

March 23, 1977

Mr. T. F. Walkowicz
National Aviation & Technology Corporation
630 Fifth Avenue
New York, N.Y. 10020

Dear Mr. Walkowicz:

This is in reply to your letter of February 8 to Mr. Robert Galvin requesting information on the SCR536 Walkie-Talkie which was later re-named the Handie-Talkie.

Paul V. Galvin was the president and owner of the Galvin Manufacturing Corporation, 4545 W. Augusta Blvd., Chicago, which produced these radios during War II. Mr. Galvin is now deceased and Mr. Robert Galvin, the present Chairman of Motorola, is his son. Our Chief Engineer and the creator and inventor of the SCR536 was Donald Mitchell, also deceased. I, Elmer Wavering, was temporarily handling governmental contracts at that time and all three of us were contacting Wright Field then and, probably, all three of us made your acquaintance during that period.

To give you some additional background which may be of interest, the following is a chronological history of the (Handie-Talkie) Walkie-Talkie set. In the summer of 1940 when the practice war games were being held at Sparta, Wisconsin, by the Illinois National Guard, I was contacted by a gentleman named Royal Munger, a colonel in the Reserves and who was also Financial Editor of the Chicago Daily News. He wanted to secure some Motorola two-way radio equipment, which was at that time just becoming popular with the various city and state police departments, to try in tactical warfare of the Red and Blue Armies.

Since our Signal Corps, up to that time, was using no radio, but was still relying on land line telephones and carrier pigeons, but Hitler's panzer divisions had already invaded the low countries of Belgium and Holland and had made an end run around France's Maginot Line; it was already obvious to him that we were in a mobile mechanized war.

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I supplied Roy Munger with a dozen or so pieces of two-way equipment for him to use in rented used cars and trucks which were the only vehicles available for their mobile army test. In return, I requested permission for our Chief Engineer, Don Mitchell, to join the war games as an observer.

It developed that during that period there were continuous and heavy rains in Wisconsin and many vehicles bogged down in the backwoods timber trails with the radio equipment. Upon Don Mitchell's return, he immediately started development on the Walkie-Talkie, which was eventually given the type number, SCR536, by the Signal Corps. He made up a couple of models and took them to Fort Monmouth, N.J. and tried to sell the idea to the Signal Corps, but generated no interest and returned to Chicago quite discouraged, but continued his work improving the design.

On November 2nd of that year, President Roosevelt went to Hyde Park, N.Y. to cast his vote in the Presidential Election and the Secret Service appealed to Fort Monmouth to develop some kind of a radio system on a crash program to provide security because of the recent previous assassination of Mayor Cermak of Chicago on the Speaker's Platform at a political rally in Miami, Florida, by the assassin's bullet intended for President Roosevelt.

A young civilian engineer of Fort Monmouth, whose name I cannot recall and who had become very enthralled with the possibilities of Mitchell's Walkie-Talkie when it was being evaluated at Fort Monmouth, suggested it for developing the ideal security network for the President at Hyde Park and on a crash program, we provided laboratory units, I believe about four or possibly six. This young engineer accompanied the units to Hyde Park.

When the President emerged from the polling place to enter his limousine, he observed a secret serviceman using a Walkie-Talkie and he became interested and tested it out himself and asked the Signal Corps engineer for the name and address of the company who manufactured it. Within a couple of days the phone wires were hot with inquiries regarding it for a top secret use which, of course, we were not privileged to know and which eventually developed to be America's top secret weapon at that time, the Paratroopers, who were in training at Fort Benning and were to be taken behind the army lines in the wooden expendable gilders being developed by Mr. McDonald of the now McDonald Douglas Aircraft Company of St. Louis.

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In early 1941, we were given a contract for a small experimental quantity of units, but to also cover the complete tooling program and were requested to go on a speeded up program on a quantity of handmade engineering samples while the production tooling was being completed. By November 1941, we had already received small production orders and were in production on what, by that time had received its official number, SCR536, and it apparently had also, by that time, been designated as part of the official paratrooper's gear. When Pearl Harbor occurred on December 7th, all we had to do was step up production and it, probably, became the first piece of two-way radio equipment being delivered to the Signal Corps and Army.

Each unit required two quartz crystals, one for receiving and one for transmitting, of the same frequencies and there were 44 sets of these at different frequencies which had to be delivered as a part of each unit so that they could tie in with the big armoured division networks for the tank sets, which were built by Western Electric, and for the SCR510 and the SCR610, which were built by us and were installed in the Armored Division's half tracks and half ton vehicles. Each one of those equipments required 80 sets and 120 sets respectively of quartz crystals to tie into the top secret communications networks developed by Colonel James O'Connell, who later, because of his great radio communications achievements, became the Chief Signal Officer and after that head of the White House communications network before he retired.

Immediately after Pearl Harbor, because of the tremendous requirement for quartz crystals which were going to be needed by the millions and which had never been made before except by a few professional crystal hand grinders who made one for each radio station and a few amateurs who made their own for their ham stations, it was apparent that none of these equipments would be useable unless we could create a huge quartz crystal manufacturing industry overnight. I moved out of the equipment activity and took over the organization of the quartz crystal industry and worked on a daily basis with Colonel O'Connell through War II, supplying the FT243 quartz crystal for the Signal Corps and the CR1 quartz crystal for the entire Air Force.

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At that point, Dr. Daniel Noble, from whom you have already probably heard, set to work developing an FM Walkie-Talkie which used only one pair of quartz crystals with all the other network frequencies being synthesized and the Walkie Talkie backpack sets came into very great use in the final days of War II and were most importantly used in the Korean War a few years later.

If there are any other questions that might develop in your mind because of the above long dissertation, feel free to inquire and I will try to bug my memory for you.

Sincerely,

Elmer H. Wavering

cc: Mr. Robert W. Galvin