



Microphone Choices:

SPAGHETTI – AND SAUCE!

“At The Harmonica Microphone Bench” with Fritz Hasenpusch, Mel Bay’s HarmonicaSessions® eZine

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My apologies if you assumed by the title that a proverbial “FREE LUNCH” was about to be served—with the TIN SANDWICH as main course. HOWEVER, if you *thirst* to expand your knowledge of CONTINUITY and CONDUCTIVITY with regards to LORD MICROPHONE, a good, stiff drink is in order and a-waitin’ down here in THE MIC DUNGEON...

As underscored in our last outing, the finest harpmic is rendered a mere visual prop unless the proper connections are made so the signal it produces can be delivered to the intended audio gear. Thus, SPAGHETTI in this case is the all-important wire responsible for conducting and delivering the SAUCE—or audio *signal*—to the designated INPUT, whether it be that of an instrument amplifier, a mixing board, an effects unit, direct box, wireless transmitter, or some other audio-electronic processor.

In the world of SPAGHETTI/audio wire, there are key aspects of its physical properties that will make a difference in its WORKABILITY and to the quality of the signal passing through it—enabling, limiting, or merely complicating the transmission of that signal. Let’s look at a few examples:

COPPER (Cu) is a marvelous metal. It’s workable (ductile and malleable), flexible, durable, can be extruded and formed into solid or multi-stranded wire filaments suitable for all manner of electronic applications. For audio, it’s the go-to player. Aluminum also conducts very well, but isn’t nearly as durable under the conditions that prevail where flexible cable is required—like between LORD MICROPHONE and your favorite harp amp. Silver and gold conduct very well and are also very workable and pliant, but the cost of producing any significant amount of footage utilizing them would require an equity line of credit. Open up any quality audio cable (that isn’t digital/optical in nature) and you’ll likely be shaking hands with Copper.

DIAMETER (or GAUGE) is important in wire, but more so in cable carrying higher current levels such as speaker wire or A.C. power. Cable carrying HIGH IMPEDANCE, “INSTRUMENT LEVEL,” “LINE LEVEL,” or LOW IMPEDANCE signals will typically run from 24 GAUGE (thinner, for LOW-Z, BALANCED-LINE, and MULTI-LINE applications) up to 18 GAUGE for single-conductor HI-Z instrument and mic cables. Typical center conductors will run 20 GAUGE.

LENGTH is a significant factor with cables used in HI-Z applications (the common instrument cable we use). Generally speaking, the longer the HI-Z input cable, the weaker the signal will become and the higher the noise level will be. On a performance graph, the signal-to-noise levels begin to diverge after 18’ feet. That’s why it’s common to find input cables of 20’ or so: Signal’s still near-maximum and the noise level is acceptable.

SHIELDING is a component found in cable used to carry input signals. “Shielding” against what, you ask? Invasive ambient signals you don’t want to amplify (called RF or RADIO FREQUENCY) is what, and it’s *EVERYWHERE!* Since amplifiers do just what their name implies—AMPLIFY—and are indiscriminant as to *what* they amplify, it’s important to regulate what you feed into them. That’s why there’s shielding. Input cables want to act like antennae. The outer braid or conductive jacket (Mylar, Belfoil) in a HI-Z instrument cable carries the MINUS (-) half of the signal, is connected to GROUND, and thus *shields* the center conductor through which the POSITIVE (+) signal travels...

SPAGHETTI MYSTERIES UNRAVELLED and YOUR QUESTIONS ANSWERED!
NEXT TIME WE VISIT... THE MIC BENCH!

For pictures and descriptions of most of the microphones listed visit
http://www.harmonicamasterclass.com/vintage_collection.htm