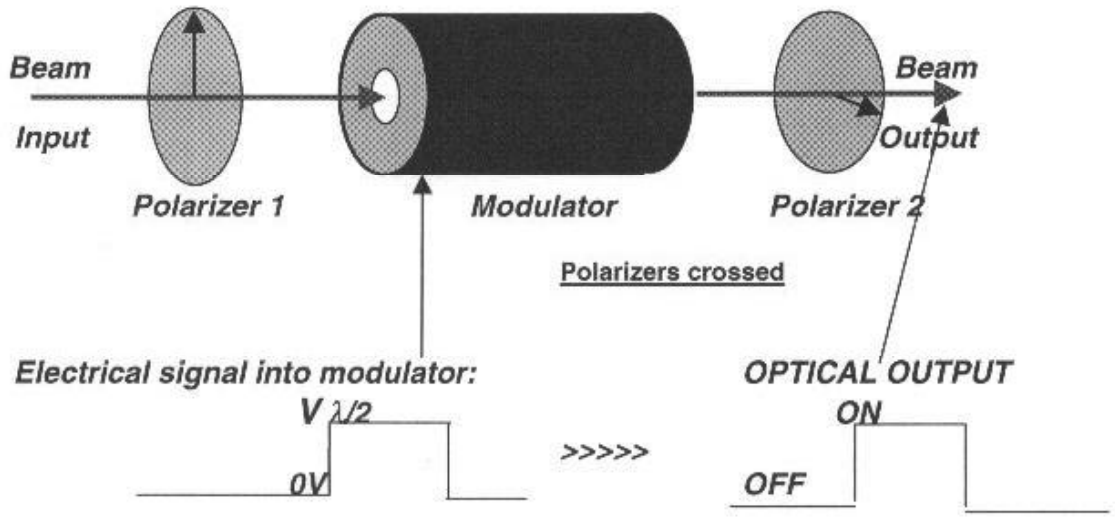
QUANTUM TECHNOLOGY, INC.
108 Commerce Street, Lake Mary, FL 32746-6212
+407-333-9348 FAX: +407-333-9352
e-mail: staff@quantumtech.com WEB: quantumtech.com

THE TWO COMMON ON/OFF MODULATION MODES

MODES OF OPERATION FOR A MODULATOR BETWEEN TWO POLARIZERS

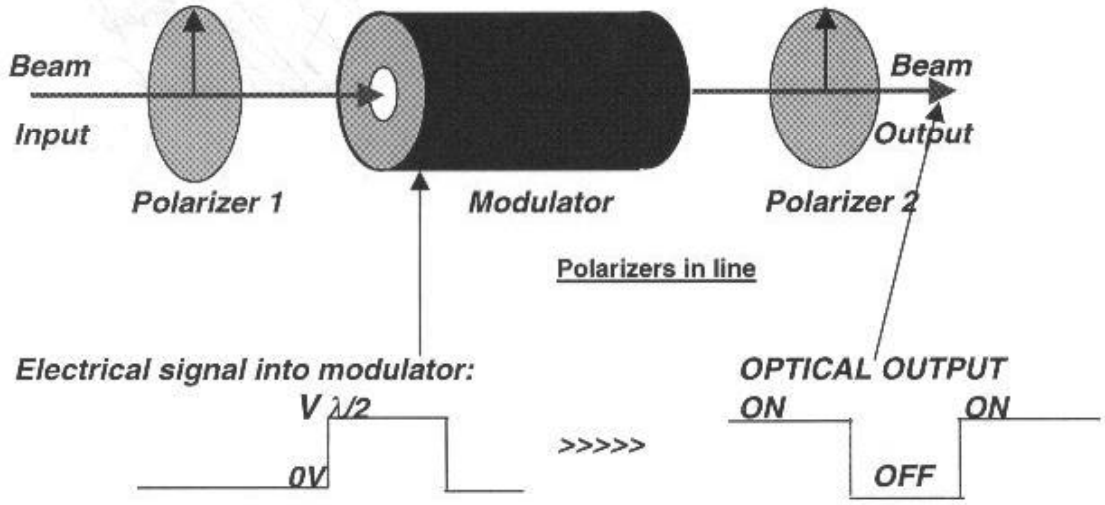
When a modulator (or Pockels cell) is operated at the quarterwave voltage, it may be in one of two modes as sketched below. In mode one, the modulator is placed between two crossed polarizers. The light from the laser source will not pass through the system until the quarterwave voltage is placed on the modulator. In mode two, the light from the laser source passes through the first polarizer, through the modulator, and through the second polarizer, since it is in the same polarization plane as the first. There is no voltage across the modulator. When the halfwave voltage is placed across the modulator, the light is inhibited from passing through the system.

MODE 1



In mode 1, there is no optical output *until* the modulator in energized with the quarterwave voltage.

MODE 2



In mode 2, there is an optical output *until* the modulator in energized with the quarterwave voltage.

The amount of time that voltage is applied to the modulator should be limited depending on material. KD*P's duty cycle is about 3%.