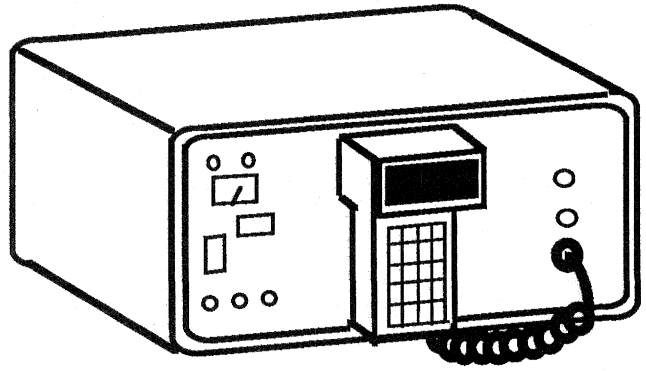
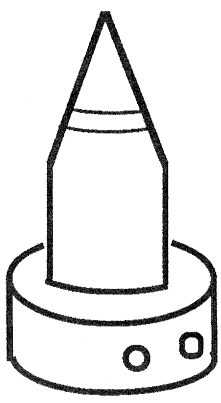
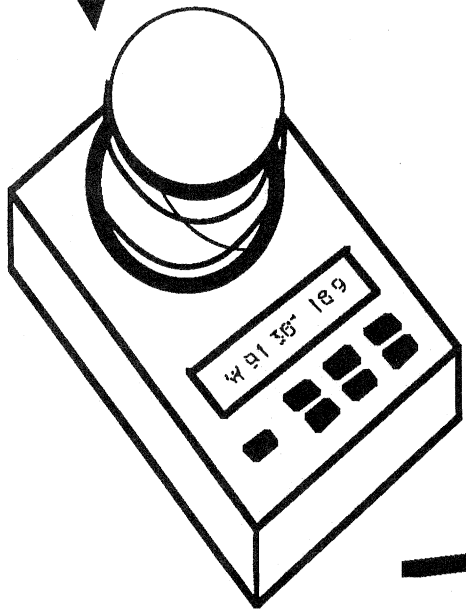


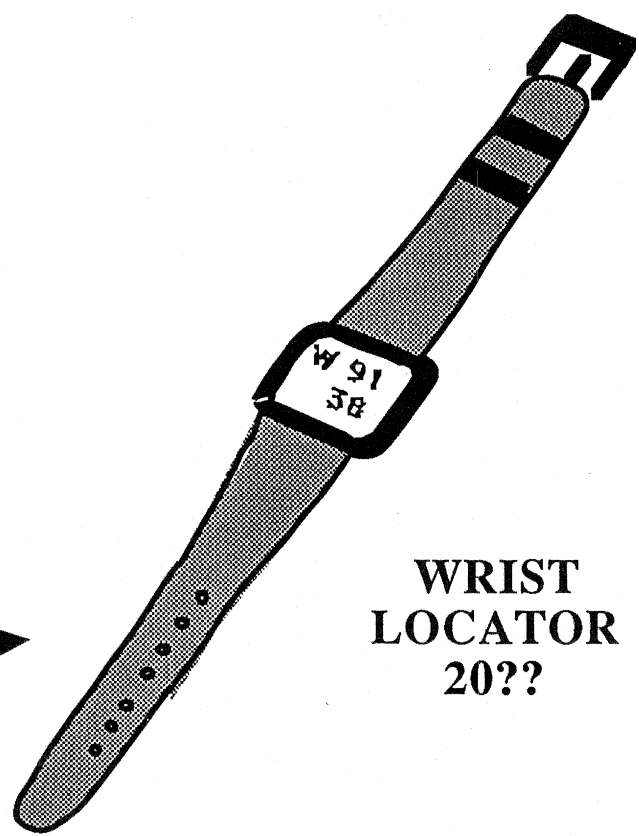
THE FUTURE OF SATELLITE POSITIONING



TI 4100
1982



HAND-HELD
GPS RECEIVER
1990s



WRIST
LOCATOR
20??

THE FUTURE OF SATELLITE POSITIONING

With the advent of the Global Positioning System, we are entering an era of accurate positioning, available on demand, twenty-four hours per day, every day of the year from any location in the world. Although there will possibly be some initial restrictions on the real-time accuracy available to civilian users, GPS will bring about a revolution in the practice of positioning, impacting not only surveyors, geodesists, and navigators but the general public at large. In the future, accurate positions will be a cheap, readily available commodity, much as time is today.

GPS will be accompanied and eventually superseded by other satellite systems. Already GLONASS, the Soviet Union's equivalent to GPS, is in operation and the first tests with the civilian Geostar system have taken place. A number of other civilian systems are on the drawing boards.

The near-term trend in satellite positioning will be toward smaller, cheaper, and more easily-operated receivers. A hand-held GPS receiver not much larger than a standard deck of playing cards is under development by Rockwell Collins for the U.S. Department of Defense. The single-channel receiver with a pop-up antenna will make use of the latest gallium arsenide very high speed, very large scale integrated circuit technology. We foresee a natural evolution toward even smaller, more accurate receivers. Eventually, we may even have the 'wrist locator,' a cheap (\$10 in current funds), accurate (1 mm) device that would be as ubiquitous as today's electronic wrist watches [Vaníček et al., 1983]. Such devices will influence our future daily lives in ways that are presently impossible to predict.