HARALD BODE
1909-1987

Harald Bode, a pioneer of electronic instrument design, passed away in January. An engineer whose career spanned three generations of electronic music history, he anticipated many of the problems faced by today's electronic manufacturers, and provided ingenious early solutions. His ideas about modularity influenced Bog Moog's development of the analog synthesizer in the '60s. His keyboard inventions for several American organ companies paved the way for the high-tech boom in the keyboard industry. And his frequency shifters, vocoders, and other rack-mount devices are still in use around the world.

Born in 1909 in Germany, Bode attended the University of Hamburg and did postgraduate work at the Heinrich Hertz Institute at the Technical University of Berlin. In 1937 his Warbo Formant Organ provided a solution, through the use of discrete components, to the problem of assigning a limited number of voices to the many keys on a keyboard. The organ also featured a means of routing voices through a dual filter, making it an early multitimbral instrument. The next year he built the touch-sensitive Melodium, which he played with the Berlin Philharmonic Orchestra. The Melochord, his 1947 successor to the Melodium, anticipated another modern feature, the split keyboard. Werner Meyer Eppler, an early proponent of electronic music at the University of Bonn, was so impressed with the instrument that he helped win Bode a commission to build an advanced Melochord for the Cologne Electronic Music Studio, the first studio of its kind.

COURTESY TOM RHEA

The Cologne Melochord had two 37-note manuals and so-called step-by-step filters that could be tuned from a keyboard. By playing pitch on one keyboard and tone color on the other, the player could glissando on the tone-color keyboard and thereby move the center frequency of the filter up and down. In using a keyboard as a generalizable device, Bode developed the concept of modularity in music systems. His article on the subject in the early '60s helped spur Bob Moog's creation of the modular analog synthesizer.

Bode held more than thirty U.S. and foreign patents in electronic music, and contributed regularly to various technical journals in the field. He worked for the Wurlitzer Organ Co. for ten years and for Bell Aerospace before leaving to do freelance consulting and run the Bode Sound Co. in North Tonawanda, New York. (For more on Bode and his inventions, see *Keyboard*, Dec. '79, Jan. '80, and Feb. '80.)

—Tom Rhea