NT1

World's Quietest 1" Cardioid Condenser Microphone

www.rodemic.com/nt1

INSTRUCTION MANUAL

ENGLISH

Introduction

The NT1 is a studio quality condenser microphone, designed for highly detailed sound reproduction. It features a cardioid polar pattern, meaning that it will pick up sound from directly in front of the microphone, and reject sound from the rear of the mic. This pickup pattern allows for recording of the desired sound source while reducing the sound of other instruments or sound sources.

The NT1 is not only ideal for recording music, but is a fantastic microphone for podcasting and voiceovers, as well as sound design. The extremely low inherent noise of the NT1 also makes it perfect for recording very quiet sound sources.

Features

- Large capsule (1”) with gold-plated membrane
- Cardioid polar pattern
- Internal Rycote® Lyre® based capsule shock mounting system
- Ultra-low noise transformerless circuitry
- State-of-the-art surface mount electronics
- Heavy-duty matte black finish
- Gold plated output connectors
- Designed & manufactured in Australia
- Free 10 year extended warranty when you register online at **www.rodemic.com/warranty**

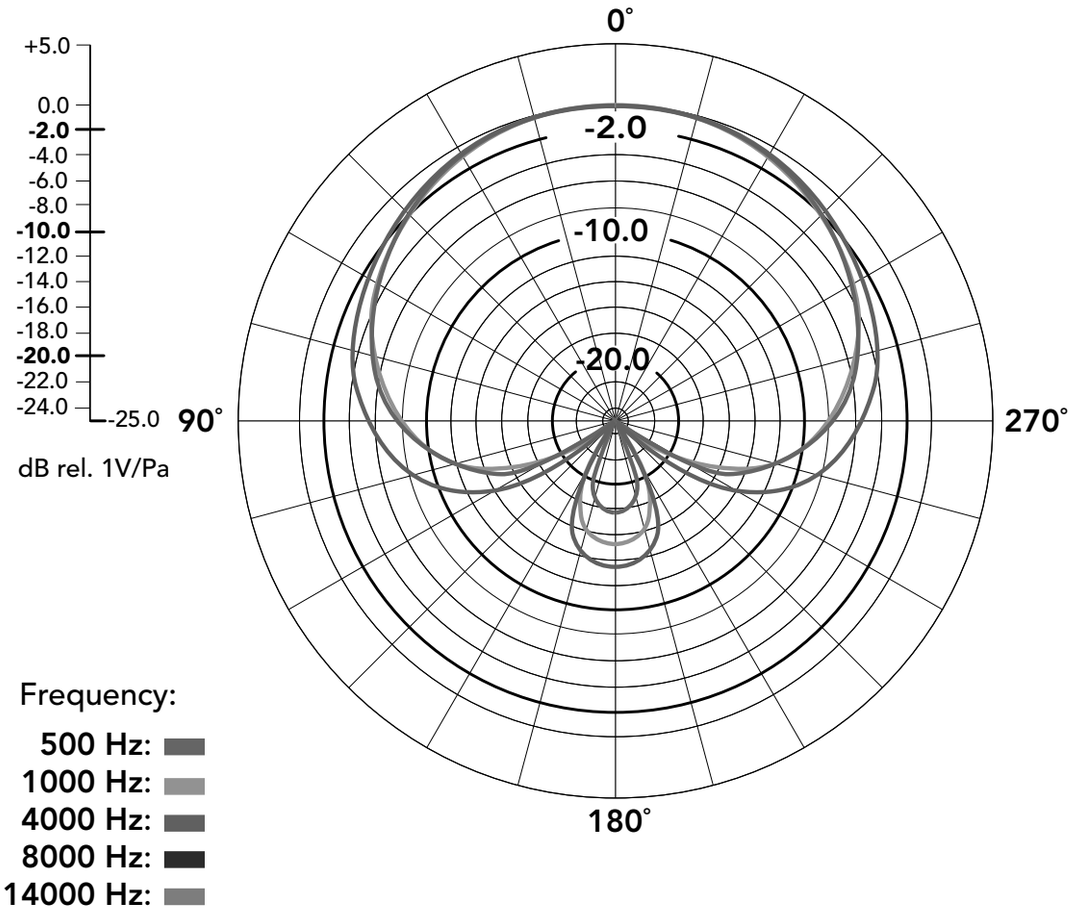
4 Warranty

The NT1 is covered by a limited warranty for one (1) year from the date of purchase. This can be extended free of charge to a full ten (10) year warranty by registering your microphone online by visiting our website as above.

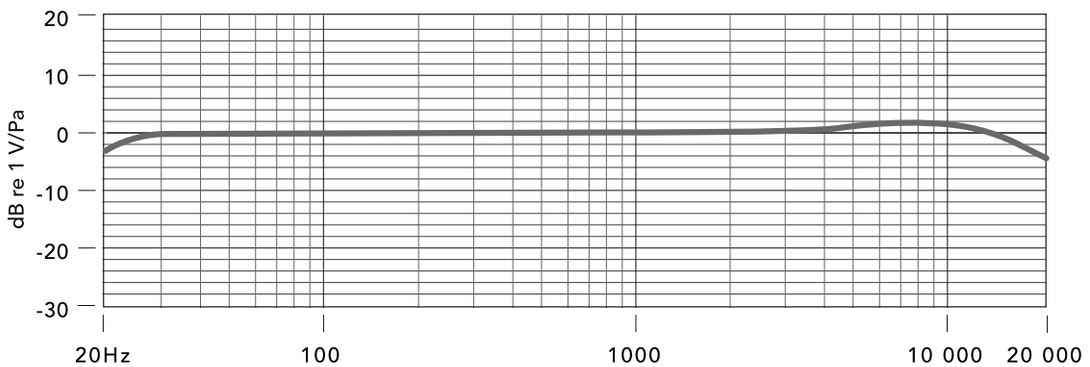
Register your NT1 now and validate your free 10 year warranty.

Scan the QR code with a smartphone, or visit **www.rodemic.com/warranty**

Polar Response



Frequency Response



6 Specifications

Acoustic Principle	Pressure Gradient
Active Electronics	JFET impedance converter with bipolar output buffer
Directional Pattern	Cardioid
Frequency Range	20Hz ~ 20kHz
Output Impedence	100 Ω
Equivalent Noise	4.5 dBA SPL (as per IEC651)
Maximum Output	+8 dBu (1kHz, 1% THD into 1K Ω load
Sensitivity	-29 dB re 1V/Pa (35mV @ 94dB SPL) ± 2dB @ 1kHz
Dynamic Range	128 dB SPL

Maximum SPL	132 dB SPL
Signal / Noise	90 dBA SPL (as per IEC651)
Power Requirements	24V phantom power 48V phantom power
Output Connection	3 Pin XLR Balanced output between pin 2 (+), pin 3 (-) and pin 1 (ground)
Net Weight	395g
Accessories	SMR shock mount Microphone Dust Cover

Powering the NT1

Connect all cables before supplying phantom power to the microphone and never remove the microphone cable while the power is connected.

The NT1 requires **48V DC (P48)** or **24V DC (P24)** phantom power. If the mixer or preamp does not contain this phantom power requirement, then an external phantom power supply is needed.

Some phantom power supplies do not supply the voltage at which they are rated. If the required voltage is not supplied, the dynamic range and general performance of the microphone will be reduced.

We strongly suggest the use of a reputable high quality power supply. Damage caused by a faulty power supply is not covered under warranty.

What is Phantom Power?

All condenser microphones require a power source to operate the internal circuitry of the microphone.

Phantom power is a DC voltage, supplied to the microphone through the XLR cable, providing the microphone circuit with the power it requires to operate, without the need for an external microphone power supply.

Most mixing desks, audio interfaces, and preamp units have a phantom power switch inbuilt. If your equipment doesn't have a phantom power supply, an external one can be purchased and used in-line between the preamp and the NT1. Be sure to check that your phantom power supply is either P48 (48V DC) or P24 (24V DC) to operate the NT1 correctly.

Mounting the NT1

The SMR shock mount

The NT1 is supplied with the **SMR shock mount**. Featuring suspension based around the Rycote® Lyre® system, it is designed to isolate the microphone from mechanical noise caused by vibrations, bumps, and other low frequency noises in the recording space.

To mount the NT1, first remove the threaded ring from the bottom of the microphone. From there, place the microphone in the mount from above, and attach the ring underneath the mount to secure the microphone in place.

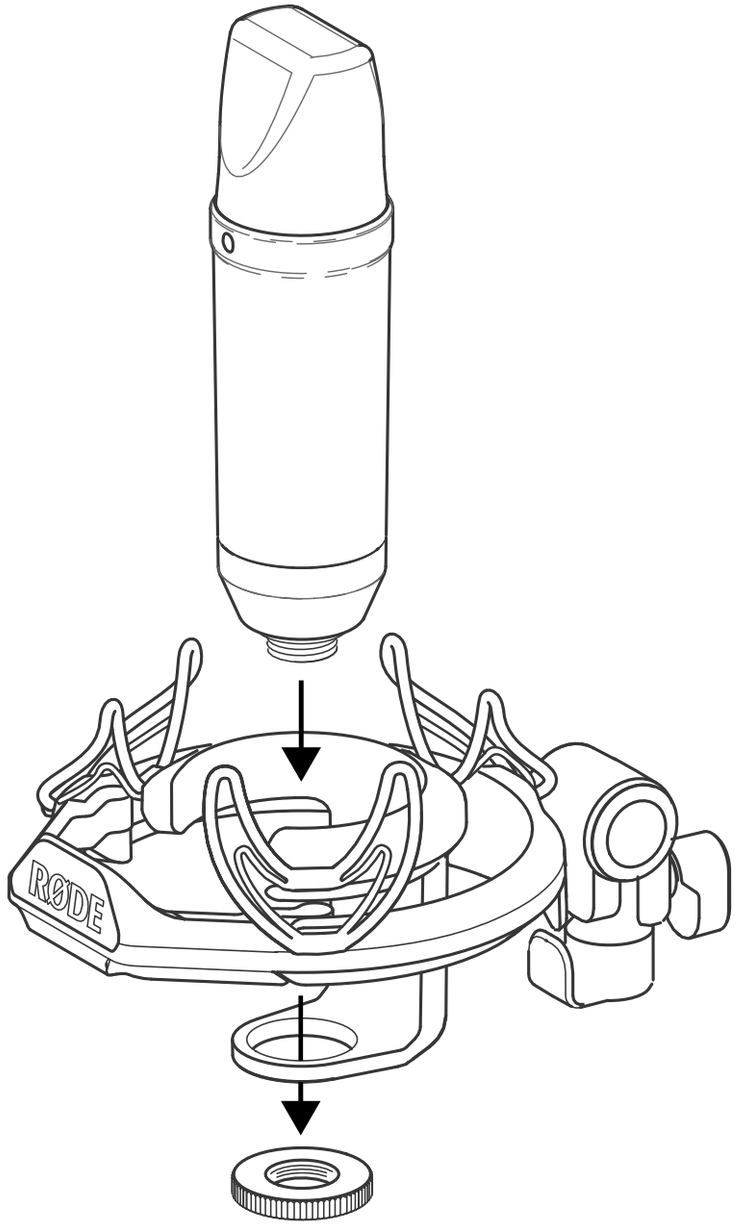


Diagram 1 Mounting the NT1 in the SMR shock mount

When changing the mic position, always be sure to loosen the adjustment knob first to ensure you do not damage the shock mount.

When recording vocals, always use the supplied pop filter, mounted in front of the microphone. The pop filter will prevent plosives (hard 'P', 'B', 'T' and 'K' sounds) from overloading the microphone's capsule.

For close miking of instruments, such as guitar cabinets, the front of the SMR can be removed to allow closer microphone placement. To remove the front plate, remove the two allen keys from above.

RM2

The RØDE RM2 ring mount is available as an optional accessory. It can be used in situations where the NT1 needs to be mounted in close proximity to instruments or in any tight space where the SMR won't quite fit.

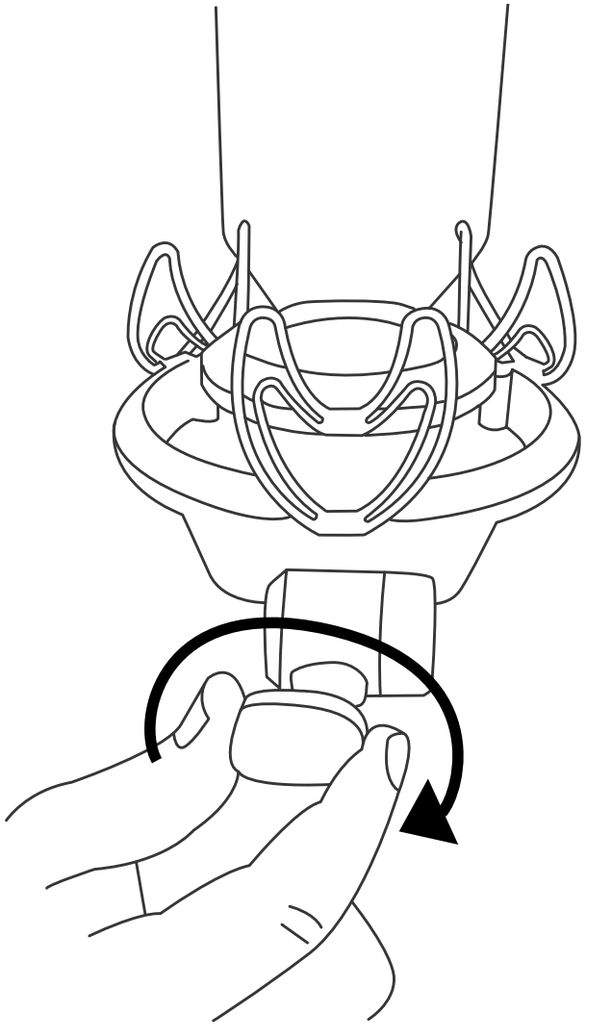


Diagram 2 Adjust the angle of the microphone by twisting the adjustment knob on the SMR.

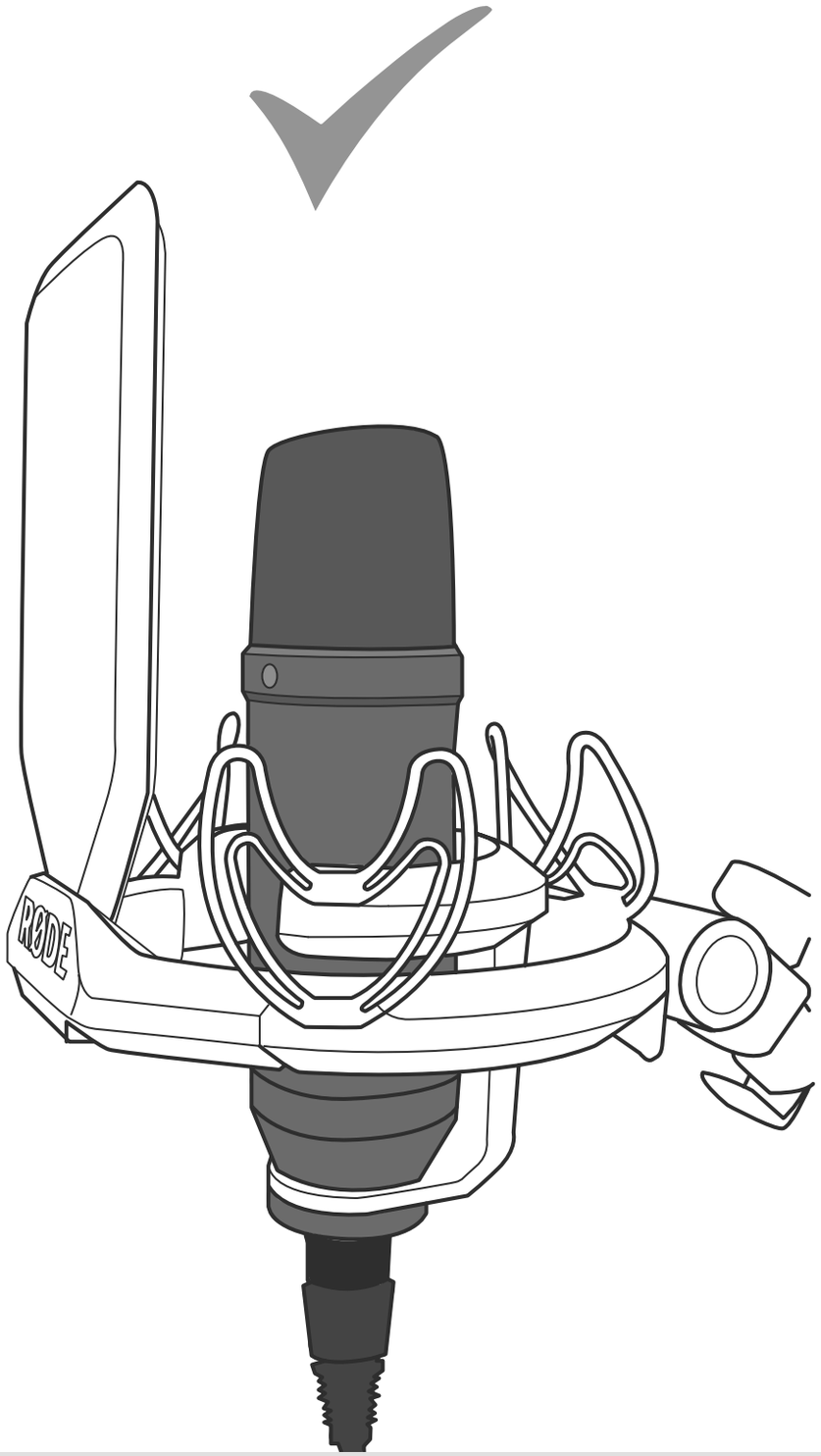


Diagram 3 Always use the pop filter when recording vocals, to prevent plosives.

The gold dot on the face of the NT1 indicates the front of the microphone, and the pickup area of the capsule. The gold dot should always be facing towards the sound source that you wish to record.

When recording any sound source, whether it be vocals, instruments or anything else, always spend time experimenting with mic placement to ensure you are picking up the best possible sound. Adjust the microphone position as many times as you need to achieve this, rather than attempting to compensate with EQ and other processing tools later on.

If you are recording through an interface, channel strip or mixing desk with an inbuilt EQ section, always begin by setting the EQ flat (no cut or boost) or turn it off if possible.

Once the preferred sound has been achieved through mic placement, any processing such as EQ, compression, reverb and other effects can be added to enhance the sound of your recording.

EQ is always best used sparingly, and when attempting to change the sound of a recording in any way you should always start by ‘cutting’ any unwanted frequencies, rather than boosting the other frequencies.

As with other aspects of the recording process, finding the right sound is always a matter of experimentation, and you should always go with whatever sounds best to you. Listen with your ears, not with your eyes!

Microphone placement

There are no set rules when it comes to microphone placement, but the tips below are a great starting point to achieve great results in most scenarios. Don't be afraid to experiment with your own mic placements to produce the sound that you'd like to pick up with your NT1.

Recording vocals

- We strongly recommend using the supplied pop shield attachment for all vocal recording. This aids in minimising plosive sounds (hard 'P', 'B', 'T' and 'K' sounds) that produce a sudden jet of air which can cause the capsule to overload and produce a 'popping' sound.
- Moisture on the microphone capsule can cause problems for any condenser microphone. Using the pop shield will reduce the risk of this occurring.
- Placement of the microphone relative to the vocalist may be varied on several factors including room acoustics, the vocal performance, and whether the vocalist has a high or deep voice.

An ideal reference is to begin with the NT1 with the pop shield attached, mounted directly in front of the vocalist, approximately 15cm (6") away. The pop shield will assist in keeping the performer at a constant minimum distance from the microphone and helps to maintain reasonable recording levels. Moving the vocalist a little closer will make the vocal sound more intimate and full, while moving the vocalist back will give the vocal a little more 'air' or room sound, and will reduce the proximity effect (increased bass or low frequency response when the sound source is very close).

Experimentation should be made with the angle from which the microphone is addressed, as different results can be achieved when the vocalist is 'off-axis' to the microphone (and the gold dot).

To watch a video showing microphone placement techniques for vocals, scan this code with your smartphone or visit **rodetv.com**

Recording electric guitar/bass

To mic up a guitar or bass amplifier (as opposed to direct input of that instrument) a microphone may be placed close to the loudspeaker of the amplifier, directed slightly to the side (off-axis) of the speaker (see **Diagram 4**).

In the absence of a PAD it may be necessary to move the mic further from the speaker to avoid signal distortion when loud volume is used.

Even small adjustments in the microphone's position can produce a very different sound when close-miking speakers, so experimentation here is a must!

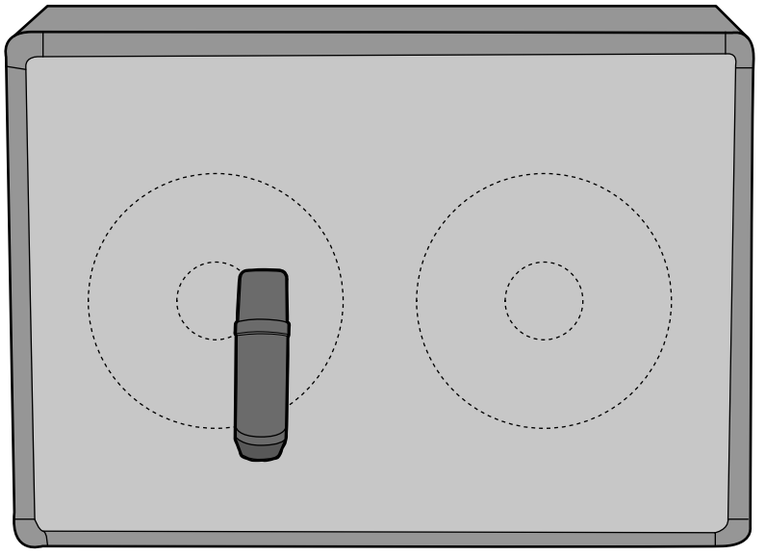


Diagram 4 Position the mic slightly off-centre to the speaker.

Recording piano (mono)

To record a piano using a single microphone, place the mic approximately 60cm (2') above the centre of the sound board, aimed slightly towards the front of the piano (see **Diagram 5**).

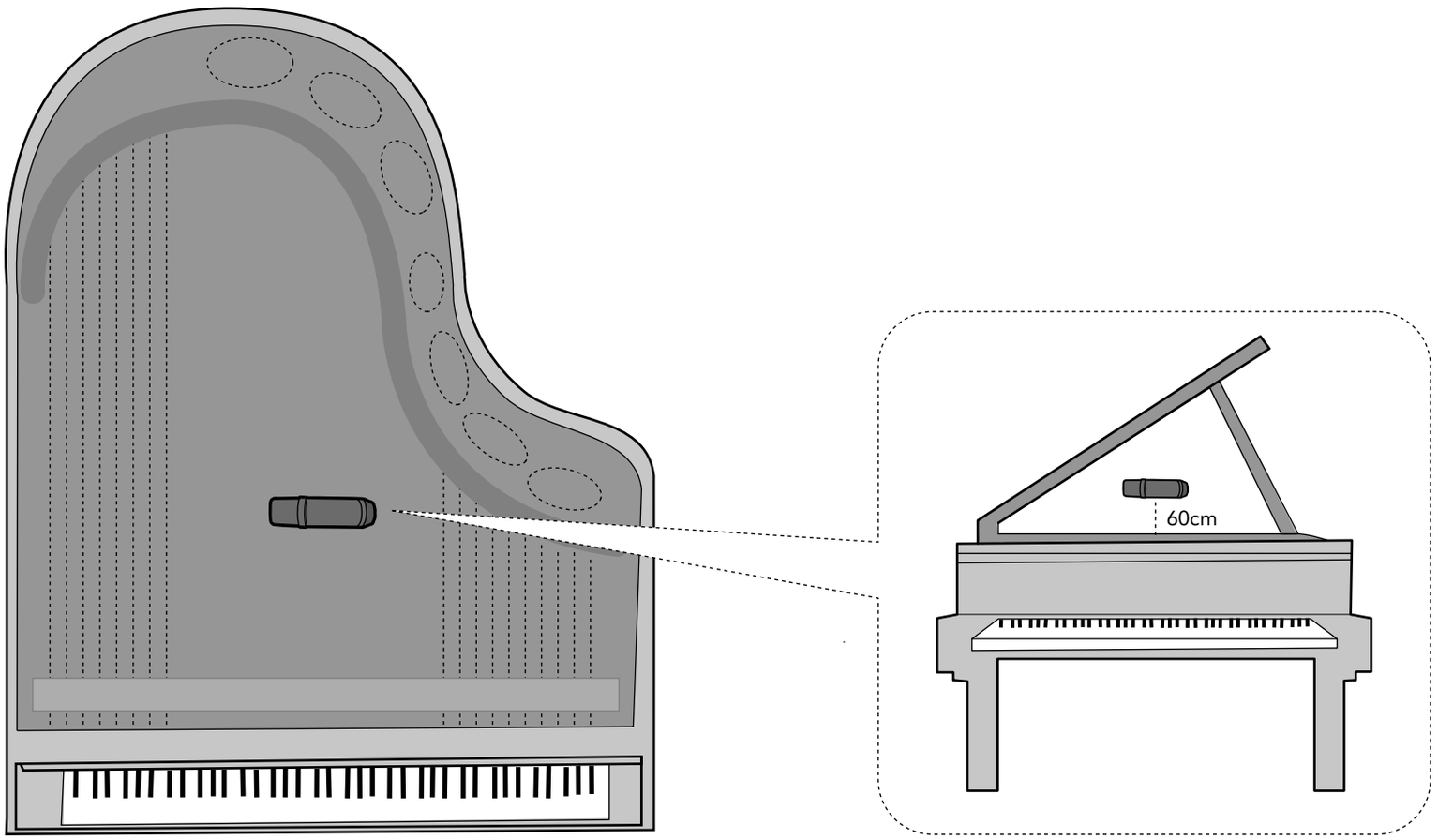


Diagram 5 Place the mic approximately 60cm above the soundboard.

Recording piano (stereo)

To record a piano using a matched pair of NT1s using X/Y stereo technique, the matched microphones should be angled 90 - 110 degrees to each other, over the hammers, with one mic aimed towards the lower strings and the other to the higher strings (see **Diagram 6**). The gold dots should face the piano.

Thus a stereo image can be achieved, with lower frequencies recorded on the left, and higher frequencies on the right.

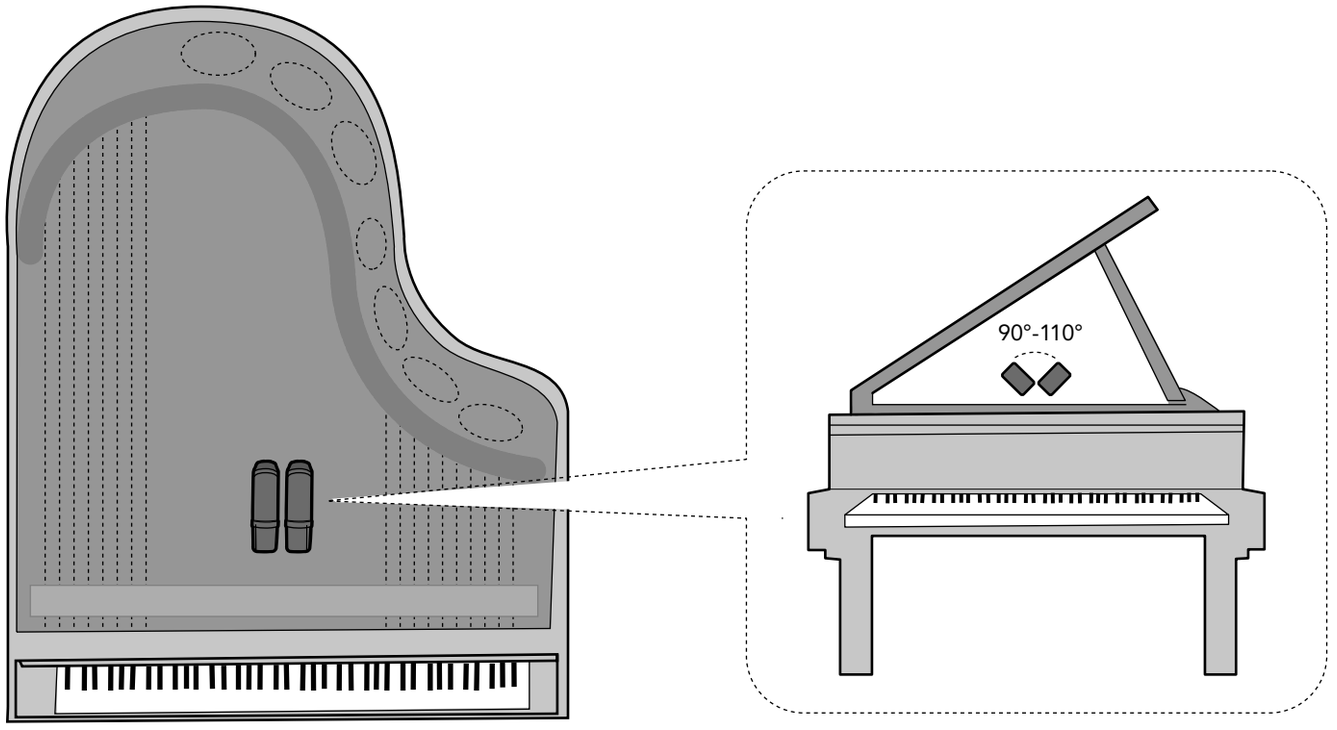


Diagram 6 Recording piano in stereo.

Recording acoustic guitar (mono)

A common (single) microphone position when recording acoustic guitar is between 20 – 30cm (8-12”) away from the front of the instrument, where the neck and body meet. Angle the mic towards the position between the sound hole and the neck joint of the guitar. Adjust the distance and position to fine tune the desired response. This will depend on the instrument, style of playing, and the desired sound.

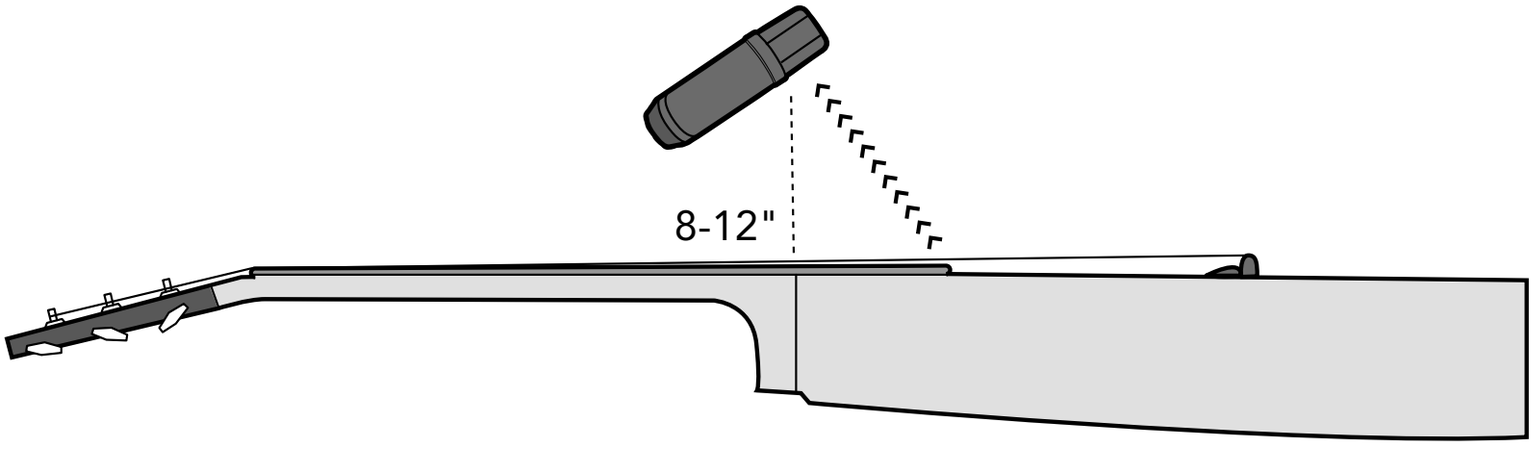


Diagram 7 Recording acoustic guitar with one mic.

Recording acoustic guitar (two microphones)

An alternative technique is to combine a small capsule microphone (like the NT5 or NT55) close to the guitar, with a large capsule mic like the NT1 at a distance of around 1m (3’). The individually captured sounds recorded by each microphone can then be mixed as desired.

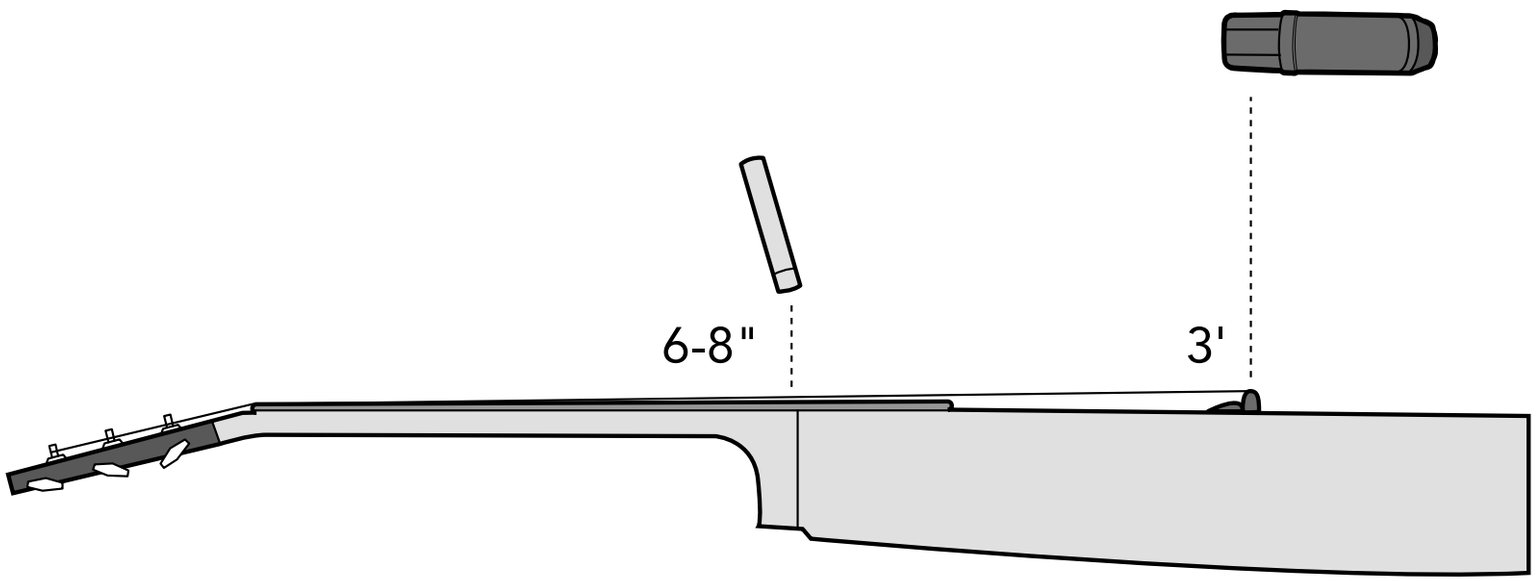


Diagram 8 Recording acoustic guitar with two mics.

Recording drums (one mic)

There are various ways to record drum kits. Single mics ‘overhead’, multiple mics (X/Y or spaced pair) or multiple mics close to individual drums and cymbals (‘close miking’).

To record a kit using a single microphone we suggest that you begin by placing the mic above the direct centre of the kit at the same height as the kit is wide, with the front of the microphone (gold dot) facing down.

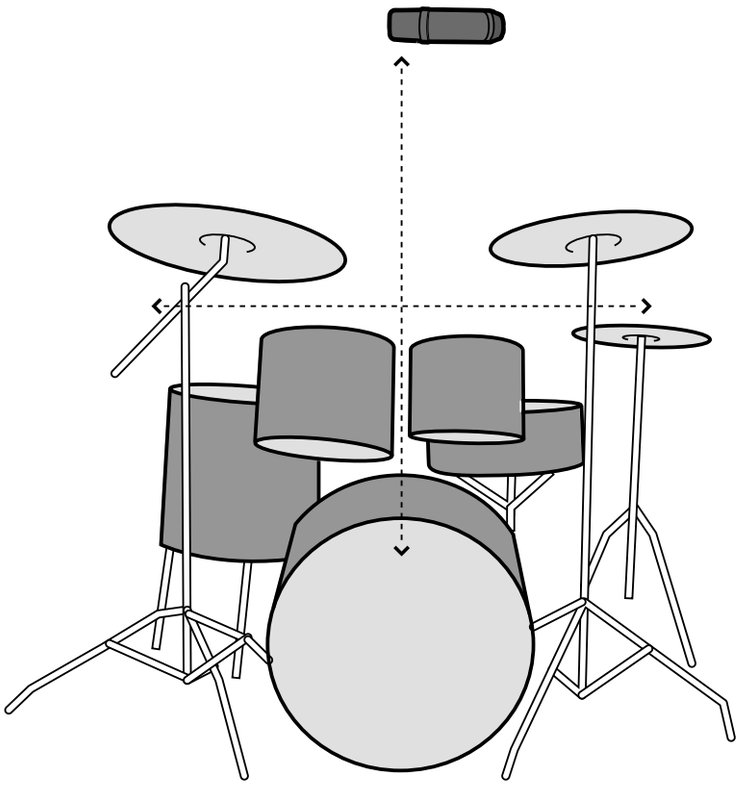


Diagram 9 Recording drums with one mic.

Recording drums (overheads spaced)

To record a kit using two overhead microphones they should be placed at a similar height to the single technique and, depending on the kit size, approximately 1-2m (3-6') apart.

The first mic should be at an equal distance from the snare drum as the second mic is from the kick drum. This will ensure that the kick and snare are in the centre of the stereo image, and minimise phase problems, as the sound wave from the kick and snare will reach the microphones at the same time.

Using a cable or a pair of drumsticks as a measure can be a useful way to help match the distances and work out the correct mic positioning.

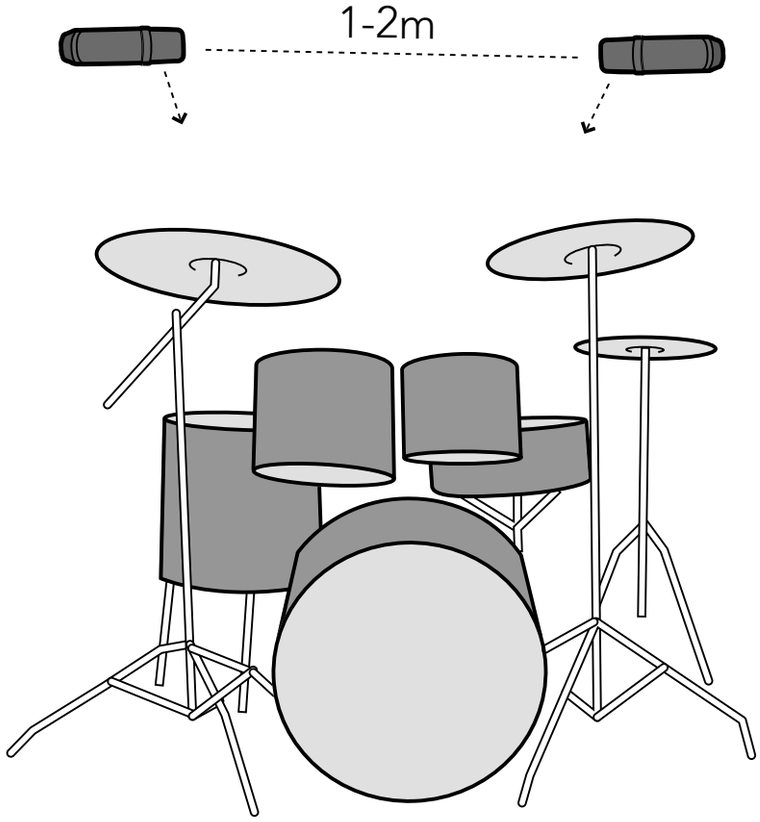


Diagram 10 Recording drums with two overhead spaced mics.

Recording drums (overheads XY)

To record a kit using a matched pair of microphones in X/Y stereo technique, the microphones should be placed in the location of the single mic technique, with the front of each microphone (gold dot) pointing down and at an angle of 90 - 110 degrees to each other.

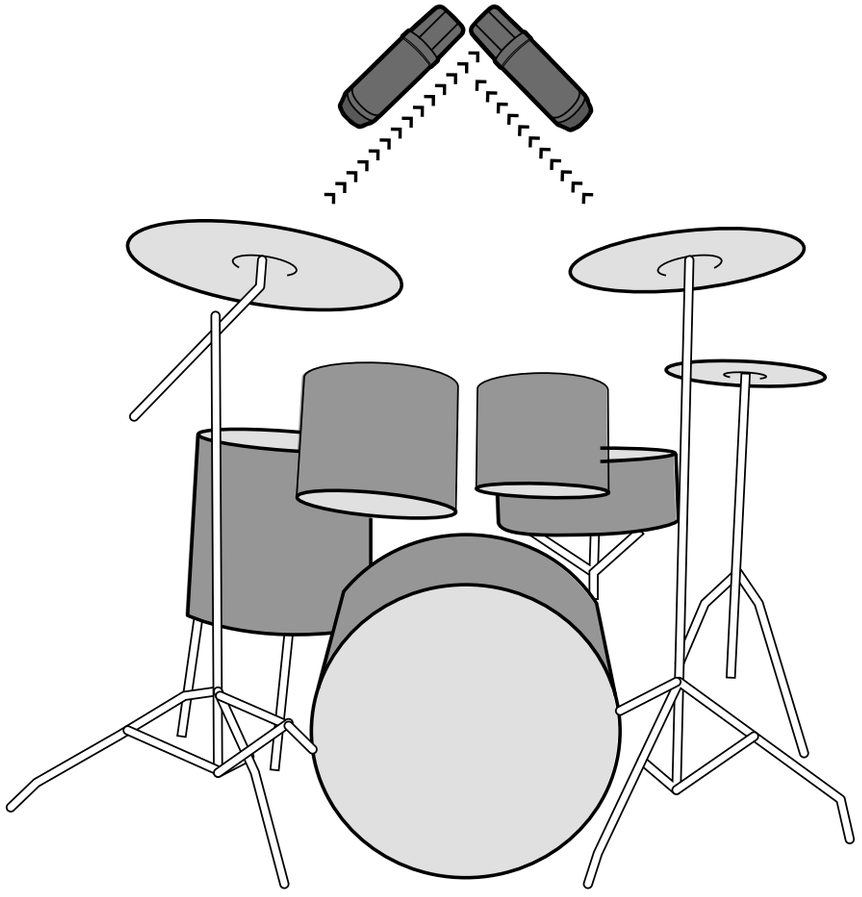


Diagram 11 Recording drums with two overhead XY mics.

Safety and maintenance

After use the NT1 should be removed from its shock mount, wiped with a dry, soft cloth and placed in the supplied protective dust cover or supplied zip case.

Alternatively if the mic is being used regularly, we strongly suggest you cover the mic with the supplied protective dust cover. This can simply be slipped over while the mic is still in the shock mount.

Be sure to place the moisture-absorbent crystals (supplied) at the head of the microphone when in storage, so as to absorb any moisture present. Eventually this pack of crystals will need to be dried. This is indicated by the crystals turning pink in colour. They can easily be re-used by placing them in an oven at 100 - 150 degrees celsius for approximately ten minutes. The crystals will operate effectively again once they have turned blue.

If you experience any problem, or have any questions regarding your RØDE microphone, first contact the dealer who sold it to you.
If the microphone requires a factory authorised service, return will be organised by that dealer.

We have an extensive distributor/dealer network, but if you have difficulty getting the advice or assistance you require, please do not hesitate to contact us directly.

Alternatively please visit **www.rodemic.com/support** for contact details and a list of Frequently Asked Questions.

Importers & distributors

For a full list of international importers and distributors, visit our website at **www.rodemic.com/distributors**.

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