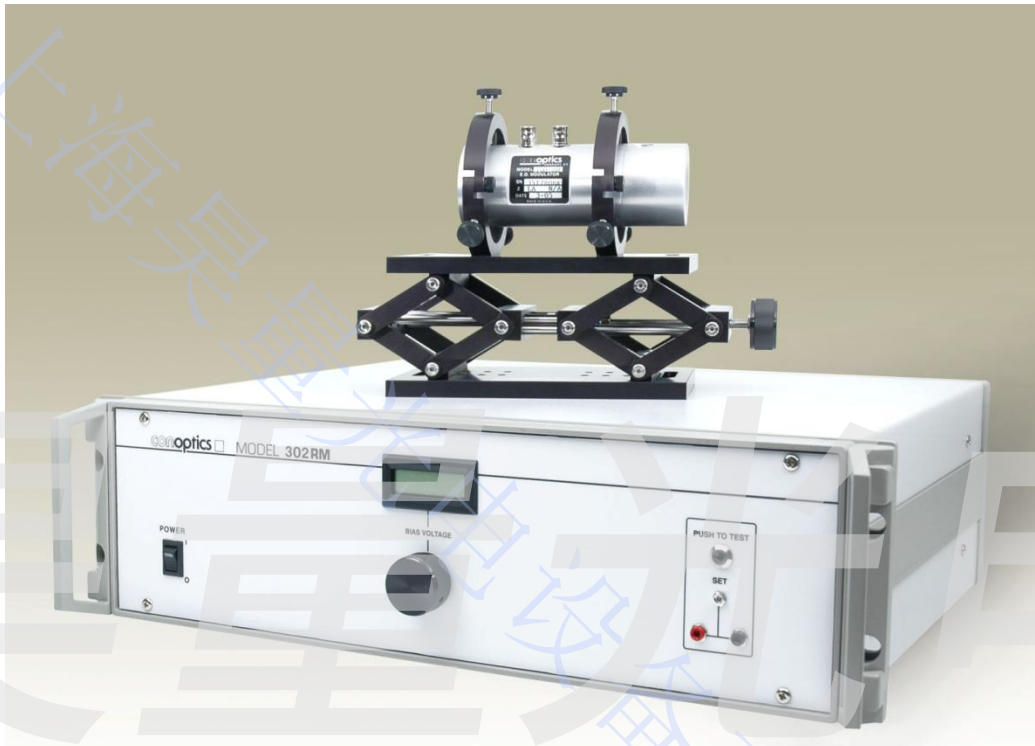


## Modulation Systems – MPM Showcase

### Conoptics Ti: Sapphire Intensity Control for Multi-Photon Microscopy (MPM)



**CONOPTICS'** a pioneer in the manufacturing of optics and laser accessories has developed a solution for Multi-Photon Microscopy (MPM).

Multiphoton fluorescence microscopy is a powerful research tool that combines the advanced optical techniques of laser scanning microscopy with long wavelength multiphoton fluorescence excitation to capture high-resolution, three-dimensional images of specimens tagged with highly specific fluorophores.

Conoptics' Model 350-80LA with BK (resonance-dampened) Option is a KD\*P Series Electro-Optic modulator. When configured with our Model 302RM amplifier offers the ability to control laser intensity as well as high-speed shuttering. In addition, this solution can control beam attenuation and fly-back blanking with minimal dispersion and full modulation over the lasers bandwidth. The system operates center in/out with no spatial dispersion and rise/fall times of 1 micro-second.

ConOptics, Inc. 19 Eagle Road, Danbury, CT 06810 Phone 800-748-3349 Fax 203-790-6145

**Modulator Key Features:**

|                            |  |
|----------------------------|--|
| Aperture                   | 3.5mm  |
| Dimensions                 | 50mm Diameter x 135mm                                  |
| Transmission               | >90%   |
| Standard Wavelength Ranges | 700 – to – 1100nm                                      |
| Piezo Resonances           | Minimal with clamped version (BK option)               |
| Driver Compatibility       | Full modulation with M302 Power Amplifier up to 1064nm |

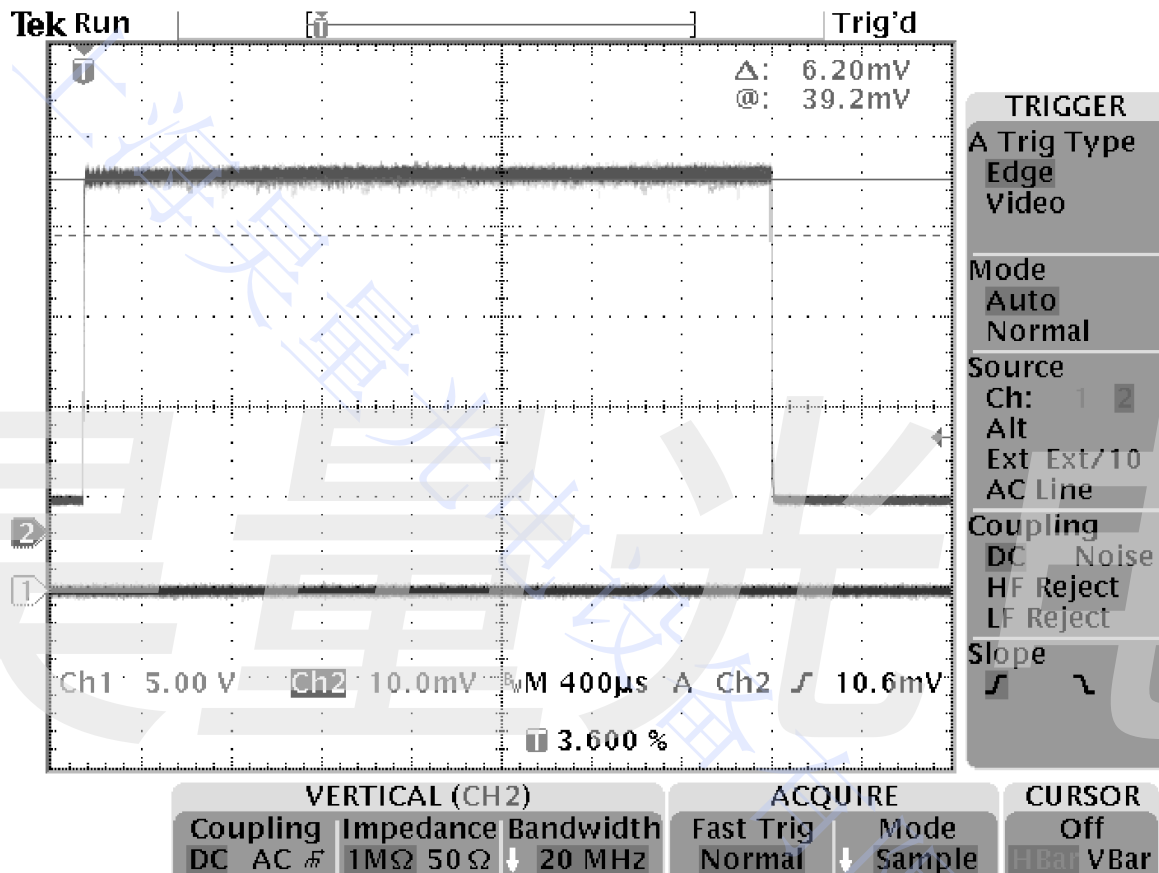
**Amplifier Key Features:**

|                         |  |
|-------------------------|--|
| Cabinet                 | Driver and power supply in single cabinet  |
| Test Feature            | Built-in test feature allows testing for max transmission of Pockel Cell without adjusting bias voltage  |
| Input Impedance         | Choice of amplifier input impedance by rear panel switch (50ohm/1K ohm)  |
| DC Bias                 | Improved DC biasing of Pockel Cell provides greater linearity at higher bias voltages  |
| Voltage Range           | +/- 450VDC controlled by ten-turn front panel pot. Digital meter monitors differential bias applied to E.O. Modulator                              |
| Linearity               | 10bits referenced to full scale (.1%)  |
| Bandwidth               | DC to >200Khz with 90pf load and 3M (RG-62) cables   |
| Max. Output Drive Level | 750VP-P into 90pf load   |
| Amplifier Input Signal  | 2VP-P max into 50/1K ohms delivers 750VP-P out   |
| Input Signal Format     | Options include Unipolar positive, negative or bipolar   |
| Input Power (AC)        | 60W typical. Input power is both load (modulator) and frequency dependent.   |
| Dimensions              | 19" Rack Mountable, 5.25"H(133mm) (3U) x 14"D (356mm)  |
| Cooling                 | Forced air   |
| Operating Environment   | Designed for laboratory use (indoor only)<br>Temperature range +5deg C to +50deg C ambient<br>Humidity 20%-80% RH up to 32deg C<br>Altitude <3000M |
| Weight                  | 20lbs (9.07kg)   |

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**Output Response**

The image below provide detected response at 514nm, 3ms pulse width, 250Hz rate



**Dedication to the advancement of MPM**

Conoptics is dedicated to the advancement of laser technology. The link below provides additional information on our collaboration with Cornell on MPM.

[http://www.drbio.cornell.edu/Infrastructure/Apparatus\\_WWW/Conoptics.html](http://www.drbio.cornell.edu/Infrastructure/Apparatus_WWW/Conoptics.html)

For additional information on our MPM solution or any of our product line please contact [sales@conoptics.com](mailto:sales@conoptics.com).

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