

RØDE[®]
MICROPHONES



NT2-A

Instruction
Manual



RØDE NT2-A



I want to thank you for choosing the NT2-A professional large capsule studio microphone.

Please take a few moments to read this instruction manual before using your NT2-A, as it will help you gain the best long-term performance.

The new NT2-A carries on the tradition forged by the now legendary RØDE NT2. At its heart is the Australian designed and manufactured HF1 dual diaphragm capsule; the culmination of many years of dedicated research into the art and science of microphone technology.

We use the word 'art' because a studio microphone cannot be judged simply by electroacoustic measurements alone.

The NT2-A's ability to evoke the silky smooth character of the legendary microphones of the 50's and 60's combined with its flexibility and superlative audio characteristics make the NT2-A one of the most versatile condenser mics available.

At **RØDE** we know that once you hear this remarkable microphone, you will agree that **RØDE** has created another benchmark by which all others will be judged.

Peter Freedman
Sydney, Australia

Specifications

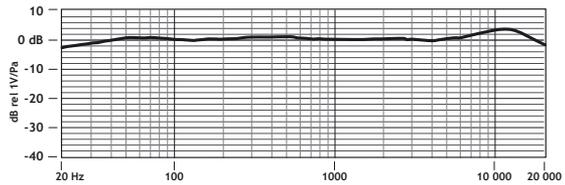
Acoustic Principle:	Externally polarized 25 mm (1") dual diaphragm.
Active Electronics:	J-FET impedance converter with bipolar output buffer.
Pickup Pattern:	Multi-pattern (see graphs below)
Frequency Response:	20 Hz ~ 20 kHz (see graphs)
Output Impedance:	200 Ω
Sensitivity:	-36 dB re 1 Volt/Pascal (16 mV @ 94 dB SPL) +/-2 dB
Equivalent Noise:	7 dBA SPL (per IEC651, IEC268-15)
Maximum Output:	+16 dBu (@ 1% THD into 1 k Ω)
Dynamic Range:	140 dB (per IEC651, IEC268-15)
Maximum SPL:	147 dB (@ 1% THD into 1 k Ω) 157 dB (@ 1% THD into 1 k Ω) with pad at -10 dB (max)
Signal/Noise:	87 dB (per IEC651, IEC268-15)
Power Requirements:	Phantom 48 Volts (P48 Standard).

Features

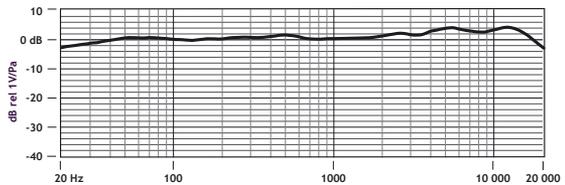
- Australian designed and manufactured HF1 - 1" edge terminated, gold sputtered, dual 5 μ m diaphragm capsule.
- 3 position variable polar pattern: Omni, Cardioid or Figure 8; all controlled at the mic.
- 3 position variable high-pass filter: 0 dB, -5 dB, and -10 dB.
- 3 position variable pad: Flat, 80 Hz or 40 Hz.
- Ultra low noise, transformer less SMT circuitry.
- Wide dynamic range.
- High strength welded and heat-treated steel mesh head.
- Durable satin nickel finish.
- Internal capsule shock mounting.
- Supplied complete with M2 Mount and Pouch.
- Designed and manufactured in Sydney, Australia.

RØDE NT2-A

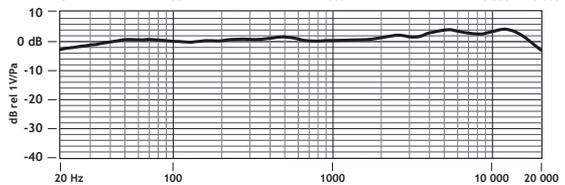
NT2-A Frequency Response
- Omni - 0°, Flat Filter



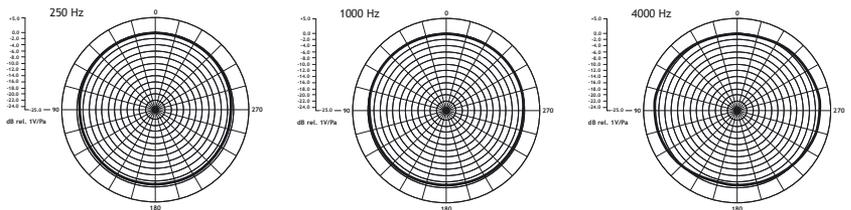
NT2-A Frequency Response
- Cardioid - 0°, Flat Filter



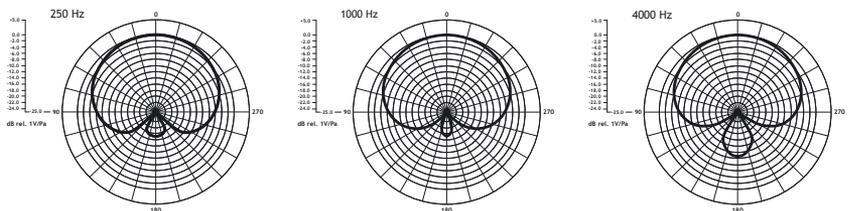
NT2-A Frequency Response
- Figure 8 - 0°, Flat Filter



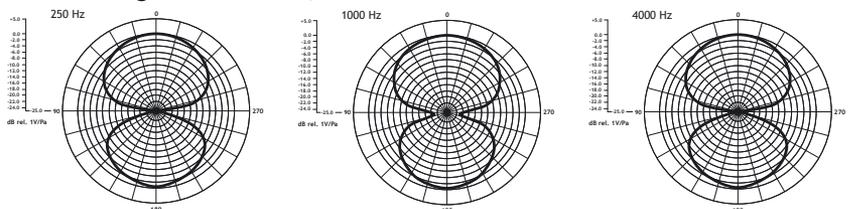
NT2-A Polar Pattern - Omni - 250 Hz, 1000 Hz & 4000 Hz



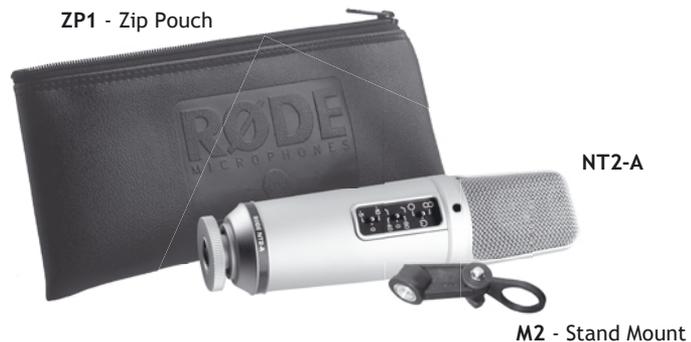
NT2-A Polar Pattern - Cardioid - 250 Hz, 1000 Hz & 4000 Hz



NT2-A Polar Pattern - Figure 8 - 250 Hz, 1000 Hz & 4000 Hz



Accessories



Applications - Vocals

We strongly recommend the use of a 'pop-filter' for ALL vocal recording. Plosives ("P's", "B's" and "C's") can produce a sudden burst of air, which can cause the capsule to 'bottom-out' or overload, producing a distinctive 'popping' sound. Moisture deposited on the capsule from both air and breath-borne sources can cause problems for condenser microphones. To reduce moisture intrusion and the effects of plosives, it is important that a pop filter is used.

Placement of the microphone and pop filter are important and depend heavily on the volume and style of the vocalist. The best position can only be determined by experimenting. The position shown (fig. 1) may be considered a reasonable starting position.



fig. 1

The 'proximity effect', an increase in the lower (bass) frequencies, is experienced when close to the microphone. Proper microphone technique can enable good use to be made of this effect. For example, Intimate, or low-volume phrases can be recorded 'within proximity' (closer to the microphone), and louder sections of the performance presented from a greater distance. This 'microphone control' technique is of utmost importance when adding expression to a vocal recording.

Applications - Piano



fig. 2

To record a piano using a single NT2-A microphone (fig. 2), it should be placed approximately 200 mm (8") above the centre of the sound-board, aimed slightly towards the front of the piano.

To record a piano using an X/Y Stereo technique, two NT2-A's angled at 90-110 degrees to each other (fig. 3), are positioned over the hammers; one mic aimed towards the lower strings and the other towards the high strings.

The gold dots should be directed down, towards the piano.

An effective stereo ambience may be achieved by recording lower keys on the left and high keys on the right, placing the middle keys around the centre of the recorded sound spectrum.

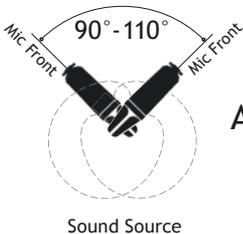


fig. 3

Applications - Drums

There are various ways to record drum kits.

Single microphone 'overhead', two microphones overhead (e.g. X/Y or spaced) and multiple microphones used close to individual drums & cymbals (i.e. close mic'ing):

To record a kit with a single microphone (see fig. 4), we suggest that you begin by placing the mic above the centre of the kit at the same height as the kit is wide, with the front of the microphone (Gold Dot) facing down.

To record the kit with TWO overhead microphones, they should be used at a similar height (as above) and depending on the size of the kit, between 1 - 2 m apart. The mic's would probably be equidistant from the snare drum.

To record a kit using the X/Y stereo technique, microphones should be placed (as per fig. 3) with the front of each microphone pointing down, and each at 90-110 degrees to each other.



fig. 4

Applications - Acoustic Guitar



A common (single) microphone position when recording acoustic guitar, is between 20 and 30 cm away from the front of the instrument where the neck and body meet. Adjust the distance and position to 'finely' tune the desired response. This desired response will depend on the instrument, the style of playing and the sound aspired to.

1. Mount the NT2-A on the supplied M2 shock mount (fig. 5) then firmly secure the mic & mount assembly to a stable mic stand. Connect the XLR plug of the microphone cable (fig. 6) firmly and securely to the microphone socket.



fig. 5



fig. 6

2. We strongly suggest you use a high quality oxygen-free copper cable with gold-plated connectors. The cable should be as short as possible because long cables may adversely affect sound quality. A 6 metre cable is a good compromise.
3. Always position the gold dot facing towards the guitar.

Settings - Polar Pickup Patterns

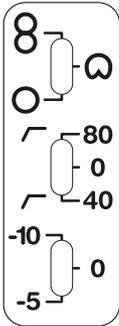


fig. 7

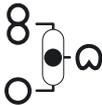


fig. 8



fig. 9



fig. 10

1. There are three polar pickup patterns, hi-pass filters and pad settings available on the NT2-A (fig. 7).
2. The top 3-position switch located on the front of the microphone controls the selection of the polar pickup patterns. The most common position for regular vocal recording is Cardioid. This is achieved by moving the top switch to the centre position (fig. 8). When the cardioid position is selected, the microphone picks up sound from the front of the microphone, rejecting sound from the rear.
3. When the Omni position is selected, bottom position (fig. 9), the microphone picks up sound from all around the microphone and there is less “proximity effect” (an increase in lower frequencies or bass, when the sound source is ‘closer’ to the microphone). The Omni pattern is commonly used for room mic’ing or to record a more natural sound when close mic’ing instruments.
4. When the figure-of-eight is selected, top position (fig. 10), the microphone picks up sound from the front and rear, while rejecting sound from the sides. This pattern is commonly used for interviews (2 people using 1 microphone between them) or in conjunction with a cardioid microphone to use the M-S stereo recording technique.
5. Experiment with the microphone; listen to the various pattern, pad and high-pass filter settings and decide what suits your current application best. Allow 5-10 seconds for the microphone to stabilize when adjusting the controls.

You won’t damage the microphone no matter what the switch position, so go ahead, experiment with any combination!

Settings - High Pass Filter

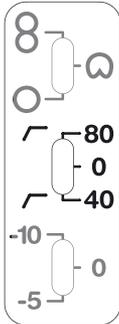


fig. 11

The middle 3-position switch, referred to as the high-pass filter (fig. 11), controls bass frequencies. This control is sometimes referred to as a “bass-cut” because it reduces the selected bass frequency and all frequencies below that.

When the switch is in the centre position (fig. 12) there is no reduction of the bass frequencies and so the microphone will deliver a full response. When the filter switch is in the top position (fig. 13), the level is reduced by 3 dB at 80 Hz and below, which is certainly audible and will have a direct effect on most sound sources. When the filter switch is in the bottom position (fig. 14), the level is reduced by 3 dB at 40 Hz and below.

You may choose either 40 Hz and 80 Hz cutting up to and including the selected frequency by 3 dB. This control is useful for selecting the cut-off point for potentially intrusive low frequencies (e.g. traffic noise, floor vibrations etc.). It can also be used on vocals where you may want a limited bass or low frequency response for effect.



fig. 12

Why is that important?

The NT2-A has a very wide response. It will pick up sounds below 20 Hz. That's a good thing if you want to record a church organ or other instruments that reproduce very low bass frequencies. This can cause problems when you pick up and record loud low frequencies that have nothing to do with your music. All this does is 'eat up' the recording equipment's level capability, and reduces clarity.



fig. 13

The best way to set this control is to listen to the microphone while recording the source. If it is vocals for example, set the mic to the centre position, then listen to the vocal sound as you change positions from centre to top and from top, through centre to the bottom. Remember to allow the microphone to stabilize - approximately 5 - 10 sec.



fig. 14

Remember there are no right or wrong settings; the NT2-A offers you the flexibility to find 'your sound'.

Settings - The Pad

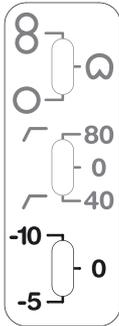


fig. 15

The bottom 3-position switch called the Pad (fig. 15), reduces the input level to the microphones in-built electronics. When the switch is in the centre position (fig. 16), there is no reduction in level of the recorded source. When the switch is in the top position (fig. 17), the level of the recorded source is lowered by 10 dB. When the switch is in the bottom position (fig. 18), the level of the recorded source is lowered by 5 dB. (NOTE: -3 dB reduces the level by 50%)

The pad is useful when recording loud sound sources such as close mic'ing drums or amplifiers. Therefore reducing distortion and avoid overloading the microphone due to high sound pressure levels.

Settings Reminder

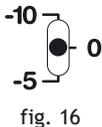


fig. 16

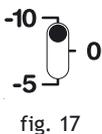


fig. 17

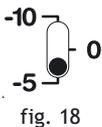


fig. 18

On the following 2 pages we have provided a set of control panel graphics. These are available for you to keep a record the settings you have made during a recording. Should you wish to recreate a section of a recording at any time, or attempt to capture the same "sound quality", you can refer to the manual and easily retrieve the mics previous settings.

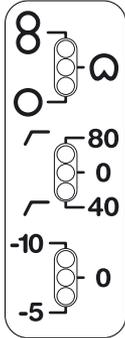
It is important to remember that there are many variables that can affect a microphones sound. The acoustics of the room have a dramatic effect to achieve the same results so you would need to set up in the very same way as you did before with no changes to the room's acoustics. You may also wish to make photocopies of the template page

Settings Reminder

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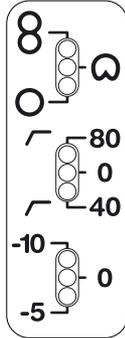
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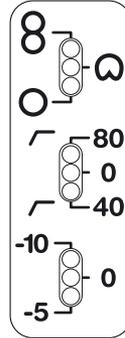
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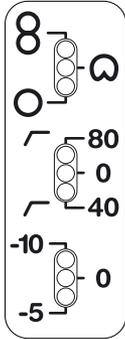
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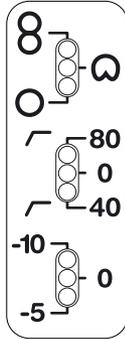
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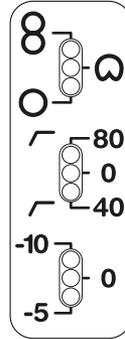
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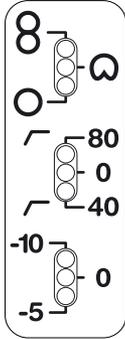
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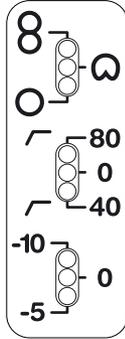
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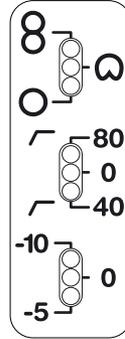
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Warranty Service

All **RØDE** products are warranted for one year from the date of purchase and the warranty card should be used to record and register that purchase.

The warranty covers parts and labour that may be required to repair the microphone during the warranty period. The warranty excludes defects caused by normal wear and tear, modification, shipping damage, or failure to use the microphone as per the instruction guide.

If you experience any problems or have any questions regarding your **RØDE** microphone, first, contact the dealer who sold it to you. If the microphone requires factory authorized service, that dealer will organise return. We have an extensive distributor/dealer network but if you have difficulty getting the advice or assistance you require, do not hesitate to contact us directly or contact your local distributor.

RØDE NT2-A

Notes _____

Contact Details

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