

# Group Survey - Music Sequencers

Ian Waugh compares a number of programs which allow you to compose music and interface with a MIDI instrument

MIDI stands for Musical Instrument Digital Interface. It is a communications protocol for music much like the Hayes command set is for comms. As MIDI data is digital it can easily be manipulated and edited. When you play a MIDI-compatible musical instrument such as a synthesiser, actions such as pressing a key or moving the pitch bend wheel generate MIDI data. At its simplest, a sequencer is a program for recording and playing back this information.

As sequencers have become more sophisticated, programmers have developed more ways of manipulating MIDI data and it is essential for a modern sequencer to have good edit functions. This survey looks at typical features you will find in a sequencer and how important they are to the user.

MIDI can handle 16 different music lines and it is often convenient to use a separate sequencer track for each one. You may think, therefore, that a 16-track sequencer is all you need, but more tracks are useful for recording alternative lines. It is also useful to put individual drums from a drum pattern onto different tracks (although they will all be on the same MIDI channel) for

ease of editing.

With old fashioned audio recording you work in a linear fashion - you start at the beginning of a song and work through to the end. Most sequencers work this way, too, but some let you record individual patterns and link them together later on. This approach is far more flexible. For example, if you decide to add another couple of bars to the middle eight, you simply slot them into the playlist, and you can easily try alternative sections of music without recording over anything.

Thankfully, sequencers don't show MIDI data as raw numbers. They use a variety of editors to make it easy to understand and edit. These include:

**Grid or Piano Roll editor.** This shows notes as oblongs on a grid with a keyboard by the side of the display to indicate pitch. It is useful if you can't read music.

**Notation or Score editor.** This will appeal to musicians who can read music and to educational users. Check the printout facilities if you need to print the score.

**Event editor.** This shows MIDI events in a list and is ideal for isolating specific events and for precision editing.

**Drum pattern editor.** This uses a grid onto which you place drum hits much like stand-alone drum machines. It is a useful aid if drum track programming is not your forte.

**Graphic editor.** This is used to draw and edit Controller data. It is far easier than using an event list.

Other features to check include quantisation. This pulls poorly timed notes onto the beat and is a great aid if your playing skills are limited. Some sequencers have a partial

quantise function which doesn't pull the note all the way. This helps improve bad timing while maintaining a degree of human feel.

System Exclusive messages are used to store voice data. If a sequencer can record it, you can store the sounds you use on your synth along with the music.

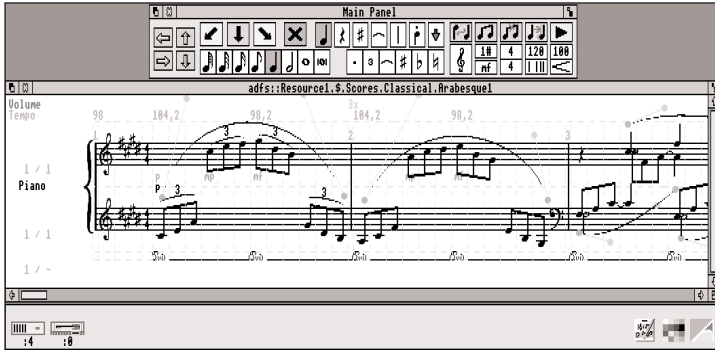
Finally, there are Standard MIDI files. These allow music to be swapped between different music programs, even those on other computers. There are thousands of third-party MIDI files available and MIDI File support will let you load and play them on your Arc.

Rhapsody III and ScoreDraw

Rhapsody is a notation-based sequencer. Music is written directly onto the staff by clicking or dragging notes onto it with the mouse. You can record in real-time from a MIDI keyboard but it is a two-stage process and far from ideal. You can play back the music via MIDI or use the Arc's internal sound system although, of course, this is limited to eight channels.

As a scorewriter, Rhapsody has no other editor functions as such but you can change various MIDI parameters within the score. If you insert dynamic markings (hairpins) Rhapsody will use these to change the velocity of notes transmitted over MIDI. You can define trills and ornaments which will also play over MIDI. It supports grace notes, both acciaccaturas and appoggiaturas, and spread chords which let you specify the speed and the direction of the notes.

It supports Standard MIDI files and will also read Maestro files so you can take your music with you if you upgrade. A !Config program lets



## Rhapsody

you alter various default settings such as the default MIDI channel, margins and so on. You can also create a voice list so you can select sounds by name rather than by number.

You are given a lot of control over the score itself through a host of edit functions. You can flip stems, beam and de-beam notes, and adjust the spacing between notes although Rhapsody makes some spacing adjustments automatically.

There is a large number of music symbols for inserting into the score plus guitar chords. There are several options for adjusting the score size and spacing prior to printing. However, Rhapsody uses sprites and the result is a rather chunky printout.

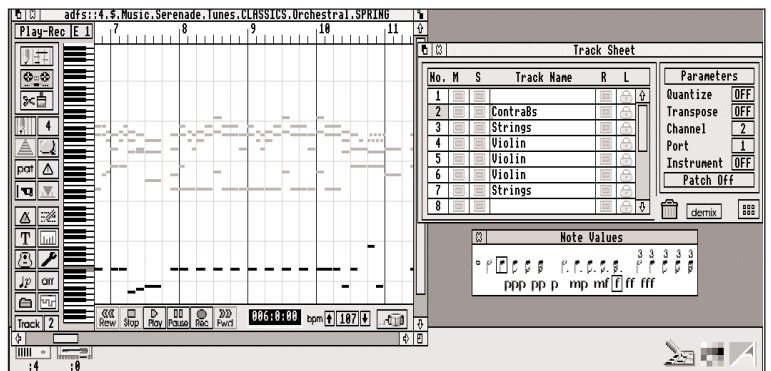
Rhapsody III can appear a little sluggish on slower machines (it is compiled with RiscBasic) and it could be tidied up in a few areas - automatic checking of note durations within a bar, for example.

ScoreDraw is designed to produce better quality printed output from Rhapsody scores, and interfaces almost invisibly with Rhapsody. After setting the print format options the score appears as usual but in Draw format. You can alter the page size and orientation, scale the score, adjust the margins and so on. Printing, however, can be a little slow although it does depend on the printer and printer driver.

ScoreDraw gets most but not all

of the formatting right. You'll have to do a check before printing and you may have to alter a few symbols by hand in Draw. But you can also add phrase marks and symbols not available within Rhapsody. As Draw files are the Arc's standard line art format, you can import scores into DTP programs so you could create your own music books.

## Serenade



## Serenade

Serenade is another Clares program although this is a fully-fledged MIDI sequencer. It does not use the Arc's internal voices and a MIDI interface is essential. It has been designed with an eye to the education market and ease of use plays an important part in its design, although occasionally you may think it is sometimes a little over-cautious.

For example, it has three operating modes - Edit, Record and

Cut & Paste. While this makes these functions distinct from each other, once you're familiar with the program's operation flipping between modes can seem long-winded. As an example, recording involves putting a track into record mode, then selecting record in the transport controls and then selecting play. A separate transport window would be useful.

It supports 16 tracks and the main window shows a Piano Roll editor. You can enter notes in step-time from a MIDI keyboard or by drawing them onto the grid. The Track Sheet lists the track names and here you can mute and solo tracks, set them to a certain MIDI channel and assign them a program change number. You can also select sounds by name rather than number which is quite friendly.

The program is basically a linear sequencer but the Arrange window

lets you put parts of the song into an arrange list. It's useful but not as flexible as full pattern editing.

The Event editor gives you precision control over the MIDI data but again, operation can be somewhat tiresome. You can't edit an event in situ in the list. It must be copied to an edit window, edited and then fixed to make the change.

There is a Tempo window in which you can draw tempo changes

which is excellent. The MIDI Control Generator can be used as a MIDI mixer for balancing the volumes of the tracks but it also lets you alter the values of any MIDI Controller. The program also supports System Exclusive messages.

The Guitar window lets you create guitar chords by clicking on

educational market but seasoned users could find it too fussy. 16 tracks may seem a little frugal, too. However, Serenade remains easy to use and has many powerful features. Rhythm Bed

Rhythm Bed is a dedicated drum pattern editor rather than a note-based sequencer, but it deserves

longer song. There are 255 slots to which you assign a bar and a number of repeats.

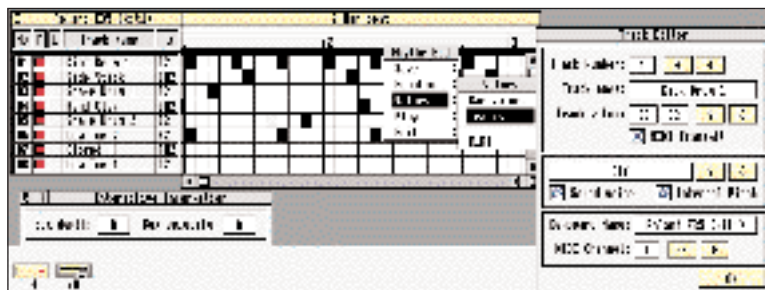
## PRODUCT INFO

Clares Micro Supplies  
98 Middlewich Road  
Rudheath, Northwich  
Cheshire CW9 7DA

Tel. 0606 48511

### Products & Prices:

Rhapsody 2	£61.95
Rhapsody 3	£99.95
ScoreDraw	£61.95
Rhythm Bed	£49.95
Serenade	£99.95



Rhythm Bed

chord names and types. The chords are shown on a guitar fretboard and the notes become attached to the cursor so you can drop them into the editor.

Serenade supports full and partial quantisation so you don't have to lose all sense of human feel. You can select individual notes and groups of notes for quantisation, too.

Serenade's default file type is the Standard MIDI File format which makes file transfer between programs and even other computers very easy. However, files can take a surprisingly long time to load - a minute or more is not unusual - and the program can take a further minute or more to do its housekeeping.

Serenade can sync to Rhythm Bed (see below) which effectively lets you use the latter as an add-on drum pattern editor. Serenade's major omission is a score editor. You could, of course, load the files into Rhapsody but it's not as convenient a solution as using a sequencer with built-in notation.

The specific steps you have to go through to perform many functions may well suit the demands of the

inclusion here because it interfaces with Serenade and you can export its drum tracks as Standard MIDI files and load them into another sequencer. You can also play back the patterns using the Arc's internal sounds.

Unless you're a drummer, drum tracks can be difficult to create. Rhythm Bed makes the process as easy as possible. The screen shows a grid with a list of drums down the left. You can edit this to suit the drum sounds or drum module you are using.

To create a pattern you simply click drum hits onto the grid. Each hit can have one of 16 velocity levels and the greater the velocity, the darker the hit appears on the screen. Velocity control is essential in order to avoid the hi-hat machine gun effect and it lets you create crescendos and diminuendos which can be very effective on a snare.

You can record in real time from a MIDI keyboard and a Fill option will fill a track with hits. There can be up to 64 drums in the grid and you can mute and solo individual drums. In the Bar Sequencer window you can link individual bars to produce a

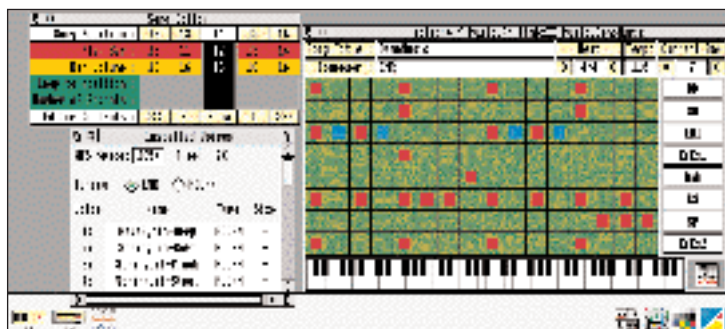
The program is easy to use and a great aid to drum pattern construction, especially if drums are not your first instrument.

## Rhythm Box III

Rhythm Box is another drum pattern editor. It was actually off the block before Rhythm Bed and is now in its third incarnation. It supports the Arc's internal sounds and plays via MIDI, too.

The basic process of drum pattern construction is similar in both programs. You create individual bars of music then you link them together in the Song editor to produce a complete drum track. There are 255 slots here, too, and at each position you enter the bar that is to play, its volume, a loop setting and number of repeats. An interesting option is Theatre Play which pauses between bars, allowing Rhythm Box to be used as a sound effects generator, ostensibly for theatrical productions.

Each bar can have its own tempo and you can reduce the number of steps in each bar from 16 down to one. Hits are entered onto the grid by clicking with Select on a square. Clicking with Adjust removes it. Clicking twice on a square turns the



Rhythm Box

box blue and activates Note Off which switches off the note at the end of its duration. This is necessary to turn off samples which may have been set to loop or notes which are playing via MIDI.

Of course, you don't have to use drum samples with the system. The demo shows how you can use it to create complete songs, Soundtracker style. A single sample could be a vocal sound or a complete one-bar rhythm line.

The program has one or two operational idiosyncrasies but nothing's perfect and it is good value for money.

## Studio 24 Plus (Version 3) and Micro Studio

EMR's Studio 24 was one of the first sequencers to appear on the Arc. It was developed before the multi-tasking desktop made an appearance and it has never been updated to use it, although the program itself has undergone several updates. However, it is arguably the mostly powerful sequencer for the Arc with a host of features and functions.

As its name suggests, it has 24 tracks, but with a suitable MIDI interface it can access 64 discrete MIDI channels. It also allows a pattern-based approach to arranging with support for up to 9999 patterns, memory permitting.

It has a full range of editors -

Event, Grid, Drum and Notation with score printout - and it supports



Studio 24

System Exclusive messages. It has partial quantisation and you can show on-screen videos alongside the music.

Studio 24 Plus includes a lyrics page for the near-automatic insertion of lyrics, and a Vocals Page presents a large screen for following lyrics during playback - instant karaoke! You can select sounds by name rather than number and control CD ROM drives from the main screen. The Score editor supports step-time input, the mixing desk has been

automated for real-time recording of slider movements and tracks can be merged.

Micro Studio is based on Studio 24 but geared more towards education. Music notation appears on screen as you play an attached MIDI keyboard and you can also enter notes with the mouse. In Learn mode the program will show a score which you have to play and it will wait for you while you find the right notes. It can also print guitar chords.

For all its power, Studio 24 suffers from its failure to use the

## PRODUCT INFO

EMR	
14 Mount Close	
Wickford	
Essex SS11 8HG	
Tel. 0702 335747	
Products & Prices:	
Rhythm Box	£34.00
Studio 24 Plus V3	£212.00
Micro Studio	£65.00
All prices include VAT.	



desktop. Operation is mouse-controlled but the user interface is not as intuitive as it could be, and some facets of the program are rather numeric. Prospective buyers need to balance that against the benefits.

## Notate

It would not quite be fair to call Notate a poor man's Rhapsody but comparisons are inevitable and in a comparison, Rhapsody's wealth of features would win the day.

However, Notate was developed primarily for education, and ease of use has a high priority. The user interface is so unobtrusive it's almost transparent. The program supports eight monophonic tracks of notation, ostensibly for playing the Arc's internal sounds, although the output can be channelled via MIDI.

However, there is no MIDI input and to enter a score you drag notes to the stave from a palette.

You can give up four of the tracks in exchange for a limited chord accompaniment. Chords are selected by root note, again from a palette, and there are eight chord types to choose from. An eight channel mixer lets you balance the volumes of the eight channels and adjust their position in the stereo output. You can enter repeat marks and display the score in high and low resolutions. Printing is via the Arc's printer drivers. Notate has its own file format but it also supports Standard MIDI files.

The program has limitations. It doesn't support triplets or multiple time signatures and there's no way

of recording volume changes into a score. It would also be useful to have been able to print individual parts.

Education will love it but home users might find it useful, too, for creating simple arrangements and printing them. Users will also like its no-nonsense operation.

## Sibelius 7 and 6

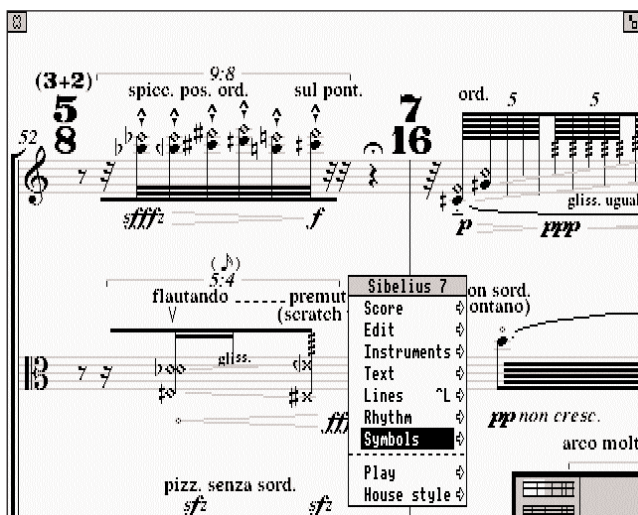
Sibelius is the name of a new company with an eponymous program. No messing about with this program - Sibelius 7 is an expert system for professional music engraving.

I could regale you with a list of features but there simply isn't room to do the program justice. Suffice to say that it runs blindingly fast (although it should as it's written in machine code!) and supports

PRODUCT INFO	
Sibelius Software 4 Bailey Mews Auckland Road Cambridge CB5 8DR Tel. 0223 302765	
Products & Prices:	
Sibelius 7	£934.13
(£586.33 to education and amateur users)	
Sibelius 6	£188.00
All prices include VAT.	

stressed that this is a scorewriter and notation processor rather than a sequencer as such.

Sibelius 6 is a cut down version of 7. However, if you read its list of features before that of 7 you'd still be mightily impressed. It supports 16 instruments (7 supports 128), prints



Sibelius

virtually every kind of musical notational nicety you can think of.

As notes are entered, the program intelligently spaces them and updates the relationship between every note on the staff. You can input notes from a MIDI keyboard but only in step-time (although a real-time option is being considered). You can also play back via MIDI although it must be

to A4 (7's pages can be anything up to 999x999mm), and the style for features such as slur shapes is fixed (7 supports a vast number of variations). 6 has office hour technical support, 7 has a 24-hour hotline!

Sibelius 7 has already been adopted by several leading music publishers and composers. Several have bought an



## PRODUCT INFO

Longman Logotron  
124 Cambridge Science Park  
Milton Road  
Cambridge CB4 4ZS  
Tel. 0223 425558  
Product & Price:  
Notate £69.33  
Price includes VAT.

## REVIEW



Archimedes just to run the program. Sibelius is not available on any other computer platform.

Demo discs of both programs are freely available and you simply must get one. Impressive? You don't know what the Arc can do until you've seen this!

If your prime aim is quality music printing, this is the program you need.