

Quartet for the home

Overview of music packages

By Michael Funayama

Life After MusicWorks

Music on the Mac has come a long way since MusicWorks appeared on the market in late 1984. Its graphical interface, ease of use, and sound quality made it one of the best music programs available on any machine at the time. It became a virtual standard, and most later music packages include a facility for opening and converting MusicWorks files.

MusicWorks wasn't without its flaws. It was difficult to view all parts at once, and the shortest note possible

Look, it's my song and
I'll write it how I
want to.

Cretin.



was the sixteenth note. There were no triplets, only a limited number of instruments, and a maximum song length of sixtyfour bars. Nevertheless, all music programs in the home entertainment bracket had to stand the comparison test against MusicWorks.

Another advance in music software was the development and proliferation of MIDI. Naturally, sounds produced by synthesisers far outclass anything created by computers. Many of the more recent releases include MIDI as an option.

Concertware

Concertware came on the scene after MusicWorks, as its natural successor. It exists in two versions, Concertware+ and Concertware MIDI. Rather than cram all of the functions into one program, Concertware comprises three distinct applications. They cover: music input, instrument sound design and music playback. The three programs are linked by transfer commands.

Notes are input via the mouse, the Mac keyboard or a MIDI keyboard (with Concertware MIDI) and the "Writer". When the mouse is used, a

note length must be selected from a note palette. The pitch is then selected by clicking on circles that represent the note positions on a narrow staff to the left of the screen.

Keyboard entry gives you the choice of step entry or real-time entry. The latter is only for the more adventurous who possess considerable keyboard dexterity.

The most efficient mode of entry is a MIDI keyboard. The Mac becomes virtually a digital recorder (sequencer) when put in record mode. Timing is kept with an audible metronome

which can be selected from a value of 30 to 450 beats per minute.

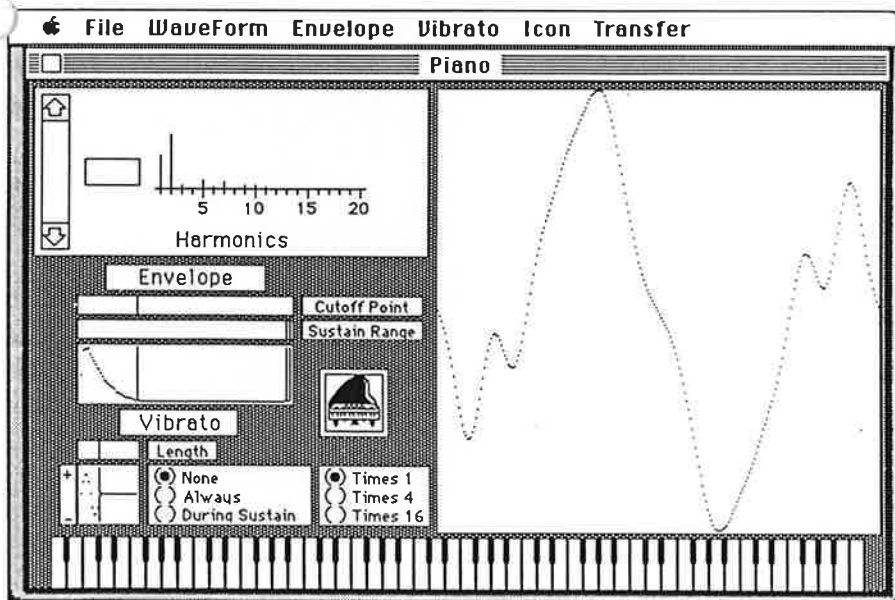
Although its sequencing capabilities are simple, a couple of features are quite sophisticated. A velocity threshold lets you filter out wrong notes. Then there is the ability to quantise (round off) the input down to sixteenth note triplets.

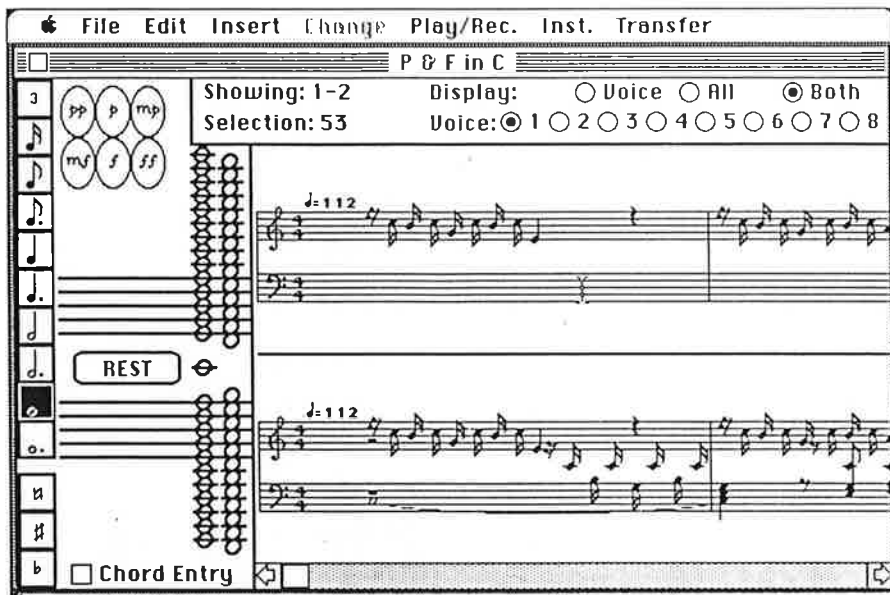
The Writer also handles transposition, repeats (with first and second endings), beaming, slurs, comments and conversion of MusicWorks files. Key, time, tempo and dynamic changes may be inserted anywhere in the score. Instrument changes can be placed anywhere, limited to a selection of only eight instruments per piece.

The Instrument Maker is used to create new instruments or modify any of the existing sounds. You manually draw or define the waveform, using up to twenty harmonics. The real strength of this program is the ability to draw your own envelopes, and alter the sound from an organ to a piano or even introduce an echo-like effect. A vibrato adds that extra touch of realism to sounds.

The Player includes more options for playing songs than the Writer. Tempo can be changed relative to any settings made, instrumentation can be changed on the fly and the song can be repeated endlessly.

Concertware — Instrument maker





Concertware — Writer

StudioMac

StudioMac differs in concept from the mainstream of the low-end music software. If you intend to use this program without extra hardware, you would be very disappointed. Although you may create your own waveforms, no provision exists for altering envelopes or adding modulation (vibrato). This results in all the internal voices sounding like a cheap organ.

The music itself is differently represented compared with other programs. StudioMac uses proportional notation, but unlike MusicWorks, it uses the normal staff lines as guides instead of a grid pattern corresponding to a vertical piano keyboard.

With proportional notation, notes with a longer duration appear wider. This gives beginners a feel for the timing differences between various note values, but it has various drawbacks. If you are transcribing from sheet music, each note has to be

calculated to correspond to the correct length. Naturals are represented by grey blocks, sharps by light blocks and flats by black blocks. The music becomes difficult to read — proportional notation will not teach a beginner to read music.

The strength of this program only reveals itself in the presence of a MIDI synthesiser, preferably a Casio CZ-101 or CZ-1000. These synthesisers are specifically supported because of their low costs, popularity and capability of playing up to four different sounds simultaneously.

Theoretically any MIDI keyboard can be accessed from this program, but the StudioMac is not flexible enough to make the attempt worthwhile. The orchestration window mimics the Casio controls, and consequently you are limited to only thirty-two different MIDI programs.

In conjunction with a Casio synthesiser StudioMac really shines.

Not only will StudioMac play notes through the Casio, it will also store Casio voices. The Casio itself is limited to only sixteen modifiable voices internally. This feature alone could justify the purchase of StudioMac. The program switches the Casio into the correct mode so that one voice plays four notes polyphonically or four voices play monophonically.

To make tempo changes, you must first select the range and then set a value for each "frame" in ticks (1/60th second). The method is both flexible and confusing. You can define notes as short as a 60th of a second, but performing a tempo change in beats per minute requires a bit of arithmetic.

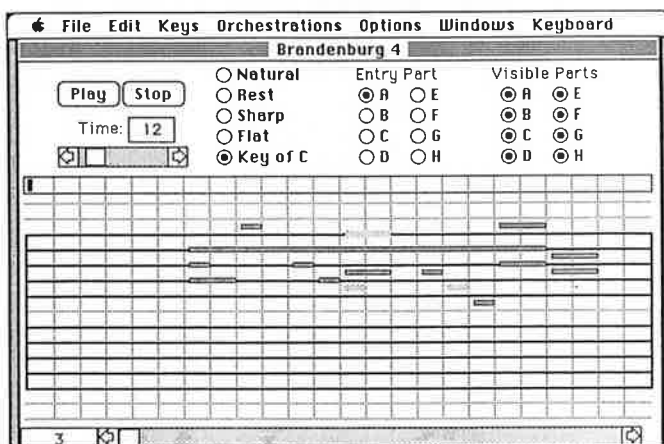
StudioMac lets you change instruments anywhere in the song in sixteen different combinations or "orchestrations". Orchestrations can be saved for use by other pieces and are automatically linked to the current song being edited.

Deluxe Music Construction Set

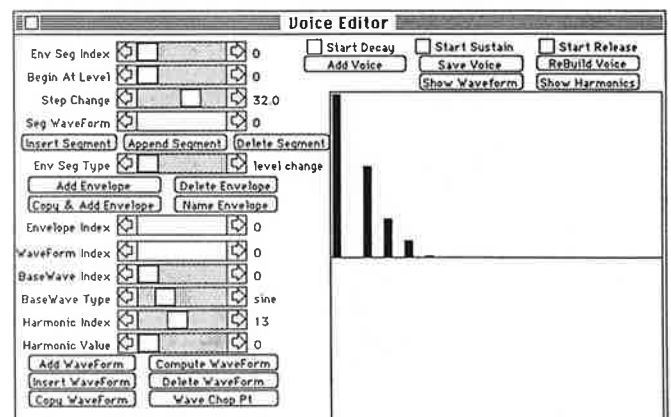
Deluxe Music Construction Set (DMCS) from Electronic Arts is popular. It is one of the most complete and intuitive programs available.

The music is displayed on up to eight staves, and each staff has two parts. Notes are entered through the mouse, Mac keyboard, the on-screen piano keyboard or through a MIDI instrument. MIDI input is restricted to step time only, unfortunately.

DMCS conforms better to the Mac user interface than any comparable program. A trip to its excellent manual is rarely necessary. It is the first program to take advantage of the Adobe Sonata PostScript music font for crisp desktop music publishing.



Studio Mac



Deluxe Music Construction Set

Mac Maestro

Inserting notes is a point and click operation with the mouse. Transposing notes, or notes within a chord, is a matter of selecting and dragging. Chords of any complexity may be used. Selections can extend across staves, making it a simple matter to rearrange whole sections without duplicating the work for each staff.

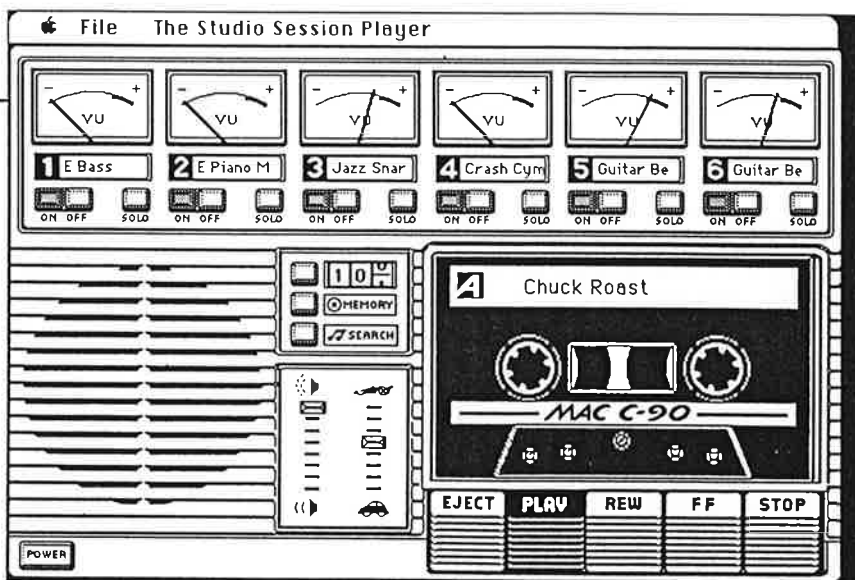
The latest version of DMCS includes a voice editor which allows you to alter waveforms, envelopes and modulation; it resembles the Instrument Maker of Concertware, but is more powerful. It is more complicated too, and a sound knowledge in sound generation theory would help.

One of the main attractions of DMCS is its scoring capabilities. Lyrics and special symbols can be added to the score. With the "GuitarFret" font one may add graphical guitar chords to the score.

Another strength of DMCS is its interface to MIDI. It is a simple matter to convert a song from a Mac-only piece to one that drives up to eight different synthesisers in full polyphony. Program (patch) changes can be performed as many times on all staves as desired, although it is only possible to do so at the beginning of a measure.

Studio Session

How many voices can the Macintosh produce of its own? I thought it was four. Obviously nobody told Bogas Productions that. Somehow they managed to squeeze six voices from the Mac. To top that off, the sound is realistic.



Studio Session Player

What we have, in Studio Session, is a cheap version of the Fairlight CMI (Computer Musical Instrument). What both have in common is that the voices you hear are samples (digital recordings of real sounds). What they don't have in common is price. Studio Session costs around \$A250, whilst the Fairlight is well into six figures.

If the ninety instruments supplied aren't varied enough or don't suit your needs, the library of sounds can be added to by purchasing the MacNifty Sound Digitiser package. This consists of a hardware digitiser and the associated software, SoundCap. The software can set varying degrees of reproductive accuracy and adds effects such as reversing, flanging and reverberation.

A good test of a music program is listening to its sample songs. You should definitely do this at once as you try Studio Session. I was so impressed that I listened to all the songs before considering any of its editing functions.

Studio Session consists of two programs, the Player and the Editor. Songs can be played in all their glory with the Editor. The Player adds visual interest by graphically emulating a fully working multi-track cassette deck.

Music is entered monophonically (one part at a time), as it is in Concertware. Studio Session allows entry by mouse only, but it adheres closely enough to Macintosh standards to make that a fairly simple task. All the usual features are there: tied notes, slurring and triplets. Jazz fans should be happy to know that swing can be added to selections of notes. The effect of swing is to increase the duration of the first note slightly, while correspondingly shortening the second.

Studio Session has a unique feature called "phrases". These are collections of notes which Studio Session uses as building blocks and stores in a "phrase library". Phrases can be created from any selection and categorised for easy retrieval. The creation of long songs is made even easier by the option to repeat sections up to 500 times independently from other tracks.

Conclusions

You've heard it before, but I must say it's a case of horses for courses. If you want an educational type of program, or prefer to enter music in realtime, it is hard to go past Concertware. If your only synthesiser is a Casio CZ-101, StudioMac gives you the best value, with its patch library and orchestrations. But if you want to listen to the most realistic music using only the Mac's built-in sound generation, Studio Session is the one. My vote for the best all-round program would have to go to Deluxe Music Construction Set.

MAC

Features	MusicWorks	StudioMac	Concertware+MIDI	DMCS 2.0	Studio Session
R.R.P.	RRP \$112	\$250.00	\$250.00 *1	\$179.95	\$199.00
Australian Distributor	Imagineering	Ikon Distribution	Ikon Distribution	ECP	Infomagic
Publisher	Macromind	Creative Solutions	Great Wave Software	Electronic Arts	The Kettle Group
Note Display	Grid/Staff	Grid	Staff	Staff	Staff
Key Signatures	12	12	13	15	14
Time Signatures	7	N/A *2	64	495	192
Smallest Note	Sixteenth	1/50th sec	thirty-second	thirty-second	thirty-second
Triplets	None	N/A *2	3	3, 5	3
Definable Instruments	No *3	Yes *4	Yes	Yes	Yes *5
Multiple Time Signatures	No	N/A	Yes	Yes	Yes
Tempo Changes	No	Yes	No	Yes	Yes
Multiple Key Signatures	No	No	Yes	Yes	Yes
Dynamics Changes	No	No	Yes	Yes	No
Notes/Lyrics	No	Title plus 4 lines	No	Yes	No
Beamed Notes	No	Yes	No	Yes	No
Guitar Chords	No	No	No	Yes	No
Number of Internal Voices	4	4	4	4	6
Number of MIDI Channels	N/A	8 mono	4 mono/1 poly	8 poly	N/A
Entry Method *6	M, P	M	M, K, S	M, K, P, S	M
Copy Protection	Yes	No	No	Yes	Yes

* 1 \$193.00 for non MIDI version

* 2 Users relative timing based on ticks/sec

* 3 2 definable waveforms plus 12 selectable envelopes

* 4 Waveforms only

* 5 With optional Soundcap Hardware/Software

* 6 M=Mouse, K=Mac Keyboard, P=On Screen Piano Keyboard, S=MIDI Instrument