

# Acousto-Optic Multi-Channel Modulators

## Modulation device for independent control of multi-beam or line collimated light

The Acousto-optic multi-channel modulators (AOMM) are generally used to integrate transducer arrays with a single acousto-optic crystal to modulate or deflect multiple beams separately. Compared with single-channel AOM, AOMM can increase the number of modulated beams, reduce scanning rates, and lower modulation bandwidth, greatly improving the linear characteristics of the device. Therefore, AOMM have great applications in laser color printers, multi-channel acousto-optic spectrometers, optical digital computers, 2D information processing, and video infrared dynamic image conversion systems.

CASTECH 's team has specifically developed and designed the optics and electronics of AOMMs to minimize the impact of acoustic and electrical crosstalk. CASTECH 's AOMM products allow simultaneous modulation of up to 10 channels and use high-quality, low-scatter fused quartz, crystalline quartz, and tellurium dioxide crystals to ensure low insertion loss or high laser damage threshold of the product.



### Applications

- Laser marking
- Micromachining
- Print
- Material processing

CASTECH's products are produced independently throughout the entire process and can be customized according to customer needs. Refer to the following list for standard products.

### Model Number: CAOMM-f-a-mt-w-cn-h

Center Frequency (f)	Aperture (a)	Channel (n)	Material(m)	Mode(t)	Wavelength (w)	RF Connector (c)	Housing (h)
041 (40.68 MHz)	010 (1 mm)	5	CQ	C	266 (266nm)	AF (SMA-F)	B23
...	...	...	TE	(Compressional)	...	...	...

### Typical Specifications

Wavelength	Aperture	Operation frequency	Number of Channels	Channel Crosstalk	Diffraction Efficiency
370 nm	0.2-1 mm	100 MHz	5	> 20 dB	≥ 70%
355 nm	0.2-1 mm	200 MHz	10	> 20 dB	≥ 70%

### Housing dimensions(mm):

