

## RODE NTG-3

by George Kourounis

**I**F Indiana Jones was a sound recordist, this would be the mic he'd use.

Rode touts its NTG-3 as being the perfect shotgun microphone for rugged environments. Well, being a full-time storm chaser that also has 15 years of experience in the pro audio business, it only made sense that I try one of them out to see if it can truly survive the kinds of extreme conditions Rode claims it can. My initial plan was to bring one of the NTG-3s with me to Florida to document the land-fall of Hurricane Fay, but when the storm weakened, it no longer became sensible to travel all the way down there – so I opted to do some local testing instead.

The NTG-3 is a no-nonsense shotgun mic that doesn't have any of the bells and whistles you might expect from a more expensive mic – no high pass filters, no attenuation pad, and no battery compartment (phantom power only). Although this lack of features may seem limiting at first, this streamlined approach does have two benefits: it keeps the price point at a very competitive level, and if you run into problems out in the field (and who doesn't) your troubleshooting just became a lot easier and faster. The less complexity there is, the less that can malfunction at the worst possible time. I like simplicity – especially when I'm in a high-stress, frantic situation and just want to get back to the task at hand instead of wasting time fixing problems.

From the outside in, Rode started by designing a carrying case for the NTG-3 that certainly will protect the mic and then some. Actually, it looks almost exactly like one of those long, black security guard flashlights, and I'm sure that if need be you could successfully defend yourself from a potential mugger with it without ever harming the mic inside. The end caps unscrew like a pipe bomb to get at the mic, and I think it would be a great idea if Rode actually built a replacement end cap that

incorporated a real LED flashlight into it. You can never have too many flashlights. As impressive as the ruggedized case is, the whole idea is to take the mic OUT of the case to use it, so I'm not sure how useful the carrier really is, since when it matters most, it'll be outside. The real torture test is of the mic itself, and I wanted to see if it lived up to the claims.

One of the main features of the NTG-3 is that it's almost immune to the effects of condensation due to a technology known as RF Bias, which results in lower impedance at the capsule. As a by-product, this allows the NTG-3 to endure more moisture without short-circuiting. I figured I'd put it to the test, so I ran a cable to my bathroom and cranked up the hot shower. To my surprise, the NTG-3 kept outputting clean audio, even as condensation drops began to form on the barrel of the mic itself. After awhile, the audio signal eventually did drop out, and that was the end of that test, but nobody should really be subjecting gear to that kind of stress. I was expected to return this mic in working order, so I figured that enough was enough. After letting it dry out, I brought the mic into a more "controlled" environment.

At first listen, the NTG-3 has a nice frequency response with more bottom end than I expected, and it sounded full and rich on spoken voice at a variety of distances. One thing to keep in mind is that the polar pattern is a little bit wider than most shotgun mics, which may seem like a problem at first, but if you've ever tried keeping up with a moving target that's dashing around outside you'll probably find this more of an asset than a liability. As for functionality, since there aren't any switches for pad or filter, there really aren't a lot of ways to get yourself into trouble using this mic. Rode seems to have taken the "Keep It Simple, Stupid" philosophy to

heart for this design. Just aim it, set your levels, and GO!

The NTG-3 comes with a foam windscreen that will do in most circumstances, but do yourself a favour and upgrade to the deluxe WS7 windshield if you're even thinking about doing any serious recording outside.

Now get out there and slog through the jungle or climb onto the back of that dogsled. At least you know that with the Rode NTG-3 you'll have a mic that is as rugged as you are. Oh, and if you happen to run into a pit of snakes ... just clobber them with the aluminum case.

*George Kourounis is a 15-year veteran of the Toronto post audio scene and is currently circling the globe, chasing storms, and generally taunting Mother Nature for his show Angry Planet.*

### DISTRIBUTOR'S COMMENT

Well done, George – you nailed it! Simply put, we expect the NTG-3 to become the new standard for location recording under ANY conditions ... another big one for Rode.

Richard Lasnier, Pres.  
Audio Distributors International

# RØDE NTG-3

Looking like a round of ammunition in a metal casing, the NTG-3 seems primed for battle.

**Text:** Mark Davie



Rode has waded strongly into the fiercely protected waters of the film and television industry in recent times with the launch of the NTG-1 and NTG-2 shotguns. Now the powerbase is complete with the arrival of the impressive new NTG-3, a shotgun that's aimed squarely at its 'legendary' competitor – the Sennheiser MKH416. Housed in what looks like a shell casing, Rode clearly means business in the battle ahead.

When reviewing shotgun microphones, it's inevitable at some point that they'll be compared to the 416, the benchmark of the 'booming' industry. But with the Rode NTG-3 looking so uncannily similar, comparing the two is unavoidable.

## STANDARD ISSUE?

The NTG-3 is a little more 'industry standard' than either the NTG-1 or NTG-2. But the NTG-3 also takes into account the shifting sands of the industry towards more modern, on-the-fly mic techniques. Film and television productions are far more demanding and diverse than they were when many of the 'standard' shotguns were developed. Today there's far greater emphasis on versatility, ruggedness and a 'capture it at all costs' mentality. In short, the mic needs to be a little more forgiving, and that means *width*.

In many ways the NTG-3 is the stunt double of the 416. It weighs about the same (the Rode the 'biggest loser' by two grams, coming in at 163g). They're about the same length (the Rode an extra half centimetre longer at 255mm). They both handle 130dB of SPL and offer a frequency response of 40Hz – 20kHz. Both have anti-glare finishes and both are RF biased. So how do they differ?

Well, apart from the obvious difference – the NTG-3 is silver and the 416 is black – the main distinction is in the Rode's aforementioned 'width'. Reality TV has changed television sound considerably – the action usually only happens once and it can happen in the Amazon jungle, thousands of miles from the closest sound stage. The

Rode NTG-3 caters to this pressure-cooker environment by giving boom operators a greater chance of capturing Take 1, by providing a more relaxed polar pattern. It's this spontaneity of action, and the limitations of a single take, that calls for an increased angle of high frequency capture. Although more dialogue is being captured by wireless microphones these days, the boom operator's job remains critical as ever.

The Sennheiser MKH416 has a very tight pattern, picking up high-frequency detail to about 12 degrees off axis, before rolling off in the high-end quite quickly. The Rode NTG-3, by comparison, spreads itself a little wider, reaching about 20 degrees before there's any noticeable drop in high-end detail. What this means is the NTG-3 will likely deliver better consonant articulation between spaced sources, making it a formidable dialogue mic when you can't afford to miss a beat. It's also a little more forgiving on set when the boom drifts on a single source. The trade off, however, is that the mic captures a little more spill in noisier environments.

## BLIND FREDDIE

As for the tone of the two competitors, the NTG-3 is uncannily similar to the Sennheiser. In a shootout between the NTG-3 and two 416s conducted in an overdub booth, virtually no difference could be detected between them. Both offered the same degree of voice articulation and deep bottom end. In the wash up, blind tests proved that no-one could pick one mic from the other with any confidence. All that could be noted was the difference in the aforementioned width. Indeed, switching between the mics left everyone in the control room scratching their heads, one engineer even suggesting that if he hadn't known beforehand, he would have thought he was listening to but one mic.

It was clear from this test that any tonal distinctions between the Rode and the Sennheiser are subtle indeed. Rode has obviously developed its NTG-3 with the 416



## NEED TO KNOW

### Price

£999

### Contact

Rode Microphones  
(02) 9648 5855  
ozsupport@rodemic.com  
www.rodemic.com

### Pros

Wide capture to suit reality TV.  
Uncannily similar to the Sennheiser MKH416.  
Weather/travel resistant.  
Low handling noise.  
Slim and sturdy storage cylinder.

### Cons

Less focused pattern may result in more 'spill' into the mic – won't suit everyone

### Summary

The Rode is significantly cheaper than the standard Sennheiser 416 shotgun, offering a slightly wider pickup pattern to suit on-the-go dialogue or reality television. Its anodised aluminium waterproof cylindrical case makes transporting it laughably simple without adding virtually any weight or space to the backpack.

The anodised aluminium case that protects the NTG-3 from the rigours of life on the road is a fantastic additional design feature: strong, classy and functional.



squarely in the cross-hairs and it's done a remarkable job matching this tone.

## WARM STEEL

The Rode NTG-3 is RF biased, meaning that unlike a DC-biased condenser microphone that has a fixed charge across its plates, the NTG-3 uses a comparatively lower RF voltage. This results in a lower electrical impedance capsule that won't short out when condensation appears, unlike a DC-biased microphone. So when Warren Miller is shooting his 80th Anniversary skiing film and wants to capture the sound of an avalanche cascading around his latest hapless protégé, he can record it at a distance, safe in the knowledge that the shotgun isn't going to leave him out in the cold, as it were. It goes without saying that, in situations like this, there is no Take 2.

Condensation occurs when a surface gets so cold its temperature is cooler than that of water vapour. Being winter, what better time to test the NTG-3 to see whether or not it can work under the plummeting night-time temperatures of rural Victoria?

The night of the second experiment saw the mercury drop to a perky  $-2^{\circ}\text{C}$  – far colder than the cushy confines of the overdub booth. To expose the mic to the maximum cold and condensation, the NTG-3 was left outside on a stand for several hours to suffer in silence. When the mic was retrieved it was freezing to the touch but still worked faultlessly, showing no signs of developing any of the spurious noises that condensation on a capsule sometimes causes. I couldn't help but test the handling noise either; my hands were shaking so much. Again the results were good. It seems the mic is far more capable than any boom operator of standing out in the freezing cold, and long before the mic showed any signs of failure, the operator's clattering of teeth would probably stop the shoot.

The NTG-3 exhibits very low self-noise and physical handling noise. On the end of a boom, it can quite happily record without generating thumps and bumps, even *sans* the suspension mount. A proper suspension mount is preferable, of course, and in that situation the Rode is a silent operator. The mic also comes supplied with foam pop filter and this cuts down wind noise as well, but again, a proper windshield is always preferable. An interesting point to note here is that, while the rival Sennheiser 416 has a slight accentuation of the high frequencies at 90 degrees off axis, the NTG-3 does not, making it more resistant to intelligible side interference.

The aluminium storage cylinder supplied with the NTG-3 is one of the best storage devices for an application-specific microphone I've seen. It almost *screams* to be taken out in the field. Adding only a centimetre to the mic's radius, the canister stows snugly in the kit bag of any field recordist. Inside this housing the mic should be safe from all but the grossest maltreatment. If a rhino sits on it while filming on location in the Serengeti... well, I guess nothing would have saved it in that situation anyway.

## TALK IT UP

Like any recording situation it's a case of picking the microphone for the application. The NTG-3 is a great option for quick dialogue. It's a sub- $\$1000$  mic that sounds great and can get you out of a jam. Anyone recording sound for film and television would do well to check this out. ■

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**Microphone Review RODE NTG-3 Shotgun Mic**

John Burkhardt  
 October 2008  
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**The Shotgun from Down Under**

Sound. It's just as important, if not more important, than picture. That axiom has been true since the advent of talkies and the end of film's silent age. Many video enthusiasts tend to focus solely on the camera technology as it advances at breakneck speed. But when it's time to put my money down, I feel much more comfortable purchasing a good piece of audio gear, knowing its lifespan will likely outlast several camcorders.

A shotgun mic is one of the two essential microphones (the other is the wireless lav) that should be in any video production kit. Its name originates from its likeness to the barrel of a shotgun. The long slotted tube makes the pickup pattern of the mic highly directional, meaning that it's useful in isolating a specific sound or speaker from its environment. A common misconception is that you use shotgun mics to pick up audio from far away, similar to the telephoto setting on a camcorder. This is not the case; as with all microphones, the best placement is as close as possible to your subject. Generally, to get the best audio, you use shotgun mics in the field, at the ends of boom poles which hover just out of frame.



**Enter the RODE NTG-3**

RODE is a well-known Australian manufacturer of microphones, whose products tend to deliver more sound than their prices might suggest. So we were eager to try out its newest shotgun model, the NTG-3.

The first thing you notice when you open up the NTG-3 is that it is stored in a matte-black, weatherproof aluminum tube. It looks a lot like a pipe-bomb actually, which means you're definitely going to be flagged by airport security on your next shoot. However, I really appreciate the excessive ruggedness of the case. It shows both the attention by RODE to the sometimes harsh realities of the location environment and an insight into the mind of the engineers, as if they were saying, "We worked really hard on this microphone; please take good care of it."

The microphone itself is silver, measures 10-inches long and comes in at about a third of a pound. The NTG-3 comes with a simple XLR connection in the back, with no switches, LEDs or battery compartments, which greatly simplifies operation and troubleshooting. The NTG-3 is phantom-powered, which means that your camcorder or field mixer provides the voltage for its operation via the XLR cable. This is optimal, because you never have to worry about your microphone running out of battery, but it does require equipment that supplies 48-volt phantom power (most XLR-equipped camcorders do).

As you can imagine, with a long tube filled with slots, wind noise can be a problem. The RODE NTG-3 comes with a removable foam windscreen, which works well on fairly calm days, but for anything more than a light breeze, you're still going to want to enclose the NTG-3 in a furry windscreen or blimp.

The NTG-3 is a condenser microphone; it hears much like your eardrum: a thin membrane reacts to changes in air pressure, causing a voltage fluctuation that goes to your recorder as a faint electric signal. The NTG-3 addresses the issue of moisture forming on this membrane in humid environments (condensation on the condenser?). Like water droplets on an iced drink on a hot day, condensation in the mic can adversely affect your audio. Using a technology called RF bias, RODE claims that the NTG-3 is almost completely resistant to moisture. Having shot several shows in the tropics, I found microphone condensation an issue exactly one time, but it's a nice feature to have nonetheless.

The frequency response of the NTG-3 is nice and flat (see diagram above). All microphones are more or less sensitive to certain frequencies, so what you're looking for is a nice flat line between 80 and 1200Hz, which is the frequency of the human voice range. The flat line means the microphone is picking up frequencies equally from Barry White to a shrieking little child.

The NTG-3's design provides a slightly broader pickup pattern than that of most shotgun mics, making the microphone angle less critical and more forgiving for boom operators. You can see this pattern on the polar response diagram above.

The signal-to-noise ratio is another important factor for you to consider when you are purchasing a microphone. Just by existing, every microphone makes some noise, even when it's recording nothing but silence - similar to the sound your speakers make when there's nothing playing through your stereo system. The goal of all microphone manufacturers is to minimize the amount of this noise, and the RODE NTG-3 comes in at 81db, which is very quiet indeed. We usually recommend microphones with an S/N ratio of 60-80db.

While the NTG-3 is certainly stacking up in the specs, the ultimate value of any microphone lies in its sound. The audio from the NTG-3 was remarkably clear and bright, and it "popped" in the field. Sound is in the ear of the beholder, of course, but the NTG-3 sounded far better to me than I expected from a shotgun microphone at this price point.

**Conclusion**

The NTG-3 stands out as a shotgun microphone. With its combination of clear sound, impressive technical specs and reasonable price, it's a piece of audio gear that will have a place in your kit for years to come.

**TECH SPECS**

Acoustic Principle: Line gradient  
 Directional Pattern: Super-cardioid  
 Frequency Range: 40Hz - 20kHz  
 Output Impedance: 25  
 Sensitivity: -30dB ± 2dB (31.6mV/Pa)  
 Equivalent Noise: 13dBA  
 Maximum Output: 8.2dBu  
 Dynamic Range: 117dB SPL  
 Maximum SPL: 130dB @ 1kHz  
 Signal/Noise: 81dB  
 Power Requirement: P48 phantom (4.3mA)  
 Output Connection: 3-pin XLR  
 Net Weight: 163g  
 Dimensions: 19mm x 255mm

**Strengths**

- Clean bright sound
- Excessively rugged case
- Nice price

**Weaknesses**

- Phantom power only

**SUMMARY**

Excellent performance and value in a shotgun microphone.

*John Burkhart is Videomaker's Editor in Chief.*

**RODE Microphones**  
**P.O. Box 4189**  
**Santa Barbara, CA 93140**  
[www.rodemic.com](http://www.rodemic.com)  
**\$699**

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