

Upon request, matched-pair microphones have optional laser marking for identifying members of a pair or with symbols indicating the relative low frequency phase of the two units.

Serial Numbering

Paired microphones will be marked with identical two-digit serial numbers. The serial numbers will uniquely identify paired microphones within a single bubble pack, and will aid in re-establishing pairs in the event of spillage or mixing. Microphones with identical serial numbers from different bubble packs will not match.

In circumstances where a pair is rejected at outgoing quality control, the pair will be replaced with another pair without serial numbers. The remaining microphones will be processed in separate batches as described in Warranty Returns below. There may be occasions when incomplete bubble packs in finished goods inventory need to be combined, but this will be avoided whenever possible.

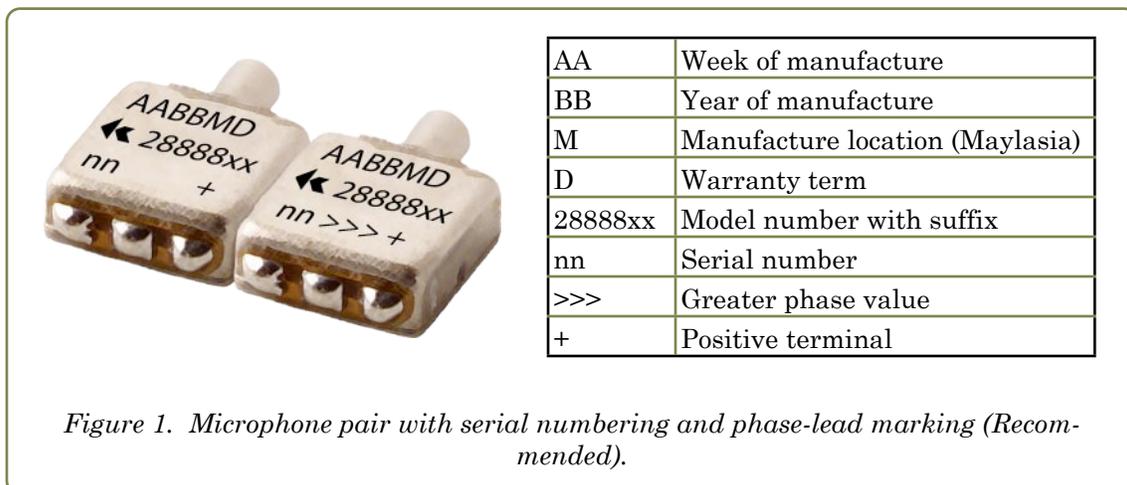
Phase Marking

Microphones that are phase matched at a low frequency (typically 200 Hz) may also be marked to indicate which microphone has the greater phase value. Our research has shown that, when the phase difference between the

microphones is more than 0.5° , low frequency directivity is improved by placing the phase-leading microphone in the front of the array. We recommend the phase-lead convention of marking the microphone with the greater phase value with a sequence of greater-than symbols ($>>>$) and leaving the other microphone unmarked as shown in Figure 1.

Phase-lag marking, where the microphone of lesser phase value with less-than symbols ($<<<$) and the other microphone is unmarked, is also available (Figure 2.) However, we recommend that you do not mix these conventions within one manufacturing location. The $>>>$ and $<<<$ markings are surprisingly difficult to differentiate in small sizes, and operator confusion could lead to reversal of the microphone pairs and lowered directivity.

In a large lot of microphones, it is likely that some pairs will be found with 200 Hz phase values that are almost equal, differing less than 0.5° . In these cases, a test system may have difficulty consistently determining which microphone has the greater phase value, and may result in marking one microphone as the phase lead, where subsequent tests may show that it slightly lags the other microphone. Fortunately, this situation represents the ideal case for microphone matching, and will result in op-



timum directivity regardless of which microphone is placed in front.

Warranty Returns

Pairs or individual microphones that are returned under warranty and tested to be within specifications will be re-matched to the same specification as new microphones and returned. Since laser marking is indelible, all laser marking on warranty returns, with the exception of the model number and suffix, will be invalid.

- Black ink markings will be used which will supersede all invalid laser markings.
- Black dots on top of the serial numbers will indicate that the pair has been reprocessed.
- Laser-marked serial numbers will not match.
- In the phase-lead marking, the microphone with the greater phase value is marked with a black stripe, and the other microphone has no stripe.
- In the phase-lag marking, the microphone with the lesser phase value is marked with a black stripe and the other microphone has no stripe.

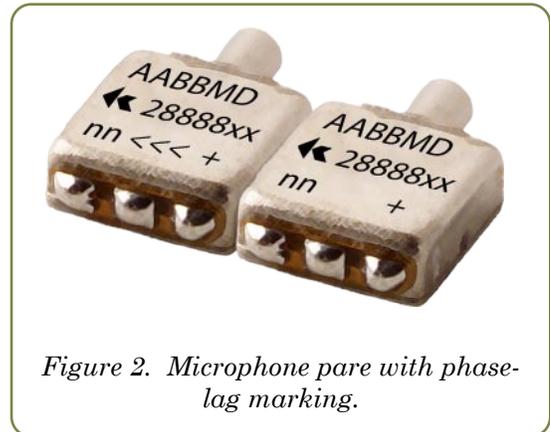


Figure 2. Microphone pair with phase-lag marking.

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Note: All data and performance specifications in this document are for reference only.