

# N/D® Series II

# 857

**Electro-Voice®**  
a MARK IV company

## Supercardioid Dynamic Vocal Microphone

The Electro-Voice N/D857 is a supercardioid dynamic microphone utilizing a revolutionary neodymium alloy to form the EV-exclusive N/DYM® magnet. The N/D857 was designed and field tested by the Electro-Voice engineering team for the specific, real-world conditions of high-performance, high-level concert sound applications. All aspects of microphone performance — including frequency response, polar response, high-SPL performance, handling noise characteristics and vocal P-pop resistance — were examined and optimized for concert applications.

The N/DYM® magnet has over four times the power potential of conventional microphone magnets, providing unprecedented sensitivity. The N/D857 has up to 7 dB more output sensitivity over conventional designs, while the more uniform magnetic field lowers distortion during peak sound pressure levels.

The microphone element uses a large diaphragm which has 50 percent more surface area than conventional designs and is reinforced to prevent breakup. The result is an extended high-frequency response with an open, transparent sound quality.

The N/D857 is built using EV's DynaDamp™ shock-mount material. This shock-mount design dampens as well as isolates the microphone element from mechanically induced noise. To work optimally in concert sound applications, the DynaDamp™ shock mount is tuned to a low resonant frequency. A switchable second-order L-type series high-pass filter (12-dB-per-octave slope) tuned at 80 Hz operates in conjunction with the shock mount to reduce mechanical noise. This combination has been adjusted to preserve the accurate reproduction of the male voice range, while reducing the problems of low-frequency noise in the vocal inputs. The N/D857 is designed to work with the extended-response woofer systems used in concert sound for reproducing the instruments, where simpler shock-mounts or filters are not adequate.

The microphone has an extra-large grille screen and two-stage P-pop filter to reduce wind blast noise, a problem especially troublesome where extended-response woofer systems are used. Within the grille screen is a special pop-filter retainer which holds the Acoustifoam™ filter in the optimum position for reducing wind blasts. The retainer makes the cleaning of the grille screen and pop filter a simple task, desirable for on-the-road use where stage makeup and perspiration often enter the microphone.

The N/D857 is derived from the popular N/DYM® series of microphones. The transducer is a special modification of the basic N/DYM® Series design which increases the sensitivity, and tightens up the polar pattern to increase gain-before-feedback. All the sound quality and performance characteristics of the N/DYM series has been preserved while adding the characteristics required for concert sound application.



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## SPECIFICATIONS

|                                      |                                                              |
|--------------------------------------|--------------------------------------------------------------|
| Frequency Response,                  |                                                              |
| Close Response:                      | 25 to 22,000 Hz                                              |
| Far Response:                        | 50 to 22,000 Hz                                              |
| (see Figure 1)                       |                                                              |
| Polar Pattern:                       | Supercardioid                                                |
| (see Figure 2)                       |                                                              |
| Sensitivity,                         |                                                              |
| Open Circuit Voltage:                | 3.5 mV/Pascal                                                |
| Power Level:                         | -50 dB (0 dB = 1 mW/Pascal)                                  |
| (measured at 1,000 Hz)               |                                                              |
| Dynamic Range:                       | 144 dB                                                       |
| Equivalent                           |                                                              |
| Output Noise:                        | 14 dB                                                        |
| (0 dB = .0002 dyne/cm <sup>2</sup> ) |                                                              |
| Impedance:                           | 150 ohms balanced, rated (Lo-Z)                              |
| (measured at 1,000 Hz)               | 320 ohms actual                                              |
| Case,                                |                                                              |
| Grille:                              | Steel Memraflex                                              |
| Inner Handle:                        | Aluminum                                                     |
| Sleeve:                              | Elastomeric                                                  |
| Dimensions,                          |                                                              |
| Length:                              | 7.40 inches (188 mm)                                         |
| Diameter:                            | 2.25 inches (57 mm)                                          |
| Shank:                               | 0.80 inch (20 mm)                                            |
| (see Figure 3)                       |                                                              |
| Finish:                              | Non-reflecting black                                         |
| Weight,                              |                                                              |
| Net:                                 | 7.9 ounces (225 grams)                                       |
| Shipping:                            | 1.41 lbs (620 grams)                                         |
| Accessories Included:                | Warm-Grip™ handle<br>323S stand clamp<br>vinyl carrying case |
| Optional Accessories:                | PLC-25X cable<br>PLC-25P cable<br>380 attenuator             |
| Replacement Parts:                   | Warm-Grip™ #72251<br>Transducer S/A #81963                   |

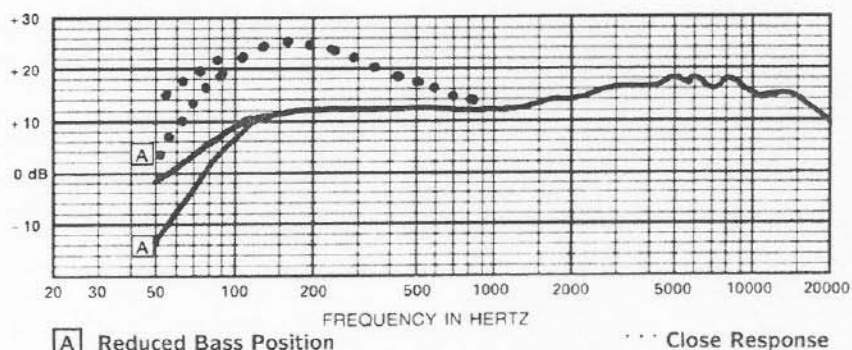


FIGURE 1  
Frequency Response

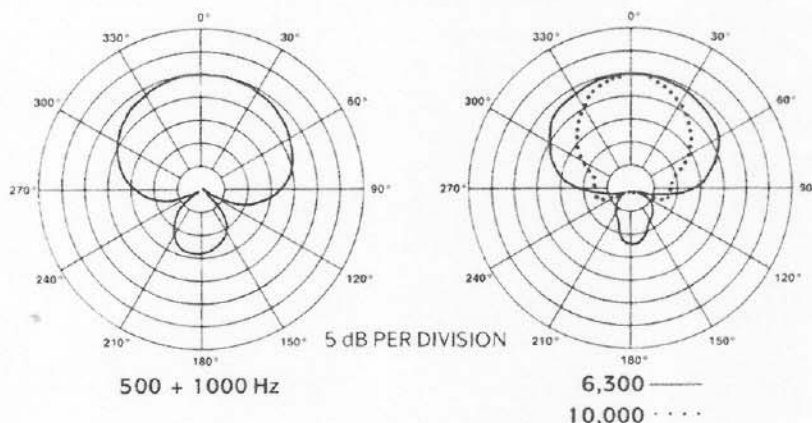


FIGURE 2  
Polar Response

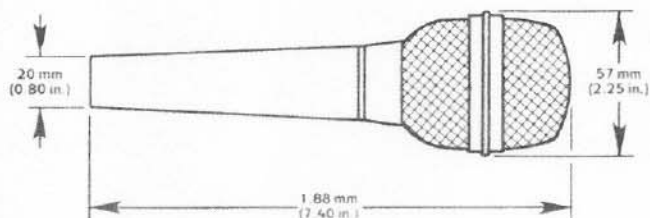


FIGURE 3  
Dimensions

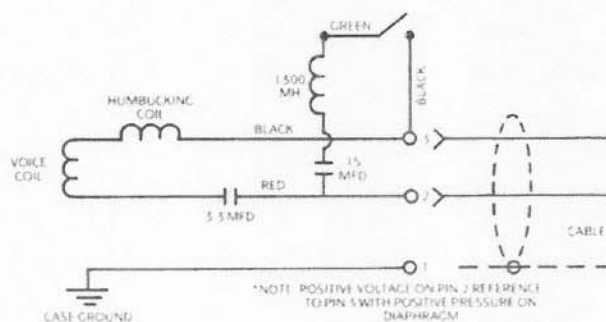


FIGURE 4  
Wiring Diagram

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The dynamic element of the N/D857 provides reliable operation in humidity and temperature extremes. The handle is made from an aluminum extrusion which is covered with the unique elastomeric Warm-Grip™. This design provides the strength, lightweight and comfort wanted for on-stage handheld usage. The Memraflex grille screen is made from a specially hardened material to resist damage. This all metal core construction will provide years of trouble-free on-the-road operation.

The exceptional sensitivity of the N/D857 combined with the inherently low noise of a dynamic transducer insures a superior signal-to-noise ratio ready for high-dynamic-range sound systems. To further reduce noise, a highly effective hum-bucking coil is used to cancel hum from lighting and other sources.

## OPERATION

The switch-selected bass response of the N/D857 allow the user the option of inserting a second-order filter to reduce the handling noise significantly with only a small loss of low-frequency response. The normal switch position provides a flat response when the microphone is positioned further than 12 inches from the sound source. Low-frequency response can be extended by positioning the microphone closer to the sound source as noted in the specification section. This "proximity effect" occurs when the microphone is placed within 12 inches of the sound source and increases as the working distance is reduced. The rolled-off switch position lowers the extreme bass content to reduce mechanically induced noise.

Patent numbers 4,745,020, 4,824,715, and 4,646,873.

## CERTIFIED PERFORMANCE

Every N/D857 microphone is inspected by a quality-control tester and subjected to a computer-controlled test system that verifies many different performance parameters. After the performance meets or exceeds

our rigorous standards, the actual measured frequency response of the unit tested is plotted on a "Certificate of Performance" and included with the microphone. This certificate guarantees that each N/D857 will perform to the exacting standards established by EV design engineers — **100% quality-assurance testing.**

## WARRANTY (LIMITED) —

Electro-Voice N/D<sup>®</sup> Series II Microphones are guaranteed against malfunction from any cause for a period of two years from date of original purchase. Also, these microphones are guaranteed without time limit against malfunction in the acoustic system due to defects in workmanship and material. Any active electronics incorporated in the microphone are guaranteed for three years from date of original purchase for parts and labor against such malfunction. If such malfunction occurs, microphone will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not extend to finish, appearance items, cables, cable connectors, switches, or malfunction due to abuse or operation under other than specified conditions, nor does it extend to incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee. A list of authorized service centers is available from Electro-Voice, Inc., 600 Cecil Street, Buchanan, MI 49107 (AC/616-695-6831) (FAX: 616-695-1304); or Electro-Voice West, 8234 Doe Avenue, Visalia, CA 93291 (AC/209-651-7777) (FAX: 209-651-0164). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.