

Oktava ML52

Ribbon Microphone

A Russian ribbon mic brings this classic technology to a new low price point.

Hugh Robjohns

Although completely usurped by electrostatic mics in the '60s, ribbon mics were the highest-fidelity option in the studio for many years. They fell from grace for several reasons — their delicate build, comparatively low output level and figure-of-eight polar pattern. However, a good ribbon mic is a marvellous thing, with a sweet sound and a transient response to equal many capacitor mics. Well-designed ribbon mics also have a wonderfully 'black' noise floor, making for a better dynamic range than available with top condensers.

Built Like A Battleship

The ML52 is made in Russia by Oktava, and is supplied in a foam-lined ABS case. It is a substantial black beast measuring 185mm in length and 55mm in diameter. It weighs 600g, but looks a lot heavier, with its matt-black metal body and vertical grille fins. A threaded stand adaptor fits around the XLR connector at the base of the mic.

Like any ribbon mic, the ML52 must be treated with care. Air blasts — whether from wind draughts or an idiot puffing into the

mic to test it — can easily stretch or rupture the diaphragm.

The ribbon is a corrugated double-filament affair about three microns thick, open to the air on both sides, through the substantial magnet assembly. The polar response is figure-of-eight, and it remains very consistent across most of the frequency range, with rejection at the sides reaching 20dB in the mid-range.

There are no active components in this mic, which is why there is so little self-noise, but also why the output voltage is relatively low. Having said that, the mic's sensitivity is 1.6mV/Pa, which is about 10dB higher than that of the classic Coles 4038 ribbon. The signal level is similar to that of a modern dynamic mic, although still about 25dB lower than that of most capacitor designs. The quoted maximum SPL is over 135dB, so there should be no fears about putting an ML52 up in front of a brass section.

Although it is often suggested that phantom power should be kept away from ribbon mics, in practice I've never had any problems, provided properly balanced circuits are used and the mics are connected with XLRs. Never plug or unplug *any* mic via a jack-plug if phantom power is on!

The frequency response of the ML52 is quoted as 50Hz to 16kHz ± 2.5 dB. Although pretty flat from below 50Hz to 5kHz (albeit with a broad 2-3dB lift at around 150Hz), there is a substantial hollow in the response above this. The wide dip stretches between about 5kHz and 16kHz, reaching almost -6dB at 8kHz. Although this looks alarming on the supplied chart, it translates into a smooth and mellow sound, which is characteristic of the breed.

Like most figure-of-eight mics, the ML52 has a substantial bottom-end capability, and is extremely sensitive to every rumble and vibration which finds its way up the stand or cable. I would consider a shockmount absolutely essential and, while no dedicated unit is currently available,

Oktava's worldwide distributors say that one will be on sale within a few months.

In The Studio

The ML52's sound is pure ribbon: silky smooth, detailed, and fast, with an extremely low noise floor utterly devoid of the spikiness often present in budget electrostatic models. The mic worked well on a wide range of instruments. A brief trial with a small string section sounded smooth, and it helped the individual players sound more like an ensemble. Trumpets and trombones were captured with fine clarity and detail, but with a refinement which can be hard to achieve with budget capacitor mics. These characteristics pervaded everything I tried, and proved particularly effective on male voices, although care was required to maintain a constant working distance, as the proximity effect is powerful.

The accuracy of the polar pattern was ideal for recording a solo singing guitarist using one of my favourite techniques: one figure-of-eight mic for the guitar, angled to reject the voice, and another one for the voice, angled to reject the guitar.

The Oktava ML52 sounds a lot better than you might expect given its stunningly low UK price. Provided it is treated with care, and a decent shockmount is used, this mic can really deliver results comparable with far more expensive fare, and is worth considering as an alternative to some of the fierce-sounding budget capacitor mics. And don't be put off by the figure-of-eight polar response — there is more to the art of recording than the cardioid! **EOS**

SOUND ON SOUND

Oktava ML52 £299

pros

- Silky-smooth sound.
- Precise and deep side rejection nulls.
- Wide dynamic range

cons

- Very susceptible to LF vibration.
- Needs careful handling.

summary

A very affordable microphone which does much to reinstate the good name of ribbon technology. Combines modern technical performance with a characteristically smooth sound and precise polar response. The only disappointment is in its susceptibility to vibration through the cable and stand — a shockmount is a vital accessory.



information

- £ £299 including VAT.
- T A & F McKay
+44 (0)1483 208511.
- F +44 (0)1483 208538.
fergus@mckay.org
- W www.oktava.net
- W http://oktava.tula.net



✎ The Octava aims to bring about a ribbon mic revival, in a more affordable version

Octava ML52

INFO

Octava ML52
Dual-filament ribbon
microphone

Price
£299

Acoustic operating
principle
Electrodynamic pressure
gradient

Polar pattern
Figure-of-eight

Frequency response
20Hz to 20kHz

Sensitivity
1mV/Pa

Ribbon
2.5 micron aluminium
ribbon

Max. output voltage
1V Max. SPL @ 1kHz:
>135dB

Output connector
Male XLR three-pin

continued opposite

✎ Having caused ripples with their MK range of low-cost condenser mic, Octava now revisit the ribbon microphone concept. Joe Farler tries a mellow ribbon...

£299

WITH CURRENT FASHIONS demanding reworking of vintage designs for valve mics, outboard and even desk channels in order to get those sought-after classic sounds, it seems high time that the clarity, accuracy, and smoothness of ribbon microphones were added to the equation. And with so many good mic preamps around now, the fact that ribbons are virtually silent makes them ideal for adding warmth to digital recordings. Octava's ML52 makes it possible for you to explore the 'ribbon sound' on a budget.

This is a double-ribbon, figure-of-eight microphone in a large package – about the size of a large diaphragm condenser – and it's very black; in fact, the look of it might make you forget to treat it with the respect that ribbons deserve. This microphone doesn't look delicate, but as the ribbons are so light, they are sensitive to shock and wind blasts. This

means care in handling and placement, so don't position the mic where it will get strong air movements striking it (such as ports in a bass cabinet or in a kick drum).

You'll also need a popshield for vocals, and maybe use one in front of a guitar stack too (depending on how close you go). And remember that it's a dynamic microphone, so make sure you switch off the phantom power before plugging in your XLR lead!

There are no controls on the microphone, just screw on the stand adaptor, connect up an XLR lead and you're ready to go. The supplied stand mount is basic but adequate, although this microphone (like other ribbon types) is sensitive to stand vibration, resulting in low frequency rumbles and thumps if knocked.

Octava's distributors, AF McKay, tell us there will be an optional suspension mount available around the time this review goes to press, so this should help

if you need it. I managed fine without one, with a bit of care, but would recommend getting one anyway.

Session on

The ML52 arrived during a session that involved laying down some female lead and backing vocals, so I immediately put it up on a stand with a six-inch double layer, popshield in front of it. As soon as the singer had done a take with the Octava she said, "Wow, that sounds more like my voice than anything else so far." High praise indeed, so we abandoned the large diaphragm valve condenser and used the ribbon instead.

What you hear is a very smooth, warm sound with a full bass response. What you'll also notice is that this mic doesn't have the presence lift of other types and you'll immediately notice less sibilance; it's still clear though, just not as 'toppy' sounding as you might be used

WHAT'S ALL THIS RIBBON BUSINESS THEN?

The ribbon microphone principle is fairly simple. A thin, corrugated strip of aluminium foil is held under light tension in the gap between the pole pieces of a powerful magnet. Both sides of the ribbon are open to the air and differences in pressure between the front and back will cause it to move in the magnetic field, generating a current across the ribbon.

The highest output will be from a sound wave arriving directly from the front (or rear) of the ribbon. Sound arriving from the side at 90° (towards the edge of the ribbon), will reach both sides at the same time, causing no pressure difference and therefore no output, hence the

figure-of-eight polar response pattern. As the ribbon itself has a very low impedance and output voltage, the mic has an internal transformer to match these to values more suitable for use with microphone amplifiers. The output is still fairly low in comparison with, say, a condenser mic, meaning you will need more gain on the mic amp.

The ribbon mic has no active electronics, therefore it contributes virtually no noise. The extremely light weight of the ribbon gives excellent transient response and smooth frequency response, with the drawback of being sensitive to wind noise and shock vibrations.

to. Whether that suits your voice (or ear) is another matter.

In this case it works well with this singer, still sitting in a mix OK, but somehow sounding more natural and powerful without needing any treble 'edge' adding to it... and that was put down flat (ie, no EQ).

Another technique with this microphone is to use the proximity effect that directional mics have by moving closer to

recording using ribbons and the high levels did not seem to bother the microphone. Finally, I got out my bunch of keys to test the HF behaviour. If you jangle a bunch of keys it generates a lot of high frequencies and is a quick way to assess top end. Listen to them close to your ear, then compare that with how it sounds recorded by the microphone. The ML52 sounded completely realistic, whereas the large diaphragm condenser added a

❖ "What you hear is a very smooth, warm sound with a full bass response. Also this mic doesn't have the presence lift of other types and you'll immediately notice less sibilance" ❖

it to get increased bass response. This is great for full, warm, low vocal lines or harmonies.

As it had worked so well on vocals, I tried it on some instruments. I was partly wondering if it had just happened to suit the singer, so I tried it with steel-strung acoustic guitar and a nylon classical guitar. The ML52 sounded great on both of them. Again, a full, rich, sound and the excellent transient response of the ribbon helped to get the attack of these instrumental tones sounding natural.

Likewise with trumpet and sax, which were next on the list. In fact strings and brass instruments are well suited to

brittle 'breaking glass' character to the sound, as indeed did a smaller condenser microphone.

The figure-of-eight response is pretty much uniform at all frequencies, meaning the tone or frequency balance doesn't change if you move off axis slightly, you just get slightly lower levels. This is useful if you have a loud brass player, say, as they can play past the mic rather than straight at it. It also means that a couple of them should make good ambient mics or drum overheads in a good sounding room.

Bear in mind that with the figure-of-eight response you will have to think

about what might be reaching the rear of the microphone. In a good room it will add space or ambience, but beware of close reflections, as the rear signals will be 180° out of phase and could cause changes in the tonal balance. On the other hand, the lack of pick-up from the sides comes in useful sometimes to reduce the spill from unwanted sounds.

Verdict

This microphone is much better than I expected it to be. Maybe I was prejudiced by its rugged looks and basic black finish. How it sounds is the important thing though, and the Octava ML52 performed well on everything I tried, including a guitar combo. It's easy to use as well, providing you use a popshield when necessary, and handle it with care.

If you're creative about recording then you need a selection of sound shaping tools. The first step in getting the sound is always going to be the microphone. It's far better to try alternatives here before reaching for the EQ.

Many recording studios these days probably do not even have a ribbon mic in the microphone cupboard, although some audiophile producers and engineers still love them. The advent of condenser microphones led to ribbons being forgotten or ignored, and there aren't many companies still making ribbon microphones, so there isn't much choice, as you can see from the Alternatives.

Octava were Russia's sole manufacturer of ribbon microphones for many years and now they have brought out this new model at a relatively low price, making it easier for those on a budget to get that sound. It's a different sound, and a great one for the money. **FM**

OCTAVA ML52	9/10
	Lovely, warm, natural and clear classic ribbon sound available at a lower price that makes it well worth adding to the microphone cupboard. PLATINUM AWARD

INFO (cont)

Accessories

Moulded plastic foam-lined carry case, stand mount, stand thread adaptor

Contact

A&F McKay Audio Ltd:
01483 208511

Website

www.afmckay.demon.co.uk
www.octava.net

ALTERNATIVELY

Beyerdynamic M130 (£439) is a dual-ribbon, figure-of-eight mic, but they also have two hypercardioid models: the M160 (£419) and the single-ribbon M260 (£229). www.beyerdynamic.co.uk

Coles 4038 Studio Ribbon (£656) is a classic, designed by the BBC, and is still in manufacture, over 40 years since it appeared. coleselectroacoustics.com

Royer Labs SF1 (£881) and **R121** (£934.13) are figure-of-eight ribbon mics. The SF-1 and the R-121 There's also a stereo model, the SF12 for £1,643. www.funky-junk.com

❑ Russian ribbon mic engineering that will add a warmth to your recording studio

