

Part Three

The Human Visual and Auditory Sensory Systems

In addition to understanding the visual and auditory displays that are part of the HMD system, it is critical to understand the properties of the human sense organs – the eyes and the ears – and their associated perceptual systems – vision and audition. Understanding the anatomy, structure, physiology and functions of these systems is necessary to design an effective human-machine interface. It is instructive to follow the energy – light and sound – generated by objects in the environment as it is captured by the sense organs and transformed into electrical signals that follow the sensory pathways to the human brain. The related perceptual experiences of vision and audition are the result of complex processes that are not yet completely understood.

