only one kind of radiation.

Developed by General Electric Company engineers, the new counter is designed for use in testing laboratory equipment, in measuring radiation of ore samples, and in determining how fast radioactive substances disintegrate.

The instrument is set up to test samples of material two inches square. Radiation from a sample strikes a phosphor, a substance which gives off light in the presence of radioactivity. The light hits an electronic tube, which converts the light into electrical energy. A counting circuit is then activated by the electrical energy.

Science News Letter, October 7, 1950

RADIO

Radio Channels Double?

➤ HIGH hopes for doubling the number of available radio channels is promised by the use of what scientists call a single-sideband system of broadcasting. The system is approaching perfection.

Much work is being done by various institutions throughout the country in developing this single-sideband system. Included are technicians of Rutgers University in New Brunswick, with Prof. James Leroy Potter as the local leader.

Purpose of the work is to make more radio channels available. There are over 2,100 standard radio broadcasting stations in the United States now. There could be perhaps twice as many except for the technical difficulty that no channels, particularly in heavily populated areas, are available under the present broadcasting.

The single-sideband system, on which Prof. Potter is working in an integrated national research effort, may eventually dissolve the log-jam of stations frantically seeking airspace, he recently stated. It is still far off, however, since special receivers are necessary.

As explained by him, present radio receivers, set to pick up a certain broadcast frequency, actually receive two separate signals, one slightly above and the other slightly below the broadcasting frequency. These are the sidebands. The receiver combines them into a single perfect signal. Because of these sidebands, frequencies allotted to broadcasting stations have to be spread quite far apart to prevent interference.

Among others working on sideband transmission are the U.S. Air Force and Stanford University in California. A new and radically simpler single-sideband transmitter was revealed by the latter recently. It was based on developments carried out in New Jersey laboratories of the Air Force.

The device utilizes only one of the sidebands formed. It eliminates the carrier signal completely. Voices transmitted by the single-sideband system are received as gibberish on ordinary receivers. Special receivers will be necessary if the system becomes widely used. The communication-type sets used by amateurs can be converted to receive them by a simple adjustment.

Science News Letter, October 7, 1950

METEOROLOGY

October Weather Will Change in Circles

➤ OCTOBER will be different this year. The Middle Atlantic states will experience much above normal temperatures. Montana, Idaho, and Wyoming will be much below normal in temperature. From these two centers the temperature will get gradually warmer and colder in ever-widening circles. But there will be little of the country that experiences a near normal temperature. This is the word of the Extended Forecast Section of the U. S. Weather Bureau.

Where the temperature is much below normal, there will be snow. All over the country, precipitation, including both rain and snow, will be heavier than normal, except in the Pacific coast states, the South Atlantic states and along the Gulf coast. There less rainfall than normal is expected.

For most people this will be an unusual October.

Science News Letter, October 7, 1950

Question Box

AGRICULTURE

Why are potatoes colored? p. 232.

ENGINEERING

What are the "big three" of radioactivity? p. 227.

GENETICS

What will happen to the white race in the future? p. 231.

HOME ECONOMICS

What now keeps fish fresh until they get to market? p. 233.

ICHTHYOLOGY

How does the sea horse act like a monkey? p. 238.

MEDICINE

How can TV be utilized medically? p. 233.

What chemical in tobacco smoke may cause cancer? p. 227.

Photographs: Cover, Douglas Aircraft, Inc.; p. 227, General Electric Company; p. 231, U. S. Naval Observatory; p. 234, 235, American Red Cross; p. 240, Union Carbide and Carbon Corporation.

SCIENCE NEWS LETTER

VOL. 58 OCTOBER 7, 1950 No. 15

44,000 copies of this issue printed

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W. Washington 6, D. C., NOrth 2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., $5.50; 2 yrs., $10.00; 3 yrs., $14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C. under the act of March 3, 1879. Acceptance for mailing at the special rate of postage provided for by Sec. 34.40, P. L. and R., 1948 Edition, paragraph (d) (act of February 28, 1925; 39 U. S. Code 283), authorized February 28, 1950. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to periodical Literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., PEnnsylvania 6-5566 and 360 N. Michigan Ave., Chicago. STAte 4439.