

ELECTRONICS

TV by Magnetic Tape

Attempts being made to develop methods of putting television programs on magnetic tape, a scheme that offers many advantages over movie film now used.

► TELEVISION ENGINEERS are striving to put video programs on magnetic tape. If they succeed, spot news may reach your screen in the future much faster than it gets there now by film.

Furthermore, if the engineers can iron out some of the technical wrinkles, tape-recorded programs probably will slash video station operating costs by doing away with the waste of used movie film.

To date, the much-talked-about system of recording sight on magnetic tape has not materialized commercially. But at least three tight-lipped companies have been reported to be working on such a TV sending system.

The tape-recording equipment probably will be connected directly to the output of the television camera's video amplifier. After the picture has been recorded, the tape will be played back on a machine that feeds the "canned" picture to another video amplifier for broadcasting.

Tape offers these advantages over movie film: It is ready for instant playback after recording, since it does not have to be developed. It can be used over and over instead of being thrown out after the telecast. Furthermore, tape costs less than movie film and requires less storage space. But video tape-recording equipment probably will come with a high price tag.

Television tape recordings would not look so very different from the tape recordings now made by thousands of Americans on their own home outfits.

The tape might be wider than the present variety, and it might run through the machine a little faster. But essentially a video tape recording would resemble an ordinary home-recorded tape of Junior playing the piano.

The big difference lies in the recording equipment needed to put the complex video signals on the tape.

Tape machines that record sound merely have to handle signals up to about 15,000 cycles per second. But video tape recorders, due to the complex technical nature of television, would have to handle everything from zero to 4,000,000 electric "pulses" a second.

By "trick" recording methods, engineers have found they can put 1,000,000 pulses on a tape one inch wide. On tapes four inches wide, they can record the 4,000,000 pulses. The catch comes in finding the proper trick recording system.

Home tape recorders merely amplify the sound picked up by the microphone. Using a tiny electromagnet, the machines deposit the sound on the tape. But the video signals

rush in to be recorded so fast that such a simple system would be swamped.

One experimental technique "samples" the picture about 300,000 times a second instead of, say, 4,000,000 times. That trick seems to offer promise.

Although tape holds many advantages over film as a recording medium for television, its future still is uncertain. Research engineers hope it will do what they think it will, but as one put it, "We won't know until we try it out."

Science News Letter, November 15, 1952

NUTRITION

Figure Cost of Eggs On Basis of Weight

► MOST AMERICANS like fried eggs for breakfast and hardboiled eggs for picnics. But there are hundreds of other ways of using eggs, and since they are a high quality, complete protein food, it will pay the housewife to look into some other ways of serving them.

They supply all the essentials for the building and repair of body tissues as well as valuable vitamins and minerals. They can be used in place of meat and even when eggs are high, they may be a better buy for a main course dish than meat.

When buying eggs, figure the cost on the basis of weight rather than by the dozen, advises Elizabeth E. Ellis of the University of New Hampshire. A comparison of the cost per pound of the different sizes will readily show which size eggs are lowest in price, and will enable homemakers to select the eggs which will give the most value for the money, she says. For example, if eggs are selling at 60¢ a pound, then the small eggs will be 68¢ a dozen, the medium eggs 80¢ a dozen, and the large eggs 90¢ a dozen.

Buying eggs by grade is another way of being sure you are getting the quality you are paying for.

Remember that refrigerated eggs keep their quality longer than eggs kept at room temperature. So look for the ones in the refrigerator when you go to market, and put them in your own refrigerator when you get them home.

Be careful, too, to handle the eggs gently. Jarring or jouncing breaks down their quality. Even if it does not crack or break the shell, it may cause the white of the egg to lose much of its firm, upstanding quality. So protect the delicate structure inside the egg as well as the shell when you handle it.

Science News Letter, November 15, 1952



NOBELIST FELIX BLOCH—*Originator of a new technique of qualitative analysis by nuclear induction, Dr. Bloch of Stanford University, California, here examines part of a working model of equipment used in his research.*

GENERAL SCIENCE

Science Manpower Body Urges Best Defense Use

► A SCIENTIFIC Manpower Commission to combat the "ignorance or indifference commonly displayed" in the military and in Congress as to the uses for defense of scientific and technological personnel is being set up by six of the most important scientific bodies in the nation.

The new commission, according to an announcement, will conduct a "program of public education that will inform the public and their representatives in the Congress regarding current needs, prospective or actual shortages of manpower, and such other personnel matters as may bear upon the defense situation and the national welfare."

"Widely divergent opinions" regarding the relative importance of military service as compared with scientific and technological service in the present emergency will be dealt with by the new body. The six groups sponsoring the commission are: The American Chemical Society, the American Geological Institute, the American Institute of Biological Sciences, the American Institute of Physics, the Federation of American Societies for Experimental Biology and the American Association for the Advancement of Science. The commission is expected to set up shop in about 60 days.

Science News Letter, November 15, 1952