

## Acousto-Optic Modulator (AOM) for Ultrafast Lasers

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# TeraXion

Founded in 2000

Quebec, Canada

180 employees

Investing & developing in ultrafast

**World leader in ultrafast laser  
components**

- Several 10 000s of components  
manufactured every year
- **ISO 9001 Certified**



# Three Primary Markets

## LASER COMPONENTS (> 50% revenues)

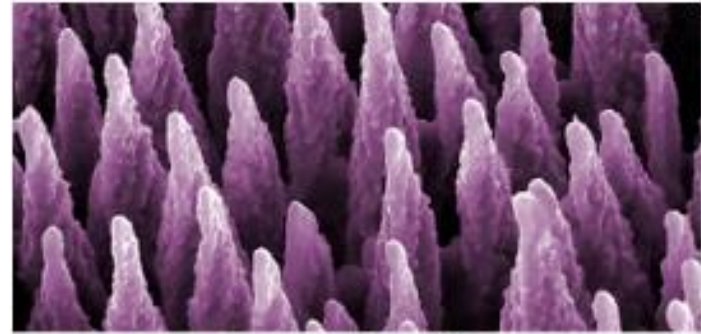
- High-power reflectors (kW class lasers)
- Dispersion compensators/pulse stretchers (Ultrafast Lasers)

## OPTICAL COMMUNICATIONS

- Dispersion compensators
- Dispersion emulators

## OPTICAL SENSING

- Low-noise lasers
- Narrow FBG filters



# November 17th EPIC Product Release

EPIC Members New Product Release - Join 17 November 2020

## PowerSpectrum™ TPSR-Xtended Tunable Pulse Stretcher

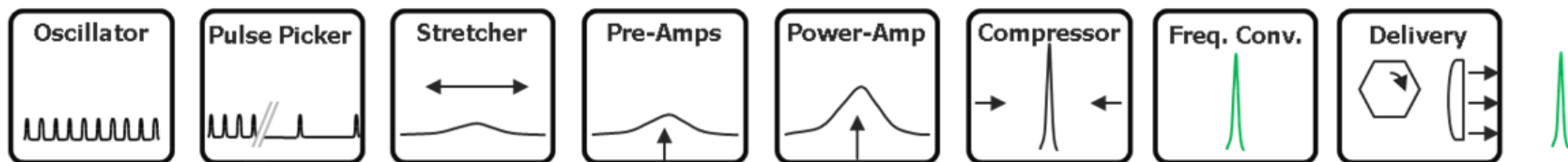


### TPSR-XTENDED BENEFITS

- **Dynamic Self-Phase Modulation compensation**
- **Extended stretching (1200ps per CFBG)**  
(Up to 50% more energy)
- **High order dispersion compensation**  
( $\beta_2$ ,  $\beta_3$ ,  $\beta_4$  and  $\beta_5$ )
- **Broad wavelength range**  
(1  $\mu\text{m}$  1.5  $\mu\text{m}$  2  $\mu\text{m}$ )

zoom 1

# Chirped-Pulse Amplification (CPA) Chain



DMR

Dispersion Management Reflector



TPSR-X

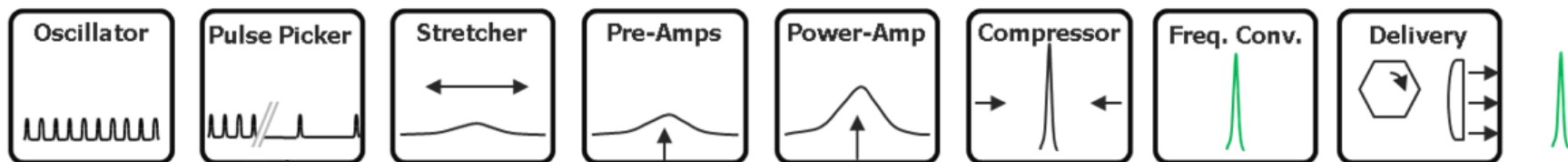
Tunable Pulse Stretcher



CM-V

Tunable Pulse Stretcher and VBG Compressor

# Chirped-Pulse Amplification (CPA) Chain



AOM Pulse Picker



RF Driver Unit

# AOM Pulse Picker

## Acousto-Optic Modulator



Rise\Fall Time

10 ns

Wavelength Range

1020-1070 nm

High Damage Treshold

1 kW

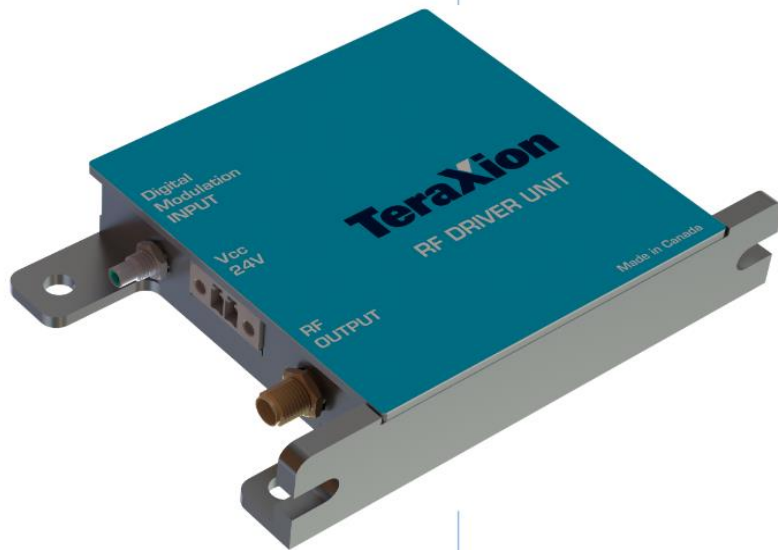
High Transducer Bonding  
Strength

Low Outgassing Components

Internal Beam Expanders for  
Maximum Peak Power Handling

# RF Driver Unit

200 MHz Driver Unit



**Ultra-Flat Response**

Digital Input

Low Jitter

High Extinction Ratio

**Low Rise Time**



# Aligned with Market Requirements

## MARKET REQUIREMENTS



## LASER REQUIREMENTS



## ACOUSTO-OPTIC MODULATOR (AOM)

Fewer down time

Higher reliability

Long term reliability for up to 100% duty cycle

Process adaptability

Dynamic repetition rate change

Flexible pulse picking

Stable process

Constant performance

High pulse to pulse stability

Large orders on demand

Constant supply

Flexible supply terms\short lead time

# Let us Help You Deliver The Perfect Pulse

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