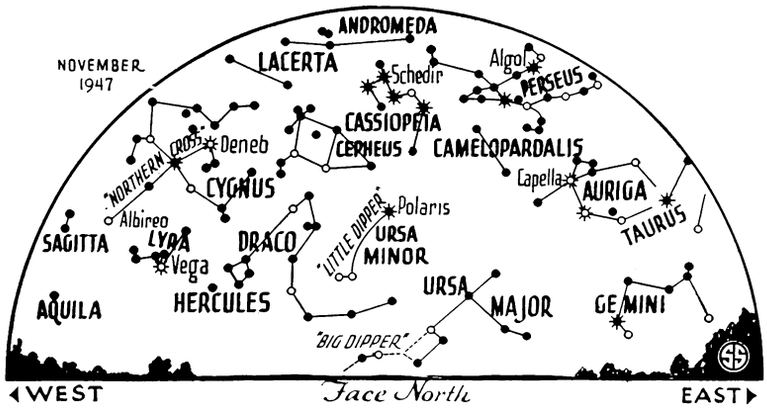

Pacific Ocean to the coast of Peru and then ends in the jungle of Brazil. But over a much larger area one edge of the sun will be covered by the moon, and there a partial eclipse will occur.

The region of the partial eclipse covers the northern part of South America, except the extreme eastern part of Brazil; all of Central America; most of the United States and the western part of Canada. The only part of the United States where it will not be visible is that north of a curved line crossing Massachusetts, New York, Pennsylvania, Ohio, Indiana, Illinois and Wisconsin.

California will see the greatest eclipse, with about 40% of the solar diameter being covered in the region of San Diego. Farther north and east the eclipse will be less. At Denver, for example, the coverage will be only 14%. At Atlanta it will be 10%, and at Washington 4%. New York will get only 2% and Chicago 1%, hardly enough to be noted. Watching the sun through some protective screen, such as an exposed piece of photographic film, possibly a narrow bite will be noted in the sun's edge. The time of the maximum at New York will be 10:48 a.m., EST, and at Chicago 9:21 a.m., CST.

Time Table for November

Nov.	EST	
3	9:00 a.m.	Moon nearest, 229,400 miles
5	2:43 a.m.	Algol (variable star in Perseus) at minimum brightness
	12:03 p.m.	Moon in last quarter
	9:37 p.m.	Moon passes Mars
6	1:40 a.m.	Moon passes Saturn
7	11:32 p.m.	Algol at minimum
9	9:00 a.m.	Venus passes Jupiter
10	8:20 p.m.	Algol at minimum
11	1:00 p.m.	Mars passes Saturn
12	3:01 p.m.	New moon; annular eclipse of sun is visible in Pacific Ocean, partial eclipse visible over most of North America
13	7:39 p.m.	Moon passes Jupiter
14	5:25 a.m.	Moon passes Venus
16	Early morning	Meteors of Leonid shower visible
18	6:00 p.m	Moon farthest; distance 251,500 miles
20	4:44 p.m.	Moon in first quarter
25	4:25 a.m.	Algol at minimum
28	1:14 a.m.	Algol at minimum
	3:45 a.m.	Full moon
30	1:00 p.m.	Moon nearest; 226,100 miles
	10:03 p.m.	Algol at minimum

Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, October 25, 1947

ELECTRONICS

Printed Circuit Radios

Eleven-ounce two-way radios from which you can talk for a distance of 10 miles, to be offered public with private frequencies within the 460-470 megacycle range.

➤ ELEVEN-OUNCE two-way radio with which you can talk to your office or your home from a distance of up to ten miles is ready to go on sale as soon as the Federal Communications Commission sets up a licensing system.

A. Gross, president of Gross Electronics, Inc., Cleveland, showed his new instrument at a symposium in Washington on printed circuits. Flat, "printed" wires and other miniature parts make possible the new light-weight, civilian "walkie-talkie." Complete with batteries and antenna, the two-way radio is carried in a leather case in the way you carry your camera. Price of the new transmitter and receiver will be "less than $200 a pair."

They will be sold in pairs which are tuned to their own private frequencies, within the 460-470 megacycle range allotted to personal radios by the FCC. Each set will be licensed by the FCC.

Another manufacturer will have a cigarette-pack-sized radio receiver using printed circuits on the market "in about a month," it was learned at the symposium. A hearing aid with light, compact printed circuits was also shown to the group of scientists.

New uses for printed wire in electronic circuits will range from radar to toys and games, Dr. Cledo Brunetti, engineer at the National Bureau of Standards predicted. Dr. Brunetti demonstrated his own small, printed-wire radios. He has built a transmitter in a lipstick and a radio receiver the size of a calling card.

A military leader, R. J. Framme, Wright Field, Ohio, engineer and member of the military aeronautical board which sponsored the meeting, declared that printed circuits and other rugged miniature parts are "the only thing" that can be used to get the small size and light weight needed for electronic assemblies on guided missiles, automatic aircraft and other military equipment using electronics.

Science News Letter, October 25, 1947

A tall tree close to a house usually, but not always, protects the building from *lightning*.