

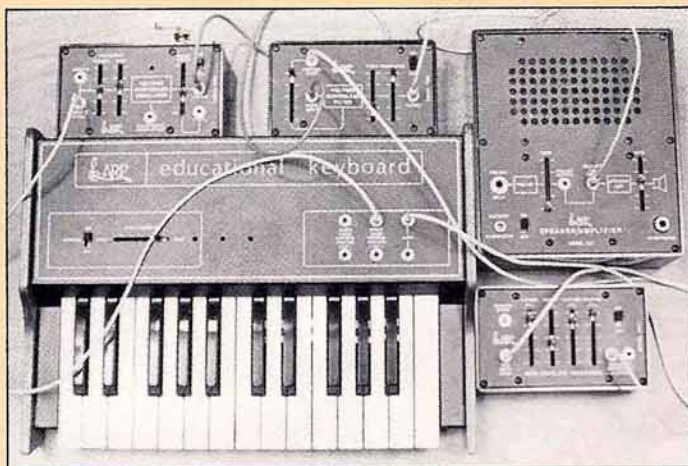
a forgotten experiment in electronic music education arp's modular synthesizer laboratory

By Don Muro

ALTHOUGH MANY thousands of musicians have played ARP Odysseys, Omnis, and Axes, very few people are aware of a product line that ARP developed specifically for the educational market but never officially announced. The product was called the Modular Synthesizer Lab, and was designed to facilitate the teaching of electronic music synthesis. [Ed. Note: For the full story of "The Rise And Fall Of ARP Instruments," see Keyboard, Apr. '83.]

The ARP 2600 was used by many educational institutions, because it was both a powerful performance instrument and an excellent teaching tool. It was compact, easy to set up, and, most importantly, modular. The modular concept of the 2600 was obviously based on the original Moog synthesizers designed in the mid-'60s. Interestingly, many of the early Moog synthesizers and the ARP 2600 are still being used today as teaching tools in electronic music courses. Each module on the ARP 2600 (for example, an oscillator, a filter, an envelope generator, and so on) had its own input and output jacks. The design concept made it possible to teach the basic principles of analog synthesis by having the student learn the functions and capabilities of each module individually. Unlike today's programmable synthesizers, which can be played by a person who knows nothing about synthesis, the modular approach forces the student to understand what makes a patch (i.e., a specific sound which results from connecting the inputs and outputs of various modules). Because there are no preset buttons to push on modular synthesizers, students have to know which modules are sound producers, which are modifiers, and which are controllers. They have to know why and how to use various combinations of modules to produce any desired sound.

ARP realized the educational validity of the modular approach, but found that the 2600 was not only too expensive but also too complicated for most classroom situations. ARP was determined to capture the educational market, hoping that students who "cut their teeth" on ARP synthesizers would eventually purchase their own ARP. (Apple Computer Corporation, using the same premise, has given virtually every school in California a free Apple computer.)



In 1975, ARP developed a modular synthesizer concept called the Modular Synthesizer Lab (MSL). This product was designed specifically for teaching, although it is capable of limited performance applications. The MSL consists of twelve modules, each packaged separately in a plastic box about the size of a small brick. The original "basic set" consisted of five modules — a speaker/amplifier, a voltage-controlled oscillator, a voltage-controlled filter, an envelope generator, and a two-octave keyboard. All of the modules ran on 9-volt batteries and used mini-jacks for patches.

In addition to the modules in the basic set, ARP produced seven other modules to teach more advanced concepts of synthesis and to expand the capabilities of the basic set. The additional modules included a noise generator, a low-frequency oscillator, a mixer/attenuator, a sample-and-hold, a ring modulator, a multiple box, and a voltage-controlled amplifier.

With the exception of a few errors in graphics, the modules were functionally designed and well built. The mixer/attenuator, for example, could be used as a 3-in, 1-out mixer; or as two 2-in, 1-out mixers; or as one 2-in, 1-out mixer and two attenuators; or as four attenuators. The speaker/amp had an AC adapter, a preamp input for amplifying other instruments, and a headphone jack. The original patch cords were 24 inches long and were available in grey, yellow, and red. The use of different colored patch cords for producers, modifiers, and controllers could provide a visual reinforcement of the functions of each module

in a patch. The cost of the modules ranged from \$40 for the multiple box to \$175 for the keyboard. The remaining modules were priced at \$65 or \$75 each. To the best of my knowledge, ARP never decided on a marketing policy. At one point they considered selling directly to schools. Later they considered franchising a select network of dealers who were actively involved with electronic instruments and music education.

When I first saw the modules in the spring of 1976, Dave Friend of ARP told me that work was already underway for a series of workbooks. There was to be one student workbook for each module in addition to a comprehensive teacher's guide. The workbook's approach to synthesis was similar to the approach taken in other textbooks ARP had produced — *Learning Music With Synthesizers* (published in 1974 and geared to the ARP Odyssey) and *Lessons In Electronic Music* (published in 1975 and geared to the Axse). One of the authors of *Lessons In Electronic Music* was an educational psychologist hired by ARP to assist in developing teaching techniques and curricula for electronic music. ARP originally had planned to work with the Hal Leonard Publishing Company in producing books, music, and instructional cassettes. *Learning Music With Synthesizers* was to have been the first of many Hal Leonard publications dealing with electronic music. (My first two compositions for stage band, tape, and synthesizer were also published by Hal Leonard in the same year as part of their electronic music package.)

Some time later, ARP decided to

The basic set of modules for ARP's Modular Synthesizer Lab (clockwise from upper left): VCO, VCF, speaker/amplifier, envelope generator, keyboard.

publish their own educational materials. By the fall of 1976, the first draft of the workbooks was completed and ready for teacher comments and revision. In 1977, however, the MSL was "pushed aside," according to Alan R. Pearlman, founder of ARP Instruments. A short time later, ARP became deeply committed to the ill-fated Avatar guitar synthesizer, and the MSL project slowly but surely slid out of sight as ARP began the fight for survival. During one of my visits to the factory, however, I do recall seeing a prototype of a second-generation MSL module. The most important difference was in the design of the plastic case. The front panel was placed at a 45-degree angle to make the controls and jacks more accessible.

When ARP needed capital in 1980, the MSL inventory and workbooks were sold to Electronic Music Products & Services [Box 411, Merrick, NY 11566], a company specializing in electronic music education. Since the existing inventory was short on keyboards, EMPS designed a three-octave AC-powered keyboard which ARP manufactured. Later, the same keyboard was built into a carrying case which could hold modules in a vertical position. The MSL keyboards which were shipped to EMPS in June 1981 were the last products manufactured by ARP. At the present time, EMPS has an inventory of MSL modules but is sold out of keyboards. They have not yet decided whether to manufacture more keyboards and revise the software or whether to shelve the product.

There's a place for electronic music education in secondary and even primary schools, and the MSL was an ideal teaching tool for this purpose, because modules could be introduced to students one at a time, eliminating the confusion that arises when the beginner is faced with a front panel packed with dozens of controls. But today the industry has moved decisively in the direction of advanced products for the professional and semi-pro, and it may be a long time before as valuable a teaching concept comes along again. ■