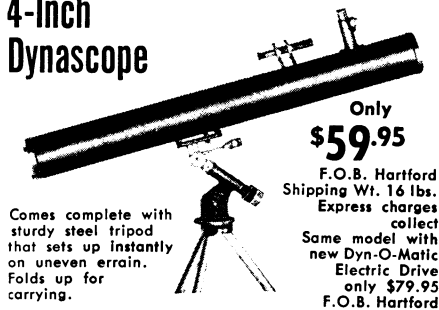


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jorca, the St. Lawrence estuary, Italy, Corsica and similar large land masses.

Tiros' TV pictures have 500 scanning lines. In the pictures of areas 800 miles on a side, each line would represent a strip of land about one and one-half miles wide. In the 80-mile-wide pictures, each line represents a strip about a sixth of a mile wide.

The camera can distinguish between white clouds and dark ground and can even distinguish the lighter colors of the shoals around the Bahamas, but not much more.

The camera cannot photograph stars. But NASA may try for a picture of the moon.

Science News Letter, April 23, 1960

Tiros I Spots Typhoon

See Front Cover

THE ENORMOUS importance of weather satellites became dramatically apparent when Tiros I spotted its first typhoon.

The storm, found in the South Pacific about 1,000 miles east of Brisbane, Australia, is shown on the cover of this week's SCIENCE NEWS LETTER.

The shots were taken by the wide angle camera, during the 125th orbit of Tiros I at 10 p.m., April 9, 1960, and received by Weather Bureau scientists at the Ft. Monmouth, N. J., receiving station.

Science News Letter, April 23, 1960

ROCKETS AND MISSILES

Navigation Moon Launch Will Help Plot Locations

THE TRANSIT 1-B satellite launched April 13 plus four to six similar satellites to be launched in the next two years will enable Polaris submarines to strike with great accuracy, Navy officials here indicate.

To fire their missiles accurately, the atomic submarines must know their exact position in relation to their targets.

Any nation's navigators may use the Transit system to plot their locations within a mile if they have a slide rule and a radio receiver, but Polaris submarines will have more. They will have secret navigational systems utilizing electronic computers. Air Force planes bearing long-range missiles may use a similar system.

Transit 1-B is a simple 36-inch sphere with two oscillators and transmitters operating on 54, 324, 162 and 216 megacycles. It is broadcasting on four frequencies to determine which is best for future operations. Most economically, Transit probably could be integrated with the Tiros-type weather satellites planned by the National Aeronautics and Space Administration.

Just how simple is Transit? As simple as the whistle of a locomotive. The whistle's pitch seems to drop as the locomotive passes. The Transit's radio beam will also appear to drop as it passes a Polaris submarine.

By measurements of this frequency shift (the Doppler effect) a navigator can figure his position.

With this system, commercial planes and ships may also find their locations. And maps will probably be improved as small islands are pin-pointed. Transit 1-B is expected to remain in orbit for 16 months.

Science News Letter, April 23, 1960

AERONAUTICS

Thrust Indicator Announced for Jets

A NEW KIND of thrust indicator for jet engines has been announced. It provides a pilot with immediate data on the performance of each jet engine.

With present instruments, a pilot must calculate by chart and slide rule to arrive at complete thrust information.

A representative of Astromics, a new division of the Mitchell Camera Corporation in Glendale, Calif., said the new instrument provides "a sharply increased safety factor."

The instrument coordinates engine pressure ratio, temperature and altitude to provide a thrust indication.

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