



Theory and Terminology Note

Optical Triangulation

Definition

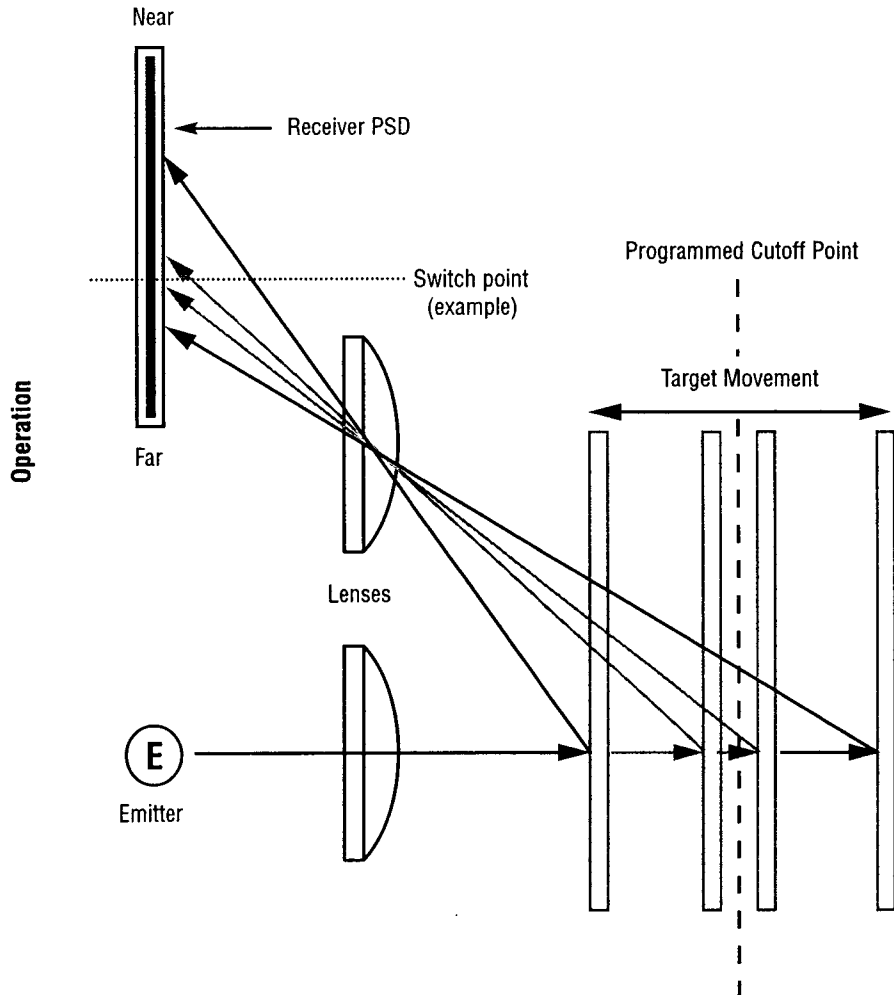
Triangulation: Triangulation is a method of determining distance using two fixed points and an angle to geometrically find the third point.

PSD: Position Sensitive Device

AGC: Automatic Gain Control; an optical mechanism to control LED "drive," based on the received signal. (For example, if the received signal is too weak, the emitted LED signal will be increased.)

Optical Triangulation

- Sensing is based on distances to target object and background
- Less affected by color or brightness contrasts



- 1) Light travels from the emitter (1st known location) through a collimating lens to the target object (unknown location), and,
- 2) Reflects through another lens to the receiver (2nd known location) at a measurable angle;
- 3) Geometry rules then are used to calculate the target object's location.