



LOU BURROUGHS

MICROPHONE FACTS

for the operating engineer

from **Electro-Voice®**

ELECTRO-VOICE, INC.
BUCHANAN, MICHIGAN
PHONE OX 5-6831

July, 1963

THE WJR STORY

In November, 1957, the following advertisement appeared in several trade journals:

"Microphones Make the Difference!"

... says A. FRIEDENTHAL
Chief Engineer, W J R, Detroit

W J R
modernizes with
Electro-Voice®

"... because of their quality of reproduction, and amazing economy."

"After checking repair and maintenance costs, we changed to Electro-Voice one year ago. Frequency of repair and cost of repair was five to six times as great on other brands," says Mr. Friedenthal. "Now, Electro-Voice is the WJR microphone."

Since 1927, WJR, The Goodwill Station, has been active in the development and construction of equipment best suited to the broadcasting art. Much of this equipment utilizes basic Electro-Voice components—proof of one of the country's leading station's faith and confidence in Electro-Voice broadcasting equipment.



MODEL 666 BROADCAST CARDIOID DYNAMIC
with REVOLUTIONARY VARIABLE-D DESIGN!

WJR STUDIOS AND MOBILE UNITS
USE 47 ELECTRO-VOICE MICROPHONES!



20 E-V Model 666 Super Cardioid-Dynamic Microphones



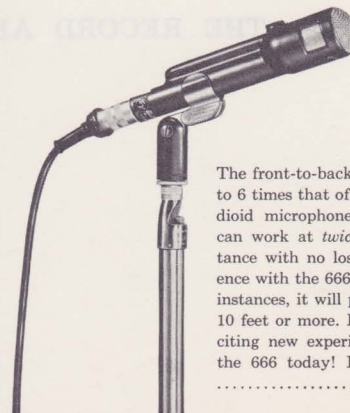
16 E-V Model 650 Dynamic Microphones



6 E-V Model 646 Dynamic Microphones



5 E-V Model 655-A 'Slim-Trim' Dynamic Microphones



The front-to-back ratio is 2 to 6 times that of most cardioid microphones! Artists can work at *twice* the distance with no loss of presence with the 666. In many instances, it will pick up at 10 feet or more. For an exciting new experience, test the 666 today! List price,\$255.00

A MATTER OF ECONOMICS

It was quite an event to have one of the country's highest quality stations switch overnight to all E-V microphones. To our knowledge, WJR was the first large user of microphones to make a complete change. Mr. A. Friedenthal (better known as Freddy), Chief Engineer of WJR, was asked what motivated the change, and this was his reply:

"After checking repair and maintenance costs, we changed to E-V one year ago. Frequency and cost of repair was from five to six times greater on other brands. Now Electro-Voice is the WJR microphone."

The advertisement shows the total number of microphones in use at WJR, twenty Model 666, sixteen Model 650, six Model 646, and five Model 655C. The 650's had been purchased in 1949, and it was their excellent service record that finally convinced Freddy he could no longer afford to maintain the other makes he was using. This occurred in the fall of 1956, and the all-out switch to E-V was made, a total forty-seven E-V microphones were placed in service.

Since that time, we have been in intermittent contact with WJR, but it was not until recently that an occasion arose that gave me an opportunity to have a real talk with Freddy about what had transpired during the past seven years in regard to WJR and E-V microphones. After discussing the situation, Freddy said he would look up the records on the use and maintenance of the units for the seven years and send the information to me.

I knew from our conversation that Freddy was happy with E-V microphones but I had no idea to what degree until I read the following letter.

THE RECORD AFTER SEVEN YEARS

WJR

FISHER BUILDING • DETROIT 2, MICHIGAN

May 17, 1963

Mr. Louis R. Burroughs, Vice President
Broadcast and Recording Equipment
Electro-Voice Incorporated
Buchanan, Michigan

Dear Lou:

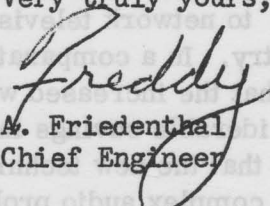
Here is the information you requested regarding the use of EV microphones at WJR.

In 1956, we switched from a mixture of microphones to all Electro-Voice. Our records for the past seven years show uniformity and stability of frequency response to be excellent. We appreciate being able to place a group of microphones in operation without the necessity of sorting them out to have them all sound alike. I might add that this stability is not due to any special handling on our part. Our microphones receive the usual bangs, bumps and drops that occur in everyday studio and remote operations.

All EV microphones purchased in the past fifteen years are still in use. In this period, only ten have been returned for service and the cost of repair has averaged less than five dollars per microphone, or a total cost of around fifty dollars for fifteen years.

With this impressive service record, we know our choice was right seven years ago. As things stand now, we expect to continue 100% Electro-Voice.

Very truly yours,


A. Friedenthal
Chief Engineer

AF:gs

ARE YOU ANOTHER WJR?

We know that there are others employing E-V microphones exclusively for recording and on-the-air application. There are also many thousands using a smaller percentage, all the way from the single microphone user to the hundred percenter.

From the one percenter to the one hundred percenter, we would like to know who you are, what models you are using and what we can do to improve our products and service. If you are happy with your E-V microphones, we would like to hear about it. If, for any reason, you are not, we are most anxious to hear about it.

To save time and simplify your reply, a self-addressed, business reply card is enclosed. The card lists a number of questions we would appreciate having answered. Your reply will direct us in future microphone design and service.

If you have problems or questions that cannot be contained on the card, please write a letter giving us the details. We are here to be of help if we can, but first we must know about your problems.

"THE ACADEMY AWARD"

Most of you are probably aware by now that an award was presented to Electro-Voice by the Academy of Motion Picture Arts and Sciences at the nationally televised award ceremonies held on Monday evening, April 9, 1963. Naturally, we at E-V are proud and grateful for the recognition.

This is the first award for technical achievement bestowed on a microphone design in twenty-two years. The Academy of Motion Picture Arts and Sciences, aware of the commercial significance, is extremely careful in bestowing such awards and does so only when the product has proven its value to the industry.

The Model 642 Cardiline microphone was first introduced, while it was still in the prototype stage, to network television. Shortly thereafter it was also introduced to the movie industry. In a comparatively short time, audio engineers in the movie industry found that the increased working distance made possible by this microphone resulted in considerable savings in production cost. Audio engineers in network television found that the new techniques made possible by the Model 642, simplified many otherwise complex audio problems, reduced production costs by reducing necessary rehearsal time in many cases, and produced for them the overall sound they wanted.

As with any other high precision tool, the Model 642 has many valuable capabilities as well as very definite limitations. A thorough understanding of these capabilities and limitations is necessary if you are to realize the greatest usefulness for this tool. It is not a "cure-all"; there are many audio situations in which a cardioid microphone such as the E-V Model 666 would be a better choice. Yet, within the areas for which the Model 642 was designed, its performance is superb, providing results which cannot be obtained with any other microphone. New and different techniques are necessary in order to realize the greatest economy and flexibility. Extensive discussions of the capabilities and limitations of this microphone can be found in previous issues of MICROPHONE FACTS, particularly those related to network television and movie production, but how about use in the studios of the many local stations? What are the possibilities for labor saving and improved sound in studios where, for instance, setup time is of greater significance than the cost of rehearsal time? What are the possibilities in relation to fixed microphone setups such as those used on news and weather shows or live commercials in which a certain limited amount of movement by the talent is required? What are the possibilities of the "volume of space" concept in microphone placement in which a pair of 642's can be so positioned that a relatively uniform pickup can be achieved within a specific fixed "volume of space". This concept would apply, for instance, on shows in which the scenery is placed in the same position day after day and lighting and microphone placement could be frozen for this particular show. As you can see, once the best position is established, such a setup can be made day after day, using a minimum of time and labor. Some imaginative experimenting will produce for you the necessary new techniques that will establish the uniformity of sound in your studio that will have thoroughly justified the efforts.

Why not ask your local distributor for the opportunity to try the Model 642 in your studio for a period? Check out its possibilities, using the "volume of space" concept for panel shows, live commercials, news and weather shows, and other situations where movement occurs within a fixed area, or where there is extreme variation between the levels of individual voices. Discover for yourself that when your audio man thoroughly understands the use and the limitations of the Model 642 that he can much more easily accomplish the otherwise difficult pickups and with a much better and more uniform sound.

ANOTHER USE FOR THE 649B

A few days ago, Ron Malo of Ter-Mar Recording Studios (producers of Chess, Checker & Argo records) was discussing with me the selection of microphones for various applications when he mentioned his use of the Model 649B for bass viol pickup and explained why he found it an excellent microphone for the purpose. After hearing his description of its use, I felt the information would be worth passing along.

According to Ron, a two-inch thick piece of foam rubber is cut just a little larger than the opening in the bridge of the bass viol then a small hole is cut in its center, and the 649B pushed through until about 1/2 inch of the grill projects. This assembly is now forced into the hole in the bridge.

Many of you may have already used various microphones similarly mounted for this purpose, but the chances are you employed microphones with frequency response extending well below 100 cps, such as the E-V Model 655C. The Model 649B, however, was designed to reproduce little or nothing below 90 cps.

When a microphone such as the 655C is attached to a bass viol, the response below 100 cps is picked up both acoustically and by physical contact causing this part of the spectrum to be greatly accentuated over the balance of the frequency range. When the 649B is employed, frequencies below 100 cps are reproduced by contact only, by inertia driving the diaphragm and little is picked up acoustically.

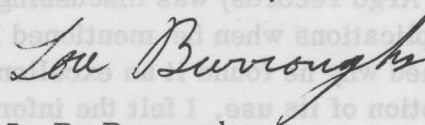
When the 649B is loosely floated in the foam rubber, the sound pickup is largely that of the strings alone. By compressing the rubber, the microphone is brought into more intimate contact with the body of the instrument and an increased amount of low frequencies produced by the bass are reproduced. By so doing, reproduction of the instrument may be varied from direct body contact for maximum lows, to the very loose contact for sharper string reproduction. The reproduction of the instrument may now be balanced to meet acoustic conditions or to create a special effect.

" HOW DO YOU DO IT?"

This is one example of an imaginative solution to an otherwise difficult problem. How about sharing some of your tricks of the trade? If you have a special pet setup or unusual method of using an E-V microphone, why not share it with others who face these problems? Simply send the information to MICROPHONE FACTS. Don't worry about the form of the write up; simply give us the story and we will prepare it for publication, giving you full credit, after you have approved the final form.

Cordially yours,

ELECTRO-VOICE, INCORPORATED



L. R. Burroughs

Vice President

Broadcast and Recording Equipment