

OctaMED

COLLABORATORS

	<i>TITLE :</i> OctaMED	
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>
WRITTEN BY		June 8, 2025
		<i>SIGNATURE</i>

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Chapter 1

OctaMED

1.1 Help Contents (revision 1.51 for OctaMED V6. demo)

(NOTE1: This help system assumes that you've read the printed instructions!)

(NOTE2: This is a *very* shortened guide version for the non-save Demo)

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

Menus
Windows
Main screen

Player commands
Keyboard shortcuts
Special purpose topics

Commodore-Amiga Copyright

* 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.

+ For more detailed information on using this help file, press the "Help" key.

1.2 Commodore-Amiga Copyright notice

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1.3 OctaMED Menus

The OctaMED menu bar contains the following menus:

Project	Display	Song	Block	Track
Instr	Edit	MIDI	Settings	

1.4 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.

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 *NEW*	Opens a Shell-like window for entering OctaMED's ARexx commands. Close the window by typing "bye", by pressing Ctrl-\ or by clicking the close gadget as usual. (See %% for more ARexx information).
Audio Channels *NEW*	Switch this off to temporarily free the audio channels. 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).
Quit OctaMED	Quits the program. Will display a confirmation requester if the current project has been changed since last saving.

1.5 The Display Menu

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

1.6 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(]

- 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.
- > *NEW* 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/Buf Swaps the contents of the current block with the contents of the copy buffer.
- [Keyboard shortcut: Shift-Alt-Z]
- 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]

1.8 The Track Menu

> *NEW* 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/Buf Swaps the contents of the current track with the contents of
the copy buffer.

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]

1.9 The Instr Menu

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

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

Type Opens the Instrument Type window.

[Keyboard shortcut: Left Alt-T 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
NEW 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.

1.10 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).

> *NEW* 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]

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.

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.

[Keyboard shortcut: Shift-Ctrl-O]

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

1.11 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.

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 tell OctaMED

whether all required MIDI leads are properly connected.

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).

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.

(Also see the MIDI Message Editor)

1.12 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 edit OctaMED's keyboard shortcuts.
NEW
- Screen Allows you to change OctaMED's screen mode. In the sub-menu, *NEW* "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 three different areas.
NEW
- 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.
NEW
- Aura Sampler Opens the Aura Sampler Options window, which contains controls for the Aura 16-bit soundcard.
- 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 memory. Normally OctaMED remembers any changes you make to window positions automatically, but Auto-Snapshot switches this off if needs be.
NEW
- 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:OctaMEDPro.config".
- Save Settings Saves the current settings under the name "PROGDIR:OctaMEDPro.config". OctaMED will attempt to load
-

a file of this name on startup.

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.

1.13 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 -----
	Instrument Parameters
Display menu -----	Instrument Type
Main Control	Instrument Load Window
Information	
Tempo	Edit menu -----
Tempo Operations	Transpose
Synthetic Sound Editor	Spread Notes
Synthsound Volume	Note Echo
Synthsound Stretch	
SynthEd Program	MIDI menu -----
Sample Editor	Input Channel
Toccata Capture	
Adjust Y	Settings menu -----
Add Workspace	Mouse Options
Change Volume	Keyboard Options
Change Pitch	Programmable Keys
Mix	Keyboard Shortcuts
Filter/Boost	Palette Window
Echo	Font
Noise	Miscellaneous Options
Chord Creation	Aura Sampler Options
Display Settings	
Sample List Editor	
MIDI Message Editor	
Input Map Editor	
Song menu -----	
Song Selector	
Playing Sequence	
Section List	
Song Options	
Relative Track Volumes	
Song Annotation	

1.14 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. |

1.15 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 cassette image (designed by Izrael Similä of Iz Productions, thanks!). The default tool is written as "OctaMEDPlayer". |
| Save Instruments | 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. |
- (only applies to MMD2 and MMD1 modules)
- 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 *NEW* command pages. If the song requires either 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 *NEW* The Standard MIDI File type 0 format. Use this to LOAD/SAVE MIDI files.

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.

NEW In V6, all MMD formats now support text file annotation and instrument output devices. MMD2 and MMD1 support command pages.

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

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 should choose the MMD0 format, since it produces a smaller file than either MMD1 or MMD2.

NEW Save as Executable. (no need to add a player to your music disks)

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 One of the XPk libraries is used. Requires
NEW xpkmaster.library and at least one of XPk's libraries in
LIBS:Compressors. SQSH.library is particularly well
suited to modules.

NEW "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.

NEW "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

1.16 The PowerPacker Settings Window *NEW*

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.

1.17 The XPK Settings Window *NEW*

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)

1.18 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 *NEW* switching "Active" on enables the save timer. Typing in 0 or turning Active off disables it (the default).

NEW 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.

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

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

In V6 you can only print the song as text (the format of the Tracker editor): because the notation editor has been removed (temporarily) in this version, graphics printing has also been removed.

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.

1.20 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, see §8.1 of the printed manual).

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 to V6: the TPL slider is now in DECIMAL!! Even the programmer can't remember why it was in hexadecimal in the first place ;-)

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.

NEW "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.

NEW "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.

1.21 The Tempo Operations Window *NEW*

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 V6, 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.

1.22 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 *NEW*	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)

1.23 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.

1.24 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.

1.25 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 controlling 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!

*** If you'd like to examine some example synthsounds, load the SynthSong song from OctaMED V6 disk %, and open the Synthetic Sound Editor.

1.26 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
```

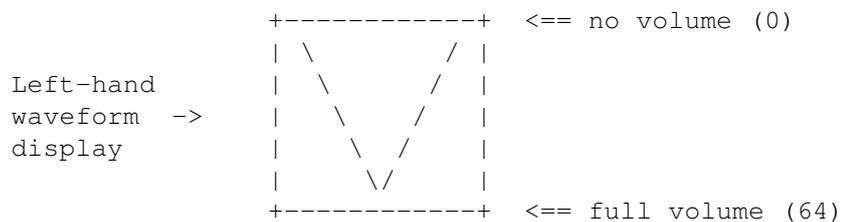
5) Command: EN1 Keypress: E Name: Once-only volume shape

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

```

1.27 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.

NEW 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. **NEW** 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. *NEW* There is now no maximum buffer size, but Amiga samples should be no longer than 131072 bytes to play properly. (Aura and Toccata 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.

NEW 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 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 or Toccata cards, you need to set the sample type to 16-bit and select Aura or Toccata 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 period, and the raised box shows the note equivalent to this period value. The default is 428 (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.

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. *NEW* 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").

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

Erase To Start *NEW* / 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 *NEW* Opens the Adjust Y window.

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

Tools

Play Buffer Plays the
