

INTERVIEW: Daniel Lanois on producing *Player, Piano*

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- Marc Urselli's Ribbon Collection
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Session Log

by Marc Urselli

all photos by Marc Urselli

If you are reading this magazine, it's too late! You have probably fallen into a rabbit hole or two or three—modular synths, stompboxes, 500 Series modules, guitars, or of course, microphones. Lately, for me, it is the dark vibey world of ribbon mics. For our *Mic Locker* issue, I will take you on a journey into the ribbon side of my mic locker and explain why I am obsessed with them.



Ribbon Microphones

A Thing of Beauty

Ribbon microphones sound smooth, rich and often darker than most other mics. Coincidentally this is why horn players love them so much. Horn players hear their instrument from *behind* the bell and, in part, through the physical bone conduction of their skull, so they perceive it differently than somebody standing in front of the horn.

Most ribbons have a Figure-8 polar pattern. This means they pick up equal amounts of sound in the front and the back of the ribbon (the back is out of phase), and they pick up minimal sounds on their sides (90° off-axis).

This presents challenges when dealing with bleed. It picks up everything behind the mic but can drastically minimize it on the sides. Picking the correct ribbon mic for the job and positioning it to capture the signal you are recording—and less of everything else—is essential. Choosing the proper preamp to match also matters!

RCA KU-3A

In my collection, the RCA KU-3A was the first vintage ribbon I purchased. It belonged to the original owner of EastSide Sound studios (where I have been engineering for two decades). After 20 years, I eventually convinced him to sell it to me! It's the most expensive ribbon microphone I own.

Unlike most Figure-8 ribbon mics, the KU-3A is supercardioid. Introduced in 1948, RCA made only 500-600. It contains an acoustic labyrinth stuffed with cow hair from a specific breed of British cows (true story). The stuffing and the hair are different for every mic, so each one is slightly unique.

I love this mic for horns—90% of the saxophone recordings I've made at EastSide featured this mic. Many reed players (looking at you, Noah Preminger) have asked me to sell it to them! Luckily, AEA makes a very beautiful modern copy called the KU4 (aearibbonmics.com).



RCA 74-B & RCA BK-5B

In the RCA family, my collection includes an RCA 74-B Junior Velocity Ribbon Microphone (kind of a baby version of the well-known RCA 44-BX), and a rare RCA BK-5B unidirectional, front address ribbon mic that can take a lot of SPL (sound pressure level) and therefore works excellent on snare! [The AEA KU5A is a phantom-powered modern equivalent. —Ed].



"...I will take you on a journey into the ribbon side of my mic locker and explain why I am obsessed with them."

Ribbon Microphones



Royer Labs R-121

Like many of us, my first ribbon microphone was the Royer Labs R-121 (royerlabs.com). In conjunction with a dynamic Shure SM57, it is the workhorse of guitar recordings. Peter Frampton turned me on to the R-121 when I worked with him in 2005. I was impressed because not only did he bring his (self-tuning) Gibson guitar, his amp and pedals, but Peter also brought his own mic. That was the first time I heard the R-121 on guitar, and I was sold! Eventually I found a pair from a studio that was closing. I sent them to Royer Labs for a re-ribboning, and they sound fantastic.



Coles 4038 FIG. 04

Another ribbon I discovered early on was the Coles 4038 (coleselectroacoustics.com). Developed by the British Broadcasting Company (BBC) in 1953 (and still made today), it is an exceptional mic to capture a loud cymbal-smashing rock drummer. This mic can be seen in many studio pictures of the Beatles as a mono drum overhead, truly where it excels. If I am recording the sizzley swing of jazz, I often find it too dark, and stick to condensers. On rock music, the Coles 4038 gives the drums a smooth richness and fullness that is as polite as only a BBC mic can be! I also use it on trumpet a lot, and it happens to be John Zorn's favorite sax mic as well.

Initially, EastSide only had one in its collection, and while most 1960s drums were mono, when I produced the band Preachers Son in Ireland, the studio (Grouse Lodge) had a pair. I put them over the drums, and they knocked my socks off! During the Covid-19 pandemic, I finally found somebody selling a matched pair in the U.K., so I got myself a birthday present.



Melodium 42B

My other most prized vintage ribbon mic is the Melodium 42B, a French-made ribbon mic from the 1940s—allegedly the largest mono ribbon mic ever made. The first time I saw these beauties in action was in a studio in Reykjavik owned by Sigur Rós, where I was working with a group of Icelandic musicians. I used a pair as room mics and loved what I heard. I started searching for them around Europe and bought five sight unseen from a collector (yes, FIVE!).

Kerwax Studios in France is making a reissue called the 42Bn (melodium.fr), which is supposed to sound the same and comes equipped with a modern XLR connector (instead of a proprietary cable connection) and has 300Ω output (the original was 50Ω).

I had custom cables made, and I use an impedance-matching transformer from Xaudia (xaudia.com), so I'm beyond happy to have the originals!

R-121

RIBON MICROPHONE



"The R-121 is always the most featured mic when I record electric guitar. It just does this magic thing."

Greg Wells

Producer/Engineer (Keith Urban, Katy Perry, Twenty One Pilots, One Republic, Mika)



Royer Microphones
www.royerlabs.com

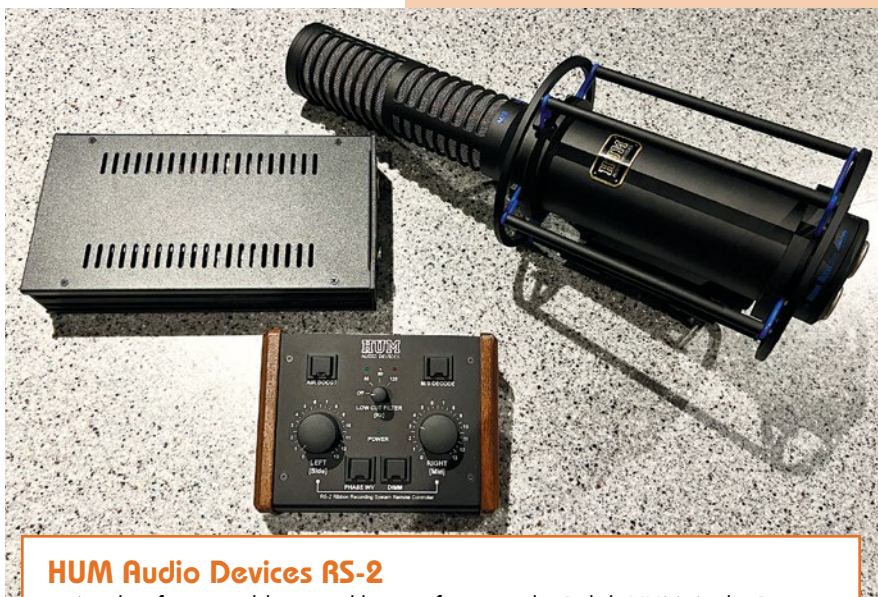


Reslo RBT/H

Speaking of Xaudia and vintage European ribbons, I also have two pairs of Reslo RBT/H 30-50 ohms Hi-Z miniature ribbon mics. Unlike the huge and super heavy Melodium, the Reslo is smaller than most dynamic mics. The Beatles (and many other bands from that era) used them as vocal mics live, giving them a bit of a cult following. Rather than on vocals, I have found that they work beautifully on string quartets—explains why I have 4 of them.

I had them equipped with the Xaudia Beeb Upgrade, which brings them back to 1961 BBC specs. The mod consists of swapping the transformer, converting the output from 50Ω to 300Ω, and reversing the motor assembly so the ribbon is closer to the front. This upgrade yields an extra 10dB of clean gain and reduces the noise of the mic, which is why these work great on strings!

Besides many lush and beautiful string quartets, I've also used them to record the Dither Quartet—four electric guitar players who are very particular about their amp sound—and they loved these mics!



HUM Audio Devices RS-2

Another favorite ribbon workhorse of mine is the Polish HUM Audio Devices RS-2 Recording System (hum-audio.com). If the RCA KU-3A is the Rolls-Royce of my collection, then the modern HUM is the Bugatti. Visually it looks like a great piece of art, and the RS-2 offers more features than ANY other mic on the planet.

Ribbon Microphones

HUM Audio Devices RS-2 (continued)



This almost 2 feet long, heavy beast is a stereo 2" ribbon that records in stereo and mid-side (M/S). It has built-in preamps that you can control remotely with a stylish wood-finished control module that operates across a regular XLR cable. It features a variable low-cut filter, an air boost (to add top end and make it sound more condenser-y), a dim switch and phase. The RS-2 can be used in active and passive mode, with its own power supply and internal high-end class-A preamps or direct into two preamps of your choice.

If I had to choose one modern ribbon mic, it would be this because of its quality and unmatched versatility! It works on everything from drums to strings to horns, but because it is the only stereo ribbon mic I own, I use it a lot as a room microphone.



HUM Audio Devices ARM-1S

I also own two HUM ARM-1S models. These phantom-powered 1" ribbon mics offer a lot of bang for the buck. They have an excellent frequency response, super low noise and high gain. They are a bit brighter than the RS-2, so these have been very useful when I wanted to record quieter sources in great clarity.



Italian Ribbon Mic Legacy

Italy has a rich history of ribbon mic manufacturers and brands, mostly gone now. Many made broadcast equipment for the military during World War II or the RAI (Radiotelevisione italiana, national broadcaster of Italian radio and TV). I definitely fell hard into the Italian ribbons rabbit hole, and I've since amassed an extensive collection and learned a lot. For example, the US company General Electric (GE) had an Italian subsidiary called Company of General Electric (CGE) that in the 1950s made legitimately licensed copies of RCA mics. I found three different models of those mics, some of which sounded so good that when I recorded trombonist Clark Gayton, he was so taken with the sound that I promised I would find him one in Italy. And I did! [Hey Marc, find me one! —Ed]

I lived in Italy for 15 years, and being intrigued by the history of Italian ribbons, I learned about Geloso, Frames, Do-Re-Mi, CM, Reim, Meazzi and Magneti Marelli (which was founded in 1919 to make ignition magnetos and is still in the automotive business today!). Then I discovered that many of these brands had also licensed RCA patents and made great mics!

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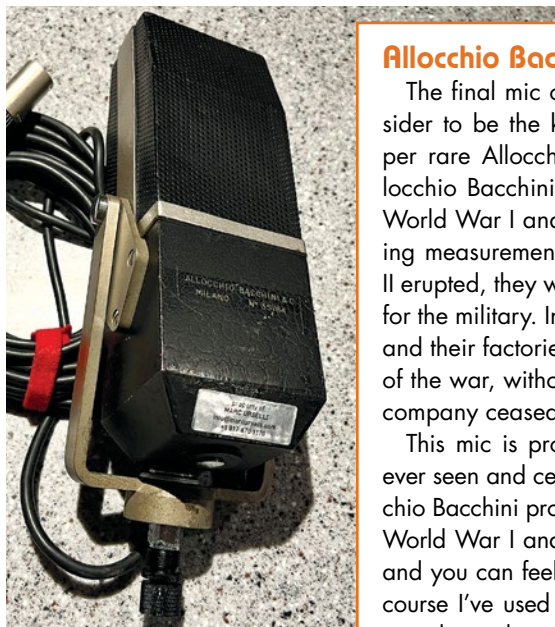
Peluso Microphone Lab

Session Log

Ribbon Microphones

Braingasm Lab NASTRO

The most modern ribbon mic I have is the Italian-made Braingasm Lab NASTRO (braingasm.com). This puppy was literally born into this world just a few months ago. Handcrafted in Rome, I've been a lover of Braingasm microphones since I tried their various large-diaphragm condensers. I was super excited when I heard they were making the NASTRO, which is Italian for ribbon. I just got it a few weeks before writing this, and I've only used it a few times on guitar and sax. It was gorgeous, smooth and full-bodied on both! This fantastic modern ribbon mic also has an affordable price tag making it an easy recommendation.



Allocchio Bacchini

The final mic of this roundup is what I consider to be the king of Italian mics—the super rare Allocchio Bacchini microphone. Allocchio Bacchini was founded in 1920 after World War I and was in the business of making measurement devices. When World War II erupted, they were forced to produce radios for the military. In 1943, Milano was bombed and their factories were damaged. At the end of the war, without the military's business, the company ceased operations.

This mic is probably one of the oldest I've ever seen and certainly the oldest I own. Allocchio Bacchini produced it somewhere between World War I and World War II. It's so heavy, and you can feel that weight in the sound. Of course I've used it on brass and reeds (I love it on bass clarinet), but since it boasts such a massive bass response, I also love it as a close-up, single mic drum option (what some people call a knee-mic). It is also a massive sounding distant mono room mic for big 'phat' drums.

Ribbon Wrap Up!

These are just some of my favorite ribbon microphones. There are so many more I'd love to talk to you about, but the list is long, and my space is limited. I can confidently say that my passion has grown into one of the single largest ribbon collections known to me, perhaps along with Stanley Coutant and Sylvia Massey. Stanley founded the excellent website coutant.org that I urge you to visit for plenty of historical information and pictures of old microphones of all types. Sylvia Massey acquired the Bob Paquette microphone museum (shop.sylviamassey.com/microphone-museum) [See our October 2020 Mic Locker issue]. ➡

Marc Urselli is a Grammy Award-winning engineer working out of New York City and London. Read about his current projects and past successes at marcurselli.com.