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From: Galvin Mfg. Corporation  
4545 Augusta Blvd.  
Chicago 51, Ill.

THE FAMOUS "HANDIE-TALKIE"

*1944  
(no p2)*

ANOTHER MOTOROLA RADIO FIRST

*SCR-536 3.5 to  
BC-611 6.0 Mc*

The famous Motorola "Handie-Talkie", 2-way portable radiotelephone set used by our armed forces for front line communications, is an original development of the Galvin Manufacturing Corporation, Chicago, makers of Motorola Home and Car Radio. This is how the "Handie Talkie" came into being.

Donald H. Mitchell, Director of Engineering of the Galvin corporation, was watching army maneuvers at Camp McCoy, Sparta, Wisconsin, in August of 1940. When he saw the heavy cumbersome two-man field radios then being used, he promptly stuck his neck out by remarking to Col. Leland H. Stanford of the U. S. Army Signal Corps:

"That's no kind of equipment with which to fight a war -- I'll give you a better radio for your purpose."

Col. Stanford promptly took him up and Mitchell had to deliver.

*a year before Pearl Harbor,*

Some three months later, in cooperation with Galvin engineers, Mitchell had developed a two-way portable radio so small it could be carried in the hand and yet powerful enough to perform its intended tasks. The new device now weighs slightly more than five pounds, has some 585 parts of miniature size, and is battery operated. With a simple flick of the finger, the operator may either send or receive vocal radio messages.

Each "Handie-Talkie" set operates on a fixed frequency, which can be quickly changed by simply changing a <sup>crystal</sup> tube. The folding antenna attached to each unit is used for both receiving and sending. The operator holds the unit in his left hand, the ear piece at the top, the mouthpiece at the bottom, similar to a telephone hand-set, and when he wishes to talk he pushes a button which causes the transmitter to operate and his voice is carried over the air. To listen he releases the button and the receiver is connected so that he hears the incoming message.

When used for both sending and receiving messages the batteries have a life of 12-1/2 hours. For receiving only, the batteries will last 50 to 60 hours. The range is limited to short distances and is used by troops to keep in contact with each other in landing operations and under battle conditions, as well as for other war communication purposes.

It is difficult to weigh the value of the device in terms of dollars saved or time conserved but it has demonstrated its worth in the lives of our fighting men it has helped to preserve. Col. Frank Rash of the Army wrote Mitchell saying that he would "Never know the number of lives your little instrument has saved".

Besides being used by front line troops for reporting positions, locations of machine gun nests, shell fire, mortar batteries, and the need for aid or more supplies, the "Handie-Talkie" is used by airborne troops and paratroopers. Each set is completely waterproofed and may be dunked in the surf without losing its operating efficiency.

The "Handie-Talkie" has played a vital role in army communications and has been used successfully in amphibious assault shore parties and has also been used by airborne paratroopers and glider air commandos. The shock troops who landed on the French beachheads after the Naval bombardment and Air Force bombing\* carried "Handie-Talkies" to keep in contact with each other and with the divisional headquarters aboard the key ship of their Naval force. *\*on "D-Day" June 6, 1944*

Major General Harry C. Ingles, Chief Signal Officer, U. S. Army Signal Corps, said recently, "With the first troops that landed was the smallest radio transmitter and receiver in the Army, the "Handie-Talkie". This five-tube set, carried in one hand, is no larger than a cracker box and is built with the precision of a pocket calculator".

There are many peacetime uses for the "Handie-Talkie". In fighting fires, the "Handie-Talkie" may be carried by firemen right to the source of the fire from where instant reporting to the Battalion Chief of the conditions encountered will expedite the application of proper measures. The police may use the "Handie-Talkie" to clear traffic jams, to obtain better control of crowds, to muster and direct their forces in case of riots, strikes and other emergency situations. Forest rangers may find many advantages in using the "Handie-Talkie". In industry and on railroads the office may be placed in instant touch with men in the plant, in the yards and in other distant places by using the "Handie-Talkie".

The Federal Communications Commission has proposed a Citizens' Radiocommunication service in the 460 to 470 megacycle band of the spectrum. According to a recent FCC press release, "Small portable radios may be used, for example, to establish a physicians' calling service, for communication to and from trucks and tractors operating in and around large plants, on farms and ranches, on board harbor and river craft, in mountain and swamp areas. Sportsmen and explorers can use them to maintain contact with camps. Department stores, dairies, laundries and other business organizations can use the service to communicate with their delivery vehicles".

However, there are many problems which must be overcome despite this liberal ruling of the FCC. "Handie-Talkies" are powered by batteries inasmuch as they are portable sets. Using such low power in such an ultra-high frequency will not permit communication over a very great distance -- and long distances plus low cost is what is usually wanted by anyone using radio communication. Some day "Handie-Talkies" will be utilized for the Citizens' Radiocommunication Service. At first dry battery operated portable sets will not be used. Power will have to come from central stations or 6-volt wet batteries, but later on, when new tubes and stronger, longer-life batteries are developed, then there will be common use of "Handie-Talkies".

As a mark of esteem for his part in designing and developing the "Handie Talkie", the Chicago Tribune, on September 21, 1944, presented Don Mitchell with their war worker's award and, in a colorful ceremony, with high officers of the United States Signal Corps present and participating, the entire proceedings were broadcast over the air via Station WGN.