

Altec (and WECO!) 639A/B

Early two-element microphone design

By Rick Chinn

Photo courtesy of Classic PIO Partners

The Altec Lansing 639A/B microphone made its debut in the early 1940s, and was originally sold by Western Electric (WECO) under the same model number.

When the U.S. government forced the breakup of WECO in 1947, Altec spun off to continue manufacturing the WECO sound reinforcement and related products, and they continued to make/offer the 639 for many years afterward.

The microphone earned the nickname of “birdcage” because of its size and body design. It’s an early unidirectional microphone, and what made it unique was use of two microphone elements: ribbon and dynamic. The ribbon offered a figure-8 pattern; the dynamic, being a pressure microphone, provided an omnidirectional pattern.

By internally blending the two microphone element outputs, the omni cancelled the rear lobe of the figure-8, creating a cardioid pattern.



Both models included a pattern selector switch. The “A” model offered three settings – ribbon, dynamic and cardioid, while the “B” model supplied three additional settings to modify the cardioid characteristic.

Design credit for this 639 goes to William R. Harry and Robert N. Marshall of Bell Laboratories. They received patent number 2,227,580 in early 1941.

References: A History of High Quality Studio Microphones. *AES Journal*, December 1976; Vintage Broadcast Microphones web site; and Dorrough Electronics web site. Access the 639 product manual at www.k-bay106.com/weco639.pdf. ■

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Model 639 Condensed Specs

Sensitivity: -84 dB re 1v/dyne/cm²

Power Output Level: -56 dBm at 10 dynes/cm²

Frequency Range: Uniform from 40 Hz -10 kHz

Impedance: 40 ohms (average value, intended for use with equipment having a rated source impedance of 25 ohms to 50 ohms)

Dimensions: 7 inches by 4.4 inches by 3.4 inches

Weight: 3.25 pounds



AT LEAST THEY GOT THE NAME RIGHT...

This image appeared in a 1954 issue of *Popular Mechanics* magazine, and as the included photo caption explains:

“Scientists from the RAND Corporation have created this model to illustrate how a “home computer” could look in the year 2004. However, the needed technology will not be economically feasible for the average home. Also the scientists readily admit the computer will require not-yet-invented technology to actually work, but 50 years from now scientific progress is expected to solve these problems. With teletype interface and the Fortran language, the computer will be easy to use.”

One question that came to mind: What, exactly, was this “home computer” supposed to do? Well, besides providing a back-up steering wheel for the family sail boat?? - Keith Clark