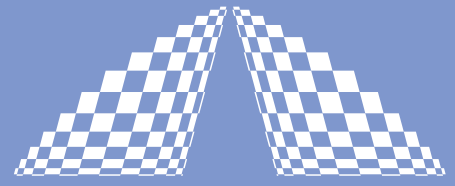


# AOM



A P E

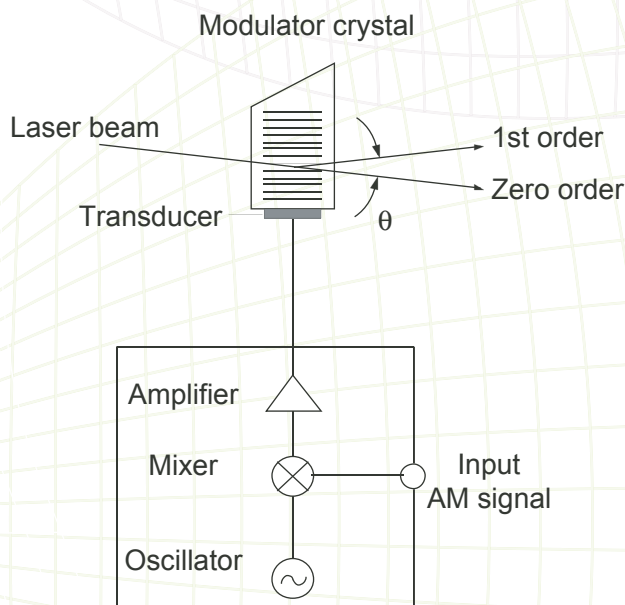
## ACOUSTOOPTICAL MODULATOR



The acoustooptical intensity modulator consists of an AO modulator element and a driver electronics unit.

The modulator element consists of an optical crystal with a piezo transducer at one side. By applying an RF signal generated by the driver electronics to the piezo transducer ultrasonic waves are induced in the crystal. These waves form an optical grating inside the crystal due to modulations of density and refractive index which deflects a portion of an incident laser beam.

The intensity of the deflected part beam is dependent on the field intensity and thus on the RF drive power. It can be controlled with a voltage at the analog modulation input. In the case of the digital modulation version a TTL signal at the modulation input switches the RF driver output on and off.



Complete and tested systems

Quartz stable oscillator

Analog or digital modulation input

Overload safety circuit to avoid damage to AO modulator element

Ultrafast Pulse Diagnostics

Wavelength Conversion

Pulse Management

Acoustooptics

Your Partner in Ultrafast

APE offer a series of standard AOM driver models. Other systems can be configured on request.  
**The AO modulator elements are selected according to the application and laser parameters.**

## SPECIFICATIONS

### Analog Modulator Drivers

Carrier Frequency	40 MHz	80 MHz	110 MHz	200 MHz
Modulation Bandwidth	10 MHz	20 MHz	27,5 MHz	50 MHz
Modulation Input (600 Ω)	0 ... 5 V	0 ... 5 V	0 ... 5 V	0 ... 5 V <sup>1)</sup>
Max. RF Output Power	1 W	1 W	1 W	1 W <sup>2)</sup>
Contrast Ratio	1000: 1	1000 : 1	1000 : 1	1000 : 1

### Digital Modulator Drivers

Carrier Frequency	40 MHz	80 MHz	110 MHz	200 MHz
Rise Time	< 50 ns	< 25 ns	< 20 ns	< 10 ns
Modulation Input (50 Ω)	TTL	TTL	TTL	TTL <sup>1)</sup>
Max. RF Output Power	1 W	1 W	1 W	1 W <sup>2)</sup>

### AO modulator elements

Various modulators can be offered according to the particular application.

- 1) other values on request  
 2) higher power on request

## OPTIONS

Variable carrier frequency

## DIMENSIONS

