

The Transparent CD Player, designed and constructed by Paul L. Discher, is a specialized fixture used to support the teaching materials of EE100 a new course Introduction to Electrical Engineering.



Dr. Robert Morley shown above demonstrating a specialized laboratory fixture designed and constructed by Paul L. Discher. This teaching apparatus was intended to meet the needs of a new freshman course, EE100, Introduction to Electrical Engineering. This course, the brainchild of Dr. Robert Morley, Professor Of Electrical Engineering, was jointly funded by the National Science Foundation and the Department of Electrical Engineering.

EE100 offers freshman Electrical Engineering students the opportunity to explore topics in Electrical Engineering as they have been applied in the design of an Audio CD player. Studying the functions of an appliance most students own and use makes the course interesting and attractive to students. The Transparent CD player thus becomes the “center” of much of the laboratory activities. Desktop experiments and apparatus have been additional designed that expand upon the function of the CD player subsystems. This includes experiments in audio filtering and amplification, digital to analog conversion, motor control, optics and lasers.

The Transparent CD Player© features a modified Panasonic CD player in which the factory case was replaced with sheets of 1/4” clear plexiglass. All aspects of the CD player remain functional, accessible, and more importantly, visible. The bottom transparent panel of the CD player contains an array of BNC instrument connectors that have been pre-wired to various test points on the CD electronics system. Students are able to load and play a CD and monitor aspects of the digital and analog signals thru the CD logic board.