From Curlers to Chainsaws

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Author with microphone. Photo courtesy of Iowa State University Foundation.
Tired of not being heard in a crowd? Tired of your hellos and excuse mes getting lost in great waves of small talk? Want to be heard above the roar of social chatter when you step up to sing? Well, let me introduce you to the high-performance Electro-Voice PL-80 dynamic supercardioid microphone.

With its equalizer-friendly sonic contour, its pro-line electronics and increased proximity effect, the PL-80 stands ready and willing to satisfy. Known for its big, brown, and forward sound, the ev bulks up your chest tones and enhances breathiness. It delivers that nice bottom end and brings out the raspy when you're ready to get nasty.


Tap its bulbous head. Hear it pop, pop through the room, but don't get too close. You know it's on the verge of squealing. Oh, oh, those 600 ohms, that dynamic neodymium magnet structure. It's just waiting for an excuse to feed back.

Stand at a safe distance, say, “Is this thing on?”

It's you in the machine now. Through the windscreen, your breath touches the sensitive membrane of circuits and wires that converts your sound to current. Oh, sweet mystery of electromagnetic induction.
Then, down through the tunnel of casings and cables your voice rushes, through soundboard relays and out through the speakers, returned back to the cavern of the room—a new you, only bigger. Electric you.

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It’s true, microphones come in all shapes and sizes, from large diaphragm condensers to solid-state ribbon technology, but bigger is not always better. And singers won’t be shy about stating their preferences. The Shure SM-58, for example, that short and sturdy microphone—ever-present on stage sets. Ninety-nine dollars and built for rough play.

Rockers will swear by the gamey SM-58, tell you how the Shure just loves abuse. You can swing it on a mic cable, bounce it off the stage—the SM-58 bounces back. It likes to be manhandled. Known as the forgiving mic, the SM-58 makes a bad singer sound good. But it also makes a fantastic singer sound good. It averages. It forgives.

You don’t want forgiveness. You want crystal clarity and cruel precision. You want your voice played back to you, as close and true as it sounded when coiled inside your inner ear. For you, it has always been the Electro-Voice PL series.

Who can resist ogling those options—phantom power versus battery-operated, recessed on-off switch? How many times have you approached the climax of the song, your clumsy hands in dangerous proximity to the on-off switch? But no *notus interruptus* for you. Because the hotshots at Electro-Voice knew to bury the switch deep in the shaft of the mic, out of reach of your slippery fingers.

And speaking of hot. The PL-80’s signal positively sizzles. With its famous bass boost, it grabs everything from a whisper to a scream without feeding back. *How do they do it?* Well, the supercardioid’s polar pattern and enhanced isolation zone eliminate cross-bleeding from exterior sound sources. Super sexy.

Just stand close to the PL-80. Hear it listening. Something silent grows audible inside you. It can almost read your thoughts.
Now step up to it. Say, “Check.” Say it again, “Check, check.”

Dear Electro-Voice: Each morning, I woke up hoarse in hotel rooms during my years as a female singer fronting rock bands. And the first sound I’d make, the first thing that came out of my mouth was a light note on the vowel eee, just a breath to open up the vocal cords, a sound like wind blowing through a harmonica.

I’d hold the eee through a scale from the deepest notes in my lower register up through my middle register and chest voice navigating the narrow passaggio that leads to my head voice, then following the notes up into my falsetto and whistle register.

Each morning I’d unzip my voice from my body like this, doing an inventory to test the damage I’d done from hard singing the night before. Sections were always missing; notes fell silent and reedy or thudded hollow as a broken piano key.

These were the places in my vocal cords that I’d pushed too hard, or the sweet spots I relied on too much, failing now from overuse. All afternoon, I’d smooth out these splinters and honky spots with hot tea and honey, preparing for another night of hard singing.

On stage those nights, the ev was my only friend. I’d roar and labor over it. I’d close my eyes and push hard to carve out a pocket for my voice to live inside the avalanche of sound coming from the drums and the amplifiers of my guitar players.

This was the drama I felt when singing rock music—the epic struggle of the human voice to be heard above the noise of electric sound. And a struggle made more complicated by the fact that my voice was female.

Those years, I moved as if behind enemy lines, with my band mates as my trusted companions, but aware that only my skill with the microphone allowed me access to these male encampments. On stage, it was just me and the pl-76 working out the terms, my hands grasping its
solid length, my fingers cupping its mesh head to coax one more inch of volume out of it.

Microphone Tips and Techniques:

- Mic Stand or Handheld? Some singers are more active. They like to drift and roam. If that's you, then handheld might be best. Experiment to find your optimal hand. But, experts caution, if the mic gets too heavy in one arm, practice swapping sides to minimize interruption while singing.

- Proximity and Position? Keep the mic two to three inches from your mouth, pulling closer or pushing farther away depending on your volume. The mic should be slanted horizontally toward your mouth, so your voice doesn't skim over the top. Remember, it's not a lollipop. The pickup pattern of the cardioid's electronic field is shaped like a heart. Try to sing into the center of it.

- Windscreen or No Windscreen? These flexible rubber socks pull tight over the head of the microphone to keep wind from blowing down its gullet. Especially good for reducing fluffing wind sounds at outdoor concerts, or for singers with popping sounds or sibilant voices. Most singers prefer not to use windscreens, observing that it numbs the sound, reduces sensitivity.

- To Grip, Bend, or Brandish? Handling the microphone roughly will have no effect on the sound your voice produces, just as exaggerated facial gestures will not improve your singing. But that doesn't stop singers from grimacing and thrashing around with their microphones. This “violent repertoire of tactations” (as one critic has referred to them) is more for visual effect and mostly impressive to audiences.

- Practice, Practice, Practice. In your free time, practice handling the microphone. Experiment. Nothing screams rookie like the sight of
someone fumbling to get the mic out of the stand or stepping on the cord and getting unplugged midsong.

- Care and Ownership. These days, most mics are phantom-powered, but if yours is battery-operated, be sure to turn it off at the end of the night. No use wasting precious juice. Unplug the mic from the cord and pack it away at the end of the night as you would any other beloved instrument. There is no more tantalizing sight on an unguarded stage than a long, lean PL-80 holstered in a gleaming microphone stand.

Dear Electro-Voice: One indiscretion I've been meaning to confess—the time I spent alone in the recording studio with a Neumann U87. It wasn't my choice. The engineer described the Neumann as a studio workhorse. Retailing at $3,500, it's a Rolls-Royce microphone, twice the PL-80's width and length, with a dual-diaphragm capsule, and a variable switch below the head grille to choose between an omnidirectional, cardioid, or figure-8 polar pattern. So fancy.

The engineer buttered me up by telling me the female voice has more harmonic complexity than many male voices, so the U87 would be my new best friend.

I spent one long afternoon isolated with the Neumann in a sound booth that can only be described as a sensory deprivation chamber—just me in a tall chair with the lights down and headphones on to feed the instrumental mix back to me.

The U87 hung in the center of the dark room on the telescoping arm of a mic stand, suspended before me in an aluminum shockmount, a kind of crisscrossing sling that resembles a cat's cradle. A special mic for a special purpose.

The band was mostly finished with the CD. The guitar and drum tracks, the keys and the harmonies were done. The rest of the band had already gone home, but I stayed behind to finish one vocal track that I hadn't been
able to get right. A quiet song about the aftermath of my first husband’s violence. *Do you remember the first time, the last time, you really messed up my face?*

I sang these words into the Neumann from behind a pop filter, a five-inch mesh circle positioned like a confessional screen between the mic and the singer to reduce plosive sounds. All afternoon, I made vocal tries as the instrumental track piped through the headphones.

The song required a delicate balance of whisper and singing, a sound between wound and resilience. After each take, the engineer’s soft words came over the headphones from the control room, coaching me on pitch, timbre, phrasing.

The problem was maintaining the tensile fragility of the whisper voice. On the track, things broke down during the descant line—*all the people that you break*; these words were sung in a cascade of descending notes that crossed the *passaggio*, the rupture zone in the vocal cords where the head voice turns into middle register.

Each time I tried to cross over, I ran out of breath, or my throat clutched up into full singing, or the whisper held but the note deteriorated. It’s a terrible intimacy to be alone in a room with all the chips and breaks of your voice played back in high fidelity.

I stopped the tape several times in the darkness. The voice of the engineer came through the headphones. Maybe we should stop for the day, resume in the morning. “No,” I said, “we won’t get back to this place again.”

Eventually, I was able to sing the descant line in the whisper voice as I heard it in my inner ear. The memory of violence translated into notes. The U87 hovered nearby in its silver shockmount, capturing the overtones and resonances. But in truth, Electro-Voice, I never put a finger on it. The Neumann never touched my lips.

Perhaps I was able to confess these things to the U87 because we were strangers destined to never see each other again, or perhaps it was because of the U87’s neutral and ultraprofessional listening presence—all those things that are so unlike my normal confidante, the livewire PL-80.
A whispered conversation is thirty decibels. A normal conversation is 65 dBs. A jackhammer is 95 dBs, and a full drum kit played hard and fast is 115 dBs. Add two electric guitars and a bass with double-stack amplifiers rifling away at 125 dBs and you have reached the world of hurt, 130 dBs and beyond. Only shotguns and jet engines are louder, but no one, not even robins or bluebirds, tries to sing in their presence for four hours.

The situation of the human voice in electric environments is singular. So small and fragile, this instrument of the human body with its valves and crevices, its cavities stretched tight with sinews and muscles that flex and push breath like an accordion through passageways.

Then the exhale of the notes across the strings of the vocal cords, up through the larynx to the soft and hard palates that conspire to generate sound, into the staging area of the mouth, and rushed across tongue and teeth into the small domestic rooms where sung notes live an auditory moment, then disappear into the ears of time.

For singing practice, living room acoustics are good enough—like riding bareback, this singing in rooms without microphones. Sometimes singers move to the kitchen for the resonance of granite surfaces, or to the bathroom for the reverb of porcelain and ceramic tile. Sometimes, only the bedroom will do. There, singers may push and breathe, whimper and growl in private.

But for the performance, for the amphitheaters of the world, the singer requires an appendage of amplification, the microphone’s electronic field, to reach in and capture the uvula’s vibrations.

Each note, each measure that was practiced to nuance and preserved inside the crucible of the singer’s body is caught in delicate proportion by the microphone, then translated to greater scale, amplified into the ears of listeners. It's an oxymoronic act, intimacy made public, made possible by the device of the microphone.

And with so many intimacies occurring—between singer and listener,
between listener and music—it’s easy to miss the other drama, the one that singers know. How the body plays the voice. How the voice plays the microphone. How the microphone plays the body back to itself. The endless sixty-nine. The microphone erotic.

Dear Electro-Voice: Just as bullet trains resemble the beaks of kingfishers for improved aerodynamics, and Velcro employs the nasty hooks of a burdock burr for enhanced grab, so engineers have learned the art of biomimicry.

But what of our unconscious designs, the way that cancer cells as seen under a microscope resemble aerial photos of urban sprawl; and motherboards of computer chips resemble endless, uniform neighborhoods of suburbs. And everything that blows up in the world—including shotguns and H-bombs and uncorked champagne bottles—resembles ejaculation. And the way the microphone resembles the penis, a handy device for reaching into tight places. Does it need to be said that a man designed the microphone?

A world invented into the shapes of things we hold most dear.

And I could interrupt this message to mention the homoerotic appeal of so many male singers in rock bands handling their microphones—bearing down on them in concert, stroking them for softer notes, swinging them wide like dangerous weapons on cords.

Or the peacock strut across stage, carrying the extended phallic apparatus of a mic holstered in the mic stand. Or the rock god pose—the ecstatic lean back as if drinking the microphone in angled silhouette against golden locks of hair.

An invention made by men for men.

But I, too, have held the microphone dear. Played it and been played by it. I have cupped the head of my PL-80, stroked its long, firm shape in public. Standing in smoke and strobe light, I have stretched the umbilical of the mic cord in tight bondage across my bare midriff and thrust the prize of the microphone high in the air with my female hand.
Oh, necessary appendage. Indispensable prosthetic. Each night on stage, surrounded by musicians grinding away loud at their electric instruments, I have climbed atop the scrap heap of electric noise, put my trembling lips to the microphone, and raised my female voice. And like a co-conspirator, the PL-80 has been there to boost my song, send it loud and clear above the noisy fray.