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QST Issue: Feb 2003
Title: A Microphone Story
Author: John H. Dilks III, K2TQN

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A Microphone Story

The most popular early microphone was the "carbon" type. Most hams purchased their microphones or adapted older telephone mikes. Carbon mikes were fairly inexpensive. *QST* and other magazines had numerous articles showing how to make mike stands and how to use suspension springs to keep the carbon mike from picking up annoying vibrations from the room.

In 1916 Edward C. Wente (at Western Electric and Bell Labs, 1914-1954) devised the condenser microphone, the first microphone with a flat frequency response suitable for music. With amplification, this microphone was initially used over telephone lines for music.

After 1921 the number of commercial broadcasting stations grew and there was a need for better microphones for use with music and singing. Large companies, such as Western Electric and GE, began developing new types, not using carbon. One type, the condenser microphone, quickly became popular.

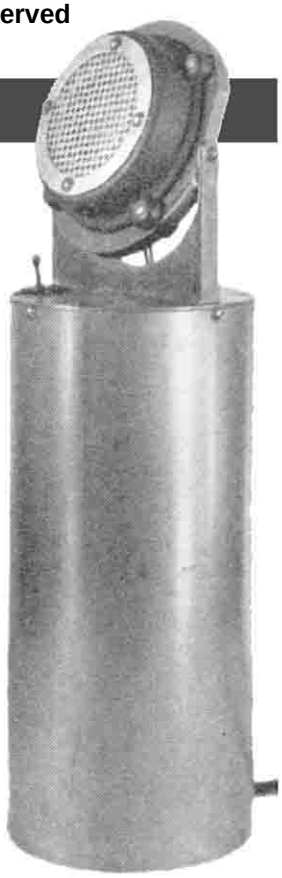
At the same time more hams began using microphones to broadcast voice. They too desired to sound better than the carbon type would allow. As commercial condenser microphones were very expensive, hams began to make their own.

Then in the November 1932 issue of *QST* there was an article by Howard Anderson, W1BVS, called "A Sure-Fire Condenser Microphone." Anderson said, "The materials used for this job require a minimum of machine work and are of a type that is generally available, the whole thing being built around an obsolete magnetic loud-speaker unit of a type widely distributed in years past and still to be found kicking around radio shop 'graveyards' in goodly numbers. As an alternative to this unit, the whole head can be machined to the specifications given in the drawings."

Also in the article was a schematic for a one-tube amplifier necessary to make the microphone function well. A small cylindrical case was also shown, to house the microphone and the amplifier as one complete unit.

In the same issue was an ad for "A Real Condenser Microphone with a 2-stage amplifier by Sound Engineering of Chicago for $65." Several pages later there was another ad from United Radiobuilders, a New Jersey firm, saying: "Complete parts for making a condenser mike head, with instructions for $4.50." So if the ham wanted one badly enough to build one, they were now affordable.

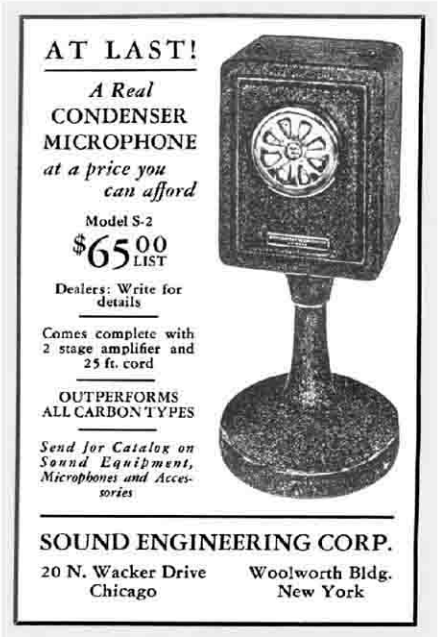
In 1934 the Philadelphia M&H Radio Company featured the "Bruno" microphone kit in their catalog. It was really inexpensive, $2.94 in kit form, or $5.88 completely assembled and factory wired.



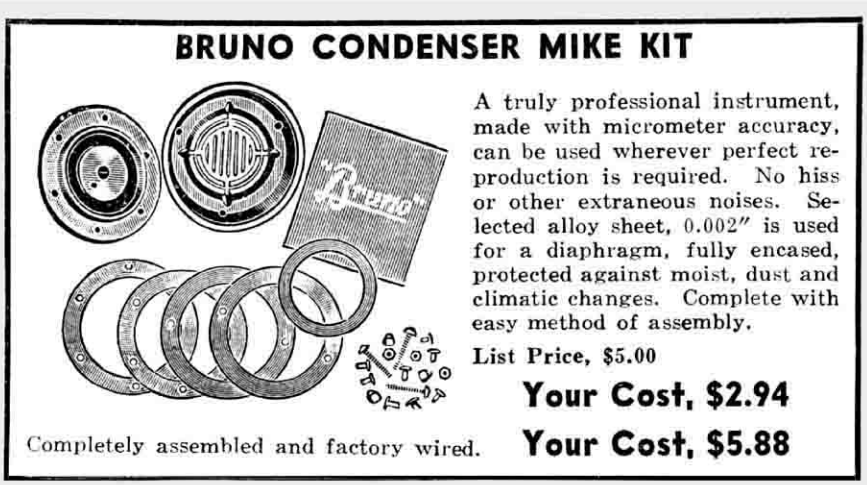
Condenser microphone from the 1932 *QST* article.

The W6CKF Condenser Microphone

Thomas J. Imler, Jr, of Phoenix, Arizona was first licensed as W6CWI on April 30, 1929. The following year he picked up a second station license, W6EXC, for "Portable operation in the sixth radio district only." (It was common back then to have a second call, good only for "portable" operation. These were issued as a "Station License.") His next call sign was issued in mid-1932, W6CKF. At the same time he dropped the other, older calls, and they were reissued to other



This ad for the Sound Engineering condenser mike is from page 76, Nov 1932 *QST*.



Completely assembled and wired for $5.88!

John Dilks, K2TQN ♦ 125 Warf Road, Egg Harbor Township, NJ 08234-8501 ♦ k2tqn@arrl.org

hams. On page 60 of the November 1932 issue of *QST* he is mentioned as helping W6FEA construct a 200-watt c.c. (phone) rig. He held this new call for a few years, and by 1939 his call was no longer listed.

Little else of Imler's ham radio career is known, but his legacy will live on, thanks to one very beautiful microphone he constructed. His family owned the first sign shop in Phoenix, and I'm assuming he was active in the business and familiar with metalworking. The workmanship on the microphone is outstanding.

Not satisfied with the usual cylindrical housing, he constructed an Art-Deco cabinet out of heavy sheet copper. Seventeen inches tall overall, it has a lower compartment for the "Bruno" condenser microphone, a center compartment for the one-tube amplifier, and a third compartment at the top to hold the batteries. The cabinet itself measures 15 inches tall by 6 inches wide and 6 inches deep. "W6CKF" is embossed down the front and his name, "T. Imler" is engraved at the top, into the hanging bracket. The back panel slides up and off to expose the interior; no screws are used. Design wise, I think it has a Southwest look.

There appears to have once been a two-tube amplifier in it, as there are cutouts for two tubes. The knob at the top at one time controlled the gain as well as functioning as an on-off switch for the batteries.

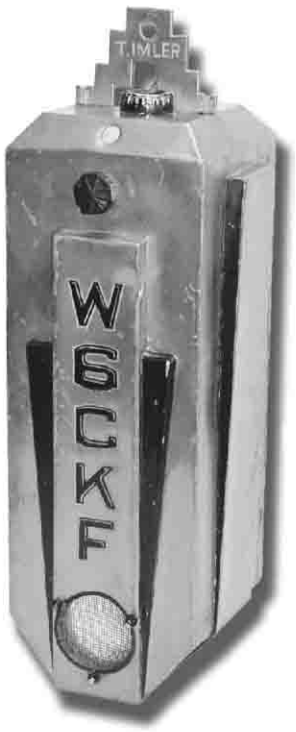
Can you imagine how it must have felt, sitting in front of that microphone, calling CQ? It makes me wonder what the rest of his station looked like. I'll bet it looked just as good.

The microphone came with his two early licenses and his W6CKF logbook. His log covers from August 26 to July 8 with no year shown. I think it's safe to assume it was in the 1933-1934 time frame, consistent with the 1933 and 1934 call book listings.

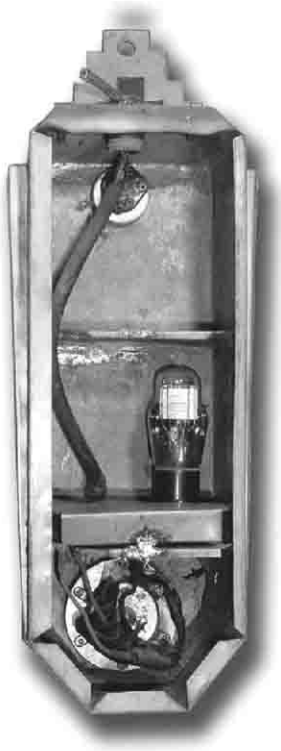
He worked stations from as far away as Japan and Australia as well as locals from the sixth district, and quite a few QSOs from the fifth, seventh, eighth and ninth call districts. There were just a couple of ones and threes listed. The two bands operated were shown as 40 and 20-meters. Strangely, there were no comments, no operator names, cities, states or times listed in the log.

How I Got the Microphone

This mike was listed on the on-line auction site eBay in 1998. I bid on it, but did not bid high enough to get it. My friend Brad Jones, a microphone collector, was the winning bidder. Realizing what a mistake I made, I contacted him immediately and let him know that I was interested in the microphone, if he ever decided to sell it. Eventually he did decide to get rid of it, and I traded some things for it.



The W6CKF mike is a beautifully crafted instrument.



Rear view of the microphone with cover removed.

To finish the microphone for display, I'm hoping to find a W6CKF QSL card to put with it. And maybe someday I'll find someone who knew him or worked him.

Condenser microphones are still in use and popular in the music industry today. Some recording artists closely guard their own personal mikes and only use them for their own recordings. They feel it provides the sound the artist wants. Good condenser mikes today can cost well over $1000, with many manufacturers producing them.

Hamfest

Weather permitting, I'm planning to be at the Richmond (Virginia) Frostfest on Sunday, February 9. This hamfest always has a good selection of older ham gear and parts, and it's inside and warm. The last time I was there I found a couple of great radios. See their Web page, **www.frostfest.com**.—*K2TQN* QST

NEW PRODUCTS

END-FEDZ HF DIPOLES FROM PAR ELECTRONICS

◊ Tired of feeding your dipole in the middle? PAR Electronics' new End-Fedz antennas are full-size, half-wave dipoles fed at one end. These wire antennas can be mounted vertically, horizontally or as slopers, without ground planes or counterpoise wires. For portable operation, the far end can be hung from a tree limb or draped from a hotel window—no tuners required.

Features include machined end insulators, UV-resistant ABS enclosures, silver/Teflon SO-239 connectors, stainless steel hardware and coated, 14-gauge Flex-Weave stranded wire elements. The antennas can handle 100 W of RF, and models are available for 20 through 6 meters.

Prices: $41.95 (20, 17 and 15 meters); $40.95 (12 meters); $39.95 (10 meters); $38.95 (6 meters). End Fedz are available direct from the manufacturer or from Universal Radio (**www.universal-radio.com/catalog/hamwire/4456.html**). For more information, contact PAR Electronics at PO Box 645, Glenville, NC 28736; tel 828-743-1338, **par@parelectronics.com**, **www.parelectronics.com**. QST