



LOU BURROUGHS

# MICROPHONE FACTS

for the operating engineer

from *Electro-Voice*<sup>®</sup>

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## A REQUEST FROM THE TOP

Several months ago I received a request to include another letter in one of the Microphone Facts Letters. This provides me with an excellent opportunity to introduce Albert Kahn, President of Electro-Voice, better known by many as Al, and by many more as W8DUS. His letter follows:



About 32 years ago, Lou Burroughs and I began an association that has been filled with excitement and a great deal of fun. Starting as we did at the inception of modern sound pickup, we have been privileged to have had opportunities of problem-solving by development.

Lou's division, although not spectacular in overall company dollar sales volume, is probably our most important one. All the thinking, planning, policy making, engineering and production is aimed only at solving the problems of professional microphone users. It is not watered down by digressions into public address or other microphone applications. From these ideas, however, our other groups learn much and are welcome to use them. The Professional Division is dedicated only to professional microphones.

Lou operates his division like a small business within our organization of a thousand people. He maintains separate engineering, quality control and a stable experienced production group. They have maintained a high degree of sensitivity to user's needs and do their best to build microphones that exceed the requirements made of them.

From early carbon, condenser, and ribbon microphones to the modern dynamics with their sophisticated polar patterns, problems have been met and solved. We have thrived on challenge. Our earnest hope is that we will continue to have these unsolved needs given to us to fulfill.

As the Professional Microphone Division is operated on a somewhat personal basis, I have asked Lou to include his picture with Mike Facts. I hope that all of you will have an opportunity of meeting Lou in person. I am sure that you will find him stimulating and most anxious to serve you.

Sincerely,

Albert Kahn  
President

## THE NATIONAL POLITICAL CONVENTIONS

Once again the Democrats and Republicans have chosen their candidates and once again Electro-Voice microphones were chosen to help in the process.

It began this way: to minimize the problems of installation and operation, one network assumes the responsibility for audio, another for video, etc. This is known as the network pool.

### 1956 NATIONAL POLITICAL CONVENTIONS

Four years ago the network responsible for the audio pool chose Electro-Voice microphones. The choice was based on their own experience with the uniformity and reliability of our microphones.

After the conventions were over, the reports came in, showing that 186 microphones had been used, and all performed as expected with no audio failures that were due to the audio pool microphones.

### 1960 NATIONAL POLITICAL CONVENTIONS

This time another network was responsible for the audio pool, but the decision was the same, and Electro-Voice microphones were used 100%. In Los Angeles, sixty-two were employed, while in Chicago one hundred and eleven were required. The reports from both cities were the same. No interruptions in audio pool activities occurred as a result of a microphone failure. In one instance, I am told several were knocked to the floor, but all came up working, and no replacements were required.

You may be saying to yourself, what do they mean 100% Electro-Voice? I saw other makes in use! This you certainly did, but they were used by local stations or an individual network to pick up activities that were not being covered by the network pool. However, even in these activities the great majority were Electro-Voice.

In answer to another question, were the microphones on loan? They were not loaned. All microphones supplied by Electro-Voice were leased and all have been returned. These units will be completely retested and each component thoroughly checked for uniformity and stability and then completely dismantled for part by part examination. Only by thoroughly testing microphones from the field is it possible to know conclusively what happens to them in use, and the larger the number we have to test at one time, the more conclusive these tests become. Tests and examinations made of the convention microphones four years ago along with subsequent tests have contributed greatly towards the excellent record our microphones enjoy, particularly in the broadcasting and television field where stability is a must.

## MODELS 652 & 652A

There are two new additions to the Electro-Voice family of field proven microphones. Refer to enclosed specification sheet.

### FORM FACTOR

Several months ago I was asked by some TV network studio personnel to create a microphone for voice use that would be as inconspicuous as possible, consistent with good level and response. We arrived at its finished design in our usual way by having a number of potential users tell us what they felt would be the most desirable. After a few modifications it was decided the present design filled the request.

### FREQUENCY RESPONSE

The response was also tailored to the specific requirements of a microphone designed for voice reproduction. Note frequency response curve Fig. 3. As you see the response below 100 cps falls off rapidly. The dynamic unit employed is capable of very wide range response, but since response below 100 cps plays such a very small part in voice reproduction everyone decided to eliminate it in favor of a very noticeable reduction in the pickup of low frequency reverberation and random noise. Performance in this application is superior without low frequency response when "muddied" with low frequency noise.

High-frequency attenuation was decided upon to accomplish the same desirable effect at the other end of the range. With this controlled response range you may work farther from the microphone without feedback and/or with clearer speech than would have been possible otherwise.

Plastic baffles are supplied to give the presence range a lift, as shown on the frequency response curve. Under the majority of conditions the normal flat response of the microphone without baffles will be the most desirable. However, if you wish to add presence or match the "over-accentuated" presence of condenser microphones, the baffles will solve the problem as well as make the microphone somewhat directional as shown in polar patterns, Fig. 4, 5 and 6.

### MICROPHONE FACTS LETTERS

No, you haven't missed any. This one should have been written at least two months ago, but there simply hasn't been enough time. Since the Model 642 has been available I have been kept busy at TV and movie studios helping adapt them to various requirements. Many have found that 642's plus some alterations in their own operating technique have solved problems that in the past have been considered impossible. Along with its use have come requests for accessories required to extend its use. Two or three of these we expect to have available this year.