

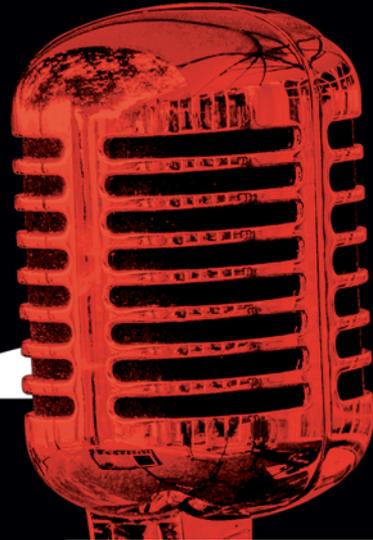
GWAR! RONAN CHRIS MURPHY ON RECORDING THE MASTERS OF THE SLAVE PIT

# RECORDING

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# Zeppelin Design Labs Cortado MkIII Contact Microphone

*Stick it, clamp it, record it, create!*

REVIEW BY PAUL VNUK JR.

**Z**eppelin Design Labs is a Chicago-based purveyor of DIY music products. If you have ever considered building your own amp, effects pedal, or synth, this is the place to look. ZDL also offers prebuilt options and this month, I am looking at the Cortado MkIII Contact Microphone, a pre-assembled alternative to the DIY Cortado MkII kit.

## Contact

The Cortado MkIII is a contact (piezo) mic. A contact mic is just that; it uses a passive transducer to capture sound from vibrating surfaces rather than using membranes, diaphragms or ribbons to convert sound waves into electrical signals.

Historically, piezo-based contact mics have been used as pickups on acoustic stringed instruments, as triggers on electronic drums, or often as the basis for amplifying sound on homemade instruments and found objects.

## Caveats

On the plus side, contact mics do not pick up room noise or leakage, they are small and can fit in tight and odd spaces, and you can even use them underwater. On the flip side, they can be pretty lo-fi, and their sound and success will vary from surface to surface. They are also prone to stray vibrations, and even bumping the attached cable can produce sonic crackles and thumps.

## Cortado

A piezo microphone in its raw form is a high impedance device. The Cortado MkIII is balanced and buffered with an external phantom powered preamp box.

As mentioned, the Cortado MkIII is the commercially crafted counterpart to the DIY Cortado MkII. With the MkII, you build your own external preamp circuit. The

premade preamp on the MkIII comes in a rugged 3.25" x 1.5" x 1.63" steel chassis with attachable rubber feet. There are four dip switches on its underside for activating a -10dB pad and a bass boost, which actually disengages a high-pass filter.

Attached to the preamp is a 6' shielded cable that terminates in a 1.25" sensor element that looks just like a lip balm tin.

The Cortado MkIII boasts specs of 23 Hz – 40 kHz, which refers to the spectrum that the Cortado MkIII picks up—not what it *sounds* like; what it actually sounds like is dependent on proper placement and secure coupling on a good resonant surface.

## Mount up

To work, a contact mic needs to sit on or be attached to a resonant surface—a sheet of metal, the wood body of an instrument, the head of a drum or even the inside of a tin can. The better contact the mic has with the surface, the better it will sound. The Cortado comes with sticky transducer mounting putty strong enough to keep the mic in place but still be easily removable. I would be cautious and test it on the finish of any high-end instrument.

Zeppelin Design Labs also offer an additional Attachment Accessory Kit (\$25) that includes additional gobs of sensor putty, a 4" spring clamp, a screw-on metal brace, and two disks of really strong double-stick tape for more permanent scenarios.



## Sound

I would best describe the sound of the Cortado MkIII as lo-fi, band-limited and nostalgic, but still more flexible than a typical carbon or crystal mic. The critical thing to note: placement and a proper resonant surface matter 100% of the time.

## Guitars

Starting with acoustic guitar, when I stuck the microphone right onto the bridge, it produced a thin, tinny sound with zero low end. Placing it right below the bridge on the body gave it a fuller sound reminiscent of old 1920s blues field recordings. When I stuck it on top of the pickguard near where the neck and the body join, it sounded distorted and rough, almost like a broken electric guitar, which tells me that perhaps my pickguard might not be that well attached to the guitar. Piezo mics have been used to amplify stringed instruments for years; proper mount in the proper location can yield fuller fidelity results.

On the body of a Fender Telecaster, again below the bridge, the sound of the strings chimed through cleanly with a gentle transistor radio sound. It was similar on my Rickenbacker 4003 bass, where I was surprised at how well it retained the articulation of the strings. Both instances blended well with traditional miking techniques for adding extra tone and edge to the sound. This goes for most of the sources below as well.

## Drums

On the head of a snare drum, it gave a very edgy, almost electronic music vibe. On floor tom, I found that it worked better sticking it to the side of the shell vs. the head; on the side, it offered a hollow woody tone while on top it sounded more like a broken radio due to the excess bouncing of the mic and cable; again, a firm connection is critical.

## Percussion

One of my favorite uses was attaching the mic to a wooden tambourine, with the cable secured. There was zero jingle-jangle in the sound, and instead, it sounded like I was shaking and rattling a box of crunchy rocks—I loved it!

It can also offer unique results on cymbals, and here I would recommend the bigger and more resonant, the better, although it is more a clank and ping as the mic mutes the cymbal ring. Metal mixing bowls are also a fun choice, as you can fill them with water and even sing into them.

## Vocals

The Cortado MkIII makes for a great lo-fi vocal mic with more clarity than the traditional telephone/carbon variety described above. To use it as a vocal mic, you need to put it into or on something that resonates. A large frame drum works, as does the soundhole of a guitar, but the best is a tin can; I used a camping cup.

## Filing cabinet

I had a client who wanted the sound of an earthquake in their song. When listening to playback, one of the musicians started to push, shake

and vibrate the side of my Ikea filing cabinet. I was like, “hold that thought.” Some putty, a few passes of slow accelerating rattle, the bass boost on and some added reverb, and we had our earthquake. To add the sound of snapping cables, I placed the Cortado III onto the head of a Remo spring drum and let the strings fall, snap and bounce.

## Inspired

Even though the Zeppelin folks have built the Cortado MkIII for you, their DIY ethos holds true. Whatever you attach the mic to becomes, in its own way, a new instrument. If sound design, lo-fi nostalgia and experimentation are part of your game, the Cortado MkIII is definitely for you. ➔



Price: \$159 More from: [zeppelindesignlabs.com](http://zeppelindesignlabs.com)