

NASA research helps

Accurate home, industry digital clocks now feasible

Accurate digital clocks for use in homes and industry can now be produced more economically and in quantity as the result of technology developed by the National Aeronautics and Space Administration.

Officials of Ropat-Caslon Inc., a clock manufacturer, found a solution to their needs in a NASA "Tech Brief" issued in 1968, describing a precision stepping drive mechanism designed to position scale models

of spacecraft accurately about a horizontal axis, in wind tunnels and other testing situations. The device replaces gears and other continuous drive mechanisms which proved less accurate for operating electric-powered

clocks. When coupled with a high-accuracy oscillator, the stepping drive provides accurate time by advancing a digital clock in increments of one second, one minute, or any interval required. In its digital clock application,

the plastic stepping drive serves as an "indexer", coupled through large scale integrated electronic circuits with a precision oscillator, such as a quartz crystal or tuning fork. After a predetermined num-

ber of oscillations of this control device a signal is initiated, successively advancing the stepping drive, with the oscillator insuring accuracy through precise control of the stepping interval. This procedure enables the

clock to present a succession of cards in a viewing window or aperture, a new card with each step, indicating the time as 11:45, then 11:46, etc. Such clocks can be built to read out the time digitally in minute or second increments, depending on the degree of precision required.

One of the digital clock's most familiar applications is in clock radios. Digital clocks have found a wide application as consumer items in homes and as more sophisticated timing devices in industry.

The new, more accurate stepping drive models are just beginning to enter the commercial market, Dr. William D. Clark, president of the firm said.

The company will manufacture the clocks in Japan, in Europe, in Mexico and at new facilities recently completed in the United States.

ROTC staff's new men take special courses

Air Force and Army officers reporting to Texas A&M for ROTC instructional duty this fall have done extra work toward classroom teaching assignments.

Eleven officers in the Departments of Aerospace Studies and Military Science completed professional courses at Maxwell AFB, Ala., and Fort Sill, Okla., announced Col. Thomas R. Parsons, commandant and professor of military science.

Other military personnel already in teaching capacities at the university went through the special courses before assignment here.

Army officers are in a one-week methods of instruction course at Fort Sill, building on teaching methodology instruction all Army officers receive as part of the basic officer course taken when they first go on active duty.

The Sill course is being taken by Lt. Col. Donald E. Smith, Maj. Thomas D. Avant, Maj. Russell Pierre Jr., and Maj. Benjamin R. Schlapak.

The course includes lesson plan preparation, lecture techniques, use of training aids such as models, terrain tables, slides and films and "things not to do," such as distracting mannerisms that reduce student concentration on subject matter.

Seven Air Force officers including the new professor of aerospace studies, Col. Robert F. Crossland, attended a five-week Academic Instructor Course (AIC) at the Alabama base.

They are Maj. Dean D. Duncan, Maj. Milton R. Halbert, Maj. Frederick J. Mitchell, Capt. Patrick H. Corbett, Capt. Karl W. Koch Jr. and Capt. Wayne L. O'Hern Jr. Corbett taught freshman air science at A&M during 1970-71.

Also assigned to the Air Force detachment at Texas A&M this year is Maj. Melton G. Holubec, a member of the AIC faculty on his last assignment.

The accredited five-week Air Force course covers teaching methods, communication skills, educational psychology and counseling. Crossland pointed out that many of the AIC professional staff are Air Force officers with the Ph.D. in education.

All new AFOTC instructional personnel going to college or university assignments are required to attend the course, unless they have had adequate prior teaching experience.

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