



Transformer Physics 101

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Size does matter!

Output transformers in portable audio mixers must operate into various unknown loads including load impedance made up of resistive, capacitive and inductive loads. These variations require a high quality output transformer to get the job done right. In the physics of output transformers, core size (steel mass) and material is directly related to performance. If you offer dual isolated outputs, your transformer size needs to go up in relation to a single output transformer. At PSC we understand this concept and have had our output transformers designed from a clean sheet of paper to perform well under all foreseeable field conditions. Thus when we designed our M3 and AlphaMix Mixers, we only wanted to use the best transformers in our mixer.

Shown below are two output transformer cores, the larger one is the output transformer used in our M3 and AlphaMix Mixers. The smaller core is the core size used in the 442 mixer. Both transformers are made by the same US company. Both transformers are made of the same low nickel steel designed for output transformers. Both transformers are wound with dual isolated output secondaries for two-camera support. What's the difference? CORE SIZE! Yes our M3 and AlphaMix output transformers are wound on a core that contains nearly 4 times the core material. We went to such an expense because if you offer dual isolated outputs, your transformer needs to be 4 times as large. Proper dual outputs require a doubling of the output size and also require a doubling of the primary side for proper performance. Our competitors don't go to this expense, we do!

