

HEARING PROTECTORS

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EAR DEFENDERS FROM THE MANUFACTURER'S POINT OF VIEW

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In order to successfully market an ear defender the manufacturer has to satisfy a number of criteria. He has to offer a product which is for instance

of adequate performance
consistent and reliable
acceptable to the user
of moderate cost.

As so often happens, some of the requirements are mutually contradictory and the paper discusses the manufacturer's approach under three headings, viz:

Design
Production and Testing
Marketing Considerations

For simplicity the paper confines itself to circum-aural ear protectors.

Design

The achievement of maximum attenuation, within the limits of the present state of the art, is not a very difficult matter. However, the weight and the headband pressure of the resultant design are likely to be unacceptable to most users. Likewise, costs will tend to be high due to the necessary choice of materials and techniques.

Consistency of performance, both between one unit and another and for the various sizes and shapes of heads, is not too difficult to attain with a positive design approach.

Reliability is similarly fairly easy to achieve but there are sometimes conflicting factors.

Production and Testing

It is not realistic at the present time to carry out objective tests for acoustic performance, especially on a production basis. Other methods are therefore employed to ensure that the design performance is achieved and maintained. These are briefly described.

Marketing Considerations

Ear defenders are not popular with most users and for situations where the wearing of devices cannot be made compulsory the only alternative is to supply products which are as acceptable as possible. This requirement tends to lead to the need for a fairly wide range of products and for, for instance, alternative colour schemes for any one product. These facts taken together with the slow growth in the total market are factors in preventing the cost of ear defenders from being as low as we all would like.

The Future

Whilst it will be possible to design ear defenders of greater attenuation than those available today, this increased attenuation will require greater complexity and may also tend to be limited to fairly narrow sections of the audio spectrum. The short-term aim should be to produce ear protectors of greater acceptability to those who need them so as to ensure that, at least moderate protection is obtained by all those who might otherwise receive no protection at all.