

AEA N13

OWNER'S MANUAL



ACTIVE MID-FIELD RIBBON MIC

WELCOME

Congratulations on your purchase of the AEA N13 phantom-powered ribbon microphone. If this is your first AEA product, welcome to the family!

The AEA N13 was designed to be natural and open at a mid-field distance, with a particularly strong ability to pick up fast transients. Relatively bright for a ribbon mic, the N13 microphone excels in capturing drum overheads, strings, acoustic guitars, and piano. At mid-distances, the proximity effect is tamed yet still thick. But even when used up close, such as on horns or vocals, the N13 delivers exceptional clarity, while also taking EQ extremely well. Additionally, the N13's unobtrusive size and dark blue-gray finish is ideal for live orchestral and TV work, where microphones need to be easy to position and not draw too much attention. Though, upon inspection, you'll find that the finish really is beautiful.

Your N13 microphone is 100% handcrafted in Pasadena, CA. AEA is a family owned company with a small crew of skilled technicians, most of them being musicians themselves. Proudly independent, we still manufacture all our ribbon microphones and preamps by hand from locally sourced parts.

We hope that the N13 will help you capture many magical performances that touch the heart. Read this manual thoroughly to make sure that you get the best sound and longevity from your new microphone. Please become part of the AEA community by sharing your experiences with the N13 via email or our social media channels.

The AEA Team

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INTRODUCTION

The N13 is a side-address, phantom-powered ribbon microphone with a bidirectional (figure-of-8) pickup pattern. Optimally designed for medium-distance miking applications (8 inches to 3 feet) such as vocals, strings, acoustic guitar, and piano, this microphone shines on high transient sources, such as drums, due to its 1.2 micron ribbon (our thinnest ribbon yet!). Additionally, the N13 is the debut of a brand new motor, which features a smaller ribbon (our first non-Big-Ribbon bidirectional!). With phantom-powered JFET electronics and a custom German transformer, the N13 performs equally well with a wide range of preamps ranging from vintage high-end models to USB audio interfaces common in home studio setups. The full potential of the N13 is perhaps best realized when configured in the NUVO Stereo Kit, as it draws on the same successful sonic concepts as the AEA R88 stereo mic.

WARRANTY

Your N13 mic comes with a one-year limited warranty on parts and labor*. **Registering your product within 90 days will extend the warranty to three (3) years.**

Scan the QR code or visit our [website](#) to register.



*AEA is not responsible for shipping costs.

SUPPORT

If you should encounter any problems with your N13 microphone or have questions regarding specific applications, please contact our customer support team at support@ribbonmics.com for the quickest response.

To contact us by phone, please call +1-626-798-9128 from 9:00 a.m.- 5:00 p.m. PST Monday-Friday. AEA's repair center is located at 1029 N. Allen Ave, Pasadena, CA 91104, U.S.A.

GENERAL GUIDELINES

Your microphone is a valuable and important investment. Like any piece of recording equipment or musical instrument, it requires common sense and good basic care to keep it working properly. Given simple, basic care, your new microphone will perform admirably for decades.

PHANTOM POWER

Although the N13 needs a phantom power source to operate, we recommend making a habit of disengaging phantom-power before plugging and unplugging the microphone.

AEA strongly recommends against using TRS or TT mic level patch bays. The patching process shorts pin-2 and/or pin-3 of the cable to ground. Sometimes even with phantom power off, equipment can be damaged due to phantom power supply voltage bleed, which varies. For mic level patching, we suggest always using an XLR patch bay.

The N13, as with all AEA active ribbon mics, requires a current draw of 7 milliamps. Some USB and battery-powered audio interfaces will not deliver the IEC-specified 10 milliamps per input. To ensure optimal performance, please verify that your unit can deliver at least 7, but preferably 10, milliamps.

STORAGE

Keep the microphone covered when it is not in use. This will reduce the damage that may result from a sudden gust of air. Place the supplied protective bag over the microphone when it is not in use. For long term storage, place the microphone in its protective case. An unprotected ribbon microphone can attract minute iron particles, sometimes known as “tramp iron.” If allowed, tramp iron can penetrate the screen of a ribbon mic, sufficiently build up in the magnetic gap and rub against the ribbon, causing distortion, electrical shorts or tearing of the ribbon.

AIR TURBULENCE

Never expose the microphone to strong air turbulence. Ribbon microphones can withstand very high SPL (Sound Pressure Level), but can be damaged easily by a strong gust of air or high levels of very low frequency sound waves (from a kick drum or bass cabinet). This can stretch the ribbon, reducing overall output, especially at high frequencies. Sources that may produce strong blast of air, such as the bass port on an electric guitar or bass amp, an instrument being plugged (or unplugged) while the amp level is turned fully up, or an on-axis kick-drum hole are potentially damaging.

To avoid possible damage, follow "The Hand Test": put the back of your hand where the mic will be; if you can feel the motion of air on your hand, place a pop-filter between the microphone and the source or simply pull the mic further back. When recording kick drums or bass guitar cabinets, angle the microphone to make sure that no wind blasts hit the microphone directly on-axis.

Never blow directly into any microphone to test it. Not only can this force moisture and dirt into the microphone, but strong air movement can stretch the ribbon and degrade the microphone's performance. The N13 is protected by an acoustically semi-transparent screen and grille cloth to provide extended frequency range. Take care to avoid high-wind outdoor environments.

For extra protection or if you plan to use your N13 in an outdoor or high-wind environment, we recommend using the AEA NUVO windscreens. Designed specifically to the contours of the NUVO mic line, the NUVO windscreens provide excellent protection from wind blasts, breath noise reduction on close-up vocals, and extra protection when using your NUVOs outdoors. To order the NUVO windscreens and/or other accessories, please visit our online store:

<https://www.aearibbonmics.com/type/accessories/>

STRAY MAGNETIC FIELDS

Ribbon microphones are fundamentally prone to picking up strong external magnetic fields caused by light dimmers or nearby power transformers. Guitar players will know this phenomenon from single-coil pickups. Though AEA designers pay attention to suppressing such sensitivity, it is still possible to encounter this problem. If you experience hum, try rotating or moving the microphone to find a spot where the hum disappears, and try eliminating potential sources of stray magnetic fields.

MICROPHONE POSITIONING

The shock-mounted microphone clip supplied with the N13 helps isolate the ribbon transducer from structure-borne noise. To avoid additional vibration entering the mic through an XLR cable, it is important to provide a slack loop by tying the microphone cable tightly to the microphone stand with a cable tie, shoelace, or string. The N13 works well with all standard microphone stands, but a high-quality boom stand will still make your life a little bit easier. Mounting the microphone on a strong, sturdy microphone stand with a heavy base (or tripod) is essential. If you are using a boom, make sure that it is properly balanced and make sure the tripod legs are positioned appropriately to prevent tipping.

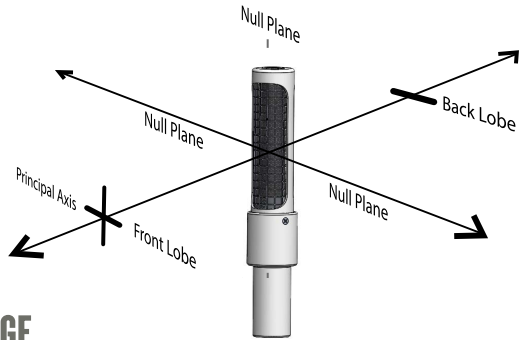
APPLICATIONS ADVICE

We actively encourage users to visit [AEAribbonmics.com](https://www.aearibbonmics.com) to access our comprehensive collection of in-depth articles and tutorials featuring the NUVO series microphone, along with a library of audio and video demonstrations of our microphones in action.

A FIGURE-OF-8 MICROPHONE

Figure-of-8 microphones are constructed with positive polarity on the front and negative polarity on the back. Positive pressure on the front side of the ribbon produces a positive voltage on Pin-2.

When using the rear lobe, remember to invert the polarity on your preamp or DAW. This ensures that the signal from the back lobe will be in-phase with other microphones.



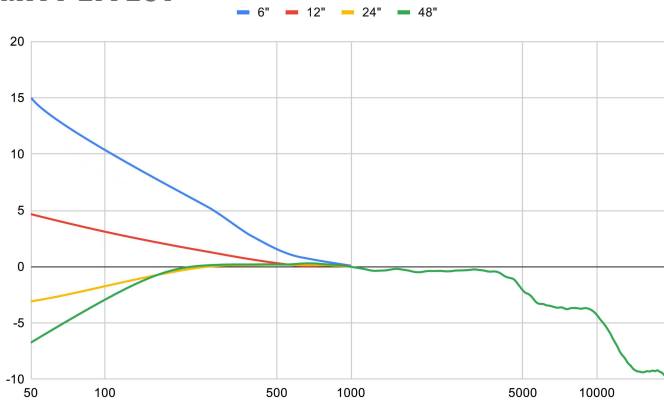
HOW TO MINIMIZE LEAKAGE

A significant and ever-present challenge in contemporary studio recording is minimizing leakage from nearby instruments into the various microphones. While gobos can be effective in isolating performers from each other, they introduce their own set of problems, they usually are bulky, and they inhibit the ability of the musicians to hear and see each other easily.

Since the N13 is bidirectional, it exhibits nulls at right angles to the principal axis. These nulls produce a “plane of rejection” around the sides, top and bottom of the mic that can be used effectively to reduce leakage. Simply arrange the musicians so that nearby instruments are placed in the null of their neighbor’s microphone, and vice versa. Although this does not entirely eliminate the need for gobos, it can significantly reduce how many you may need to use. These nulls can also be beneficial in sound reinforcement situations where feedback is always a threat.

Keep in mind that a certain degree of leakage is not necessarily bad. For some styles and genres, it can, in fact, be beneficial to embrace a little bit of leakage in order to create cohesive and natural sounding recordings. You will generally find that well-designed ribbon microphones like the N13 capture a natural off-axis sound, which means that leakage from other instruments can contribute to the overall sound in a pleasing way.

PROXIMITY EFFECT



(graph is a visualization, not an exact measurement)

Proximity effect is a characteristic of all directional microphones; it is a rise in low-frequency response that increases at closer working distances. While this can be used to good effect, particularly with certain voices to give them an enhanced richness and depth, the potential trade-off is reduced articulation or clarity that can result from the masking effect on the treble due to “excessive” bass boost.

When using an N13 at distances closer than 12 inches, the proximity effect may be more present. To reduce the negative attributes of this effect, corrective equalization can be applied. Use a high pass filter or low cut EQ to reduce the low frequencies and allow for a more balanced and natural sounding signal.

A MID-FIELD RIBBON

The N13 is a mid-field ribbon mic meaning it is designed to be positioned at an ideal distance of 8 inches to 3 feet (~0.2 – 1 m) from the source of sound. This mid-field design allows for a range of options when positioning the N13 to best capture an instrument within the context of a room. Designed to moderately counteract proximity effect somewhere in between the N22 and the N8, the N13 can sound great at a variety of distances. The ideal distance for you is a combination of how much low end and room tone you desire.

SPECIFICATIONS

Operating Principle: Pressure gradient transducer
Directional Pattern: Bidirectional
Frequency Range: <20 Hz to >20 kHz
Maximum SPL: 139 dB SPL (1% third harmonic > 1 kHz)

Sensitivity: 11.48 mV/Pa (-38.8 dBV) (at 1 kHz, no load)
Output Impedance: 92 Ω broadband
Rec Load Impedance: 1.0 k Ω or greater
Phantom Power: P48 phantom power, 7 mA
Polarity: Pin-2 high for positive pressure at the front of the microphone.

Off-Axis Response

Horizontal: Up to 90 dB rejection at right angles to the front/back axis.
Vertical: Level changes with angle of incidence, but frequency response is consistent.

Transducer Element

Material: Pure aluminum corrugated ribbon
Thickness: 1.2 μ m
Width: 0.113 in (2.87 mm)
Length: 1.30 in (33.0 mm)

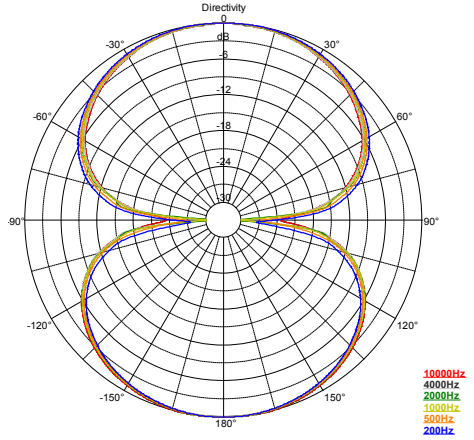
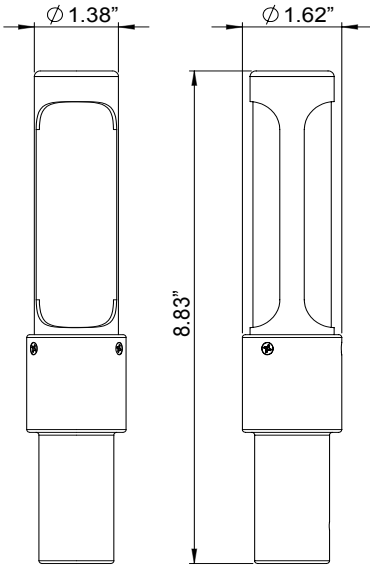
Microphone Dimensions:

Height: 8.83 in (22.5 cm)
Width: 1.62 in (11.7 cm)
Depth: 1.62 in (9.5 cm)
Weight: 12 oz (335 g)
Shipping Weight: 1 lb 13 oz (810 g)
Connector: XLR-3M

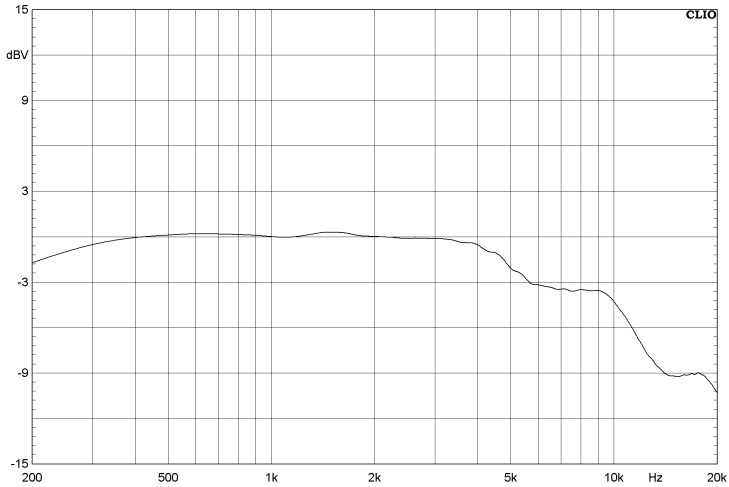
Accessories Included: Storage/shipping case, mic stand clip, soft cloth bag, user manual.

In compliance with the following requirements:
RoHS2 Directive: 2011/65/EU





FREQUENCY RESPONSE



- Data below 200 Hz omitted due to measuring room restrictions
- 0 dBv is equivalent to 11.4 mV/Pa (-38.8 dBV)
- Normalized to 0 dBv at 1kHz. 1/3 octave smoothing



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