MICROPHONE CABLES

WHAT SHOULD THE GAUGE AND STRANDING OF THE TWO CONDUCTORS BE? (PART 1)

The amount of copper in any electrical cable is usually dictated by the amount of current it has to carry, or by the tensile strength it requires to perform without breaking. If we take the worst-case situation, where the cable is used for line-level (+24 dBm) 600-ohm circuit, the current is a negligible 13 milliamperes (that's 13 thousandths of an ampere). The power in such a circuit is 100 milliwatts, or one-tenth of a watt. The current produced by a typical 150-ohm microphone connected to a 1,000-ohm preamp input is less than 10 microamperes (that's 10 millionths of an ampere), with power of less than a microwatt.

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Microphone Cables

What Should the Gauge and Stranding of the Two Conductors Be? (part 2)

...continued from Part 1

By these figures it is apparent that not much copper is required to actually move signals around, except in applications demanding extremely long cable runs. Many low-impedance mic cables use 24 AWG conductors with excellent performance, and most multipair "snake" cables have 24 AWG (7 strands of 32 AWG) conductors. Other things being equal, more individual strands in each conductor mean better longevity and flex life. Since singers using hand-held microphones can put a cable through several hours of tugging, twisting, straining and other abuse, these situations call for finer stranding and often larger conductors, sometimes as large as 18 or 20 AWG. However, the sonic properties of the cable may be compromised by using large conductors.