

## **GOLD LINE BOUNDARY MICROPHONE RESPONDS TO SOUND THE SAME AS THE HUMAN EAR**

Model CBM1 microphone is a boundary type microphone that allows excellent pickup even from a distance. Typical studio mics are designed to operate in close proximity to a sound source. When the sound source is not in close proximity the studio mike receives both the direct sound plus the delayed reflected sound out of phase. Response anomalies are caused by the out of sync direct and reflected sound received by the microphone. Gold Line boundary microphones solve this problem by receiving signals from both direct and reflected paths at the same time, and in phase.

The CBM1 places a small transducer at the boundary zone where direct and reflected waves act as a single reinforced signal. In this configuration, both direct and reflected sound occur very close together in time which means that the response over the whole mic diaphragm is immune to changes in either amplitude or phase. This guarantees that no pressure build-up due to strong reflections can occur on axis. The high degree of directionality inherent to the typical studio mike can be replaced by the NEW CBM1 boundary microphone which picks up sound in a fashion that resembles the human ear.

### **CBM1 MICROPHONE EXPANDS MIC CAPABILITIES:**

- Flat frequency response without equalization
- Better ambient pickup
- Greater clarity at a distance

Boundary microphones offer several distinct advantages over standard studio designs. They provide flat frequency mic response without equalization and they maintain a more consistent sound quality as the sound source moves along the surface of its hemispherical pickup pattern. This technology also yields a more predictable sound field without interfering reflections, maintaining clarity of pickup even at a distance. Since clarity is maintained, even at a distance, the sound is more natural than would be the case if the recording had been made with conventional dynamic mics. When preserving the ambiance of either a studio or concert hall, boundary microphones are ideal.

### **ADDITIONAL BENEFITS FOR BOUNDARY MICS:**

Size, pickup pattern, unvarying response to changing sound sources are some of the benefits of CBM mic technology. The CBM1 housing allows these mics to be easily placed on table tops, under pianos, on the floor, or on lecterns. They can also be suspended out of the line of vision or placed below it.

### **FREEDOM OF MOVEMENT:**

By making use of boundary mics, performers, instrumentalists or vocalists have greater freedom of movement. They are not confined to a limited mic range, and only extreme changes in distance will markedly effect sound quality.

### **DISTORTION FREE AT HIGH SPLS:**

The Gold Line boundary mic is designed to be virtually immune to distortion at very high SPL levels (150dB SPL). Even the loudest and most dynamic instruments such as kick drums and pianos can be faithfully captured by the CBM1 and a single CBM1 can also be used to reproduce the sounds of several grouped instruments such as percussion and brass sections.

### **EVEN AT A WHISPER:**

The CBM1 offers much greater usable range. First time users are often startled to find that this mic will clearly pickup quiet, even whispered, speech from across a large room.

## APPLICATIONS:

### Theater and Video Production:

The CBM1 mic is an excellent choice for placement at the front of any theater or video production set. It is unobtrusive, even if placed in view of the audience and it will pick up all of the dialogue and action for soundtrack or entrance cueing. It is also ideal for the smaller, more restricted spaces in theater or video sets. For example in automobiles, trucks or van interior, train and plane passenger compartments or tunnels.

### Sound Reinforcement on the Set:

The Gold Line CBM1 mic is well suited to replace boom mics on the set when the boom mics are too obvious. Concealment behind columns, under shelves or tables, behind draperies or beneath overhangs represent just a few of the possibilities. Virtually any prop or part of the machinery will serve as visual shield for the CBM1.

### Reinforcing the Sound Stage:

The Gold Line boundary mic is excellent for reinforcing the sound stage. The most common manner of placement is positioning several boundary mics across the front of the performer's stage. This placement technique has been used very successfully in theaters, churches, and opera houses, and the results have been first rate.

### Church Applications:

The CBM1 microphone is excellent on altars, from pulpits, and in the choir loft. It is also useful in instructional halls or conference rooms and perfect for any church application where the speaker requires freedom of movement.

## BOUNDARY MIC PLACEMENT:

In situations where mic visibility is not of concern, stationing a boundary mic on the boom at the height of the sound source will produce excellent results. When possible, follow the rule of applying as few boundary mics as possible to attain acoustic balance. A single boundary mic will suffice if placed between a pair (or more) of closely grouped instruments. Therefore a single boundary mic on a boom placed at instrument level will invariably do the job when centered between a pair of stringed, woodwind or brass instruments.

You can station a boundary mic on a stand just below instrument height, or even on the floor, about 4 feet in front of the performer. Experience shows that the boundary mic pickup spots give first-rate results, particularly for solo guitar and string instrumentals and for solo vocals. The choice of the Ideal pickup for placement depends on how the vocal/instrumental sounds to you from each location; your ears are the final judge.

Boundary mics offer sound engineers and performers greater flexibility than ever before. In situations where mics must be suspended from an overhead boom, conventional mics require that they be in close proximity to the sound source. With boundary mics, you can place them well above boom height or suspend them from the ceiling. The boundary mics extra reach, and excellent ability to pickup well beyond the direct sound field, make them an excellent choice. Lifting a microphone well above the performers is often desirable to improve line-of-sight viewing from the audience. Using boundary mic pickup from above is an excellent way to capture both performer and audience sounds at the same time. In fact, you will hear more vivid transparent sound (especially when taping in either live concert venue or the TV studio) if you tackle the problem by mounting a boundary mic on each side of a 3 ft. square plywood or acrylic panel, and suspending them from the ceiling. Placement of the mics will determine the right ratio of audience to performer pickup.



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