name is required: only a value). It is used to indicate the waveform number (starting from 00). One of these commands (and a "set volume" command in the volume sequence) must always exist for the synthsound to be heard. Don't use waveform numbers that are higher than the actual number of the last waveform.

```
00  00  <= Play waveform 00
01  01  <= Play waveform 01
```

2) Command: CHD Keypress: D Name: Set pitch change down speed
3) Command: CHU Keypress: U Name: Set pitch change up speed

These two commands set the pitch sliding speed. The pitch starts changing directly after the command. To stop the pitch slide, issue the command again with the speed set to 00.

```
00  CHD  <= Slide pitch downwards...
01   03  <= ...at speed 3
```

4) Command: JVS Keypress: Shift-J Name: Jump volume sequence

Causes a jump in the volume sequence, to trigger volume changes after particular waveform instructions. It's just like using the JMP command in the volume sequence.

```
       09  JVS
       0A   00  <= Start the volume sequence from the beginning
```

5) Command: RES   Keypress: R   Name: Reset pitch

Resets the pitch of the note to its original pitch (after a pitch slide).

6) Command: ARP   Keypress: A   Name: Start arpeggio definition
7) Command: ARE   Keypress: E   Name: End arpeggio definition

With these commands you can produce an arpeggio, much like player command 00 except that you can define more than three pitches. The arpeggio begins directly after the ARE command (every ARP command must have a corresponding ARE command).

For example, to produce a "dominant 7th" chord (e.g. C-2, E-2, G-2, A#2):

```
       03  ARP  <= Start arpeggio definition
       04   00  <= Pitch 1
       05   04  <= Pitch 2 (C-2 -> E-2 =  4 halfsteps)
       06   07  <= Pitch 3 (C-2 -> G-2 =  7 halfsteps)
       07   0A  <= Pitch 4 (C-2 -> A#2 = 10 halfsteps)
       08  ARE  <= End arpeggio definition
```

8) Command: VBS   Keypress: Shift-V   Name: Set vibrato speed
9) Command: VBD   Keypress: V   Name: Set vibrato depth

These commands are used to produce vibrato, much like player command 04. Both the speed and the depth can be $01 - $7F. You need to set both speed and depth before vibrato can occur, and a value of 00 with either command turns vibrato off.

```
       02  VBD
       03   04  <= Depth set to 4
       04  VBS
       05   30  <= Speed set to 30
```

10) Command: VWF   Keypress: Shift-W   Name: Set vibrato waveform

Sets the vibrato shape. It should always be 32 bytes long. Same idea as the volume shape commands, but this time the further down a point on the vibrato shape is, the higher the pitch. Note that the shape is actually played backwards, so use the Range All and Reverse buttons to reverse it. By default, a sine wave vibrato shape is used.

```
       00  VBD
       01   06
       02  VBS
       03   40
       04  VWF
       05   04  <= Now uses waveform number 04 as vibrato shape
```

1.36 The Sample Editor

This window allows you to edit and digitize samples. Open it either by using the Display menu or by clicking "Edit" in the Main Control window.

Displayed in the window is either the current sample's waveform, or the words "No sample loaded" if the current instrument slot is empty.

The scroll bar below the waveform shows the size and position of the displayed portion of the sample relative to the whole sample. It also allows you to scroll around the sample (after zooming in) by dragging it. You can also scroll using the <left> and <right> keys.

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

Many operations act on a specific range, which is set by dragging the left mouse button along the waveform. After selecting the range, you may re-adjust the start or end positions by holding down a Shift key while dragging the left mouse button. *NSS* Operations will act on the whole sample if the range is one byte long (i.e. Range Start = Range End).

The gadgets above the waveform are as follows:

Display This display box contains the number of bytes currently being displayed in the waveform. It changes when zooming in or out (see later).

Buffsize The size of the current sample (waveform buffer). Typing in a new size brings up a requester, asking whether to clear the sample or retain the sample already in memory.

One use of retaining the sample is adding extra "workspace" to the end of a sample, which is useful in some editing operations (e.g. echoing). By choosing "Clear" you may create a new sample, and this is often the first step when digitizing (see later).

There need not be a sample in memory in order to enter a new size. *NSS* There is now no maximum buffer size, but Amiga samples should be no longer than 131072 bytes to play properly. (Aura,Toccata,Delfina samples can be as large as memory allows).

Range Start / End The actual byte positions of the start and end of the range. Adjust these positions by typing in new values.

The following gadgets lie below the waveform:

Play Display Plays the current display at the current pitch (see "Pitch" below).

Zoom In / Out Magnifies / reduces the sample so you can see more / less detail. Repeated clicking takes you deeper into / further away from the sample. This is essential for accurate editing. (Also try the zoom slider on the far right)

Show All Restores the whole waveform to view after zooming.

Range Display Ranges the whole display.

Sample< / >Buffer Copies the copy buffer to the sample, or the sample to the copy buffer. Can be used to implement a simple "undo". Before trying out a function, a snapshot of the sample can be made with ">Buffer". If you're not satisfied with the outcome of the function, the sample can be restored with "Sample<".

Monitor Opens a black area, displaying the real-time input waveform from a sampler (connected to the parallel port). The purpose of Monitor is to make sure the sound is at a volume level that will not cause distortion in the digitizing process (see Digitize below). The sound may "crackle" a bit: this is normal (it won't crackle when digitizing).

Other programs are temporarily frozen during monitoring, but you can still move the mouse pointer etc. Click inside the black area to stop monitoring.

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

If the
Aura card
is set to Active, the card input is monitored instead of the parallel port. If Output Device in the

Instrument Type window
or the
Mixing Parameters window
is set to
Toccata, the
Toccata Capture
window opens.

Digitize Opens the monitoring area. Starts digitizing (also called "sampling") if you click inside the black area. Clicking with the right mouse button cancels the operation.

During digitizing, the screen blanks and multitasking is disabled. The sampling stops when the sample buffer (Buffsize) is full, but it can be interrupted with the right mouse button.

Clicking Digitize when Buffsize is zero sets Buffsize to 131072 bytes (or if not enough memory, to the largest size possible).

If you want to sample from the Aura, Toccata, Delfina cards, you need to set the
sample type
to 16-bit
and select Aura or Toccata etc, Output Device before sampling. You must therefore have a sample allocated in advance (type a number into Buffsize).

Pitch The numeric box displays the current sampling / playing frequency, and the raised box shows the note equivalent to this frequency value. The default is note C-2, but this can be changed by either entering a value into the numeric box, or holding the left mouse button on the note box and entering a new note using the keyboard.

NSS Pitches are now always set in Hz. In other words, the numbers beside all pitch boxes are now the sample *frequency* rather than the sample period. This is because mixing mode uses frequencies rather than periods.

Upgraders from V5 or V6 will find that the pitch given in the Pitch box (on the far right of the Sample Editor) is now blank. This is because the settings file (Soundstudio.config) you used with V5 or V6 gives the sample pitch's period instead of its frequency. To correct this, set the Pitch box to the note you require, then save the settings (main Settings menu).

Freehand Allows you to edit the waveform with the mouse. The maximum display size is 628 bytes, but you may zoom closer if you wish. In Freehand mode, the Pixel display mode is automatically selected.

Loop A sample having a loop means that a note you play with the sample is sustained until it is stopped. This is due to a particular section of the sample being continually repeated (or "looped"), and the boundaries of this section are defined by the two "loop pointers".

These pointers appear as dotted lines over the waveform, and as small triangles in the rectangle immediately below the waveform. They mark the start and end of the looped section.

The "Loop" check box is a duplicate of the "Loop On" gadget in the

Instrument Parameters window
. Select this gadget to activate the
loop.

Loop Point The loop pointers can be moved in three different ways:

1) Typing in the Repeat and/or RepLen value in the

Instrument Parameters window
2) Dragging the small triangles across the waveform

3) Using the Loop Point gadgets

< and > move a loop pointer two bytes to the left or right. *NSS* Shift-clicking them sets the loop pointer to the start or end of the sample.

<0 and 0> move a loop pointer to the left or right until a zero is found. For a decent-sounding loop, it ideally needs to start and end at the same value, which can often be zero (i.e. no volume). So these buttons are useful in finding good loop points.

The cycle gadget selects whether the < > <0 0> gadgets act on the loop start (default) or loop end pointer.

Bear in mind that zooming in allows far more accurate loop positioning. Also, good loops are often found by looping any repeating waveform shapes in the sample (called "envelopes").

NSS The "S" button and two display boxes refer to stereo and 16-bit samples. The left-hand display box displays:

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

2) Mono if the sample is mono

3) L<>R, L> or R> if the sample is in 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.

With stereo samples, toggle between L<>R / L> / R> using the "S" button. (Make the sample stereo in
Instrument Type
). The right-hand display box displays similar information, but it refers to the copy buffer. (Empty means the copy buffer is currently empty).

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.

The following gadgets act on the currently selected range (see above):

Show Magnifies the range to fill the whole display.

Play Plays the range at the current pitch.

Cut Deletes the range and moves it to the copy buffer.

Erase Deletes the range (without moving it to the copy buffer).

Clear Clears the range.

Copy Copies the range to the copy buffer.

Paste Inserts the copy buffer's contents at the start of the range. The sample size will increase by the number of bytes inserted.

Reverse Reverses the range left to right. Useful for interpreting hidden messages in a few rock songs ;)

The menus attached to this window are as follows:

Project

Flush Sample — Removes the current instrument from memory.

Load Sample — Opens a file requester to load a sample.

Save As... — Each of these five items save the current sample in a unique format (by way of a file requester). See the Instrument Type window for more information on the formats.

Exit Sample Editor — Closes the sample editor window.

Edit

With this menu you may edit the sample.

The Cut, Copy, Paste, Erase, Clear and Reverse items are equivalent to their Range gadget namesakes.

Paste *NSS* (Overwrite) — As Paste except overwrites the existing sample contents, rather than inserting. The sample's length is unchanged.

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

Invert — Inverts the range (turns it upside-down). This can be useful when trying to find a smooth loop or a smooth join between two waveforms (Freehand also helps this).

Chop — Deletes the non-ranged parts of the sample. Only the ranged portion is left.

Remove Unused Space — Deletes empty space (i.e. of zero or very little volume) on either side of the waveform. This both saves memory and keeps the timing in songs precise.

Adjust Y *NSS* — Opens the Adjust Y window.

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

Tools

Play Buffer — Plays the contents of the copy buffer at the current pitch.

Contents

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

Discard Copy Buffer — Discards and frees the memory occupied by the copy buffer.

Add Workspace *NSS* — Opens the Add Workspace window.

Calculate *NSS* Range Time — Works out the time taken to play the range at the current pitch (to the nearest .001 second).

Play Tune Tone *NSS* — 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 *NSS* or vice-versa.

Raw Sample Conversion *NSS* — 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.

Copy to Synth Editor — Transfers the current range to the synthetic sound editor, thus allowing you to create a less memory-consuming instrument.

The synth editor can only handle waveforms of 128 bytes maximum, so if the range is longer than that, only the first 128 bytes marked are copied. The range is copied to the right-hand waveform display. If you want the new synthetic instrument to replace the sample in memory, you need to make the current instrument synthetic.

Effects

This menu adds special effects to the sample.

Change Volume — Opens the Change Volume window.

Change Pitch	Opens the Change Pitch window.
Mix	Opens the Mix window.
Filter/Boost	Opens the Filter/Boost window.
Echo	Opens the Echo window.
Create Noise	Opens the Noise window.
Create Chord	Opens the Chord Creation window.

Note that all effects aside from Change Pitch, Mix and Create Chord affect the current RANGE. So if you wish these effects to apply to the whole sample, use the Range Display gadget.

Also, shift-clicking any of the action buttons (i.e. those which perform a function) in these windows executes the function then closes the window.

Loop *NSS*

Contains some loop handling functions.

Show Loop	Magnifies the loop to fill the whole display.
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	Retrieves 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	Deletes from the sample start to the loop start, or the loop end to the sample end.

```
Settings
--------
Display  *NSS*  Opens the
                Display Settings window
                .
  Settings

Sampler Voice   When selected, you can hear the sound you are sampling
Monitor         during digitizing. Turning this off may marginally enhance
                the digitizing quality on machines with a 68000 processor.

Create Icons       When on, saves a Workbench icon file together with the
For Samples *NSS*  sample when using Project menu -> Save As.
                   The Sample.info file to be in the OctaMED:UTILITIES/Icons
                   directory (you can substitute this file for another
                   project icon if you wish). No default tool is saved.
```

1.37 The Toccata Capture Window *NSS*

```
                Use this window to sample from your Toccata card (if you have one) ↩
                   . If you
don't have one you'll never see this window!

To open the window:

  1) Open the
                Instrument Type window
                , and set the current instrument's
     output device to Toccata

  2) In the
                Sample Editor
                , click Monitor or Record (it doesn't matter
     which).

Please remember that the current instrument's output device must be set to
Toccata, so for every Toccata instrument you wish to use, you'll need to
open the Instrument Type window and click on Toccata. You'll get used to
it...

To sample from your Toccata card:

  1) In Instrument Type, set whether the sample is to be:

       i) 8-bit or 16-bit (click Sample or 16-bit respectively)

      ii) in stereo or mono (click on the Stereo check box if required)

  2) Back in the Toccata Capture window, switch Level Display Active on.
     This activates two black input level bars, to help you set the correct
     input level. The louder the sound, the further right the black bars.
     For stereo samples, the top bar shows the left channel, the bottom bar
     the right.

  3) Set the required input parameters in the Input area. (See Toccata's
```

```
     manual for more information).

  4) Select a sampling rate using the bottom slider. Toccata has 14
     different input/output rates, ranging from 5513 Hz to 48 kHz.

  5) Click Capture to immediately begin sampling. Click Stop in the
     requester that appears to interrupt sampling.

Entering notes played by Toccata instruments:

  1) The C-1 to C#2 keys (normally keys Z to L) each play a Toccata sample
     at one of the fixed frequencies. That is, C-1 plays at 5513 Hz, C#2
     at 48 kHz. You can play back a sample at any of these frequencies,
     no matter which frequency it was originally recorded on.

  2) There's a slight problem with using Toccata samples in songs. If you
     play two different samples one after the other, and they have certain
     different settings, there will be a short (but audible) delay between
     the two samples.

        000 C-1 10000     (Here, there'll be a delay before playing the
        001 --- 00000      note on line 004, because the two different
        002 --- 00000      samples are played at different pitches.
        003 --- 00000      Different sampling rates and stereo/mono status
        004 E-1 20000      also cause a delay)

     This is unfortunately beyond OctaMED's control, but there is a rather
     laborious work-around. Select an empty sample, and give it the same
     sampling rate and stereo/mono status as the second of the two samples.
     Now enter it just before the second sample (on line 003 here), at the
     same pitch as the second sample. So the track becomes:

        000 C-1 10000
        001 --- 00000
        002 --- 00000
        003 E-1 30000 <= Instrument 03 (an empty sample with the same rate
        004 E-1 20000    and stereo/mono as instrument 02) played at E-1
```

1.38 The Adjust Y Window *NSS*

```
                Use this window to adjust the vertical position of the range. It  ↩
                   is opened
using the
                sample editor's Edit menu
                .

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
                .
```

"Adjust" adjusts the range, and "Exit" closes the window.

1.39 The Add Workspace Window *NSS*

With this window, opened using the
sample editor's Tools menu
, you can add
extra blank workspace (of zero volume) anywhere in the sample.

Type 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.

The maximum number of bytes allowed is (131072 - sample's size), so that the final length of the sample never exceeds 131072.

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

"Add Workspace" adds the space, and "Exit" closes the window.

1.40 The Change Volume Window [Keyboard shortcut: Amiga-O]

This window allows you to change the volume of the current range, and is
opened using the
sample editor's Effects menu
.

The sliders select the starting and ending volume change, and both are percentages of the original volume. For example, setting the start volume to 150 % and the end volume to 75 % fades downwards from one-and-a-half times the original volume to three-quarters of the original volume. Each slider can select a value of 0 - 500 %.

Clicking CHANGE VOLUME changes the volume using the current slider values.

There are also some commonly-used presets below the CHANGE VOLUME button. "Fade In" changes from 0 % to 100 %, "Fade Out" from 100 % to 0 %, "Halve" 50 % - 50 %, and "Double" 200 % - 200 %.

Fade In / Out are useful partly in eliminating the "click" that you sometimes hear at the very start and end of a sample. To do this, range a

small piece of waveform at the start or end of the sample, and click
Fade In for the start or Fade Out for the end.

Usually, if the volume is increased too much, the normal waveform limits
are exceeded and distortion (or "clipping") will occur. If the "Check Clip"
gadget is switched on, however, the waveform limits will not be exceeded.

NSS The "Max Clip" gadget, only active when Check Clip is on, allows
slight clipping. For example, when set to 10, the normal waveform limits
are allowed to exceed by 10 %. The "Max" button increases the range to the
highest possible volume without introducing distortion.

The "Exit" button closes the window.

1.41 The Change Pitch Window [Keyboard shortcut: Amiga-P]

This window lets you change the pitch of (or "retune") the sample. ↩
The
sample's size will also change: it will decrease if the pitch is made
higher, and increase if the pitch is lowered. (The window is opened by
using the
sample editor's Effects menu
).

For example, if you'd like to retune the current sample to play the note
G-2 when you press the C-2 key:

1) Set the source note to C-2 by holding the left mouse button
   on the "Source" note box and pressing the C-2 key;

2) Set the destination note to G-2 in the same way;

3) Click "Change Pitch". The sample is retuned, and its size in
   this case will decrease by roughly two-thirds.

Other gadgets are:

Octave Up / Down — Retunes the sample one octave up / down, halving / doubling the sample's size. The "Period" gadgets are changed to the values the operation represents.

Cancel — Retunes the sample so that the
Finetune value in the
Finetune
Instrument Parameters window
no longer applies. So if the
finetune value were -4, the sample would be retuned 4 steps down and the instrument's finetune would be set to zero.

Anti-Alias — When on, does some anti-aliasing when retuning downwards (i.e when the pitch becomes lower). This means that noise is reduced, and is the default.

Exit — Closes the window.

1.42 The Mix Window [Keyboard shortcut: Amiga-M]

This window contains the gadgets required to combine two samples. ↩
The
sample placed in the copy buffer (using
>Buffer
) will be mixed with the
current sample. (Open the window through the
sample editor's Effects menu
)

The two sliders control the volumes of the two waveforms to be mixed. To understand them fully, you need to bear in mind that mixing is achieved by ADDING the two samples together. So if the samples were both mixed at 100 % volume, the resulting mixed sample would be 200 % (double) in volume.

For this reason, the default for each sample is 50 %, giving a 100 % (normal volume) mixed sample. Each slider's value may be 0 - 100 %.

(For those that are interested, this is why samples should be "halved" in 5-8 channel mode: the samples are added at half their normal volume to produce a full volume sample).

The volume of the sample in the copy buffer is altered using the "Dest. Level" slider, and that of the current sample using the "Source Level" slider.

The sample in the copy buffer is mixed with the current sample, at the point marked by a range. If the range is more than one byte in length, only the area selected by the range is affected; otherwise, the whole of the sample starting at Range Start is affected.

The "Mix" gadget mixes the sample, and "Exit" closes the window.

1.43 The Filter/Boost Window [Keyboard shortcut: Amiga-F]

This window includes a function to filter the current range, ↩
reducing
noise, and to boost the current range, making it sound brighter and more audible. Open the window using the
sample editor's Effects menu
.

Filtering is done by calculating the average of each individual value in the sample and the values on either side of it. Boosting employs an opposite process.

There are two sliders, both of which can have a value of 1 - 128:

Averaging
: The strength of the filter/boost (technical note: the proportions of each individual value compared to the values on either side of it). The higher the slider value, the greater the strength. The default is 16.

Distance The distance between the averaged values. In practical terms, this slider affects the sound in an odd way! (It's best to experiment with different values). For a normal filter/boost, set this to 1 (the default).

The Filter gadget filters, Boost gadget boosts, and Exit closes the window.

1.44 The Echo Window [Keyboard shortcut: Amiga-K]

With this window, interesting echo effects can be produced. Open it using the sample editor's Effects menu. The echo function affects the current range.

Before echoing, you usually need to add some extra space to the end of the sample (use the Add Workspace window). You'll also need to mark a range over both the waveform to be echoed and the blank space that the echo is to affect.

There are three numeric boxes:

Echo Rate The distance, in bytes, between two echoes. A very low rate can make a speech sample sound like a robot...

Volume Decrease Sets the rate at which the echo will fade away. The lower the value, the lower the rate, but a value of 0 spreads the volume evenly throughout the range.

Number of Echoes The total number of echoes produced, usually quite low (1 - 10).

The best way to learn this feature is through experimentation.

The "Do Echo" gadget executes the function, and "Exit" closes the window.

1.45 The Noise Window [Keyboard shortcut: Amiga-N]

Open this window using the sample editor's Effects menu.

The fairly unique feature in the window allows you to add noise to the current range. It may seem useless at first glance, but with it you can easily create effects such as wind and sea sounds, and it can be a source of more complex instruments when used together with other effects. So it's possible to create good-sounding instruments even without using a sampler!

The slider sets the noise strength (1 - 128), which is really the volume of

the produced noise. The "Noise" gadget creates noise, and "Exit" closes the window.

1.46 The Chord Creation Window [Keyboard shortcut: Amiga-H]

With this window you can create chords of two to four notes from the current sample. Open it using the sample editor's Effects menu.

The window consists of four pitch gadgets, whose contents can be changed by holding down the left mouse button and pressing a note on the keyboard. You may also clear the note by pressing Return or Del.

The basenote is the note to which the other chord notes relate. In practical terms you can think of it as the "bass note". The other gadgets are the other notes in the chord, of which some may be blank if desired.

Note that you are not restricted to the normal three-octave range of a sample: you may use pitches over the full 10½-octave range. Also note that higher notes are shorter in length than lower notes, so the notes in the chord will not end simultaneously.

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 position is normal, 1st inversion makes the second chord note lowest, 2nd inversion makes the third chord note lowest etc.

The remaining three cycle gadgets set the interval between various notes:

1) "Basic" sets the interval between the two lower chord notes. Major = 4 halfsteps, Minor = 3 halfsteps, Sus 4th = 5 halfsteps.

2) "Third" controls the first and third chord notes. Diminished = 6, Normal = 7, Augmented = 8.

3) "Fourth" controls the first and fourth chord notes. Sixth = 9, Dominant = 10, Major = 11.

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 only be played through 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
. Then click Create Chord, click
Max in Change Volume
, then
change

the sample back to 8-bit
.

"Create Chord" creates the chord and stores it in the current sample.

"Exit" closes the window.

1.47 The Display Settings Window *NSS* [Keyboard shortcut = Amiga-D]

This window, opened using the
sample editor's Settings menu
, contains
various settings affecting the waveform display.

"Display Type" sets either line (default) or pixel waveform display mode.

"Pixel Density" sets the density of the pixels (1 - 50) used when drawing the waveform in pixel mode (Display Type). The slider value is the number of pixels displayed in every horizontal pixel position.

"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 center 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 more quickly than usual. However, the function occupies about 5K of memory, so switch it off if memory is very tight.

"Exit" closes the window.

1.48 The Sample List Editor [Keyboard shortcut: Amiga-L]

As you work with computer music you will acquire large numbers of instruments, spread over many different disks and directories. For easy loading, the samples need to be organized. This window provides the necessary functions for organizing and storing a list of all your samples.

(Open it using the
Display menu
).

The list could be created using any text editor (as it had to be in the early days of MED), but it's now much easier to make one with the Sample List Editor.

Basically, a list is created by clicking "Add Dir..." and choosing a directory containing samples from the
file requester
. The directory
and its filenames are then added to the list, and this can be repeated for all your sample directories / disks. You may view a directory's filenames by clicking the required directory name in the "Directories" list.

The list is saved using "Save List...", and the filename is "MED_paths". On startup, OctaMED looks for the MED_paths file in the PROGDIR directory of this CD, if you want to make up a new sample list, then when finished adding your sample paths etc, save the med_paths file to your HD or to a floppy and you can reload them at a later date.

The gadgets in this window are as follows:

Add Adds the current instrument to the instruments list (it will be inserted in alphabetical order). Note that the sample's loop, tuning, MIDI, and relative volume values will also be stored, as well as its default pitch.

Remove Removes the instrument selected in the sample list (i.e. click on a filename and press "Remove").

Save Ins Saves the current instrument in the currently selected directory (actually stores it on disk as well as in the list).

Del Ins Like "Remove", but also deletes the instrument from disk (careful!). These last two options remove the need to use a file requester to save or delete instruments in the sample list.

Add Dir Opens a
file requester
to add a directory to the list. A
requester will also appear, inquiring whether you wish to add the directory after the currently selected directory or to the top or end of the list.

Remove Dir Removes the current directory from the list.

Save List Opens a
file requester
to save the list to disk.
The CD default save path is OctaMED:Soundstudio V1
(i.e. the directory in which the OctaMED program is stored).
On startup OctaMED looks for the MED_paths file in that drawer, however, being a CD you will have to save your own sample list onto your hd or floppy.

Load Inst Loads the selected sample list instrument into the current sample slot. (An easier method of loading instruments in the sample list is found in the
Load Instrument Window
).

Save All Insts Saves all instruments in the song in the current directory. This can be handy for extracting (or "ripping") all the samples from other people's songs, for use in your own songs.

NSS Save Inst and Save All Insts now ask you to select the file format of the save instrument(s). Choose from IFF 8SVX, Raw, MAUD, AIFF or WAVE.

The Name text gadget displays the name of the selected instrument. You may rename the instrument by typing a new name into this gadget.

The remaining numeric boxes are the current loop / tuning / MIDI / volume values of the selected instrument, and the Pitch gadget is the current default pitch of the selected instrument (if any). They can be changed by entering a new value, or by holding the left mouse button on the Pitch gadget and pressing a new note on the keyboard. Note that the MIDI and loop (Repeat / RepLen) gadgets can't both be non-zero at the same time.

(For a description of loop / tuning / MIDI / relative volume values, and the default instrument pitch, see
The Instrument Parameters Window
).

Since MIDI instruments are not actually instruments but a few settings, you may wish to create a "dummy" directory for them.

The Exit gadget closes the window.

The menu contains the following items:

Load List Allows you to load a sample list under any name. You are asked whether you would like to append to or replace the list already in memory. (This feature has been resurrected from V4).

Clear List Clears the entire list (after a confirmation requester). *NSS*

Statistics Displays statistics about the sample list:

1) The currently selected directory number
2) The total number of directories in the list
3) The number of samples in the current directory
4) The total number of samples in the list

1.49 The MIDI Message Editor [Keyboard shortcut: Amiga-G]

This window offers the tools required to capture, send, and store ↩ MIDI
data, and to edit MIDI messages in
hexadecimal
. (Open the window using the

Display menu
).

The message editor is especially suitable for, but not limited to, capturing System Exclusive (SysEx) messages. These are very versatile messages which can (for example) be used to set and alter the parameters of sounds on machines supporting this facility. You can edit sounds using your synthesizer, then transfer either the original sound or the edited sound into your Amiga and save it. Later on, OctaMED can send the sound back to the synthesizer for playing.

The gadgets to the right of "Msg" are: current message number, previous message, next message, and total number of messages in the buffer. Other gadgets are as follows:

New Msg Adds a new message to the end of the list. Use this gadget to create a new message after starting OctaMED up.

New Here Inserts a new message at the current point in the list. Usually "New Msg" is preferred to this button.

Del Msg Deletes the current message.

Clear Msg Clears the current message (sets all bytes to zero).

Msg Size Newly created messages are eight bytes long, but to capture (for example) SysEx messages, a much larger buffer is required. So use this gadget to change the message size. The arrow gadgets decrease / increase the size by one, and the maximum size is 1048560 bytes.

Name Allows you to name the message (you'll need to unless you can read hexadecimal!).

Save Msg Opens a
file requester
to save the current message. Note that
MIDI messages are automatically saved with OctaMED songs, but you may wish to save them as separate files that you can load into other songs.

Load Msg Opens a
file requester
for loading a message. A requester
appears wondering whether the new message should replace the current one or create a new message for itself.

Capture Msg To capture data from your MIDI device, set up an empty

message as large as or larger than the incoming data, click Capture Msg, then start sending data. Click it again to stop capturing (although with SysEx messages there is an easier way to stop capturing, see "Auto-Terminate Capture" below).

MIDI Active and Input Active in the MIDI menu are automatically selected when Capture Msg is pressed.

Send Msg — Sends out the current MIDI message. Player command 10 also does this.

Auto-Terminate Capture — Causes OctaMED to stop capturing when an End SysEx byte ($F7) is received. OctaMED will also remove all unused bytes at the end of the buffer: you shouldn't leave any unused (zero) bytes after the actual MIDI data. These zeros are MIDI data too, which will be sent, and this is likely to cause problems. So this gadget is usually kept switched on.

If this gadget is off, however, OctaMED will capture all incoming bytes until either the "Capture Msg" gadget is re-clicked or the end of the buffer is reached.

The display box to the right of Auto-Terminate Capture shows "Recording..." when a MIDI message is being captured.

Exit — Closes the window.

You may also edit the hex data. Make sure Edit is on (Main Control), then simply use the cursor keys to move around the data and the numeric keys (0-9, A-F) to modify the hex data. Use the Del key to delete a byte, and Shift-Del to insert a new one.

(See also MIDI Commands , The MIDI Menu , and The Input Map Editor)

1.50 The Input Map Editor [Keyboard shortcut: Amiga-A]

With this window you may re-assign all the input keys on your keyboard. It is opened using the Display menu

.

Each key can be assigned to:

1) enter any note/command you wish (similar to
Programmable Keys
)
2) perform an action (such as moving the cursor up or down)

This also works with the normal Amiga keyboard: a MIDI keyboard is not required, but this feature is much more useful when used with one.

The two columns of numbers in the list are the entry numbers in
hex
and
decimal. The other gadgets included in this window are:

Map Active When selected, this allows you to use the input map.

Create New Map By default there is no input map, so click this to create a new one.

Now, an entry such as "C-1xxxxxx" is displayed for each note, which means that the C-1 key will just enter C-1 with the current instrument number, and leave the command digits untouched.

You may edit an entry in the same way as in the

Programmable Keys window
. Click on an entry to select it, hold down the left mouse button, move to the number you wish to change and press a key on the keyboard to change it.

Delete This Map Removes the current map after a confirmation requester.

Reset Selected Changes the selected key back to its original function.

Load Map Opens a
file requester
to load a new input map from disk. A requester will appear if the current input map has been changed since last saving.

Save Map Opens a
file requester
to save the current input map to disk.

NSS Setting the function which the selected key should perform is now a lot more flexible with the sacrifice of ease-of-use. As with the new

Keyboard Shortcuts window
, the key can now execute any OctaMED command, an external ARexx command, an ARexx script, or a program.

The Action area is much as in Keyboard Shortcuts. The cycle gadget

has the following options:

OctaMED Command	Executes an OctaMED ARexx command (type it into the Command box, together with any required parameters). (See §13 for more information on OctaMED commands)
Execute ARexx	Executes an external ARexx file (type its name into the File Command box).
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.
Launch Program	Launches (runs) an executable program file. Type its name into Command.

So to set the selected key to Play Song, for example, select OctaMED Command using the cycle gadget and type "pl_playsong" into the Command text box.

1.51 The ARexx Trigger Setup Window *NSS*

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        Sends an ARexx command to another program. Type the
  Command         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.
```

1.52 The Song Selector Window [Keyboard shortcut: Left Alt-G]

```
                This window allows you to add and delete songs in a multi-module, ↩
                   and to
choose the current song. Open it using
                Information's 'Sg' button
                , or by
selecting
                Song menu -> Select
                .

The window displays a list of all songs in the multi-module. Select a song
by clicking on it; the song's name appears in the text box immediately
below the list (you can edit the name using this text box).

The buttons in this window are as follows:

Add New    Adds a new song to the end of the list.

Add Here   Adds a new song at the currently selected position.

Delete     Deletes the selected song.

Select     Makes the selected song the current song, and closes the window.

Exit       Closes the window.

(Song selection gadgets are also contained in the
                Information window
                )
```

1.53 The Playing Sequence Window [Keyboard shortcut: Left Alt-Q]

```
                The playing sequence consists of a list of block numbers and names ↩
                    arranged
in the order they should be played in the song. More than one playing
sequence may be defined (called "sections"), and the
                section list
                 contains
the order in which to play these multiple playing sequences. When the last
section has been played, the song will by default start again from the
beginning (although it's also possible to stop the playing).
```

This window contains the functions required to create playing sequences, and is activated by either clicking "Sq" in the
Information window
or using
the
Song menu
. A sequence may use the same block number more than once, and a maximum of 999 entries in each playing sequence is allowed. ("Playing sequence" will be referred to as "playseq" from now on). The maximum number of separate playseqs allowed is 65535 (should be enough!).

The current playseq position ("playpos") is highlighted in blue, and may be set by clicking on a block name. Selecting playpos while the song is playing immediately plays from the beginning of the entry selected.

The following gadgets for editing playseqs are included in this window:

Top Sets playpos to the top of the display.

[Keyboard shortcut: Ctrl-NK7 ("NK" = numeric keypad, apologies (Home) to Amiga 600 owners!)]

Bottom Sets playpos to the bottom of the display.

[Keyboard shortcut: Ctrl-NK1 (End)]

Insert Duplicates the entry highlighted by playpos.

[Keyboard shortcut: Ctrl-NK0 (Ins)]

Ins Curr Inserts a new entry, the current block, at playpos.

[Keyboard shortcut: Ctrl-NK5]

Append As Insert, but adds to the end of the list. (*NSS*)

App Curr As Ins Curr, but adds to the end of the list. (*NSS*)

Delete Deletes the current entry.

[Keyboard shortcut: Ctrl-NK.]

Clear After a confirmation requester, clears the current playseq.

[Other keyboard shortcuts: Ctrl-NK8 scrolls up, Ctrl-NK2 scrolls down.]

Follow Using the scroll bar, it is possible to scroll around the list independent of playpos. When "Follow" is selected, the position of the list will be automatically updated during play.

The numeric box to the left of "Follow" contains the block number of playpos, which can be altered either by typing in a new number or by using the arrow buttons. You can't increase the block number beyond the number of the last block in the song. [Keyboard shortcuts for the arrow gadgets: Ctrl-NK4 decreases block number, Ctrl-NK6 increases]

The arrow buttons act slightly differently when playpos is below the last playseq entry. Pressing the left arrow button deletes the last entry; pressing the right one adds block 000 to the end of the sequence.

The display box to the right of the numeric box contains the number of playpos and the total number of entries in the current section.

Multiple playseqs (sections) can be created using the following buttons:

Name Displays the name of the current section, which you can edit.

New Sec Adds a new section after the last section.

New Sec Here Inserts a new section at the current position.

Delete Sec Deletes the current section.

Below these buttons is an numeric box showing the current section number. It may be changed by either typing in a new number or using the arrow buttons. The display box to the right of the numeric box contains the total number of sections.

The Exit button closes the window.

(Note: the song can be stopped at any time by using
player command 0FFE
)

(See also
The Section List
and
The Block List
)

1.54 The Section List Window [Keyboard shortcut: Left Alt-C]

This window, opened either by using the
Song menu
or by clicking "Sc" in
the
Information window
, contains the order in which to play song sections.
These sections are created in the
Playing Sequence window
.

The current section position ("secpos") is highlighted in blue, and may be set by clicking on a section name. Shift-clicking on a section name selects the section clicked in the Playing Sequence window. A maximum of 65535 entries are allowed (note, however, that only the lower three digits are displayed).

The numeric box contains the section number of secpos, which can be altered either by typing in a new number or by using the arrow buttons. You can't increase the section number beyond the number of the last section in the song.

The display boxes to the right of the numeric box contains the number of secpos and the total number of entries in the current section list, and the total number of sections in the song.

Other buttons are as follows:

Insert Inserts a new entry 001 at secpos.

Append Appends a new entry 001 to the end of the section list.

Delete Deletes the current entry.

Exit Closes the window.

1.55 The Song Options Window [Keyboard shortcut: Amiga-H]

This window contains various song parameters. In a multi-module, these parameters can be different for each song. (It is opened using the

Song menu
).

The gadgets are listed below:

Name This text gadget contains the name of the current song, displayed on the title bar. You may type in a new name.

Channel Mode The Amiga has four sound channels, but by mixing two notes together and playing them through one channel, up to eight notes can be played at once. This radio button is used to select the number of channels OctaMED should use. (See

5-8 Channel Mode
for more info).

You may be asked questions if you click 5, 6, 7 or 8 channel mode. OctaMED will halve the volume of all samples if you agree (see
5-8 Channel Mode
). *NSS* Also, if you choose e.g. 7 channel mode, and some of the blocks in the song have less than 7 tracks, OctaMED will offer to add the missing tracks to these blocks.

NSS "1-64 Ch Mixing" sets the new Mix mode. With a slight loss of sound quality, this gives you up to 64 channels, special effects, track panning and more.

Note: for MIDI use, "4 Channels/MIDI" should be selected

(this is also the default). You can also use MIDI in Mix mode, however.

The cycle gadget chooses whether the data bytes of volume (0C) commands should be in hexadecimal or decimal. If you aren't a programmer (and even if you are), it may be easier to think in decimal, and "Decimal Volumes" is the default. However, hex volumes are slightly faster (not noticeably, but faster anyway ;^). The state of this gadget is saved as part of a song.

You can easily convert all volume commands from decimal to hex and vice-versa with the "Convert" gadget. Clicking this gadget prompts you for the type of conversion desired.

Audio Filter Active	Turns the low-pass audio filter on/off. When on, the Amiga's power LED will be bright. However it is best to keep the filter off, since the sound quality is usually better.
High Quality Mode	When on, this significantly increases the audio quality in 5-8 channel mode. Unfortunately, it will also double the processor load, so a 68020 processor or higher is required to use this gadget in 7 and 8 channel modes. It has no effect in 4 channel mode.
No Slide On 1st Tick	Normally effects are done on every tick, but with this on, the effects are not done on the first tick. This is the way the Trackers perform effects, and this switch is for compatibility only: it is automatically switched on when a Tracker module is loaded.
Play Transpose	This slider transposes the whole song by the value selected. It doesn't change the notes, it just affects playing. The minimum and maximum is -12 and 12 respectively (i.e. \ensuremath{\pm} 1 octave). Other transposition functions may be found in the Transpose window.
Exit	Closes the window.

1.56 The Relative Track Volumes Window [Keyboard shortcut: Amiga-R]

This window contains sliders to adjust the volume of each track relative to the master volume. It is opened using the Song menu.

Each volume can be 1 - 64. The master volume sets the overall volume of the song. If both the master volume and the volume of a track were 64, that track is played at full volume. If, however, the master volume and a track

volume were 32, the volume of that track would be a quarter of full volume.

Clicking the two large arrow gadgets at the bottom left of the window show the previous/next sixteen tracks, and shift-clicking them show the first/ last sixteen tracks in the song. (They only really apply to blocks containing over sixteen tracks).

The Exit gadget closes the window.

(Note: The state of these sliders are saved with songs)

1.57 The Song 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 greetings.

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.

NSS 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.

1.58 The Block Properties Window [Keyboard shortcut: Amiga-B]

This window allows you to edit the properties of the current block ↩
. It is
activated either by using the
Block menu
or by holding down Shift and
clicking the B gadget in the
Information window
.

The gadgets are:

Name Contains the name of the block, which can be changed by typing in a new name. (The name is also displayed in the
Information
and

Block List
windows). A maximum of 41 characters is allowed.

Tracks Selects the number of tracks in the block. The minimum is 1 and

the maximum 64.

Note that track 8 onwards can only be used with
MIDI devices
, and
tracks 4-7 only with
Song Option's Channel Mode gadget
set
appropriately (except for MIDI use).

Also note that when you decrease the number of tracks, the higher tracks will be lost (with no "Are you sure?" requester).

Length The number of lines in the block. Can be changed by either typing in a new number or using the arrow gadgets. < and > decrease and increase the length by 1, << and >> by 10. The preferred way is to type in a new number directly, since less "memory fragmentation" occurs.

The maximum length of a block is 3200 lines.

Cmd Pages Sets the number of
player command
"pages" in the current block.

NSS 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. The Tracker editor's title bar shows the current page and the total number of pages in the block. Maximum number of pages is 32767 (unlimited in other words!).

Editing operations such as Cut / Copy / Paste Range act on all command pages at once.

Exit Closes the window.

1.59 The Block List Window [Keyboard shortcut: Left Alt-B]

The block list is an "at-a-glance" list of the current song's ↩
blocks and
their names. It is brought up by either using the
Block menu
or clicking
the small "B" gadget in the
Information window
.

The current block, highlighted in blue, may be changed by clicking on another block. Keyboard shortcuts for changing the current block are:

```
        Shift - <up> / <down>      Previous / next block
        Left Alt - <up> / <down>   First block / last block

The text gadget displays the current block's name, which can also be
changed by typing in a new name. Up to 41 characters are allowed in each
name.


The window contains the following gadgets:

Insert New    Inserts a new block at the current block position.

Append New    Adds a new block after the last block. These buttons are like
              the New -> Insert and New -> Append items in the
                Block menu
                .

Ins to Seq    Inserts the current block's number at the
                current playing

                 sequence position
                .

App to Seq    Appends the current block's number to the
                playing sequence
                .

Delete        Deletes the current block. Equivalent to the Delete items in
              the
                Block menu
                .

Show Unused   When on, any block that hasn't been used in the playing
   *NSS*      sequence is marked with a "*".

Exit          Closes the window.
```

1.60 The Highlight Options Window

```
                In this window you can highlight the current block's lines in a ↩
                   particular
order. This can help you position notes in widely-spaced blocks or mark
measures or beats. It is opened using the
                Block menu
                .

The top row of small square gadgets highlight the block lines with the
respective spacing. For example, the 4 gadget highlights every fourth line.
You'll probably use this particular gadget (4) the most often, since in a
normal default block of 64 lines, the gadget highlights every beat in the
block (i.e. every four sixteenth notes).

The other gadgets are as follows:

Clear     Clears all the highlighted lines in the block.
```

Offset Sets the first line to be highlighted. For example, an offset of 2 begins highlighting on line 002.

Spacing Allows you to use a highlight spacing not included in the small buttons at the top of the window. For example, entering 12 highlights every twelfth line.

Exit Closes the window.

You'll notice that the 1, 2, 3, 4, 6 and 8 gadgets are all underlined, meaning (of course) that they have a Left Alt shortcut. These shortcuts, however, only work with the numeric keypad keys (not the keys on the main keyboard).

Note that when editing, the Tab key highlights the current line. Also note that highlighting an already highlighted line removes the highlighting.

Line highlighting is saved with songs.

1.61 The Expand/Shrink Block Window

This window, activated by choosing
Block menu -> Expand/Shrink
, is used for
expanding or shrinking the current block.

"Expand" creates empty lines between each line, and "Shrink" removes lines. The "Factor" gadget contains the amount of expansion or shrink.

For example, if Factor were 3, pressing Expand would insert two new lines between each line (thus trebling the block length), and pressing Shrink would remove every second and third line (thus thirding the block length).

"Factor" may be 1 - 99, but the expanded block length must not exceed 3200 lines (the maximum block length), and the shrink factor must be divisible by the number of lines in the block. A message appears if either of these rules are infringed.

Expansion is useful, for example, if you would like to include some quick rhythms in a block but realize that the block plays too slowly for the rhythms. (However, fast rhythms may also be created using commands
0FF1
,

0FF2
,
0FF3
, and
1F
, so try these before expanding).

The only real use of shrink is to reverse the effect of a previous expansion.

1.62 The Instruments Window *NSS*

```
                This simple 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
                .
```

1.63 The Instrument Type Window [Keyboard shortcut: Left Alt-T]

```
                This window selects the current instrument's type. Open it using ↩
                   either the

                Instr menu
                 or
                Main Control's Type button
                . The options are:

Sample    The "normal" instruments, played through either the Amiga or a
          MIDI device.

          OctaMED can load the following sample types:

            1) "Raw" (pure binary, no extra parts so the most compact type.
      *NSS*    OctaMED can load raw 16-bit samples with the header
               "Raw16Bit": OctaMED saves them in this form)

            2) IFF 8SVX (1 - 7 octaves)  [This includes "delta-compressed"
               samples: their lengths are exactly halved, with the drawback
               of a slight loss of sound quality.]

      *NSS* 3) MAUD (a new type mainly for use with
                Toccata
                . Quite like IFF
               8SVX, except it can also save 16-bit and stereo samples)

      *NSS* 4) AIFF (a standard across many computer systems)

      *NSS* 5) WAVE (used with PC computers)

          Note that raw and 1-octave IFF 8SVX samples can only use octaves
          1 - 3: octaves higher than 3 play using octave 3's range. Also
          note that the highest octave of a 7-octave sample can't be
          played.

          For MIDI use, the instrument 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 aren't loaded into memory like other sounds. They can
          also use the full 10½-octave range. (For more information on
```

MIDI, see
MIDI Menu
and
Instr Params
)

Hybrid As "Sample" above, but can be controled using the same "programming language" as synthsounds. (See
SynthEd Program
)

ExtSample ExtSamples are like normal Amiga samples, except with two lower octaves added to the octave range (octaves 1 and 2). The octaves used with normal samples are moved up two places to make way for the new octaves (i.e. octave 1 becomes octave 3, octave 2 becomes octave 4 etc.).

However, because of an undesirable feature in the Amiga's hardware, especially under faster processors, ExtSamples should be used with care. After playing a note with an ExtSample using one of the new octaves, the following note will often not be correctly triggered. The solution is to use an 0FFF command before the following note is played. For example:

```
C-1 20000 <= ExtSample
--- 00000
--- 00FFF <= use 0FFF before the next note
C-2 10000 <= this instrument doesn't need to be an ExtSample
             for the bug to occur
```

However, in "paired" channels in
5-8 channel mode
, this
problem doesn't appear at all!

Note: more experimentative users may discover that octaves 8 and 9 of a normal sample also appear to play two lower octaves. These octaves
~ should, however, *NEVER* be used in songs (apart from with MIDI): believe it or not, it's a complete coincidence that they work!
~ ExtSamples are the only "legal" way of using the two lower octaves. In
~ any case, octaves 8 and 9 are also one finetune step sharp. :-)

Synthetic These special instruments, known as "synthsounds", are made from simple waveforms which can be joined together and have their volume and pitch altered by using a simple "programming language". Synthsounds usually sound quite simple, but they can be very effective and don't take up nearly as much memory as normal samples. In addition, they can play using octaves 1 - 5, two octaves greater than normal samples. For more details, see the
Synthetic Sound Editor
.

16-bit This is a special instrument type for users of
Aura
or

Toccata
,
with a resolution of 16 bits (instead of 8 bits as with normal samples). You can convert 16-bit samples to normal 8-bit samples (and vice versa), but you will lose sound quality.

The Octaves slider shows the number of octaves that the current sample consists of (1 - 7). Changing the slider's value often messes up the sample, so it's best not to. :^)

NSS 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, double the sample's size: press Ctrl-F and check the "largest Chip" number).

NSS Output Device selects whether the current sample should be played through the Amiga or through the Aura or Toccata 16-bit cards. (The Toccata option is only shown if a Toccata card is connected to your computer).

The Exit gadget closes the window.

1.64 The Instrument Parameters Window [Keyboard shortcut: Left Alt-P]

With this important window you may alter the characteristics of ↩
the current
instrument. It is opened by either using the
Instr menu
or clicking

Main Control's Params button
.

The gadgets are as follows:

Name Contains the name of the instrument, which may be renamed by typing in a new name. (However, it is advisable not to rename instruments when saving songs without instruments, since the renamed instruments will probably fail to load). The maximum name length is 40 characters.

The display box to the right of Name contains the current instrument number.

The instrument selection gadgets

The slider and arrows are used to select the current instrument.

1st Selects the first instrument (01).

Last Selects the last instrument (1V).

L.U. Selects the last instrument in memory (stands for "Last Used").

Keyboard shortcuts for selecting the instrument include:

```
          Shift-     <left> / <right>     Previous / Next instrument
          Shift-Alt- <left> / <right>     16 samples forward/backwards


                 Instruments may also be selected using the numeric keypad.
                Flush     Removes the current instrument from memory and clears  ↩
                   all its
          parameters. (Equivalent to
                Instr menu -> Flush Current
                ).
```

The loop gadgets

"Repeat", "RepLen" and "Loop On" are the loop gadgets. A sample loop means that the notes you play with the sample will be sustained until they are stopped. This is due to a particular part of the sample being continually repeated (or "looped").

The Repeat value is the beginning of the loop in bytes from the start of the sample, and the RepLen value is the length of the loop. Selecting Loop On activates the loop, and loops the whole sample if Repeat and RepLen are both zero. Loops are set in steps of 2 bytes, i.e. only even numbers may be used (typing in odd numbers rounds them down). RepLen must be at least 4.

The loop may also be set by using the loop pointers and gadgets in the

```
                sample editor
                . When you load IFF instruments, their Repeat and RepLen
values are automatically set.
```

NSS Also in this section is "Disable". When on, OctaMED pretends the instrument isn't there! All notes played by it in the Tracker editor are ignored. (Added at the request of a user who uses it for what he calls 'multi-tracking')

NSS "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 tuning gadgets

Under the loop gadgets are two sliders. "Transpose" raises or lowers the pitch of the current instrument in halfsteps (semitones). For example, if the transpose value was 3 and note C-2 was to be played with the current instrument, it would be transposed 3 halfsteps higher (D#2). A negative value transposes lower. The maximum and minimum transpose values are 127 and -128 (although higher values only affect MIDI instruments).

"Finetune" allows you to tune instruments in small steps, which is useful

for incorrectly sampled instruments. The value can be -8 to 7.

Hold and decay

These gadgets allow you to set a note's exact duration and fade speed. "Hold" is the duration in ticks (see the printed manual for a description of ticks, you'll need it to understand this section!), and "Decay" is the speed of fade when the hold duration has completed.

In these examples, the Ticks Per Line value is assumed to be the default 6. One line in the examples is one tick.

```
    1. No Hold Set                      2. Hold Set To 2
    --------------                      ----------------
    0  Play note (e.g. C-2 10000)       0  Play note (e.g. C-2 10000)
    1                                   1
    2                                   2  STOP note
    3                                   3  (silence)
    4                                   4
    5                                   5
    6  Play new note (e.g. D-3 10000)   6  Play new note (e.g. D-3 10000)
```

In example 2, the note is stopped on the second tick.

BUT: if the note is followed by a "keep holding symbol" (-|-) in the track, the note is not stopped on the second tick but carries on playing. For example:

```
000 C-2 10000                /  Line No.   Tick No   Action
001 -|- 10000               /     003         0      Continue note...
002 -|- 10000              /      003         1      Continue note...
003 -|- 10000 ==> ZOOMED =>       003         2      STOP note
004 --- 00000              \      003         3      (silence)
005 D-3 10000               \     003         4
```

So on the last "keep holding symbol" encountered, the usual hold value is used. This symbol is inserted by either clearing the note and entering only the instrument number, or more easily by pressing Return or the A key.

If the decay is zero, the note is turned off immediately after holding. If it is a non-zero value, however, the note will fade after holding. A value of 1 produces the slowest decay. Decay only works if Hold is non-zero. Both Hold and Decay can have a value of 0 to 127.

Note that Decay doesn't work with MIDI instruments, and is handled very differently with synthsounds or hybrids (see
SynthEd Program
).

Hold and Decay is quite a useful feature, and although it may sound complicated, it isn't really :-), so we recommend that you learn to use it!

Default volume and pitch

The "Vol" slider sets the default volume of the current instrument, in

decimal and
hex
. It ranges from 0 (silent) to 64 (full volume).

"Default Pitch" (beside Flush) allows you to set a default pitch for the current instrument. When you press the F key, the instrument is played at that pitch. This can be very useful for untuned instruments like percussion.

The pitch box contains the default pitch of the instrument (or --- if no pitch is set). To change this, hold down the left mouse button on the box and press a note on the keyboard. You may also clear the pitch by pressing Return or Del.

MIDI gadgets (see
The MIDI Menu
and
MIDI Commands
)

Before using a MIDI instrument, you need to change some settings in this part of the window to the required values. They are:

MIDICh — This slider 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. If the slider is set to 0, the instrument is non-MIDI.

Preset — Sets the preset number of the instrument (max. 128 or 2800).

When set to zero, OctaMED uses your keyboard's default preset for the instrument's MIDI channel (see MIDICh above). But by giving this slider a non-zero value, you may use more than one preset on the same MIDI channel: OctaMED sends a program change message whenever a note is played.

If you want to send a preset change command without playing a note, use the 0C00 command with any note played by the instrument with the new preset.

Suppress NoteOff — Suppresses Note Off messages for the current instrument. Some devices may have some instruments (e.g. one-shot drum sounds) which actually ignore any Note Off messages sent. So when this is selected, Note Offs aren't sent for the current instrument, reducing unnecessary output (which is slightly faster).

Extended Preset — When off, the maximum value of the Preset slider is 128, but when on the maximum is increased to 2800. However, this can only be used on some MIDI devices which support the exact method of sending the preset:

1) Presets 1 - 100 are sent in the normal manner.
2) Presets above 100 are sent by first sending the "hundreds" part and then the 0-99 part. For example, the number 1156 is sent as 11 followed by 56.

Consult your manual to see if this is the way supported by your device.

In order to hear a MIDI instrument, you must also set its default volume to above zero.

Note: a MIDI instrument's name doesn't really have any use. It's good practice, however, to type the name of the presets into the Name gadget. This way you can easily recognize the instruments, and if you give the song to someone else who has different MIDI equipment, he/she can easily change the preset numbers to use the correct presets on his/her MIDI device.

** The loop, tuning, default volume and pitch, and MIDI values can all be set in the sample list using the
sample list editor
.

1.65 The Instrument Load Window

This window, opened using
Instr menu -> Load from List
or
Main Control's

SList button
, is a convenient way of loading instruments contained in the sample list. (See the
Sample List Editor
).

The right-hand list contains the directories, the left-hand list contains the filenames in the current directory. Select the current directory by clicking on a directory name. Load an instrument into the current slot by clicking on an instrument name.

The other gadgets in this window are:

Flush — Removes the current instrument from memory.
[Keyboard shortcut: Ctrl - G]

Prev / Next Inst — Selects the previous / next instrument.
[Keyboard shortcuts: Shift - <left> / <right>]

Prev / Next Free — Selects the previous / next empty instrument slot.
[Keyboard shortcuts: Shift - Ctrl - "<" / ">"]

Exit — Closes the window.

NSS The current instrument number is now shown beside Prev Inst.

1.66 The Transpose Window [Keyboard shortcut: Amiga-T]

This window contains functions that "transpose" (alter) the notes in a particular area of the current project. Open it using the Edit menu.

The gadgets under "Affect" should be selected before choosing a function. They select which area of the song the transposition should affect, and the notes played by which instruments.

Song — Affects the whole song (default).

Block — Affects the current block.

Track — Affects the current track (the track that the cursor is on).

Selected Tracks — Affects selected tracks (tracks are selected by clicking their S buttons in the Tracker editor).

Range — Affects the range, selected using the mouse. (The button used to mark a range is chosen in the Mouse Options window).

All — Affects all instruments (default).

Current — Affects the currently selected instrument.

The "Transpose" functions are Octave Up / Down and Halfstep Up / Down, and should be self-explanatory. (Note to British users: "halfstep" means "semitone").

The "Change Notes" operations 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 desired key (for example, the I key selects note C-3).

Change — Allows occurrences of a single note to be changed throughout the specified area. It changes all notes in the selected area from the source note to the destination note.

Swap — Swaps all source notes in the selected area with the destination note.

The "Change Instrument" functions perform on notes played by the Source and Destination instruments. Select these instruments by choosing each required instrument (using Shift - <left> / <right> etc.) and clicking the "Source" and "Destination" buttons.

Change — Changes the notes (in the selected area) played by the source instrument to the destination instrument.

Swap — Swaps the source and destination instrument numbers of notes having either.

Delete — Deletes notes played by the source instrument.

NSS "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. (Delete is like Flush Instrument)

1.67 The Replace Notes Window *NSS*

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).

Examples
~~~~~~~~
Transparency and the choice of six areas make this window pretty powerful. Here are a few examples to help you get the hang of it.

1) Throughout the entire song, change all G-2 notes to C-3.

   Source: G-2 xxxxx
   Dest: C-3 xxxxx
   Click: Song

   (The
                Transpose window
                 's Change Notes function can also do this.

    Note that if the Source and Dest digits were left at 00000, only G-2 notes having no instrument or player command - very unlikely! - would be affected. The xxxxx makes OctaMED ignore the digits.)

2) Throughout the track that the Tracker editor's cursor is currently on, change all instrument 02 to 06. (So any notes played by instrument 02 on the current track will instead be played by instrument 06.)

   Source: xxx 2xxxx
   Dest: xxx 6xxxx
   Click: Track

   (The Transpose window's Change Instrument function can also do this.)

3) Throughout the current block, change all 04 command types to 14 (normal vibrato to Protracker-compatible vibrato).

   Source: xxx x04xx
   Dest: xxx x14xx
   Click: Block

   (Dest could also be xxx x1xxx, because the second command type digit of Source notes is already 4.)

4) Throughout the Tracker editor's marked range, clear all command digits.

   Source: xxx xxxxx (Note: means "any note/digits")
   Dest: xxx x0000
   Click: Range

(Sets the command digits of all notes in the range to 0000, leaving the notes and instrument numbers untouched)

1.68 The Spread Notes Window [Keyboard shortcut: Amiga-F]

This window allows you to spread the notes in the currently marked range across consecutive tracks to the right of the range. If notes already exist in the tracks, the operation replaces them. Open the window using the

Edit menu
.

The "Width" slider selects the number of tracks to spread the notes across (2 - 10).

Clicking "Spread" spreads the notes, and shift-clicking "Spread" spreads the notes _and_ closes the window.

"Exit" closes the window.

1.69 The Note Echo Window [Keyboard shortcut: Amiga-E]

With this window, opened using the
Edit menu
, you may produce echoes automatically with the
0C command
. The volume halves with each echo. For example:

```
C-1 10000   (the initial note)
--- 00000
C-1 10C32   (half volume. Decimal volumes are used in this example)
--- 00000
C-1 10C16   (quarter volume)
--- 00000
C-1 10C08   (eighth volume)
...
```

Echoed notes will only be placed in empty note positions throughout the marked range. The range may cover more than one track.

The gadgets are as follows:

Distance — The distance in lines between echoes, e.g. 4 means echo every fourth line.

Minimum Volume — The minimum volume of an echo. Echoes with a smaller volume than this won't be generated.

Do Echo Creates the echo. (Shift-clicking it also closes the window).

Exit Closes the window.

1.70 The Input Channel Window [Keyboard shortcut: Amiga-\ ]

This small window, opened using the
MIDI menu
, contains the MIDI input
channel number through which notes will be received when MIDI Menu -> Input Active is on.

If set to zero, OctaMED will accept input from all MIDI channels.

1.71 The MIDI Cmd 3cxx Window *NSS*

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 it arrives :-)

The controller number can be 0 to 16383.
~~~~~~~~~~~

1.72 The Mouse Options Window [Keyboard shortcut: Amiga-W]

This window contains three cycle gadgets, which are used to select ↩
the
function of each mouse button when clicked in the Tracker editor. Open it
using the
Settings menu
.

The available functions are as follows:

No Operation — The button has no effect.

Track On/Off — The button switches the clicked track on or off.

Select Track — Switches the clicked selected track on or off (the S buttons in the Tracker editor).

Position Cursor — Places the cursor under the mouse pointer.

Select Range — Marks a range.

The default for Left Mouse Button is Select Range, for the other gadgets is No Operation. Of course, the Middle Mouse Button setting is ignored if you own a two-button mouse!

The Exit gadget closes the window.

1.73 The Keyboard Options Window [Keyboard shortcut: Amiga-K]

This window contains many settings used when editing in the ↩
Tracker editor.
Open it using the
Settings menu
.

Cursor advance

The three gadgets at the top of the window are the directions the cursor should advance after entering something in the editor. They are:

Line Up / Down — Advances up / down a line.

[Ctrl-A toggles Don't Advance and Down]

Track Prev / Next — Advances to the previous / next track when the cursor is on the note.

NSS [Shift-Ctrl-A toggles Don't Advance and Next Track]

Cursor Left / Right — Advances left / right when the cursor is on the command digits.

NSS [Alt-Ctrl-A toggles Don't Advance and Right]

Advance Line Down is the usual preferred setting, and the default.

Spacing

The slider sets the space value. A space value of 3, for example, enters notes every third line. The maximum value is 16 (and minimum 2).

Placing spaces between notes while entering music makes editing and tempo changes much easier. After you have entered the music you may want to turn the spacing function off so you may move into the lines between notes (you can also use Right Alt-<up>/<down>).

Other spacing options are:

Destructive Spacing	When selected, any notes that lie between the lines used for entering spaced notes will be deleted when a note is entered.
Auto-Round Spacing	When on, restricts cursor movements to lines divisible by the spacing value. For example, with a spacing value of 2, you can only move the cursor to lines 000, 002, 004 etc. This only applies to using the cursor keys, not to entering notes.

By default these two options are on.

Other options

Chord Reset	When on, after entering a chord the cursor returns to the initial track.
Advance with sound	When activated, the notes in the block are played when the cursor is moved up or down. Useful for non-real time editing. [Shortcut: Ctrl-W]
Poly Play	When on (and Edit is off), playing notes using the keyboard
NSS	will play the notes through alternate sound channels. This gives a kind of "resonating" effect. Try it!
F6-F10 = *NSS* Highlights	When on, sets the positions moved to by keys F6 - F10 to the first five highlighted lines in the current block. Useful for widely-spaced blocks with few samples in them (perhaps the beginning of a rave track?-).

1.74 The Programmable Keys Window [Keyboard shortcut: Amiga-Y]

The programmable keys ("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 in the Tracker editor by holding down Shift and pressing key 0 - 9.

This window contains the functions necessary to view and edit the progkeys, and is opened using the
Settings menu
.

The cycle gadget 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 would like to edit (0 - 9) using the slider to the right of the cycle gadget. By default key 1 is selected. The slider is ghosted when "Right Alt" is picked.

The box below this, containing a note and command digits, 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 / number 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 Clear gadget clears the current definition, i.e. sets it to "--- 00000" for a normal progkey and to "xxxxx0000" for Right Alt.

The Pick gadgets copy either the note under the cursor, the current range, or the copy buffer to the current definition. If a range is picked, the definition box shows the word "=Range=". [Shortcut: Shift-Ctrl-0-9 picks note under cursor]

The Save/Load Keys gadgets open a file requester allowing you to save and load a set of progkey definitions. The default name on this CD is PROGDIR:Soundstudio.defprogkeys (OctaMED attempts
to load a file of this name on startup), but please remember, you cannot save your files to this CD!! (save them to a HD or floppy)

The Exit gadget closes the window.

1.75 The Keyboard Shortcuts Window *NSS*

With this window, opened through the
Settings menu
, you can make any key
combination operate almost any OctaMED feature. You can re-define existing

keyboard shortcuts, and create new ones.

On the window's left is a list of all shortcuts. Select a shortcut by clicking on it. Its name appears in the Name text box (you may rename it if you wish). "Ins. New" and "App. New" insert and append a blank shortcut to the list. "Delete" deletes the current shortcut.

NSS 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.

The display box underneath Ins. New / App. New / Delete shows the number of the currently selected shortcut and the total number of shortcuts in the list.

The Input and Action areas contain settings applying to the current shortcut.

Input area

Here you decide which key combination triggers the current shortcut. You can set a qualifier (the Shift, Alt, Amiga and Ctrl keys), and the key itself. You can also set whether the caps lock should be on or off (or to ignore the caps lock).

The "Shift", "Alt" and "Amiga" cycle gadgets have the following options:

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

Either One 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 must be held (rare!).

None Neither 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 Ctrl and Caps Lock. On means they must be on (or held in Ctrl's case), Off means they must be off.

"Mapped" and "Raw" select the key itself. If the key is mapped (i.e. a character appears on the screen when you press it), type it into the Mapped box. For non-printable keys, type its 'raw-key' code into Raw. (For a list of relevant raw-key codes, see the manual).

NSS 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).

Action area

Here you decide what effect the key combination will have.

The cycle gadget has the following options:

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.

Others

The "Window" text box allows you to create shortcuts that only work in a particular window. Select the required shortcut, then type the window name into Window
In this way, the same key combination can be used for different purposes in different windows.
If a key combination is both 'global' (not window-specific) and window- specific, the latter takes priority.

"Load" and "Save" load and save keyboard shortcut files.
The default name is 'PROGDIR:Soundstudio.defkeyboard'.
But please remember that you cannot "save" to the CD and must use a path on your HD or to a floppy.

1.76 The Palette Window

With this window, opened using the Settings menu , you may change the screen's colors.

Select a color by clicking on it (the chosen color appears in the box at

the top left of the window).

Use the Red, Green and Blue sliders to alter the intensity of red, green and blue light in the selected color. (Switch "WB Palette" off first).

Palette Type sets the sliders' range. With the default 8-Bit selected, the range is 0 - 255, allowing compatibility with the AGA chip set currently present in the A1200 and A4000 computers. With 4-Bit selected, the range is 0 - 15, more suitable for use with older Amigas.

Note that either setting can be used with either chip set; but with an inappropriate setting, AGA computers could only select 1 in every 4096 available colors, and with other computers the color would only change once every 16 slider values (which, I can tell you, is more than a bit uncomfortable!).

NSS WB Palette uses Workbench's palette.

The OK and Cancel gadgets accept or reject the color changes and close the window.

1.77 The Font Window *NSS*

With this window, opened via the
Settings menu
, you can select the fonts
used in three different areas of OctaMED.

Each of the three rows contains a GetFile button, display boxes showing the font name and point size, and a "Default" check box.

Use the GetFile button to select a new font. OctaMED loads the names of all the fonts in your FONTS: directory (the Fonts drawer on your system disk). The "Default" check box selects 'topaz 8'.

The "Screen Font" is used for screen and window title bars and system requesters. The "Window Font" appears inside windows, and the "Editor Font" applies to the Tracker editor only (you can only use a non-proportional font for this).

If you don't yet have Kickstart 3.0, it's recommended to only use non-proportional fonts. (They do work, but slider values tend to become garbled after a while, and certain parts of the program - e.g. MIDI Message Editor, Synth Program - will tend to flicker sometimes).

1.78 The Miscellaneous Options Window *NSS*

This window, opened via the
Settings menu
, contains all those settings that
wouldn't fit in the Settings menu itself. All options can be saved using Settings menu -> Save Settings.

Check boxes

Close Workbench — Attempts to open / close the Workbench. Useful if you are low on memory, as closing the Workbench frees about 40K of chip memory.

If it can't, a message appears to this effect and OctaMED tries again when its screen is next re-opened.

Overwrite Requesters *NSS* — Enables / disables "overwrite?" messages appearing if you try to save a file with the same name as another file in the directory.

Warn if Disk Full *NSS* — 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 using

Save Options

)

Size-Only Window Zoom *NSS* — 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.

Use ReqTools *NSS* — Uses the ReqTools normal / file / screen mode / font requesters instead of ASL. Requires reqtools.library.

(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).

Swap Amiga Channels (Mix) *NSS* — Sound channels 0 and 3 should be played through your left speaker, 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

.

Load Instr From — When on, typing a name into Main Control's instrument

MainCtrl *NSS*

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.

```
H -> B    Selects how OctaMED will display the name of the note between A#
          and C. In some countries it's H, in others it's B. When set, B's
          are displayed. Default is on (B's are displayed).

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

Directories *NSS*    Opens the
                Default Directories window
                .


Cycle gadgets (all *NSS*)
-------------------------
Default Volume Mode   Selects whether the cycle gadget in
                Song Options
                                      displays Decimal or Hex Volumes.

Default HQ Mode       Selects whether
                High Quality Mode
                 is on or off.

Default Slow HQ Mode  Selects whether
                Slow HQ
                 is on or off.

Default Channel Mode    Sets the default channel mode (set in the
*NSS*
                Song Options window
                ).

Gadget Shortcut Qual  Choose the qualifier used with
                gadget shortcuts
                :
                      Left Alt (default), Right Alt, Left Amiga or none at
                      all (gadget shortcuts are disabled).

                      When using Left Amiga, watch out for the system
                      shortcuts L.Amiga-N and M!

Help Viewer           Selects whether to use AmigaGuide, Hyper or XPKGuide
                      to display this on-line help system.
```

1.79 The Default Directories Window *NSS*

Use this window to tell OctaMED where you usually keep your songs, instruments and ARexx scripts.

For example, if your usual songs disk is called MEDSongs1:, type MEDSongs1: into the Songs text box. Similarly, if you store your ARexx scripts in a hard disk directory called Work:ARexx/Scripts, then type that into the

ARexx Scripts box.

If you don't have a "usual" disk or directory for instruments, for example, then leave the Instruments box blank. You can also select a disk or directory by clicking on one of the small GetFile gadgets to the left of each text box.

The default directories are loaded into relevant file requesters when they are first opened. The Songs directory, for example, is loaded when you first select
Project menu
-> Open or Save. The Instruments directory is used when loading and saving instruments; ARexx Script is used by ...

1.80 The Aura Sampler Options Window

First appearing in OctaMED V5.02, this window provides controls for users of the Aura 16-bit sampling / playback card. The card fits into a PCMCIA slot, so is currently only available for A600 and A1200 owners. If you have either of these machines, though, the card is well worth buying.

(Open this window through the
Settings menu
)

A 16-bit sample must be loaded for OctaMED's Aura support to activate itself. Firstly, switch on the "Active" check box. Next, load in any sample, then open
Instrument Type
and click on "16-bit". You can now digitize (sample) through the card using the
sample editor
.

Other gadgets in this window:

1) "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 play has stopped).

   To set the minimum period, activate Aura support as described in this topic's second paragraph. 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 too low. Set it to such a value that no freezing occurs.

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

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

3) "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 (unfortunately with degraded quality, however).

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

 type to 16-bit
.

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.

1.81 The SMF Load Options Window *NSS*

New to version 6 is much-requested support for the Standard MIDI File (SMF)
format, used by almost all MIDI programs. OctaMED can
save SMF type 0
songs, and load SMF type 0 and type 1 files. This window (opened via the

Settings menu
) controls loading.

To load a SMF, 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 playing 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. These command conversions are used:

Tempo:	0F	Pan:	0E
Note Velocity:	0C	Channel Volume:	17
Preset Change:	1C	Channel Pressure:	0D
Mod. Wheel:	04		

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.

1.82 The Mixing Parameters Window *NSS*

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 special tricks to cram all those notes in. In the process, the notes lose sound quality. In fact, the faster your processor, the better quality the notes can be. For acceptable quality, you really need at least the 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.

Enhancements
~~~~~~~~~~~~

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. The faster your processor, the better the quality. In fact, very fast processors may 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 5 to 8 channel mode, it has hardly any of its limitations.

==========

The Mixing Parameters window will now be described.

Mixing Mode section
~~~~~~~~~~~~~~~~~~~

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).

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.

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).

Disk 8-bit/16-bit: Records the output to a file, as a sample.
See

The Recording Window
for more details.

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.

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 output will be in mono (the same on both speakers), 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...

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. Your 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...)

Technical note: 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.

(Note: the frequencies are very slightly off on Amigas not having a FPU. This is because the integer version of the frequency calculation has some error. The difference is not audible.)

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

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.

1.83 The Mix - Track Panning Window *NSS*

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.

Use the Up and Down buttons to adjust the tracks shown, if your song has over 8 tracks.

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. However, the drawback is that the overall volume is halved.

Notes
~~~~~
1) Processor load varies, depending on the stereo location. A track with location -16 or 16 exerts least load on the processor. A track in the

center (0) exerts slightly more load. A track in any other location exerts the highest load.

2) Stereo samples are handled correctly by Track Panning. For example, a stereo sample played on a centered track will play its left part through the left channel, and its right part through the right.

   A stereo sample causes more processor load than a mono sample (unless played in location -16 or 16).

3) Not all panning levels are saved with songs. It doesn't depend on Max Channels, but rather on the largest number of tracks used in the song.

1.84 The Mix - Effects Window *NSS*

Use this window to 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.)

1.85 The Recording Window *NSS*

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

To record directly to disk, follow these steps:

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, 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.

1.86 The FastMemPlay Window *NSS*

This poetically-named window allows you to play samples from Fast memory.
For background on this, see
Instr menu -> Load Samples To Fast Mem
.

Use the Active check box to switch on the FastMemPlay feature.

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
.

1.87 The Main Screen

The main screen is split into three windows (including the Tracker editor):

Main Control

Information
See the manual in the Docs drawer for Tracker editor information.

If you close any of the three windows, you may re-open them using the

Display menu
.

1.88 The Main Control window

This part of the
main screen
, above the Tracker editor, contains some
important general functions and displays. If you close the window at any

point, reopen it using the
Display menu
.

The window is divided into three sections: a play area (on the left), an instrument area (the top two rows on the right), and an edit area (the three check boxes and cycle gadget).

The play area

Beside Song:

Play This gadget plays the current song from the start of the first

playing sequence
.

[Keyboard shortcut: Shift-Alt-Space]

Cont Plays the current song from the
current playing sequence position
,
starting at the current line (or the first line if Cont is clicked with Shift held).

[Keyboard shortcut: Shift-Space]

Beside Block:

Play Plays the current block from the first line. It will be replayed when the last line is reached.

[Keyboard shortcut: Amiga-Space]

Cont Plays the current block from the current line.

[Keyboard shortcut: Alt-Space]

D An abbreviation of "Delay", clicking this small button starts playing the block when you next enter a note. Edit mode must be on.

The display box in Information
changes to "Waiting Input".

STOP Stops playing the song / block. Sometimes notes will continue to sound after you stop the song. To silence them, click STOP again (or press the space bar).

[Keyboard shortcut: Space bar]

The instrument area

Starting at the top left, the small display box contains the current instrument number, followed by a GetFile button to
load a new instrument

```
                into the current slot. The text box contains the instrument's name ↩
                   . Type a
new name into this box to load the instrument of that name.

If there's no instrument in the current slot, the text box will be blank.
You may sometimes run across a song where the composer has removed the
instrument names, though still using the nameless instruments in the song.
There's no real advantage in removing the instruments' names.

The display box after this displays the sample's size, or "-Synth-" if it
is a
                synthsound
                 or "-------" if the slot is empty. The size is prefixed by:

  1) "H" if the instrument is a
                hybrid sound
                  2) "E" if the instrument is an
                ExtSample
                  3) "W" (for Word or Wide) if the sample is
                16-bit
                 (*NSS*)
  4) "M" (for MIDI) if the sample is
                MIDI
                 (i.e. its MIDICh value > 0). Its
        MIDI channel number is also given. If the instrument isn't truly
        MIDI - perhaps it is a sample with a MIDICh value set - a * is also
        displayed.

*NSS* If there's an apostrophe after the sample size (e.g. 5892'), the
sample is stored in Fast memory. Otherwise, it's in the usual Chip memory.

The four remaining buttons open certain instrument windows:

SList     Opens the
                Instrument Load Window
                .

Type      Opens the
                Instrument Type window
                .

Params    Opens the
                Instrument Parameters window
                .

Edit      Opens either the
                sample editor
                 or the
                synthetic sound editor
                ,
          depending on the current instrument's type. If the instrument is
          neither type, the sample editor is opened.


The edit area
-------------
Edit    Toggles editing on/off. With editing on, you may insert notes or
```

player commands into the song.

[Keyboard shortcut: Esc]

Space With this switch on, a set number of lines are skipped when a note is entered into the song. (The number of lines skipped, and other spacing options, are set in the
Keyboard Options window
).
Useful for entering slow pieces of music, since you don't have to press the Del key as often.

When you enter notes during playing (in "real-time") with Space on, the notes will be quantized. For example, with a spacing value of 2, the notes will only be placed on even-numbered lines (if

Auto-Round Spacing
is on).

When shift-clicked, spacing is switched on and the Keyboard Options window is opened (with a view to editing the spacing options).

[Keyboard shortcut: ¯ (the key just below Esc)]

Chord When on, the chord entering mode is active. You must still know which notes of a chord you want to use, but OctaMED will place them on the tracks for you.

First you should select the tracks which the chord entering affects (using the S buttons in the Tracker editor). The chord always starts from the current track and continues to the following selected tracks on the right.

Now, holding keys down will enter a chord. For example, to enter a C major chord: hold down the Q key, press the E key and keep both keys held down, then press the G key. On releasing the keys, the cursor moves back to the initial track (if
Chord Reset in the

Keyboard Options window
is on). Chord entering also works well
using a MIDI keyboard (see the
MIDI Menu
).

(Chords may be deleted using
Left Amiga-Del
).

[Keyboard shortcut: Shift-Esc]

Oct Shows which octaves are currently in use when you play the Amiga's keyboard (see the manual).

If the current instrument has a MIDI channel of 0, keys F1 - F5 select octaves 12, 23, 34, 45, and 56. If its MIDI channel isn't zero, F2 - F4 select 45 to 67, F1 toggles 12 to 34, and F5 toggles

78 to 9A. Honestly!

1.89 The Information window

This part of the
main screen
, below the Tracker editor, displays useful
information and provides access to several windows. If you close the window
at any point, reopen it using the
Display menu
.

The title bar shows the current
tempo (song speed) settings
: SPD or BPM,
Tempo slider value, and TPL slider value.

The top row

This row contains many status displays and window-opening buttons.

The "Sg" gadget opens the
Song Selector window
, and the display immediately
to its right displays the current song and the last song in a multi-module.
(A multi-module is a project consisting of more than one song, but which
all share the same set of instruments).

The arrow gadgets are used to decrease / increase the current song number.
If the current song is the last song, and the right arrow gadget is
clicked, OctaMED will add a new song to the project after a confirmation
reqyester. Shift-clicking the right arrow gadget adds a new song without
the requester. Shift-clicking the left arrow deletes the last song in
memory after displaying a requester. (Equivalent to
Song menu -> Add New

and Delete Last
)

The "Sc" gadget opens the
Section List window
, and the following
display shows the current section list position and the total number of
entries in the section list.

The "Sq" gadget opens the
Playing Sequence window
, and the following
display shows the current playing sequence position and the total number of
entries in the playing sequence.

Clicking the "B" gadget opens the
Block List window
, and shift-clicking it
opens the

Block Properties window
. The following display shows the current
block number (starting at 0), the number of the last block, and the current block name. The last block number + 1 is the total number of blocks in the song (since the numbering starts at 0).

The bottom row

On the left-hand side is a display box showing the free memory. "Chip" memory is the memory used to store graphics and samples, and "Fast" memory stores everything else. So if you have a song with many samples in it, it will probably be the Chip memory status you'll be watching. A more detailed account of the free memory can be obtained on the title bar by pressing Ctrl-F.

The next display box shows the status of the song's playing ("Playing song", "Playing block", or "Stopped"), and the current disk activity ("Loading", "Saving"). It also shows "Waiting Input" if the D button
(
beside STOP in Main Control
) is clicked.

The third display box contains:

1) The
channel mode
of the current song

2) "M" if
MIDI
is active, "I" if
MIDI Input
is active

3) "E", "S", "C" if
edit
,
space
,
chord mode
is on

The final gadget, four digits with a ":" between them, is the timer. This is the number of minutes and seconds since Song or Block Play has last been clicked. Clicking STOP, Song Cont or Block Cont doesn't affect the elapsed time. You may reset the timer (to 00:00) by clicking the "R" button.

The timer also remembers the current song position. When you click the R button, the current line / playseq position / section position is stored. Clicking on the timer itself moves back to the stored position.

1.90 Player Commands

See the printed manual for an introduction to player commands.

The player commands can be split into three main groups:

Normal Commands

MIDI Commands

Mix mode Commands
Three points of note:

1) These topics serve as brief reminders of each player command. For full instructions, see Appendix A the manual.

2) Please note the following abbreviations:

   Level 1 = 1st command level digit Level 2 = 2nd command level digit

3) Before you read the descriptions, make sure you understand ticks (see the manual) !!

4) A few tips to make entering command types above 0F easier. Position the cursor over the 2nd command type digit (e.g. the 5 in 15), and:

   a) To enter type 10 - 1F, press key G - V

   b) Alternatively, hold Alt and press the 2nd digit (e.g. Alt-9 = 19)

   c) To enter types 20 - 2F, hold Shift-Alt and press the 2nd digit (e.g. Shift-Alt-E = 2E). Be careful: Shift-Alt-C means Copy Block!

1.91 Normal Commands

-> 00: ARPEGGIO (changes the pitch of the note quickly)

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.

01 and 02: SLIDE PITCH UP and DOWN

03: PORTAMENTO (as 01 / 02 except doesn't replay the target note)

04: VIBRATO (level 1 = speed, level 2 = depth)

05: SLIDE PITCH AND FADE (combines 0300 and 0Dxx, level = fade speed)

06: VIBRATO AND FADE (combines 0400 and 0Dxx, level = fade speed)

07: TREMOLO ("volume vibrato", level 1 = speed, level 2 = depth)

08: HOLD AND DECAY (level 1 = decay value, level 2 = hold value)

09: SET TPL SLIDER (level must be $01 to $20)

0B: PLAYING SEQUENCE POSITION JUMP (level = playseq line no. - 1)

0C: SET VOLUME (00 to 64 = temp. volume, $80 to $C0 = default volume)

0D: VOLUME SLIDE (level 1 = volume increase, level 2 = volume decrease)

0E: SYNTH JUMP (triggers a jump in the waveform sequence)

The command level is the line number you wish to jump to.

0F: SET TEMPO SLIDER / MISCELLANEOUS (action depends on the command level)

* 00: causes an immediate jump to the next playing sequence entry
* 01 - F0: sets the Tempo slider
* F1: makes a single note play twice
* F2: delays the start of a note by half a line
* F3: as F1 except the note is played three times
* F4: delays the note one-third of a line.
* F5: delays the note two-thirds of a line
* F7: suspends play until all MIDI messages have been sent
* F8: turns the low-pass filter off
* F9: turns the low-pass filter on
* FA: (MIDI only) sends a MIDI "hold pedal on" command
* FB: (MIDI only) sends a MIDI "hold pedal off" command
* FD: causes the pitch of the previous note to be set to the new note, but it's not replayed
* FE: stops the song playing
* FF: stops the note on the current track

11 and 12: SLIDE PITCH UP and DOWN ONCE

14: PROTRACKER-STYLE VIBRATO (depth levels are half command type 04's)

15: SET FINETUNE (use signed hex)

16: REPEAT LINES (LOOP) (Level 00 marks loop start, > 00 = no. of repeats)

18: CUT NOTE (Almost like hold - command type 08)

19: SAMPLE START OFFSET (level = starting byte $\div$ 256)

1A and 1B: SLIDE VOLUME UP / DOWN ONCE

1D: JUMP TO NEXT PLAYING SEQUENCE ENTRY (Level = no. of first line)

1E: REPLAY LINE (Level = number of times to replay commands on curr. line)

1F: NOTE DELAY AND RETRIGGER (Level 1 = note delay, level 2 = retrigger)

2D: AREXX TRIGGER (see
The ARexx Trigger Setup Window
)

1.92 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.

05 and 00: CONTROLLER NUMBER and CONTROLLER VALUE (see manual)

01 and 02: PITCHBENDER UP / DOWN (level = pitchbender steps $\div$ 8)

03 and 13: SET PITCHBENDER (use signed hex)

04: MODULATION WHEEL (level = $00 to $7F)

08: SET HOLD ONLY (level = hold value, can use both digits)

0A: POLYPHONIC AFTERTOUCH (level = $00 to $7F)

0C: SET VOLUME (but the volume of a note can't be changed after playing)

0D: CHANNEL PRESSURE (level = $00 to $7F)

0E: PAN CONTROL (controls stereo location of note, level = $00 to $7F)

10: SEND MIDI MESSAGE (level = message number - 1)

17: SET VOLUME CONTROLLER (level = $00 to $7F)

1C: CHANGE MIDI PRESET (level = current instrument's new preset number)

30 to 3F: SET MIDI CONTROLLER 1 - 16 (see
The MIDI Cmd 3cxx Window
)

1.93 Mix Mode Commands

These commands can only be used in
Mix mode
.

20: REVERSE SAMPLE / RELATIVE SAMPLE OFFSET (depends on the command level)

* 00: Reverse sample (use beside a note)

* 01 - FF: Relative sample offset (signed hex; use after a note)

21 and 22: SLIDE PITCH UP and DOWN (FIXED RATE)

2E: SET TRACK PANNING (signed hex: $F0 to $10 = -16 to 16 decimal)

2F: SET STEREO SEPARATION / ECHO DEPTH (depends on the command level)

* DC - D4: Set stereo separation (2nd level digit is signed hex:

Decimal	-4	-3	-2	-1	0	1	2	3	4
Hex	$DC	$DD	$DE	$DF	$D0	$D1	$D2	$D3	$D4)

* E1 - E6: Set echo depth ($E1 = 50.0%, $E2 = 25.0% etc.)

1.94 Keyboard Shortcuts

"Keyboard shortcuts" are combinations of keys used to carry out ↩
the
equivalent of a mouse operation.

Menu item shortcuts are displayed in the menu itself, as a strange-looking "A" and a letter. All menu shortcuts are accessed by holding down the Right Amiga key and pressing the appropriate key. The "A" symbol represents the Right Amiga key, and the letter represents the appropriate key.

Shortcuts can also be attached to gadgets in windows. These shortcuts are accessed by holding down the Left Alt key and pressing the appropriate key. This time, the appropriate key is represented by an underlined letter in or beside the gadget that the shortcut acts on. This type of shortcut can only be accessed when the window or main screen containing the gadget is active. The effect of shortcuts on the various types of gadget in the user interface can be found in
Gadget Shortcuts
.

Other shortcuts are not visually represented on the OctaMED screen, but have to be remembered by the user. A full list of shortcuts is provided in the following topics:

Menu Item Shortcuts

Editing Shortcuts

Cursor Movement Shortcuts

Other Shortcuts

IMPORTANT NOTE FOR USERS OF NON-U.S. AND NON-BRITISH KEYBOARDS
(You can edit and view keyboard shortcuts in the
Keyboard Shortcuts window
)

1.95 Menu Item Shortcuts

All keys listed have to be pressed with the Right Amiga key held. ↩
Note that
you may only use these shortcuts when the main screen is active.

A	Open Input Map Editor window
B	Open Block Properties window
C	Copy track
D	Delete file
E	Note echo
F	Spread notes
G	Open MIDI Message Editor window
H	Open Song Options window
I	Load instrument(s)
K	Open Keyboard Options window
L	Open Sample List Editor window
M	MIDI Active on/off
N	New project
O	Open project
P	Open Print Options window
Q	Quit OctaMED
R	Open Relative Track Volumes window
S	Open Save Options window
T	Open Transpose window
U	Input Active on/off
V	Paste track
W	Open Mouse Options window
X	Cut track
Y	Open Programmable Keys window
Z	Swap track with copy buffer
1	Ext Sync on/off
2	Send Sync on/off
3	Send Active Sensing on/off
4	Send Out Input on/off
5	Read Key Up's on/off
6	Read Volume on/off
\	Open Input Channel window
[	Local Control on
]	Local Control off
.	Command Shell
?	About

Other menu item shortcuts (excluding settings) are documented in the other

keyboard shortcut

topics.

1.96 Gadget Shortcuts

This short topic describes the effects of "Left Alt" shortcuts on the two types of gadget that Left Alt shortcuts currently affect. (The Left Alt qualifier can be changed in Miscellaneous Options)

Gadget Type	Effect on holding Left Alt	
Action button	Action executed	
Check box	Box checked / unchecked	
Text / Numeric box	Box activated	
Cycle gadget	Cycles forwards	Only available under Kickstart 3.0 and higher
	(Shift-Alt cycles backwards)	
Slider	Increases value	
	(Shift-Alt decreases value)	

1.97 Editing Shortcuts

These shortcuts are 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
Alt-Del	Delete only command digits
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
*NSS* Amiga-Backsp    Delete line
*NSS* 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
*NSS* 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)

*NSS* 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.
```

1.98 Cursor Movement Shortcuts

These 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
      Left Alt-<down>     Last block

*NSS* Right Alt-<up>      Up *one* line, whether or not Space is on
*NSS* 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
*NSS* Alt-Ctrl-NK(        Delete current song
*NSS* 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 that is
                          "--- 00000") from the current instrument number
      Alt-Ctrl-<right>    Go to where sample next appears in the song
```

1.99 Other Shortcuts

```
                  Shift-Alt-Space     Play song        [ Remember you may also ↩
                      use the
      Shift-Space         Continue song      Left Alt shortcuts underlined
      Amiga-Space         Play block         in the
                playing buttons
                 ]
      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 / LPB slider
      Shift-Ctrl- +       Increase TPL / LPB 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
*NSS* Alt-Ctrl-N          Append and select new block
*NSS* 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
*NSS* Shift-Ctrl-A        Automatic Advance Cursor Right on/off
*NSS* Alt-Ctrl-A          Automatic Advance To Next Track on/off
*NSS* 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.

```
      1 - 9     Selects instruments 1 - 9
    The . key   Changes the first instrument digit (for example, from 05 to
                15 or from 15 to 05)
        0       Selects instrument 10
        +       Next instrument
        -       Previous instrument
        (       Decrease volume of the current instrument by one
        )       Increase volume of the current instrument by one
        /       Select last used instrument
        *       Pick instrument number nearest the cursor
      Enter     Activates "alpha-enter": after pressing Enter, press an
                alphabetical key (A - V) to select the corresponding
                instrument

      Ctrl-8    Scroll playing sequence up
      Ctrl-2    Scroll playing sequence down
      Ctrl-4    Decrease the current playing sequence entry
      Ctrl-6    Increase the current playing sequence entry
      Ctrl-7    Top of playing sequence
      Ctrl-1    Bottom of playing sequence
      Ctrl-5    Insert current block to playing sequence
      Ctrl-0    Duplicate current playing sequence entry
      Ctrl-.    Delete current playing sequence 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.

1.100 IMPORTANT NOTE FOR USERS OF NON-U.S. AND NON-BRITISH KEYBOARDS

The keyboard shortcuts used in these instructions correspond 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. They are:

A = Q on a French keyboard
Z = W on a French keyboard, and Y on a Swiss or German keyboard

< and > are the two keys immediately to the right of M (except French, where they are the two keys to the right of ",")

- and + are the two keys immediately to the right of 0 (zero)

* Note that these changes DON'T apply to the Right Amiga menu shortcuts or Left Alt gadget shortcuts. For example, to open the Input Map Editor window using a French keyboard, hold down the Right Amiga key and press the key immediately to the right of the Tab key (A).

1.101 Special Purpose Topics

The following topics provide miscellaneous OctaMED information.

5-8 Channel Mode

Hexadecimal Values

The File Requester

The Settings File

1.102 5-8 Channel Mode

5-8 channel mode works by mixing two samples in real time and then outputting them through one sound channel. This takes up a lot of the processor's time, and the mixing process reduces the sound quality (causing distortion). You can reduce the distortion using High Quality Mode or, as a last resort!, using the audio filter (both selectable in the Song Options window).

The processor load that 5-8 channel playing causes, and some technical reasons set some limitations to playing in these modes:

1) Different playing speed selection. Use the TPL slider as usual, but use Tempo values 1 - 10.

2) Synthetic and hybrid sounds can't be used

3) All equalizers are disabled

4) All MIDI, Aura and Toccata support is disabled

5) Instrument default volume and Decay values are ignored, as are the relative track volumes

6) Limited sample loop length, only in a minimum of 200-byte steps (when the Tempo slider is 1). Every time Tempo is increased by one, the loop length byte-steps increases by 20. So with a Tempo value of the maximum 10, the length is set in 400-byte steps.

In addition to this, samples should be "halved". This means that each sample's volume should be half of its normal volume, so that they can be mixed with the minimum of distortion. The halving is done automatically when changing channel mode (answer "Halve" in the requester).

The sound channels that play these mixed samples are called "paired channels". In 8 channel mode all channels are paired, but in 5 channel mode only one channel is paired, allowing better quality samples on tracks 1 - 3. You may use non-halved samples on non-paired channels, but attempting to use non-halved samples on paired channels when two notes are played

simultaneously usually creates awful noise.

The channel configuration in each of the channel modes is as follows:

(P: paired, N: non-paired, (L): left speaker, (R): right, -: unused)

Channels	0	1	2	3	4	5	6	7
4	N (R)	N (L)	N (L)	N (R)	-	-	-	-
5	P (R)	N (L)	N (L)	N (R)	P (R)	-	-	-
6	P (R)	P (L)	N (L)	N (R)	P (R)	P (L)	-	-
7	P (R)	P (L)	P (L)	N (R)	P (R)	P (L)	P (L)	-
8	P (R)	P (L)	P (L)	P (R)	P (R)	P (L)	P (L)	P (R)

Note that 5-8 channel mode does NOT mean how many tracks there are. You must also select 5 - 8 tracks in the Block Properties window (although a requester will now automatically do this for you).

For best results, you shouldn't use more channels than you need. If, for example, your song doesn't use more than six tracks at once, you should select 6 channel mode instead of 7 or 8 channel mode. This gives you two non-paired (i.e. high quality) tracks to play with.

If you load additional samples while in 5-8 channel mode, OctaMED usually halves them automatically. However, if you'd like to load non-halved samples for use on non-paired channels, you can override automatic halving. To do so, *NSS* switch Instr menu -> Halve Loaded Samples off.

Volume limitations

Because there are only 4 sound channels and 4 volume registers, paired channels must each share a volume register: tracks 0 and 4, 1 and 5, 2 and 6, and 3 and 7. This means that all volume-changing player commands (05, 06, 0C, 0D, 1A and 1B) affect two tracks. For example:

```
      Track:        0         1         2         3         4
             000 C-1 30000 E-1 30000 G-1 30000 --- 00000 A#2 50C20
```

The 0C20 command on track 4 affects both tracks 4 and 0. Instrument default volume is ignored for this reason (it could cause a bit of havoc ;-).

1.103 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
MIDI message editor
,
player commands
and the
and the
synth editor
. So they’re quite important in OctaMED (and also in general computing).

In the usual decimal system, a digit can be ten different values: 0, 1, 2, 3, 4, 5, 6, 7, 8 and 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 and 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 $\times$ 10 = 100 different values. The hex system, however, can represent 16 $\times$ 16 = 256 values: over twice the amount of the decimal system. (The lowest number is 00 = zero, and the highest number 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) $\times$ 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.

For example:

Hex 8A -> decimal:

Hex digit 1 = 8, hex digit 2 = A (10).

Decimal number = (8 $\times$ 16) + 10 = * 106 *.

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 commands 03 and 13
(set pitchbender) and

command 15
(set finetune).

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. For example:

Decimal -67 -> signed hex:

-67 + 256 = 189.

189 $\div$ 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!

1.104 The File Requester

The file requester is used to handle and select files. OctaMED supports the system-standard ASL file requester (please refer to your Amiga's manual for information). You may also use, ON A COPY, file requesters that automatically replace the ASL file requester: the Magic File Requester for example.

NSS OctaMED now also supports the ReqTools file requester. You must have reqtools.library in either the current directory or LIBS:. Select

Misc Options -> Use Reqtools

to use it.

OctaMED has two special features in all operations involving saving. Firstly, an "Overwrite?" requester appears if the file OctaMED is trying to save has the same name as another file in the directory. Secondly, you can't double-click on a filename like you can when loading: you need to use the "Ok" gadget instead. These two features go some way to prevent accidental file deletion.

1.105 The Settings File

The settings file is saved by choosing Settings menu -> Save Settings.

The following options are saved (values in brackets are default):

1. Instr menu:

   - Automatic Flush (OFF)
   - Add Path (OFF)
   - Remove Path (OFF)

2. Note killing options in the MIDI menu

3. Settings menu:

NSS - Play After Loading (OFF)
- Auto-Freeze Screen (OFF)
NSS - Auto-Snapshot (ON)

4. Save Options window:

   - Save Secondary Data (ON)
   - Create Icons (ON)
NSS - PowerPacker Settings: Buffer (MEDIUM), Efficency (GOOD)

```
*NSS* - The XPK compressor used (THE FIRST ONE DISPLAYED IN XPK SETTINGS)

  5. The
                Save Timer
                 value (0), and *NSS* Open Save Window (ON)

  6.
                Tempo window
                : Slow HQ (OFF)

  7.
                Tempo Operations
                :

*NSS* - Change Commands (OFF)
*NSS* - Set Current Tempo as Default:  TEMPO / TPL / LPB / SPD or BPM
                                      ( 33      6     8       SPD    )

  8.
                Sample Editor
                :

      - Check Clip (OFF) and *NSS* Max Clip (0%) (
                Change Volume window
                )
      - Pitch period (428)
*NSS* - Pitch In Hz (OFF)
      - Sampler Voice Monitor (OFF)
*NSS* - Create Icons For Samples (ON)
      - Pixel display (OFF)
      - Pixel Density (2)
*NSS* - Minimum Zoom (1)
*NSS* - Fast Graphics (ON)
*NSS* - Center Zoom Slide on Range (OFF)

  9. *NSS* The "Level Display Active" gadget in the
                Toccata Capture window
                 10. The "Auto-Terminate Capture" gadget in the
                MIDI message editor
                 (ON)

 11. The "Follow" gadget in the
                Playing Sequence window
                 (OFF)

 12. *NSS* The "Show Unused" gadget in the
                Block List window
                 13.
                Mouse Options window
                :

      - Left Button (SELECT RANGE)
      - Middle Button (NO OPERATION)
      - Right Button (NO OPERATION)

 14.
                Keyboard Options window
```

```
                :

      - Advance Line (DOWN)
      - Advance Track (DON'T ADVANCE)
      - Advance Cursor (DON'T ADVANCE)
      - Space Value (2)
      - Chord Reset (ON)
      - Advance with sound (OFF)
*NSS* - Poly Play (OFF)
      - Destructive Spacing (ON)
      - Auto-Round Spacing (ON)
*NSS* - F6-F10 = Highlights

 15.
                Palette window
                :

      - Palette Type (8-Bit)

 16.
                Miscellaneous Options window
                :

*NSS* - Close Workbench (OFF)
*NSS* - Overwrite Requesters (ON)
*NSS* - Warn if Disk Full (OFF)
*NSS* - Size-Only Window Zoom (ON)
*NSS* - Use Reqtools (OFF)
*NSS* - Load Instr from MainCtrl (ON)
      - H -> B (ON)

*NSS* - Default Volume Mode (DECIMAL)
*NSS* - Gadget Shortcut Qual (LEFT ALT)
*NSS* - Default HQ Mode (OFF)
*NSS* - Default Slow HQ (OFF)
*NSS* - Help Viewer (AMIGAGUIDE)

 17.
                Aura Sampler Options window
                :

*NSS* - Minimum Period (248)
      - Active (OFF)
      - Single Channel Output (OFF)
*NSS* - Fixed Output Rate (OFF)

Three additional settings are saved: (*NSS* except for 'a')

  a) The current window positions (both zoomed and unzoomed) if you have
     moved them from their usual positions.

  b) Any windows that are open when settings are saved. They will be
     re-opened when the program is re-loaded.

  c)
                Fonts
                '
```

screen mode
and
color palette
. These are NOT saved, however, if
they have been set to default (Default check boxes for fonts, Like WB
switch for screen mode, and WB Palette check box for color palette).

The default settings file name is "PROGDIR:Soundstudio.config".

Please remember that you cannot "save" to this CD and therefore when you
open a window to save a mod, (or anything else), that the pathfile shown
is that of the CD and you "must" therefore alter this to your hd path or
floppy prior to attempting a save.