

Computer Music Journal \$3.00

Volume II Number 3

Issue 7



Interview with Koenig
Computer-Controlled Sound Distributor
Microprocessor Music Network
UNESCO Computer Music Workshop
Aarhus Synthesizer Keyboard

Computer Music Journal

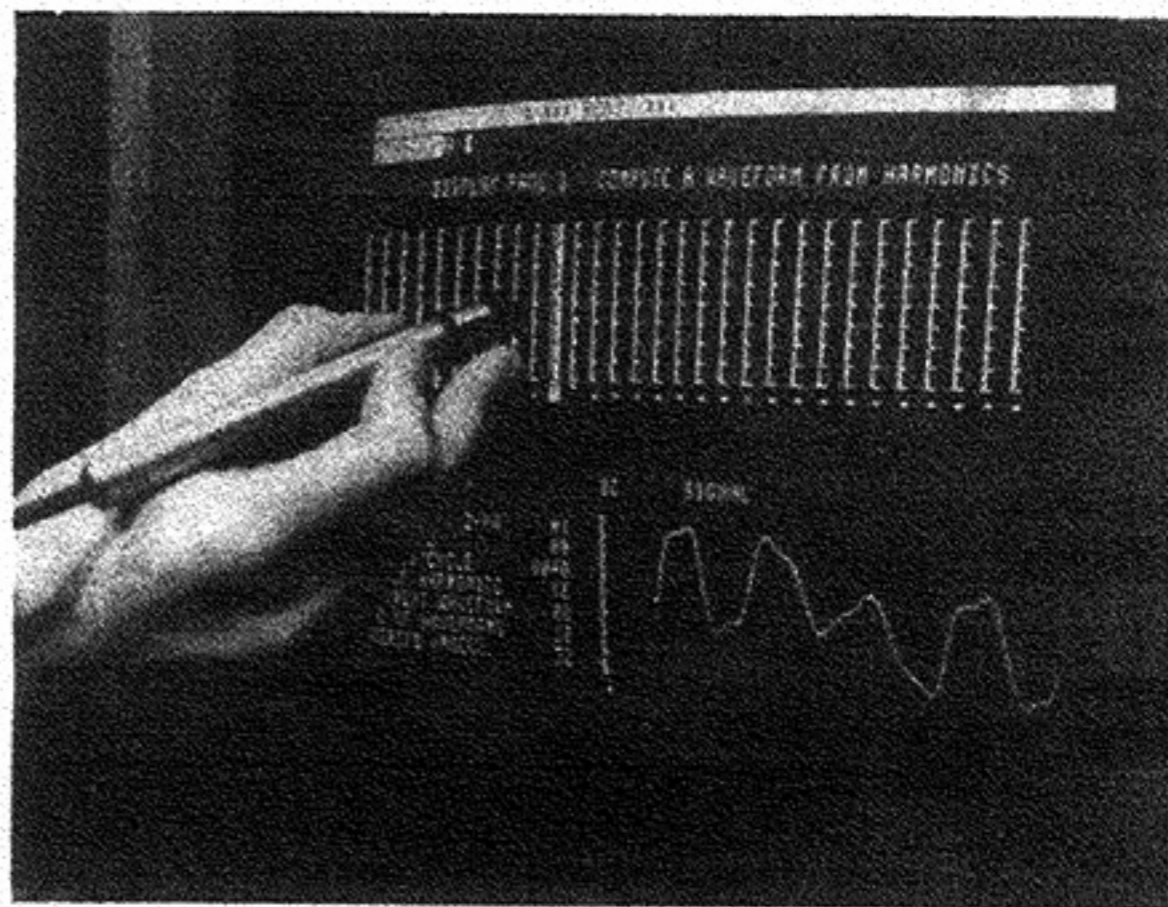
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Here's another digital synthesizer system that has recently come to our attention. The system is called the QASAR M8, and it is put out by a company called Fairlight Instruments, based in Australia. The synthesizer itself is controlled by a dual microprocessor based system, which brings the price down into a more accessible range. The QASAR M8 is an eight waveform channel, polyphonic instrument; each waveform channel is capable of providing up to 128 harmonics. Thus either eight notes at a time may play simultaneously, or all channels may be combined to provide an additive monophonic sound.

One of the two processors controlling the M8 system handles user interaction with the system (e.g., a video graphics terminal with light-pen, piano-type keyboards, touch-sensitive controls, etc.) The second processor controls the waveform-

The harmonic-versus-time profiles of a clarinet tone, as copied roughly from "Lexicon of Analyzed Tones," *Computer Music Journal*, Vol. 1, No. 3, pp. 12-21. Facilities have been included in the software for the QASAR M8 so that the musician can specify sustain areas using the light pen and also enter different time periods to certain segments.



In the QASAR M8 synthesizer, the waveform generation procedure being used in the illustration above can generate a single waveform using the 32 "slide pots" which represent, from left to right, the fundamental and harmonics through the 32nd harmonic; in other modes, harmonics no. 33-64, 65-97, or 98-123 can be manipulated. As the light pen moves the pot location, the waveform is continuously calculated and displayed below. This can be done while the sound is being played.

generating hardware and calculates each waveform from given harmonic amplitudes and phase specifications.

Quoting the literature: "The M8 is supplied with software that allows sounds to be generated by switching waveforms at selected points along a multi-segment amplitude envelope. The amplitude vectors for each segment may be indicated on the graphics terminal using the light-pen. A waveform change can be made at the start of each segment when new data can be given for amplitude modulation, frequency modulation, phase modulation, and pitch skew". Special software may be obtained from Fairlight for the QASAR system, including a floppy-disk operating system, a macro assembler, BASIC and FORTRAN compilers, an editor, and a sort package.

The complete QASAR system including operating software sells for under \$20,000. For more information, contact: Fairlight Instruments Pty. Limited, Ryrie House, 15 Boundary St., Rushcutters Bay, N.S.W. 2011, Australia.

