The shortwave pack transmitter used by NBC for parachute work.

Hot News ON THE AIR

by ABE SCHECTER
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as told to EMILE C. SCHNURMACHER

Flood, fires; receptions, riots; wherever anything happens you'll find the broadcast engineers and announcers on the spot reporting the news while it's hot.

WHEN an important news story has broken, a newspaper reporter can write his story from interviews with eye witnesses and it is still hot news when the average citizen reads about it in his daily newspaper.

But with the fast paced development of special events radio broadcasting, the reporter of the airlanes has to be Johnny-on-the-spot while events are still happening; and despite hell and high water, the equipment which broadcasts his voice throughout the country must be there too.

The broadcasting of special events, whereby with the twist of a dial, you can tune in on a roaring volcano, the abdication speech of a king, the crash of a dirigible has undergone many scientific improvements since 1929. Previous to that time, radio announcers covering an assignment of news interest, could go just as far as the telephone lines which piped their voices into the broadcasting studios. If there were no telephone lines, there was no story—as far as radio was concerned.

With the development of mobile short wave sets in swiftly moving trucks, of small back pack sets which the announcers may carry on their backs, and of even smaller short wave sets which have successfully been used in high silk hats and other apparel, hot news may be broadcast from any place, at any time and the previous technical difficulties have been overcome.

Special events broadcasting today falls into two general groups. The first are scheduled features, which we know about ahead of time and for which we can make preparations a long time in advance.

An outstanding broadcast of this group occurred on June 8th last year when from tiny, uninhabited Canton Island in the South Seas, George Hicks, NBC Special Events announcer, broadcast a complete description of the longest eclipse of the sun in 1,200 years.

To make the broadcast possible Hicks and two engineers were sent to the South Seas for almost three months and transported almost four tons of broadcasting equipment to convert the lonely atoll into a complete broadcasting station.

Of all the "unpredictable" special events broadcasts of 1937 which were carried over the NBC networks the work done during the Ohio River floods, early in the winter, probably was outstanding. The broadcasts offered the greatest problems to the engineers and technicians, and the greatest hazards to the announcers and field men who bore the brunt of the colossal task.

In comparison, describing the air journey of an entire village, broadcasting a running description of the annual Indianapolis Speedway classic, covering track meets and gold cup matches, bringing the voice of a diver from a hitherto unreachable depth and describing an army plane roaring through the sub-stratosphere seemed almost like child's play.

The great flood came in late January, 1937. The Ohio river, swollen by thaws and rains went out of its banks like an angry beast destroying all in its path. Thousands of persons in the river valley were made homeless. Property worth millions of dollars was swept away, leaving scores upon scores of small farmers destitute.

Worst of all, power plants failed, telephone lines were washed out and the fertile territory was suddenly as isolated from the world as it was in the days when Daniel Boone led a

From a restaurant in Hopewell, N. J., the news of the Lindbergh kidnaping goes over the air. This was before the now famous trial.

With minute transmitter, and the famous "beer mug" mike, two NBC men describe the Chicago Open Golf Tournament, 1937.

group of hard pioneers into the wilderness that is now Kentucky.

When NBC hurried to the aid of the stricken area the engineers were faced with the difficult task of establishing a broadcast schedule, then finding the best means of maintaining that schedule. Engineers and announcers fought their way into the heart of the devastated area and the series of broadcasts describing the suffering and horror of a flood were begun.

A receiving station was established in Vincennes, Ind., and to this the first general description of the flood short-waved from an airplane was achieved. The standard equipment in the plane was used with the addition of the NBC audio equipment. The broadcast was picked up on the usual airplane band and piped into Chicago, where it was put on the air from their studios. The entire broadcast was conducted with a one-way hook up, with the announcer in the plane taking his cues from standard broadcasts.

The second broadcast from a plane, using the same equipment and the same receiving point, was planned for a two-way hookup. At the last minute it was discovered the ground crew, perched upon one of the few dry roofs in the area, was in a dead spot. The plane could hear the men on the ground, but they could receive nothing from the plane. The broadcast went ahead, Menser doing as Brandt had done earlier, taking his cues from standard broadcasts.

As the flood waters swelled and more and more square miles of land went under water difficulties increased. So did the need for communication. A gasoline engine was sent from Chicago to Evansville where headquarters had been established in a hotel. When the local power plant failed the engine was used to charge batteries and keep the temporary station functioning.

When it was possible the broadcasts were piped into Chicago in a dozen roundabout ways. When this wasn't possible the programs were short-waved to Vincennes, Ind., on a 110 meter band and piped from there.

But the need of getting first hand information added to the troubles of the crew.

To get this information men were sent out in boats and stationed here and there about the area. To pick up the programs, getting them to Vincennes and thence to Chicago, three engineers and three announcers were used. The announcers were equipped with compact transmitter sets that were built to be carried on the back.

These low powered sets were many times more efficient than any mobile units could have been. They were taken almost anywhere the carrier went, and their power was so low, and their frequency so varied that many operated in the same locality without interference. The "beer-mug" transmitters which were small enough to be carried in the hand were especially useful in saving lives and directing the rescue ships.

While the engineers stood by at the central station, in an Evansville hotel, and listened to the complaints about the noise the gas engine made, the announcers journeyed about with transmitters, telling of what they saw.

Another interesting Special Events broadcast was the description of the trip by air of all 20 residents of Exline, Ill. The American Airlines invited the residents of the village to fly to Chicago and back home. All ac-

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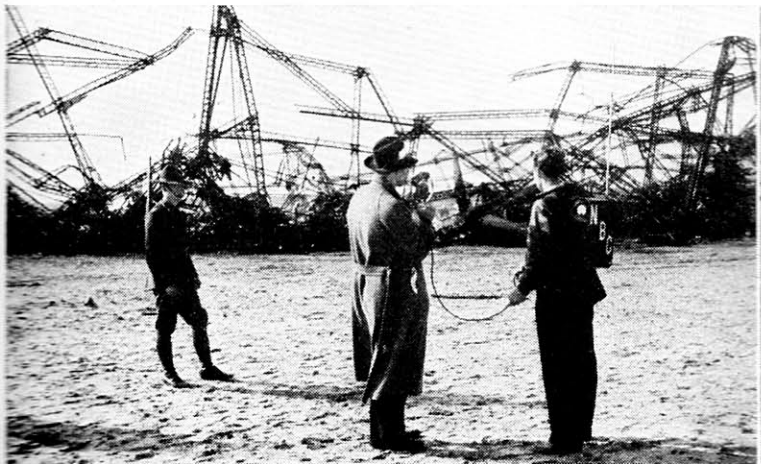
With pressure so great that a special mike had to be used, Max Gene Nohl prepares to announce from the bottom of Lake Michigan. The broadcast had to be picked up in Wisconsin to get on the air in Chicago.

While a soldier stands guard, the announcer describes all that was left of the proud Hindenburg after it crashed at Lakehurst. An assistant carries the pack transmitter.



Announcer Barry & Engineer MacCornack report flood conditions in Evansville, Ind. Short and long wave radio saved countless lives during the Ohio Flood of 1937.

A walking station. Wrist watch mike; walking-stick antenna and transmitter; binocular case — batteries. Behind him an engineer monitors the transmission.

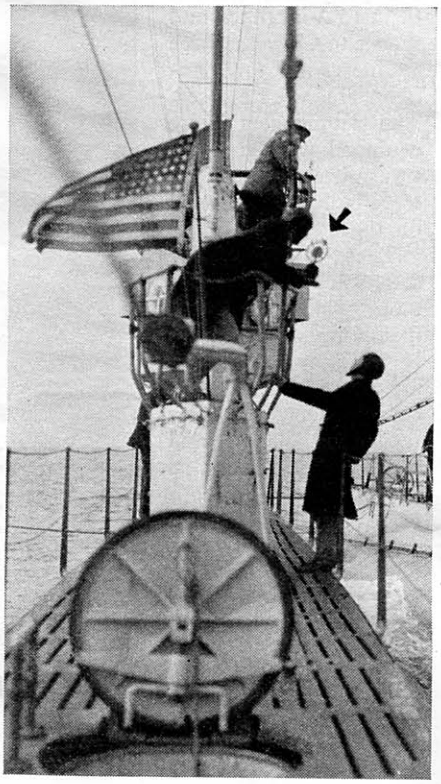
cepted. The huge airliner flew from Chicago to the village, circled and returned with its load of travelers. Norman Barry was aboard. At Exline was the NBC Mobile Unit, ready to act as a receiving station and here Hal Totten was all set to do the announcing. The band used was 110 meters, and NBC audio equipment was installed in the plane. Because of interference at the Chicago Studios a special short-wave station was set up in a nearby building. This station was operated on a 140 meter band and had two kilowatts power. The broadcast was picked up by the Mobile Unit and piped to the studios. There it was put on the net-work and re-piped to the short-wave station. The men at the short-wave station kept in contact with the plane, maintaining the two-way hook-up throughout the program.

Another two-way hookup by short-wave for a network broadcast was achieved when two window washers, one clinging to a narrow window ledge at Radio City, New York, and the other to a window in the NBC Studios, Chicago, carried on a mutual interview. The window washers were equipped with pack-sack transmitters working on a seven-meter band. The short-waves were picked up by 50-watt portable stations on the roofs of the buildings and fed to the studios on an eight-meter band.

The Indianapolis Automobile race offered some interesting problems for the engineers. The area to be covered was great and the only solution the engineers could hit upon was to have a number of pick-up points. They established five stationary points and a sixth in an Eastern Airlines plane.

With the duty of describing the race falling to Charles Lyon and Graham McNamee, the broadcast opened. Outside the grounds the Mobile Unit was parked to act as receiving station. Working on a nine-meter band, using the "beer mug portable" transmitter with a power of five-tenths watt, Charles Lyon moved from point to point giving his descriptions.

The description was picked up in the judge's pagoda and piped to the Chicago studios. The Mobile Unit served as the tie-in for the two-way hookup and operated on a 140-meter band. The four broadcast points from which the announcer with the "beer mug" was heard were the starter's platform, the timer's platform, the pits, the Victory Lane wire. All the equipment used, including that aboard the plane, was



"Pig Boat" broadcasts are not uncommon. Note the old fashioned mike. The newer types are too delicate to stand vibration.

standard NBC audio and transmitter equipment.

The A.A.U. track meet in the Marquette Stadium, Milwaukee, offered no difficulty to the engineers. Announcers toured the field with the "beer mug" and the short-wave from that was picked up by the Mobile Unit, where other announcers were stationed. From there the program was fed over telephone lines to the studios and so to the networks, an eight-meter band being used for the cue channel.

In July, two announcers used a portable set as the cue channel hookup on the broadcast of the Medinah Country Club Open Golf Championship play. Another announcer with the "beer mug" was in a tent near the clubhouse. There he interviewed players and, on the final day moved to the last hole to describe the play. The program was piped from the course directly to the studios.

The Mobile Unit could not be used in this broadcast because it had been moved to Shawneetown, Ill., for another Special Events broadcast that day. This program, consisted of a tour of the town that had been so ruined that plans were being perfected to move it to higher ground. The program was picked up by a temporary station in a bank building and piped to Chicago.

In September the Gold Cup Boat Races at Detroit offered some problems in placing equipment. It was necessary to follow the racers to give a good description of what went on and this meant portable short-wave. An audio station was set up on the Detroit Yacht clubhouse on Belle Isle, an audio and receiving station on the roof of the Tower apartments and a short-wave station on a yacht in the Detroit river.

When time for the broadcast of the Annual National Cornhusking Championship came along some real problems presented themselves. The use of 27 pieces of major equipment was involved.

A diesel-powered tractor was built for the occasion. Specifications of NBC engineers were used in the construction to reduce interference and vibration and a special short-wave transmitter was built into the machine. It was felt necessary to have the tractor because of the muddy conditions which prevail in cornfields at that time of the year.

Next a tower was erected in the center of the 45-acre field where the con-

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Asbestos protecting the mike, NBC broadcasts the eruption of Mt. Kilauea, Hawaii.

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test was to be held. In this a receiving set was installed.

Next another receiving station was set up in the Chamber of Commerce Building, Marshall, Mo., the nearest town to the field. The Mobile Unit, on the day of the broadcast, was stationed at the base of the tower.

Operating on four channels, nine meters, 275 meters, 110 meters, and 140 meters, the broadcast went on the air. The announcers on the tractor, broadcast on the nine-meter channel. This was picked up at the tower and rebroadcast by shortwave on the 110-meter channel to the station in Marshall. There it was piped to the NBC studios in Chicago and fed to the networks. For cues and directions between the station in Marshall, the Mobile Unit and the tractor the 275-meter channel was used. The 140-meter channel was held for emergency.

A Special Events broadcast that offered thrills to the announcer and lots of problems to the engineers was the record dive in Lake Michigan, made by Max Gene Nohl, youthful Milwaukee scientist and inventor on December 1, 1937. The dive was to be made from the Coastguard Cutter Antietam so the problem of a short-wave station at that point was no problem at all. The Antietam is equipped with radio and the only installation necessary was the NBC audio. But a receiving point was something else.

Searching the shore of Lake Michigan for a likely spot, engineers discovered a church at Port Washington, Wis.

Here they set up a receiving station and had the lines to the Chicago studios tied in. When the broadcast went on the air with Nohl starting his descent the program was short-waved from the Antietam on a 110-meter channel, picked up at the church and fed to the telephone lines and to the Mobile Unit which worked the cue channel. An attempt to install a ribbon microphone in Nohl's helmet was abandoned because of space and a carbon mike was used. This was affected somewhat by the pressure when the diver reached the maximum depth of 420 feet, but Nohl's words were understandable over the airways.

Interference from man-made devices created the greatest problem when a broadcast from the sub-stratosphere was planned. Because of the limitations of the radio equipment in the plane, a regulation 15-watt army set, it was deemed impossible to receive the broadcast in the downtown area.

NBC engineers installed standard audio equipment for the announcer. The short-wave station in a Chicago building was called into service and the Mobile Unit was made the connecting tie-up. The broadcast opened with the announcer describing the plane and the sensation of flying 20,000 feet above the earth. His words were picked up by the Mobile Unit, which was parked in a sparsely settled portion of Chicago, from whence it was piped to the studios and to the other building where the short-wave station maintained the cue channel, keeping in constant contact with the plane.

And so the Special Events broadcasts go on. Each presents its problems. Each problem is solved and the engineers continue to insist, after the broadcast is all over, that it's all in a day's work and really was no problem at all.

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