METEOROLOGY

Jet Age Weather Charts

A special network has begun transmitting weather charts for forecasting weather conditions at the high altitude jet and turbo-prop pilots use for flight.

➤ JET AGE weather charts for forecasting flying conditions at levels between 20,000 and 45,000 feet are now being transmitted daily on a national facsimile network.

Dr. F. W. Reichelderfer, U. S Weather Bureau chief, reported that a special facsimile network has begun transmission of 43 high-level charts every 24 hours to provide jet and turbo-prop pilots with the latest aviation weather data The special charts are needed in planning high altitude flights for both domestic and international air routes.

The new facsimile network links the Weather Bureau's high altitude forecast centers at Suitland, Md., and Idlewild Airport, N. Y., with airports at Boston, Philadelphia, Baltimore, Washington, Miami, Detroit, Chicago, Kansas City, Denver, El Paso, Los Angeles and San Francisco.

Facsimile circuits are provided by the American Telephone and Telegraph Company. Transmitting and receiving equipment was built and installed by the Alden Electronic Company of Westboro, Mass.

Jet pilots and airline staffs need to know not only the usual information about weather conditions up to 20,000 feet at airports and along air routes but also wind direction and speed, temperatures and other factors at much higher altitudes. The new weather charts show predicted weather and wind flow patterns for more than a quarter of the earth's surface, from Japan and the Philippine Islands eastward over North America to western Europe, and from the North Pole to the equator.

The new jet weather service is part of a comprehensive plan for improved aviation forecasting. The charts are transmitted by a new flat-bed scanner that permits, for the first time, immediate and continuous sending of large-size weather maps. The charts are prepared with the help of an International Business Machines computer from information received from hundreds of upper air observation points.

Science News Letter, March 21, 1959

PUBLIC SAFETY

Your Portable Radio May Warn of Radiation

➤ THE ATOMIC Energy Commission is working on development of a radiation detection instrument that will fit into transistor radios.

AEC Commissioner Dr. Willard F. Libby said in this way any person would be able to buy for a small extra sum protection in case of nuclear war. He told the Purdue chapter of the Society of Sigma Xi that such a device could also be used as a means of communications.

The aim is to develop an instrument sufficiently cheap so manufacturers can afford to put it into transistor radios by the millions. These could be advertised with a stamp of Government approval as a radiation monitor, Dr. Libby said.

Science News Letter, March 21, 1959

ENGINEERING

Test Model Completed For MURA Atom Smasher

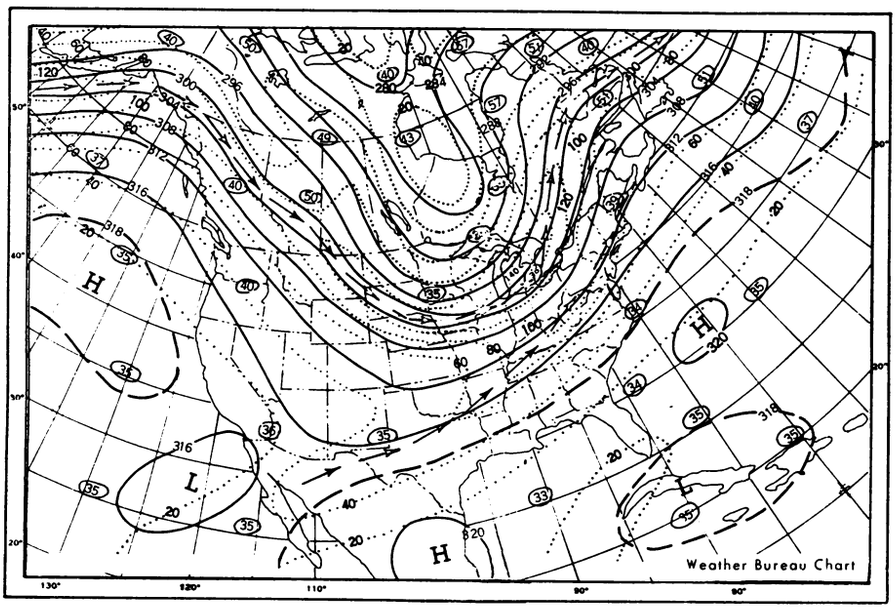
See Front Cover

➤ THE BOTTOM tier of the 32-magnet assembly in the 50-million electron volt model atom smasher has been put together by Midwest Universities Research Association (MURA) at its site 10 miles southeast of Madison near Stoughton, Wis. Actually these are just half-magnets. Each of the completed pieces weighs 1,400 pounds—altogether more than 40 tons. This test model that accelerates electrons, shown in the photograph on the cover of this week's SCIENCE NEWS LETTER, is the forerunner of the giant atom smasher MURA scientists hope to build on the same site.

Complete magnets resemble the open jaws of a crocodile, each looking into the center of the circle. Atomic particles moving in a doughnut-shaped vacuum tube between the upper and lower jaws will be bent and focused in a circular path by the pull of the magnets.

In the giant machine proposed by MURA two oppositely directed proton beams will move roughly a quarter of a million times per second around a circle 1,200 feet in diameter, and produce one million proton-proton collisions per second in a four-inch interaction region. The fixed magnetic field in the MURA design makes it possible to "stack" protons inside the atom smasher.

Science News Letter, March 21, 1959



WEATHER CHART—Solid lines show heights (contours) of 300 millibar surface in hundreds of feet. Encircled figures are temperatures in minus degrees centigrade. Dotted lines are isotachs showing wind speeds in knots. Arrows shown fly with the winds along the principal jet streams. In the photograph Dr. F. W. Reichelderfer (right), chief of the U. S. Weather Bureau, watches the first map reception in Washington with G. F. Stafford, marketing vice president of the Alden Electronic Company, Westboro, Mass.