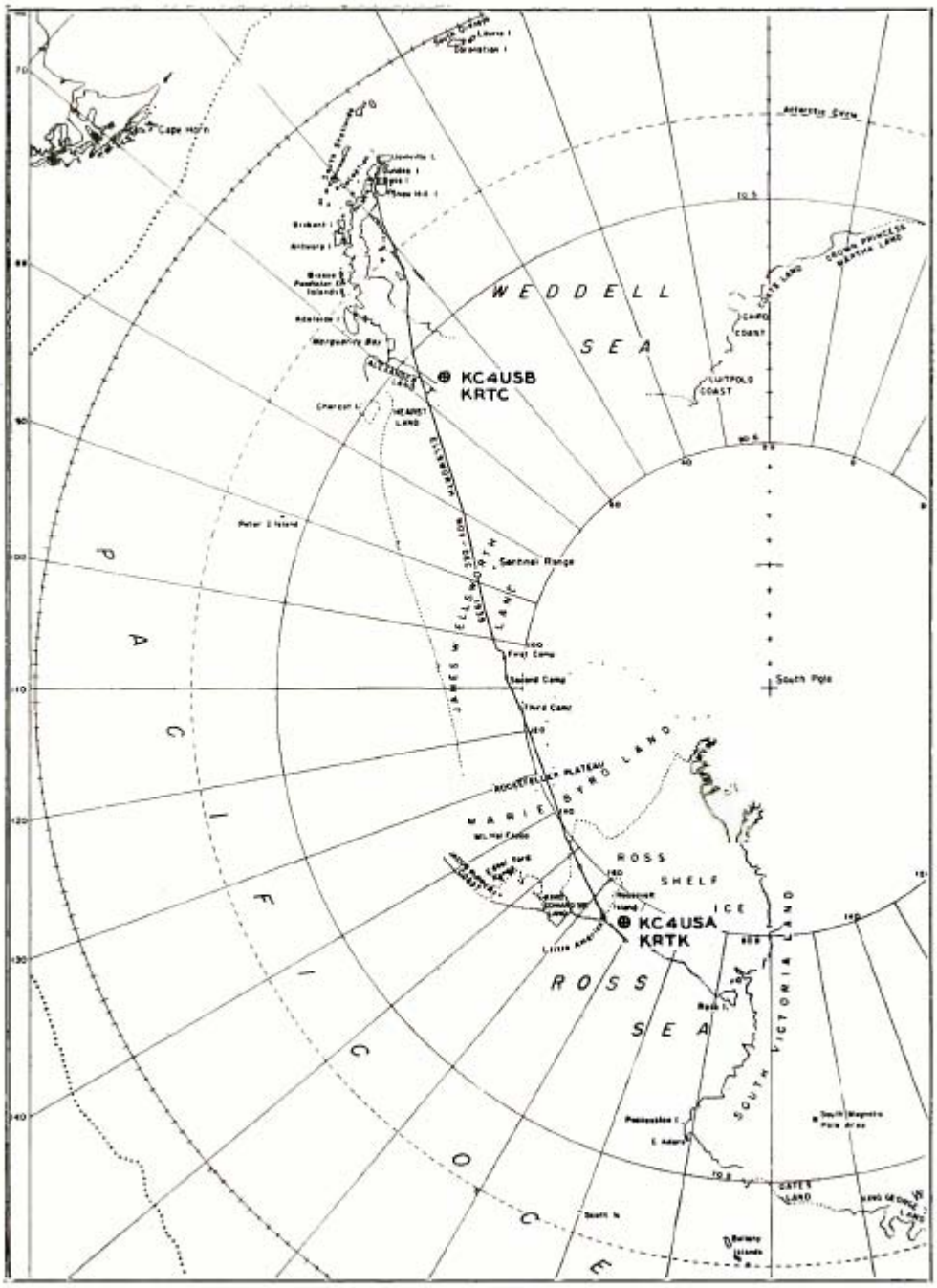
• Radiomen aboard the U. S. S. Bear on her trial run. From left to right they are: J. A. Daigle, E. L. Lamplugh, Clifford Harvey of the transmitter firm, and W. A. Nylund.

Byrd Antarctic Expedition III

• Left to right, Jerry A. Reece, Elmer L. Lamplugh, (Chief operator at the East Base), Clay Bailey (chief operator at West Base and Director of Communications for the entire Expedition), Joseph Daigle, and Howard T. Odom, all radiomen of the U. S. Antarctic Service Expedition. Lamplugh is W1LWD. Photos by W1BBY.



Section of a U. S. Government map of Antarctica showing the projected location of the West Base, KC4USA-KRTK, and of the East Base, KC4USB-KRTC. The snow-cruiser, KC4USC-KRTA, may be located somewhere along the 2600-mile wilderness of ice and snow between the two bases.

Amateur Radio and the

BYRD ANTARCTIC EXPEDITION III

Amateur radio will once again play an important part in the communications plan of the U. S. Antarctic Expedition, now being led into the icy wastes of Antarctica by America's renowned explorer-scientist, Admiral Richard E. Byrd.

From Boston, in mid-November, sailed the two ships of the expedition, the *North Star* and the *Bear of Oakland*, carrying supplies and equipment sufficient to last the crew of approximately sixty men something like two years.

The *North Star* carries the main party, headed by Admiral R. E. Byrd, which is to be based at what will be known as the West Base, located at approximately the same spot as "Little America," on the Ice Shelf of the Ross Sea, south of New Zealand. Also aboard the *North Star* is the famous snow cruiser, *Penguin I*, which is expected to be of great value to the expedition in aiding the exploration of many parts of the vast 2600-mile icy wilderness which stretches between the West Base and the East Base.

On board the ship *Bear of Oakland* are men, equipment and supplies for the East Base, which will be established at a point on the Antarctic continent at the base of the South Atlantic Ocean, south of Argentina and the Falkland Islands.

This expedition differs from previous ones in Antarctica in that it is mostly government-financed and is under the joint jurisdiction of the Department of the Interior and the Navy Department of the United States.

Whereas regular news dispatches and similar traffic were handled entirely by commercial communication systems for the last Byrd Expedition, the present expedition will utilize regular Navy communication channels for official dispatches; press will be handled by commercial communication companies, and unofficial traffic will be sent through amateur contacts, both U. S. and international.

All operators on the expedition are understood to be class A amateur operators, and all were drawn from the Navy.

Approximately 22 men will be based at each of the two main bases West and East, and the balance will be used to man the snow-cruiser, and outposts.

Amateur call letters assigned to the bases are: KC4USA for the West Base, KC4USB for the East Base, and KC4USC for the snow-cruiser. Clay W. Bailey is Chief Radioman for the expedition, and is a veteran in the work, having been in charge of communication on Admiral Byrd's last venture into Antarctica. He will be at the West Base, and while not an amateur himself, will have some amateur operators with him and is intensely interested in determining how effective amateur communication can be. At the East Base is Elmer L. Lamplugh, W1LWD, ex-W6CTV, who will be in charge of communications from that base.

Personnel for the snow-cruiser is not known at this writing but will most certainly include amateurs as it is definitely scheduled to maintain contact with amateurs direct. It carries a 125-watt Harvey transmitter, supplemented by a 30-watt rig and one or more portable transmitters of about 12 watts power. All but the latter will be equipped for phone as well as c.w. transmission, the "trail sets" being c.w. only.

Transmitters at the main bases will include a 500-watt phone c.w. unit, a 125-watt phone-c.w. rig, a 30-watt phone-c.w. transmitter, and one or more portable "trail sets" of 12 wats power.

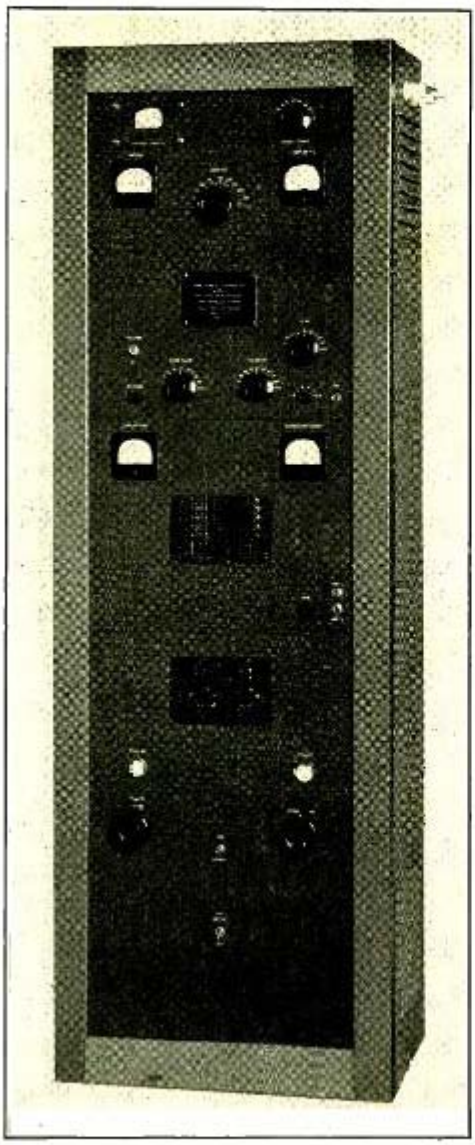
It is not anticipated that any of these transmitters will be actually on the air until sometime in February. Much work is necessary beforehand in the setting up of the longwire beams and harmonic operated antennas.

At the East Base will be 15,900 feet of wire in various arrays, such as "V" beams, rhombics and long-wire antennas. All antennas were designed by E. L. Lamplugh and are intended to throw intensive signals into the United States on both coasts.

It is interesting to note that these antennas can be laid down on the snow and operated with very high efficiency, due to the fact that the snow is not usually very moist and its surface is a good many feet off of the actual ground. In fact, the tractor parties and sleds will trail their antennas in making contacts with the main bases. The tractor parties and outposts will have transmitters of 30 watts power and 12 watts power, but will not use

them for "outside" contacts, being intended for interbase communication only.

Power plants at both bases are to be Diesel engined generators, and a three-kilowatt Diesel driven generator is included in the snow-cruiser as well as auxiliary battery banks, and a rotary converter.



One of the 500-watt push-pull 813 transmitters to be used as the main communications unit both at the East and West Base.

Frequencies of operation on the amateur channels will vary, as all transmitters are capable of "v.f." operation, but regular American amateur regulations will prevail, requiring the use of A-3 emission only in the sections of the various ham bands allotted for that purpose, and c.w. in the regular A-1 sections. Most operation is anticipated in the frequency range from 7 to 30 megacycles. Twenty-meter phone will be heard from KC4USA on 14,150 kc., according to present plans. Schedules have been made in advance with W6KW on the California coast. Other schedules will be made as desired, and as found feasible.

Further information on the expedition schedules will be forthcoming as soon as available.

Shortwave broadcasts are to be handled by RCA Communications System from both East and West Bases, and will be heard over the usual networks, such as NBC, CBS and MBS. Commercial call letters assigned to the West Base are KRTK and to the East Base, KRTC, these calls being used for the shortwave broadcasts and for commercial traffic, such as press.

Radiophoto equipment for the first time will be included in the expedition, using the facilities of World-Wide Pictures, Inc. Another unusual feature of the expedition is that automatic transmitting and recording machines for tape operation will be in use.

QSL cards, showing a map of Antarctica and the locations of the West and East Bases, as well as the probable location of the snow-cruiser, have already been prepared, but plans as to their distribution to stations contacted have not yet been worked out.

Tests have been made on the transmitters to be used, these tests having been made in the vicinity of Boston, Mass. And as Elmer Lamplugh put it, "Putting up a beam in a blizzard is no joke, but thank God, when we get to the South Pole we will have no next door neighbors to squawk about key clicks or unsightly antenna wires running across their beautiful vacant lots!"

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"Signs of the Times"

Union Telefonica in Argentina has placed on the market an attachment for dial telephones which allows a person automatically to dial any one of a large selection of commonly used numbers merely by setting a pointer to the name of the desired firm or party and pressing a small handle. When the handle is released the attachment automatically dials the desired number.