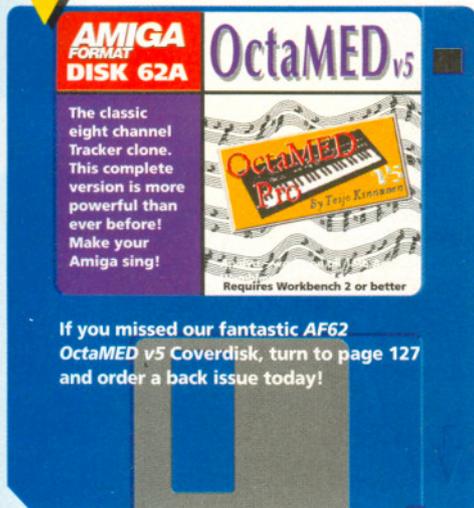


# OCTAMED



Ed Wiles takes you through the first steps with our super Coverdisk music composer, *OctaMED Pro 5*.

Welcome to the first installment of *Amiga Format's OctaMED tutorial* which has been expertly penned by Ed Wiles, possibly one of the county's leading *OctaMED* authorities and author of the *OctaMED* manual. Over the next few months Ed will be leading you through a series of tutorials designed to teach you the fundamentals of composing music with this powerful music tool. Even if you don't have any musical talent, don't worry – as you'll discover over the coming months, writing great tunes with *OctaMED* is easier than you might think.

If you've never used a program like *OctaMED* before, then it may appear more than a little unusual and perhaps even a bit daunting.

*OctaMED*, like most Amiga module editors, uses an editing system similar to that used by professional drum machines. Instead of composing music in a linear fashion (from start to finish), *OctaMED* tunes are built up of patterns (or Blocks as they should be called). A pattern is essentially a short section of music of a fixed length that forms the building Blocks of a song. The great advantage of this approach is that the same block can be used over and over again within the same tune, saving time and making the task of remixing tunes very easy indeed.

Anyway, without further ado, let's dive in at the deep end by writing our own *Amiga Format* tune. Have fun!

**1** You've probably already experimented with the demo tunes included with the *AF62 OctaMED* Coverdisk, but now it's time to make your own music. Our Coverdisk version of *OctaMED 5* doesn't have any sound samples and so we'll have to use the instruments used in the demonstration tune *Fairlight* in the MODS drawer.

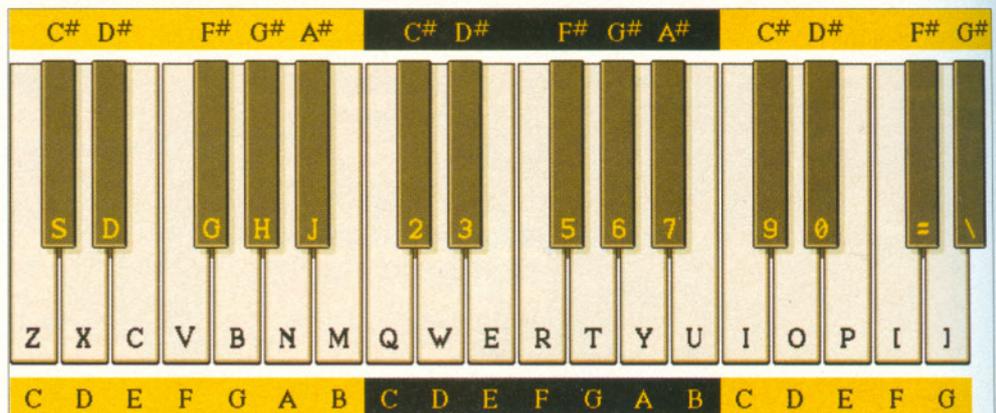
Start by loading *Fairlight* into *OctaMED* by selecting the Open option from the Project menu. Once the tune has loaded, you need to clear the song data, but keep the samples in memory. To do this, select New from the Project menu and a requester pops up on to screen asking you if you wish to Clear All or just Clear Current. Click on Clear Current and you can begin.

**2** The Amiga plays music using four stereo sound channels, each of which can play one instrument at a time. The four columns in the Tracker Editor, known as tracks, correspond to these sound channels and you compose music by entering notes on these tracks.

Press Shift+right until you reach instrument 04 and switch on Edit Mode by clicking on the Edit check box (upper screen, bottom left). Playing notes using the keyboard enters the notes in the Tracker Editor. Now press the P key once. Note E is played on the Bass Drum using octave 3.

**3** Now select instrument 05, then move down to line 004 using <down> and press the I key (note C-3). Select instrument 04 again, move to line 008 and press P. Select instrument 05, move to line 012 and press I. Continue entering these notes every fourth line to the end of the Block (the last note will be on line 060). If you make a mistake, simply move the cursor over the offending note and press the Del key. Use Play Block and Stop to listen to the Block.

Hey DJ! Where's the bass? The first track in our *OctaMED* tune holds the bassline.



**4** Let's add some hi-hats. Return to line 000 then move across to the next track using Alt+right. Select instrument 06, then turn Space Mode on (space box, upper screen, bottom left). Enter hi-hats every second line using the O key – Space Mode skips every second line for you. Play and stop the Block when you've finished. (Keep Space Mode on for now).

OctaMED Professional V5.01b - Song: <unnamed>

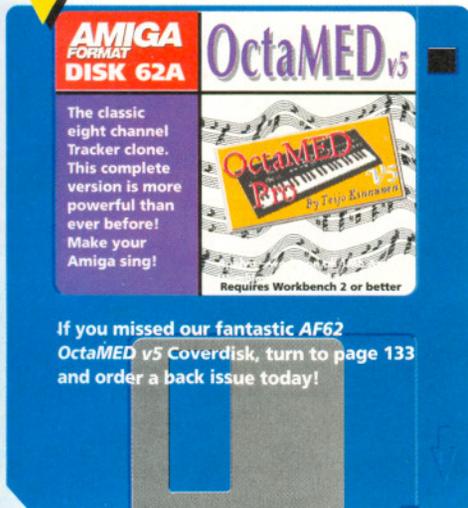
Play Song	Cont Song	04	FlickBass (soft)	6560	<<Type...
Play Block	Cont Block	4Ch	Inst Params...	Edit Sample...	Edit SynthS...
D	STOP	00:07	R	SPD 033	06
Sg	01/01	Sg	001/001	B	001/001
✓ Edit	✓ Space	Chord	On/Off	0 1 2 3 4 5 6 7 8 9 R B C D	< > Set Ctr

000	4	C-2	1	00000	D-3	3	00000	R-2	4	00000	---	000000
001	---	---	0	00000	---	0	00000	---	0	00000	---	000000
002	---	---	0	00000	D-3	3	00000	---	0	00000	---	000000
003	---	---	0	00000	---	0	00000	---	0	00000	---	000000
004	C-3	2	00000	D-3	3	00000	---	0	00000	---	000000	
005	---	---	0	00000	---	0	00000	---	0	00000	---	000000
006	---	---	0	00000	D-3	3	00000	G#2	4	00000	---	000000
007	---	---	0	00000	---	0	00000	---	0	00000	---	000000
008	C-2	1	00000	D-3	3	00000	---	F#2	4	00000	---	000000
009	---	---	0	00000	---	0	00000	---	0	00000	---	000000
010	---	---	0	00000	D-3	3	00000	---	0	00000	---	000000
011	---	---	0	00000	---	0	00000	---	0	00000	---	000000
012	C-3	2	00000	D-3	3	00000	---	---	0	00000	---	000000
013	---	---	0	00000	---	0	00000	---	0	00000	---	000000

Chip: 000030464 Fast: 0000327008 - Stopped - Freeze Display



# OCTAMED



Ed Wiles shows you how to build your *OctaMED* tune using the sample on this month's *AF* Coverdisk.

## THE SAMPLE LIST

**1** Load the song we created last month (you did save it, didn't you?). Load *OctaMED*, then select Project menu -> Open. Insert the disk containing last month's song into any drive, click Volumes in the file requester and click on the name of your disk. Now double-click on your saved song. Play the song through when it's loaded.

**2** Select Display Menu -> Sample List Editor. The Sample List is a list of all the instruments you have in your collection. Samples are the most popular type of instrument that *OctaMED* uses - they are sounds from real life, often created by feeding the sound into the Amiga from a sound source such as a tape recorder. All the instruments we'll ever use are samples.

Notice that the Sample List Editor is split into two lists - a list of your sample directories, and a list of the samples contained in those directories. The instruments currently shown aren't in our collection, so first of all we'll remove all the directories from the list. Find the Remove Dir button (which you will find below the Directories List), and repeatedly click on it until all the directories disappear.

**3** We have one sample on this month's Coverdisk. Let's add it to the Sample List. Click on Add Dir (beside RemoveDir), then insert your *Pixel 3D Professional* Coverdisk into the Amiga's internal disk drive. Notice that no files are shown - this is in fact a directory requester. Click on the directory labelled *OctaMED*.

Click on OK to add the directory to the sample list. Note that the instruments themselves are not loaded, only their names and in which disk and directory they're stored. Examine the Instruments List; all the files are instruments, except *FunkyFifth.MOD* and *MadeEarlier.MOD*. So click on

**L**ast month we looked at basic song construction using *OctaMED v5*, and created a simple song in the process.

This month we'll add to the tune we created, and examine an easy way of organising and loading the instruments.

*FunkyFifth.MOD* and click Remove (below the list) to delete it from the list. Once this is done, remove *MadeEarlier.MOD* using the same technique.

**4** Now let's save the list. Replace the *OctaMED* program disk in any drive, then click Save List (far right) and click OK in the requester.

**5** Time to see what use this list has. Let's replace instrument 02 in our song with a different snare drum sample. Select instrument 02 (Shift-<right>), remember from last month?) and play it using the keyboard. Now click on Snare\_Drum.u20 in the Instruments List, and click Load Inst (at the bottom - insert the Coverdisk if asked). Play this new snare drum sample.

**6** Now to load the other samples needed for the next part of the song. Close the Sample List Editor (use the Close gadget or Exit button), then click on the small button immediately to the right of 02 (upper screen, top row). This Instrument LoadWindow is a simpler version of the Sample List Editor, designed for instrument loading, surprisingly.

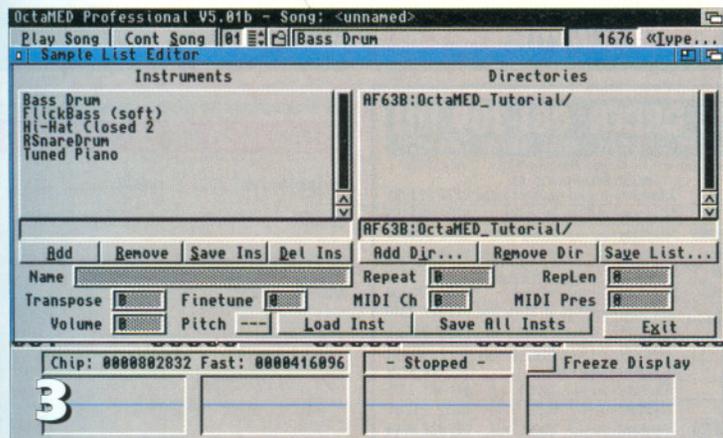
Select instrument 06 using Shift-<right> (it should be empty), then click on the AF65A directory in the list. Now load Hi-Hat Open1 by clicking on it. Select instrument 07, then load Guitar Solo. Load Chorus (major) into instrument 08, Chorus (minor) into 09, and Chorus (sus 4) into 0A. Close the window when you've loaded and played each instrument.

**7** We're now going to add another part to the song. There will be a different drum beat followed by a guitar solo. Add a new block by selecting Block menu -> New -> Append. Up until now we've used blocks 64 lines long, but we'll make this new block 32 lines. Move to it using Shift-<down>, then select Block menu -> Set Properties. Click inside the Length box, delete the 64 then type 32 and press Return.

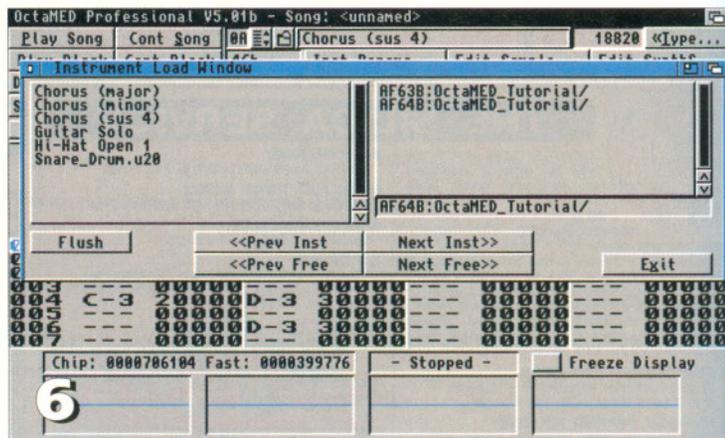
Close the window when you've finished, then use the <down> key to check that the block is indeed 32 lines long (the block should also be empty).

**8** We are almost ready to enter the new drum beat, but first we'll look at another feature. *OctaMED*'s Default Pitch function allows you to set a standard note for each instrument. For example, last month we always entered instrument 01 (Bass Drum) with note C-2 (the Q key), so this could be called the standard note for this instrument. You can then enter the instrument using its standard note - or Default Pitch - by pressing the F key. So we'll set Default Pitches for all the percussion instruments: 01, 02, 03 and 06.

Click on Inst Params (upper screen, middle of second row). Select instrument 01 using Shift-<left>, then in the Instrument Parameters window find the Pitch Box showing - to the right of Default Pitch (bottom left). Hold down the left mouse button on it and press the Q key, then release the mouse button. Default Pitch C-2 is now set for this instrument.



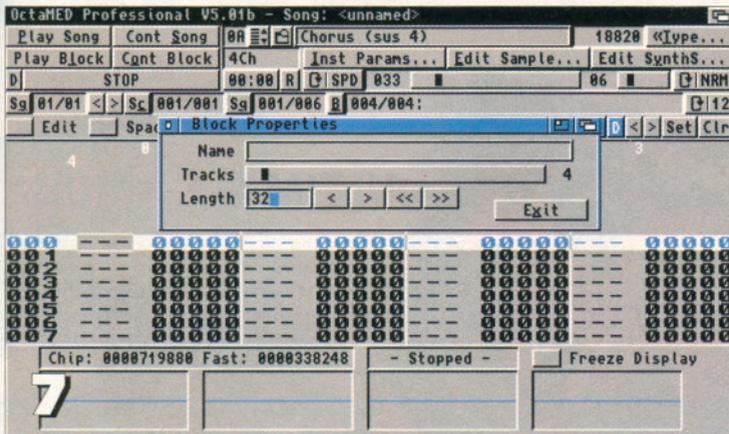
Simply point the *OctaMED 5* Sample List Editor at the directory which holds your samples and you'll be able to access them in an instant.



Once you've told *OctaMED* where your samples can be found, it automatically looks in that directory whenever you load a song.

# TUTORIAL

**NEXT MONTH**  
HOW TO USE SOME OF  
OCTAMED'S SPECIAL EFFECTS



By default, all OctaMED blocks are 64 notes long but the Block Properties requester allows you to adjust this in either direction.

**9** Select instrument 02, then set this instrument's default pitch to C-3 (using the I key on the Pitch Box). Set instrument 03's pitch to D-3 (using the O key), and instrument 06's to E-3 (using P). Close the window.

**10** At last we can enter the new drum beat. Make sure the cursor is on line 000 of track 0, then turn on Edit Mode (Edit Check Box, upper screen) and select instrument 01. Press the F key once. The bass drum instrument is entered at its default pitch C-2. Now press <down> once, select instrument 03, and press the F key three times. After this, enter the following instruments at their Default Pitch (using F), pressing the <down> key where indicated: <down> 02 <down> 03 <down> 01 <down> 02 <down> 06.

**11** Repeat the whole of step 10, this time starting from line 016 of track 0. The last note should be entered on line 030. Play the block through when you've finished.

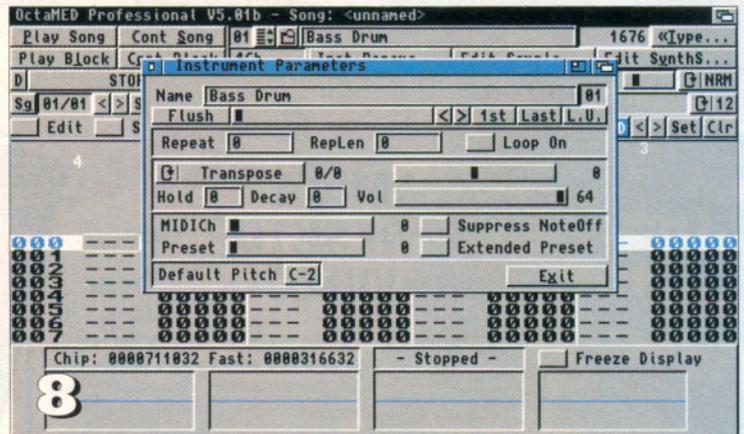
**12** Well, to save you the drudgery of entering the rest of the song, we're going to cheat here in true here's one we made earlier style. The rest of the song is actually on this month's Coverdisk, so let's load it in. Select Project menu -> Open, and click Continue in the requester. Insert this month's disk in any drive, then click Volumes and AF65A, click OctaMED and double-click MadeEarlier.MOD. Play the song when it has loaded.

**13** Yes, the guitar solo is tacky (in fact it's blatantly contrived to fit next month's tutorial), and the bass line's ripped off from the Muppet Babies, and the song's tempo - playing speed - is painfully slow. So let's speed up the song.

Find the Primary Tempo slider (upper screen, the longer of the two sliders in the fourth row). Now click Play Song, and very gradually drag the



That's the first track complete. Just three tracks to go and you'll be strutting out funky stuff in no time!



If your samples aren't quite in tune then the Instrument Parameters requester provides a host of tools for fine tuning samples.

slider to the right until you find a better speed. I reckon 043 is a decent tempo. You'll find that the slider often increases in steps of 2. To select the intermediate values, click inside the slider's box but not directly on the black knob. When you're happy, stop the song.

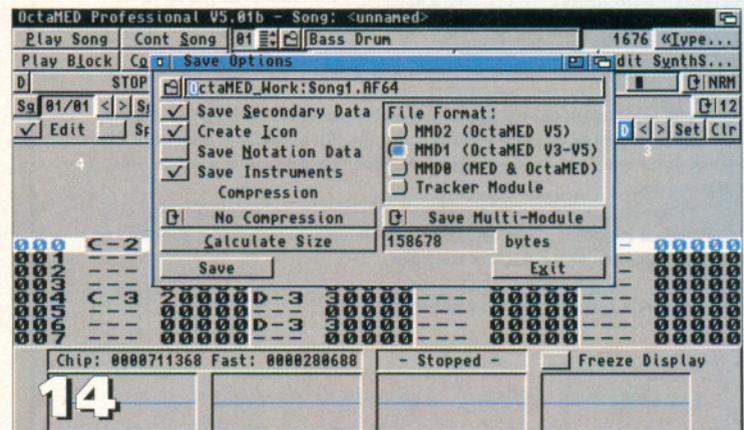
**14** Finally we'll save our modified song. Last month we saved the song together with its instruments. Now that we've created a sample list, we can save the song without its instruments. Insert your disk containing last month's song in any drive, then click on Volumes and on the name of your disk. Now delete the MadeEarlier.MOD in the text box then type Song1.AF65 and press Return. Switch off Save Instruments and click on the Save button (bottom left).

## ALSO IN THE SAMPLE LIST EDITOR

Select an instrument or directory by clicking on its name in the list. The six numeric boxes and Pitch Box show the selected instrument's default settings, or parameters. These parameters are assigned to the instrument when it's loaded, and affect various properties of the instrument.

The properties can be adjusted in the Instrument Parameters window; you may recognise the Default Pitch setting from steps 8 and 9. The Save All Insts button saves all the instruments in the song. This is handy for extracting all the samples from other people's songs for use in your own.

The Add button adds the current instrument to the selected directory. Save Insts is like Add except it also saves the instrument to disk. Del Insts is like Remove except it also deletes the instrument from disk - be careful! There's also a small menu attached to the window: hold down the right mouse button and you can load a new sample list or display some statistics about the current list.



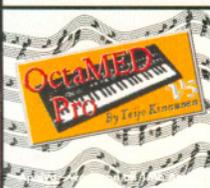
OctaMED happily loads and saves modules in a variety of different file formats including three of its own. Standard SoundTracker modules are also supported.

# Part 3

AF62A

OctaMED v5

Classic channel maker clone. This complete version is more powerful than ever before! Make your Amiga sing!



Requires Workbench 2 or better

If you missed our fantastic AF62 OctaMED v5 Coverdisk, turn to page 134 and order a back issue today!

# Octamed

Ed Wiles shows you some interesting special effects using AF62's music composer Coverdisk.

So far we've ignored the 0000 that appears to the right of the note names in the Tracker editor. Well, these four digits are collectively known as the command digits. By altering them, you can add special effects to the notes, and ask *OctaMED* to perform certain actions. These effects and actions are called player commands.

command type

A typical note ==> C-2 1 0 0 0

command level

The command type is the sort of effect or action, and the command level allows you to control the effect or action's intensity, depth and speed (depending on the sort of command).

Both pairs of digits are expressed in hexadecimal (or hex for short). So we're going to have to do some decimal to hex conversion, which is much easier than it sounds. Just divide the decimal number by 16; the quotient is the first hex digit, the remainder is the second digit. For example: decimal 200 to hex: 200/16 = 12 remainder 8.

Hex digit 1 is C (12), hex digit 2 is 8. So 200 in hex is C8. Remember that decimal values 10-15 are represented by hex numbers A-F, and you'll be fine.

1 As always we'll first load the song we created last month. Load *OctaMED*, then select Project menu -> Open. Insert the disk containing the song into any drive, click Volumes in the file requester and click on the name of your disk. Now double-click Song1.AF64. Play the song through when it's loaded.

2 We're now going to add a player command to the bass line (in blocks 005-010): on lines 048 and 052, we'll enter a stop note playing command (0FFF) to make the bass line a bit snappier (you'll understand when you hear it!). First switch Edit mode on, then select block 005 and move to track 2 line 048. Move the cursor on to the second command type digit by pressing <right> three times, and press F. Move to the next digit by pressing <up> then <right>, press F again, press <up> then <right>, and finally again press F. Track 2 line 048 should now show — 00FFF. This means that on line 048, the note currently being played on track 2 will be stopped (or cut).

3 Play the block. If you listen carefully, you'll hear the bass line cut briefly at line 048. But it's quite hard to hear because of the chorus in track 1. So we'll learn an easy way of temporarily switching off track 1. Keeping the block playing, find the row of blue track selection gadgets (upper screen, bottom row) and click on number 1 to switch off track 1. You should hear the cut at line 048 more clearly now.

4 Stop the block playing, then add another player command 0FFF on track 2 line 052 (see step 2 above). Now play the block, and see if you can hear the new cut. Keeping the block playing, switch track 1 back on by clicking the grey track 1 button (upper screen, bottom row).

Now we'll copy and paste this altered bass line track to blocks 006-009. Stop the block, then copy track 2 into the copy buffer using Track menu -> Copy. (Nothing will happen on the screen, so don't worry). Select block 006 (Shift-<down>), and paste the track using Track menu -> Paste. Now paste the track into blocks 007-009 in the same way (NOT block 010!).

5 We'll now add command type 04 - vibrato - to one of the guitar solo notes. Move to block 007 track 3 line 006, and add command 0452 to this note (see step 2). To keep the vibrato going throughout some of the lines following 006, we have to enter the vibrato command with command level 00 (command 0400). So enter command 0400 on lines 007 - 023. Now play the block to hear the vibrato.

What does the 52 in the 0452 command mean? Well, 5 is the vibrato speed and 2 is the vibrato depth. Try changing the 5 and 2 to different values (remember that values 0-9 and A-F are allowed) and playing the block to hear the effect. Change the command back to 0452 when you've had enough.

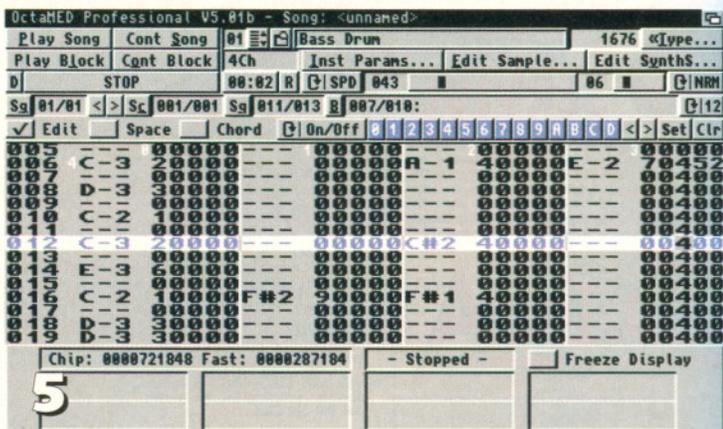
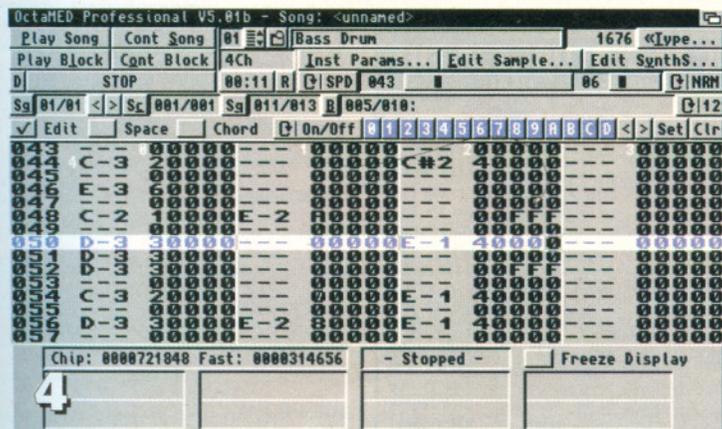
6 Right, next we're going to use command types 01, 02 and 03, which all create different types of pitch slide. *OctaMED* provides a quick way to enter these commands in the Pitch Slide menu item. To use the Pitch Slide function, you have to:

1. Enter the notes that the pitch is to slide from and to.
2. Position the cursor where the pitch slide is to begin.

7 Move to block 008 track 3 line 016, select instrument 07, and enter note D-2 (the W key). Slide down from E-2 (line 006) to D-2 (line 016) and back up to E-2 (line 024). The slides begin on lines 012 and 020 respectively.

Move to line 012 of track 3 and choose Edit menu -> Pitch Slide -> Type 1 (notice the new 03 commands). Now move to line 020 and choose Pitch Slide -> Type 1 again. Play and stop the block to hear the sliding effect.

8 You may have noticed from the Pitch Slide sub-menu that there are two different types of pitch slide. We'll now find out what the difference between them is. Move to block 009 track 3, and create a type 2 pitch slide between lines 000 and 004, starting at line 002, by moving the cursor to line



# OctaMED

Ed Wiles explores how you can use the OctaMED Sample Editor to add all sorts of effects to your tunes.

Classic channel tracker clone. This complete version is more powerful than ever before! Make your Amiga sing!



If you missed our fantastic AF62 OctaMED v5 Coverdisk, turn to page 158 NOW and order a back issue!

Last month we looked at how you can add effects to your music by using the player commands, now we're going to play around with vocal effects by delving into the OctaMED Sample Editor.

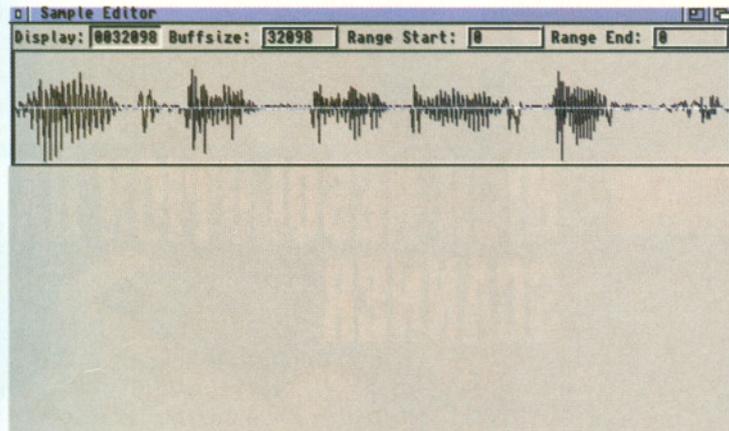
**1** Load in a sample, play it when it's loaded and then click on Edit Sample (upper screen, second row) to open the Sample Editor. The squiggly black line in this window is the sample's waveform, which is a graphic representation of the sample. The Sample Editor is used to change the whole or part of the waveform, which can involve copying sections of the waveform to other places in the sample, changing the volume or pitch of the waveform, creating echo effects, and much more. The white line across the centre of the waveform marks zero volume. The further away from the white line a point on the waveform is, the louder the point's volume.

**2** Press the I key to play the sample in note C-3. Now, listening carefully, press the following keys to play the sample at different pitches: P T B Q]. Notice that the higher the pitch, the quicker the sample is played. So pitches are created by playing the sample at different speeds. If you look at the screen

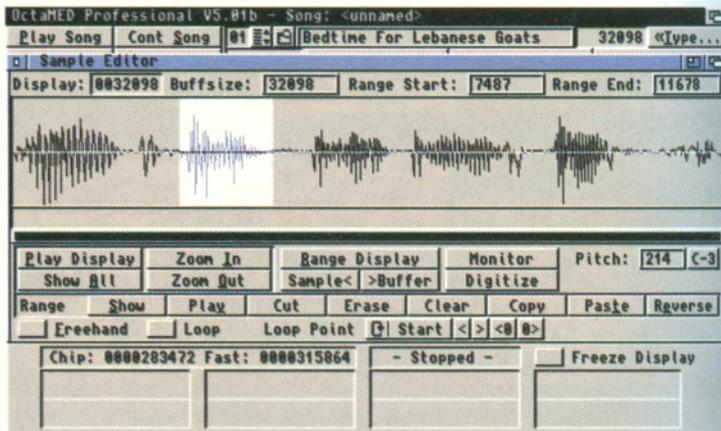
shot below left, you'll notice that the waveform contains seven separate waveform parts (distinct squiggles). Each of these waveform parts represents a separate part of speech. Obviously the waveform display will be different for your sample but the principles are the same.

**3** To mark a range over a section of sample, drag the mouse (using the left mouse button) from the start to the end of the section of sample. It should now be highlighted in white. The Range Start and Range End numeric boxes (at the top right of the window) show the actual byte positions of the start and end of the range. Find the Pitch gadgets (these are directly below the waveform on the far right of the display). To change the playing pitch from C-2 to C-3, hold down the left mouse button on the C-2 and press the I key. Release the mouse button. Now to play the marked range at the playing pitch (C-3), find the Play button (it's on the left of the third row of gadgets below the waveform). Try marking ranges over other parts of the waveform, and playing them at different pitches. You can play around with the sample by rearranging and deleting sections of waveform until the order of the words changes.

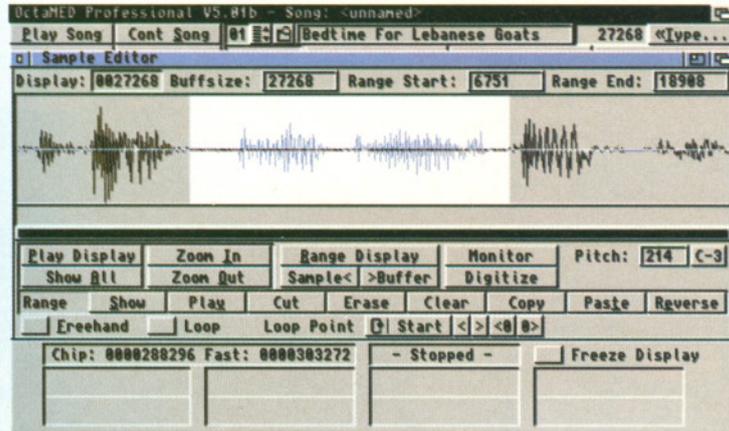
**4** One way to mark a range is to type its byte positions directly into the Range Start and End boxes. Click inside the Range Start box, delete its contents then type 0 and press Return. Now click inside the Range End box, delete its contents then type in a value to represent a given point in the sample and press Return (I'll leave it up to you to decide which value you enter). Hit the Play button to hear the results of your newly edited sample.



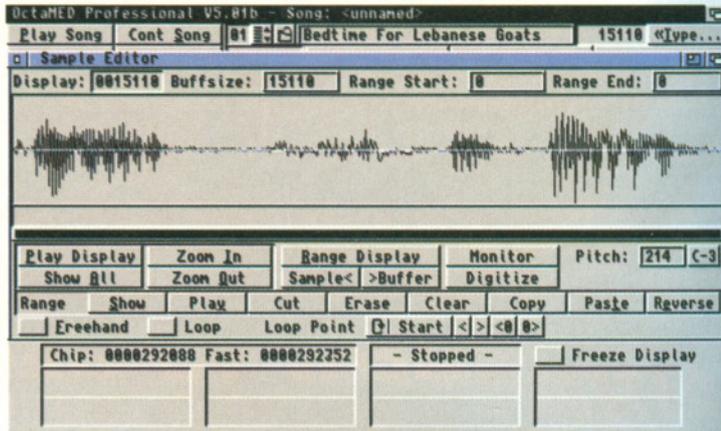
The OctaMED 5 Sample Editor provides all the tools you need to edit existing sampled instruments and you can even sample your own with a sampling cartridge.



In this example, we've highlighted a word in a vocal sample. Once highlighted, this word can be cut out and pasted to another section of the sample.



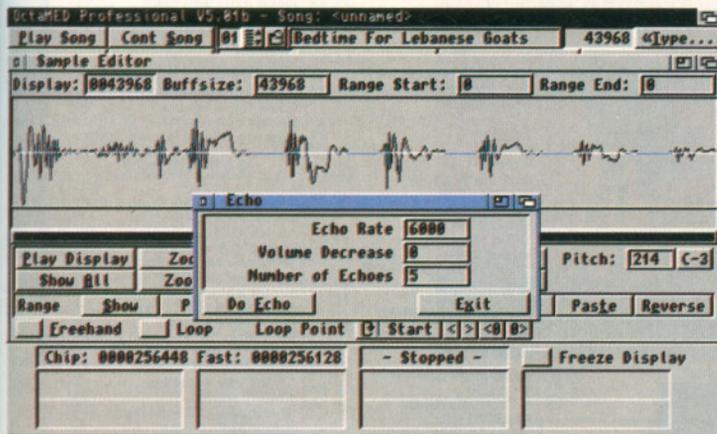
Marking a section of a sample tells OctaMED to concentrate all operations on the ranged data in that section.



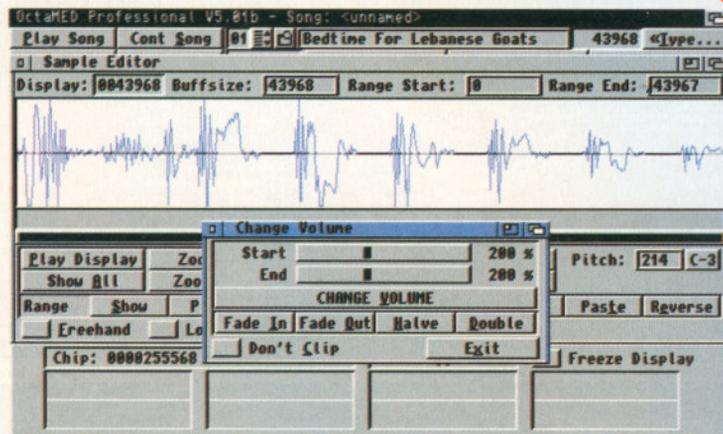
The words within a vocal sample such as this can easily be identified as each individual word is displayed as a series of peaks.

# Tutorial

**NEXT MONTH  
EVERYTHING YOU NEED  
TO KNOW ABOUT USING  
OCTAMED AND MIDI**



The Sample Editor provides a range of special effects which can be applied to your samples. In particular, the echo effect can be used to add reverb to a sample.



Zooming in on a sample displays a far higher level of detail, allowing you to edit it with greater precision.

## JUST LOOK AT THAT EFFECTS MENU

- **Change Pitch:** if the pitch is lowered, the sample becomes longer, and vice-versa.
- **Mix:** mixes the current sample (source) with the copy buffer (destination), storing the result in the current sample.
- **Filter/Boost:** filters (reduces noise) and boosts (brightens) the range. Averaging affects strength, crank Distance right up for some weird effects.
- **Create Noise:** adds noise to the range at the specified level.
- **Create Chord:** creates chords of two to four notes from the current sample. Specify the chord's notes by pressing the keys while holding the left mouse button on the pitch boxes.

**5** Next we'll remove a section of sample. Roughly mark a range over a section of sample. Now to accurately adjust the range's start, hold down the Shift key, hold down the left mouse button on anywhere to the left of the range (the grey area), then drag the mouse left or right and the Range Start display will change. To adjust the range's end: hold Shift, hold down the left mouse button on anywhere to the right of the range, then drag the mouse until you're happy with the Range End. Play this range by clicking Play, then delete it using Erase. Play the whole sample using the keyboard.

**6** To copy and paste a section of sample to the start of the sample we need to extend the range to the very end of the waveform: hold down Shift, then drag the mouse over the waveform to the very right of the screen. Now to cut the range to the Sample Editor's copy buffer, click Cut (beside Play). Set both Range Start and Range End to 0 by clicking inside each of them and pressing Ctrl-X, 0 and Return. Now paste the copy buffer at the Range Start position by clicking Paste. Click Show All to display the entire sample. Play the sample using the keyboard; it should sound very weird indeed.

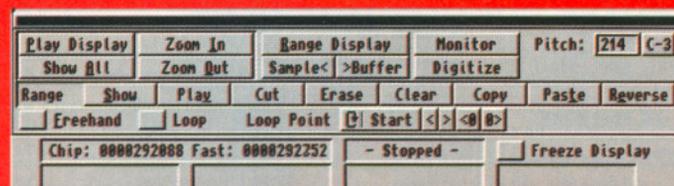
**7** Next we're going to try out one of OctaMED's special effects: echoing. We'll echo the end of a sample so that the sample slowly fades away. First we need to add some extra space to the end of the sample; this extra space will contain the echo. To increase the total sample size to, say, 70,000 bytes, activate the Buffsize numeric box (above the waveform), press Ctrl-X to clear it, then enter a value larger than the total sample size and press Return. Click Retain in the requester that appears. Notice the extra space that appears at the end of the waveform. Now change Range Start and Range End so the start position is about two thirds along the total length of the sample and the end position is at the very end of the sample (for echoing, you need to range both the echoed part and the extra space). Play the range using the Play button.

**8** Now open the Echo window by selecting Effects menu -> Echo. The meanings of the three numeric boxes should be fairly clear (don't worry about Volume Decrease). Change the Echo Rate from 400 to 6,000 in the

usual way (the actual definition of Echo Rate is the number of bytes between the start of each echo), and set Number of Echoes to 5. Now click Do Echo. When it's finished (it takes my A500 38 seconds), close the Echo window and play the sample. Notice that there is a lot of extra space after the final echo. We could range the extra space and click Erase to remove it, but there's an easier way: select Edit menu -> Remove Unused Space. Note that the sample size is now significantly less.

**9** Next we'll look at changing the sample's volume. Mark a range over the whole waveform by clicking Range Display (in the window's centre). Now take a 'snapshot' of the sample by clicking >Buffer. This copies the whole sample to the copy buffer; it can be retrieved later using the paste tool. AF

## AND THERE'S MORE



- Use Zoom In and Zoom Out to magnify and reduce the display. The display box shows how many bytes are currently being displayed. Use the black scroll bar or the <left> and <right> keys to move around the sample.
- Click Play Display to play the current display. When you've finished, click Show All to display the whole sample.
- Using Freehand you can modify the waveform by drawing with the mouse, just like DPaint. The display size is 628 bytes maximum, mind.
- Use Loop and the Loop Point gadgets to set a repeating section of the sample. Switch Loop on, then drag the black pointers using the mouse or use the <0> <0> buttons.
- If you have a sampler, Monitor and Digitize do your sampling for you.
- Reverse turns the range backwards. Now you can find out whether Queen's *Another One Bites The Dust* really does contain the word marijuana played backwards (trust me - it doesn't, it's a kind of maaaoooooooooannnaaa sound).
- Invert (Edit menu) turns the range upside-down. Practically useless.
- Chop (Edit menu) removes the whole sample except the part marked by the range.
- Play Buffer Contents (Edit menu) allows you to listen to what the copy buffer's saying.
- Discard Copy Buffer (Edit menu) tells the copy buffer to shut up.

Part 5

A62A

OctaMED v5

Classic channel mixer clone. This complete version is more powerful than ever before! Make your Amiga sing!



Requires Workbench 2 or better

If you missed our fantastic AF62 OctaMED v5 Coverdisk, turn to page 116 NOW and order a back issue!

In his final OctaMED tutorial, Ed Wiles demystifies the complexities of the Synthsound Editor.

# OctaMED

Synthetic sounds (or synthsounds) are a simpler, less memory-consuming alternative to samples, and heaven for those stalwarts addicted to squelchy C64-type sounds. Sadly, though, the sheer complexity of OctaMED's Synthsound Editor is more than enough to put off all but the bravest.

Well, you're going to be particularly brave this month! But first, a word about switching octaves. As you know, just over two octaves are available on the Amiga's keyboard. But samples can use three octaves, and synthsounds five. So to get at the higher octaves, use keys F1 to F5. F1 sets the lower octave (keys Z to M) to octave number 1, the middle octave (Q to U) to number 2; F2 sets the lower octave to 2, the middle octave to 3; and so on for F3 to F5.

The current octave numbers are shown in a cycle gadget (such as upper screen, fourth row, far right). Now on with the show...

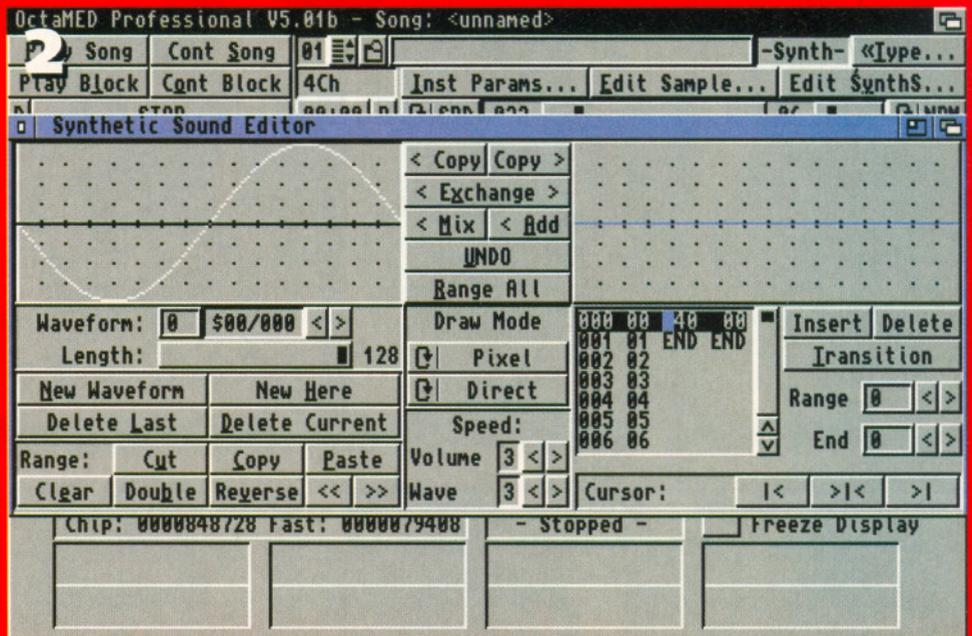
## STEP 1

Click Edit SynthS (top-right). Now you see why everyone avoids it. But be strong, and kick off by selecting Project menu -> New Synthsound.

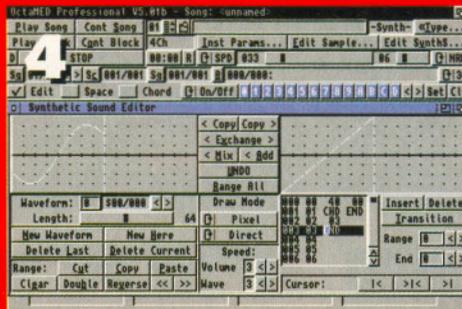
So just what does everything mean? Well, the two speckled boxes (both currently empty) are the waveform displays. The left-hand box is the real waveform, the other box is used as a copy buffer and a doodling area. Waveforms are just like blocks in a song: there can be more than one of them in a synthsound, and they can be strung together in any order using a playing sequence (the square area full of numbers). We'll stick to using just the one waveform for now.

## STEP 2

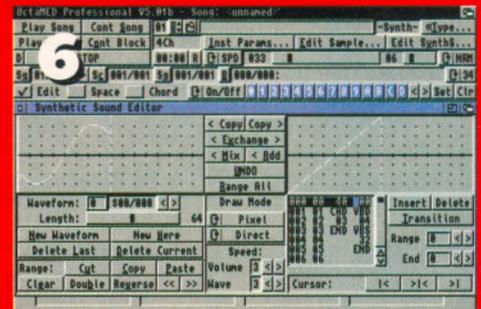
Click on the left-hand box, then fill it with a sine wave by selecting Presets menu -> Sine Wave. Set keyboard octaves 3 and 4 using the F3 key, then play the sound (use the space bar to stop it). Bit low? Halve the waveform's length by sliding the Length Slider from 128 to 64, then select Sine Wave again. The sound is now one octave higher.



The synthsound editor: a PC programmer's dream and everyone else's nightmare. Until now, of course.



Just add one volume fade...



...and a pinch of vibrato. What do you think, Delilah?

Now, keeping the synthsound playing, select the other five presets in turn (using the Presets menu). Then reselect the sine wave.

## STEP 3

Next we'll mix the sine wave with a ramp up wave. Copy the sine wave to the right-hand box using Copy > (top-middle): this sets the box's length to 64. Now click on the wave in the right-hand box, and select Presets menu -> Ramp Up. Finally, click < Mix and play the sound.

Right, time to embellish. The square area full of numbers is in fact home to a simple programming language, used to add volume changes, pitch slides, vibrato and much more to the synthsound. It sounds daunting, but fret not, it's actually pretty easy once you know the basics. As you'll notice, the program area displays four columns of numbers. The first two columns are line numbers (in decimal and hex), then we have the program instructions for volume and pitch respectively, each terminated by END.

The Volume Program's 40 instruction means set volume to 40 hex (64 decimal which is full volume). The Pitch Program's 00 means play

waveform number 0 (the first waveform). A Set Volume and Play Waveform instruction must be present in order to hear the synthsound. Other instructions consist of a three-letter abbreviation, usually followed by a number (always in hex).

For example, a CHD 03 instruction in the volume program means change the volume down (fade out) at speed 3. Let's add this instruction.

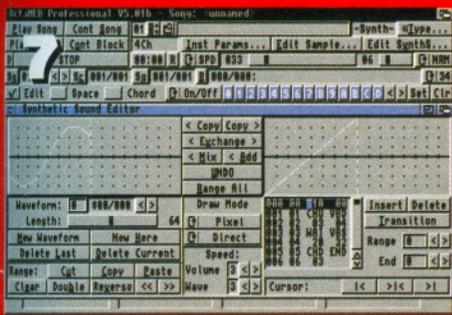
## STEP 4

Firstly, switch on Edit Mode (you'll need to drag the window downwards to reach the main screen's Edit check box, or use Edit Mode's keyboard shortcut: the Esc key). Now click inside the window to activate it, and to insert a new entry at the end of the volume program, press <down> and Return. Press D to insert a CHD instruction, then change the 00 to 03 by pressing <right> and 3. Switch off Edit Mode, then play the sound using the keyboard. Notice the fade?

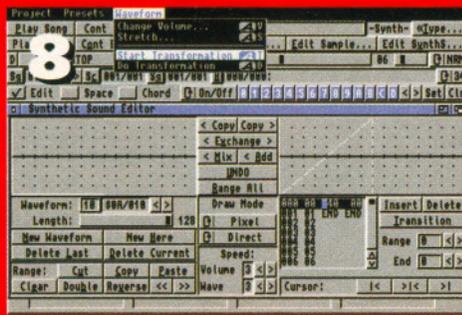
## STEP 5

Next we'll add exactly the same instruction to the Pitch Program. Switch on Edit Mode, then move to the pitch program's END by pressing <up>

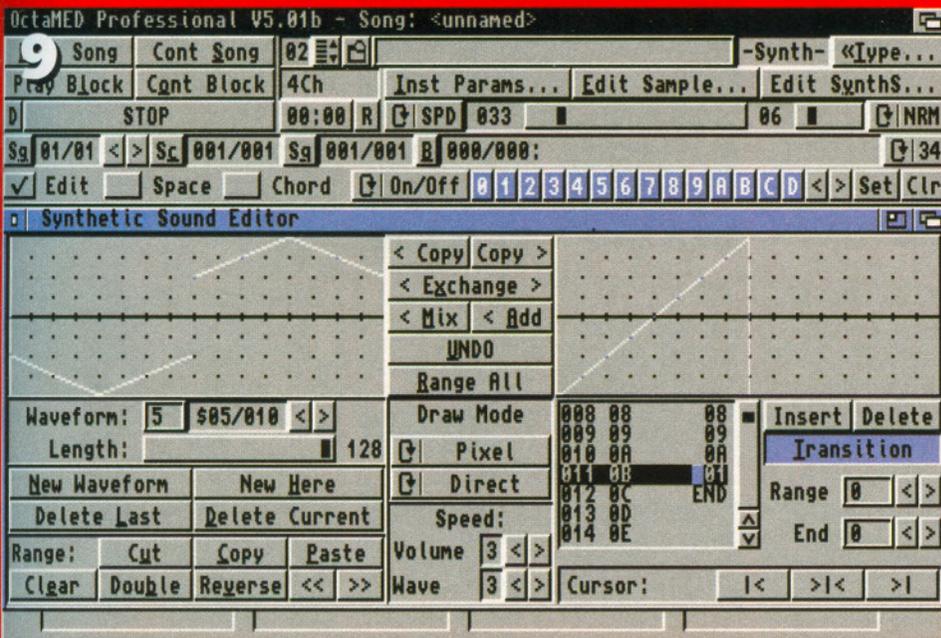
# Tutorial



A cello? Yeah, right.



But when he ate a banana, a transformation occurred.



Transition, especially for us lazy people.

twice and <right> three times. As before, use Return D <right> 3 to add CHD 03. Now switch off Edit Mode and play the sound. So a CHD in the pitch program causes the pitch to be lowered rather than the volume.

## STEP 6

Let's remove the Pitch Program's CHD 03 and add a vibrato instruction instead. Move to the CHD using <up> (twice), then press Del once. To set the vibrato depth to 4, we'll use the VBD 04 instruction. Press V, <right> and 4 to insert it. Now we'll use VBS 32 to set the vibrato speed to 32 hex (50 decimal). Press Return, Shift-V this time, and type 32. Finally, turn Edit Mode off as usual and play the sound. Sounds better already.

## STEP 7

For the final touch, we'll change the volume program again. How about making the sound start softly, gradually louden to full volume, wait a moment, then fade away? This introduces the CHU (change up) and WAI (wait) instructions. Turn on Edit Mode, then use the <up>, <left> and 1 keys to change the 40 at the start of the volume

program to 10. This makes the sound start at quarter-volume.

Now move the cursor to the CHD (make sure the cursor is over the C), and press Return U <right> 3 to add CHU 03. Next, add a WAI 20 instruction using Return W 2. Now switch edit mode off and play the sound with your eyes closed... a violin? Cello? Try changing any of the numbers in the program (except the 00) to different values, and see what happens.

Now, we'll start a new synthsound. This one uses 11 different waveforms instead of one: a triangular wave in waveform number 0 slowly changes into a pulse wave by number 10. You'll see what I mean.

## STEP 8

Select instrument 02 and choose Project menu -> New Synthsound. Click on the left-hand waveform box and select a triangular wave (Presets menu). Now keep clicking New Waveform (on the left) until the current waveform becomes number 10. In waveform 10, select a pulse wave.

Now the magic. Select Waveform menu -> Start Transformation to mark the start of the

## OTHER SYNTHY FEATURES

You can mark a range just like in the Sample Editor (click the Pixel cycledgadget twice before dragging the mouse), or use Range All or the three Cursor buttons. The eight range buttons (bottom-left) should be self-explanatory (remember that the copy buffer is the right-hand waveform box): use Double with Range All to shift a waveform's pitch up an octave.

In the Waveform menu, use Change Volume as in the sample editor (50 halves the waveform's volume). Stretch is weird, haven't found a use for this one guys, but bear in mind that a positive number stretches right, negative stretches left. An interesting pitch program instruction - ARP (use the A key to enter) - creates an arpeggio (a rapid change between given pitches). Specify the pitches after the ARP instruction, then end with ARE (use the E key).

For example, the instruction ARP 00 04 07 ARE creates a major arpeggio (00 0307 creates a minor). As always, experiment!

change at waveform 10. Now use the < button just below the left-hand box to return to waveform 0. Finally, select Waveform menu -> Do Transformation. Nothing appears to have happened, but use the > button to display the other waveforms and notice that (hopefully) the triangular wave smoothly becomes the pulse wave.

Our lovely new waveforms won't play yet, though: the pitch program only contains a Play Waveform 0 instruction. We need to tell OctaMED to play waveforms 1 to 10 too, so we need to enter numbers 01 to 0A (hex) into the Pitch Program. How boring.

But wait! There's an easier way.

## STEP 9

Move to the Pitch Program's END (remember to turn on Edit Mode), press Return, and change the new number 00 to 0A. Move back up to the 0A, and click Transition (on the right). Use <down> to confirm that all the intervening numbers have been added. Now we'll create another transition from 0A to 01. Move to the END, and add a number 01 (use Return). Move up to the 01 and click Transition again. Finally we need to jump back to line 00 at the end of the program, causing a repeat. So move the cursor over the E in END, press Return and J. Switch off Edit Mode and play the sound. Spooky...

Try changing how quickly the pitch program is executed using the Wave arrows (bottom-middle), and use Volume for the volume program.

## STEP 10

Finally, close the window and save the synthsounds if you wish, use Instrmenu -> Save Instrument, either format is fine since they're saved as neither.

## HUNGRY FOR MORE?

Richard Bannister runs The Official Med Users Group, a group dedicated to supporting users of OctaMED. It produces a bi-monthly disk magazine called *Ti*. Write to him at 6 Glevum Road, Swindon SN3 4AF. Kevan Craft's your man for MIDI advice. He can be reached at 12 Moulton Road, Runcorn WA7 2BH. And if you're really desperate, there's me! 9 Kirkland Wynd, Dumfries DG1 4ES (or phone 01387 65776).