

Composers Use Electronics For Music of the Space Age

"Gurgle!" went the loudspeaker — "Whizzzz! Tweet! Rasp!"

The sounds were no random noises or nightmarish echoes, but the elements of "music for the space age" being composed in a relatively new and controversial field, electronic music.

While composers in the past have worked with traditional musical instruments — pianos, violins, horns — many of today's composers, including a number at Iowa, are writing music for strange instruments indeed — sound generators, high-pass filters, balanced modulators, to name a few.

The result has been described by one New York writer as "the strangest music this side of paranoia." Hisses and clunks and whistles abound, but always planned with great precision and with serious musical intent.

"Actually, any sound is a musical sound if it can be used in a composition," explains Robert Shallenberg, assistant professor of music and supervisor of the University's new electronic music studio. "And our studio is a kind of musical instrument in itself. Our instruments can produce sounds that neither the composer nor the listener has ever heard before," adds Shallenberg. "In fact, a number of the sounds are by-products of electronic instruments whose primary purpose is not to produce music at all."

EQUIPMENT in the studio lines a wall from floor to ceiling, with both home-built and commercial units in evidence. A physics student, James Cessna, G, Indianola, has based his master's degree thesis on a wave-form synthesizer which he is designing and building for the studio, where he also works as an electronics technician.

The studio, a joint project of the Department of Physics and the school of Music, has three basic sections: a number of sound sources, a set of devices for modifying these sounds, and a bank of tape recorders for preserving the results.

Among the studio's sound sources is a sine-wave generator, which produces a "pure" sound, resembling that of a flute in its characteristic smoothness. A square-wave generator yields similar sounds, but with a good deal of "buzz" or bite, like the tone of a clarinet in its lower register.

A white-noise generator creates a "shhh" sound, containing all the tones that can be heard by the human ear (just as the color white contains all the colors that can be seen).

Still another sound source, a sawtooth generator, produces electronic sounds which can range from the tones of a violin to those of uncontrolled giggling.

Once these sounds, or combination of sounds,

are created, they can be modified by a number of other electronic instruments. A variable filter can pass or cut out any portion of the sound a composer desires, just as, for instance, a telephone cuts out the deeper sounds in a speaker's voice.

AN INSTRUMENT that engineers call a balanced modulator can give the sums and differences of any two sound inputs, while suppressing the inputs themselves. And a third type of instrument, an attack-decay device, can "fade-in" or "fade-out" sounds, just as a television set, after being turned off, shrinks the picture to a tiny white dot which finally vanishes.

Using all these instruments, a student can make a number of tape recordings, then blend them together into a finished composition. Among the kinds of tapes he can create are those intended for playing before an audience without accompaniment, or those intended for playing as part of a performance with traditional instruments. The tapes can also be transferred onto conventional phonograph records.

Composers can write down the "recipe" or score for their works, Shallenberg explained, but since electronic music instruments are frequently home-built or modified, it might be difficult for anyone else to reproduce the sounds. As a result, the composer's master tape often becomes a unique combination of music, musical instrument, and performer, all in one.

This new approach to composition has been carried on at Iowa only since last fall, when the electronic music studio went into operation. The studio grew out of a conversation between Philip Bezanon, former professor of music, and James Van Allen, head of the Department of Physics and Astronomy. Further planning and building took place under the supervision of Richard Hervig, professor of music.

ALL FELT that electronic music, as a prominent part of contemporary musical thought, was an area in which Iowa music students should be able to work. As a result, the Department of Physics loaned a large amount of equipment to the studio, making possible its construction with a minimum of expense. Shallenberg, who has an extensive background in the field, was then asked to join the U of I faculty.

Shallenberg, who taught composition at Illinois Wesleyan University for two years before coming to Iowa last fall, was previously an instructor at Lincoln University, Jefferson City, Mo. He earlier worked in developing the University of Illinois' first electronic music studio.



Discovery in Sound

No, they aren't tracking satellites — they're making music. Robert Shallenberg, supervisor of Iowa's new electronic music studio, adjusts two tone generators while James Cessna, G, Indianola, keeps a hand on the studio's control panel. They are recording sounds which may be used later to compose electronic music. Neither composers nor listeners have heard the sounds before.

Recitals, Lectures Here

The Humanities Society Lecture originally scheduled to be given by Ralph Freedman, professor of English, Thursday at 8 p.m., will be presented May 10 at the same hour in the Old Capitol Senate Chamber.

Professor Freedman will talk on "Image and Object: Types of Prose Narrative."

Professor James B. Griffin, director of the Museum of Anthropology at the University of Michigan, will tell about "Fancy Archaeology" at 8 p.m. Thursday in Shambaugh Auditorium.

The public lecture will deal with fancies held by amateurs concerning archaeology, artifacts, and theories of the movements of peoples.

Professor Griffin has participated in archeological excavations all over the Midwest and has published several specialized studies on phases of American Indian culture and history.

Betty Wallace A4, Benton, will

and harpsichord will be Norma Cross, associate professor of music. Assisting will be four graduate students, Judy Berman, on the violin, and Anne Mischakoff, on the viola, both from Detroit, Mich.; Don McGlothin, Pittsburgh, Kan. on the clarinet, and John Gardner, Monmouth, Ill., on the bassoon; and sophomore Margaret Wilmetth, Iowa City, on the cello.

Compositions on the program include "Karlfranzsonen No. 13 in C Minor" by G. P. Telemum, "Suite (D'apres Corrette)" by Darius Milhaud and "Quartet in F Major — K. 307" by Mozart.

Experimental Society To Present 4 Papers

The monthly meeting of the Iowa Section of the Society for Experimental Biology and Medicine will be held at 7:30 p.m. Wednesday in room 301, Medical Laboratories.

The program will include the