



**DAZZLER™** products are turn-key ultrafast pulse shaping systems performing simultaneous and independent spectral phase and amplitude programming of ultrafast laser pulses.

With over 400 systems installed all over the world, the **DAZZLER™** systems constitute the premier choice for your pulse shaping applications.

*Ultra-compact device*

*Quantitative shaping*

*Single calibration point*

*No pixels:  
No ghost pulses*

*User-friendly*

**Key benefits**

*In-line beam geometry*

*Advanced software functionalities*

*Simple optical setup*

# DAZZLER ULTRAFAST PULSE SHAPER

*Data Sheet*



## All Dazzler™ systems include:

- **A crystal module** (50x100x20mm<sup>3</sup>) enabling to control, through an acousto-optic interaction, optical signals in the hundreds of THz range with acoustic signals in the tens of MHz range.
- **A RF generator** which generates user-defined RF waveforms and communicates with the control PC via a USB link.
- **A laptop computer** with pre-installed user-friendly software, allowing easy programming of RF waveforms to perform specific optical shaping.

## Available options:

- **Wizzler feedback loop** for high-dynamic pulse compression optimization.
- **Streaming** of over 100 000 pre-defined waveforms, in order to change the laser pulse characteristics at every trigger event at repetition rates up to 1kHz.
- **CEP analog modulation** to control and stabilize the Carrier Enveloppe Phase with sub  $\pi/500$  resolution at repetition rates up to 30kHz.
- **Jitter-free** electronics for sub 100 attoseconds optical jitter.
- **20W** and **50W RF amplifiers** for maximum diffraction efficiency.
- **T4** fast communication protocol (1 waveform loaded in less than 3ms)

# FASTLITE

ULTRAFAST SCIENTIFIC INSTRUMENTATION

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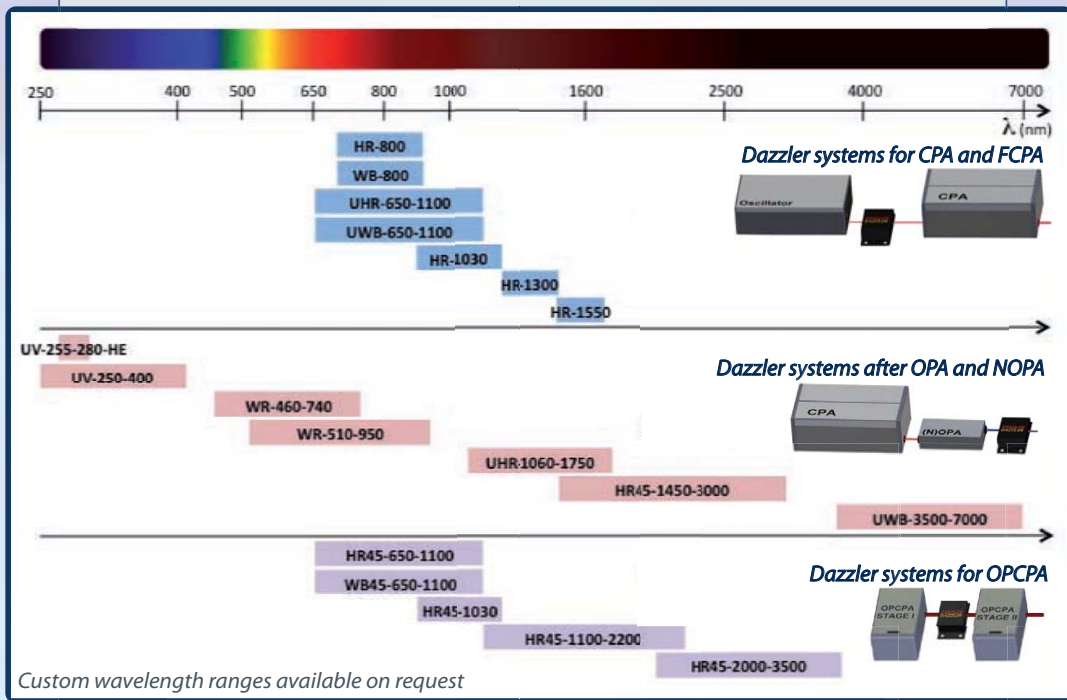
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**FASTLITE**

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# STANDARD DAZZLER PRODUCTS

Spectrum Chart

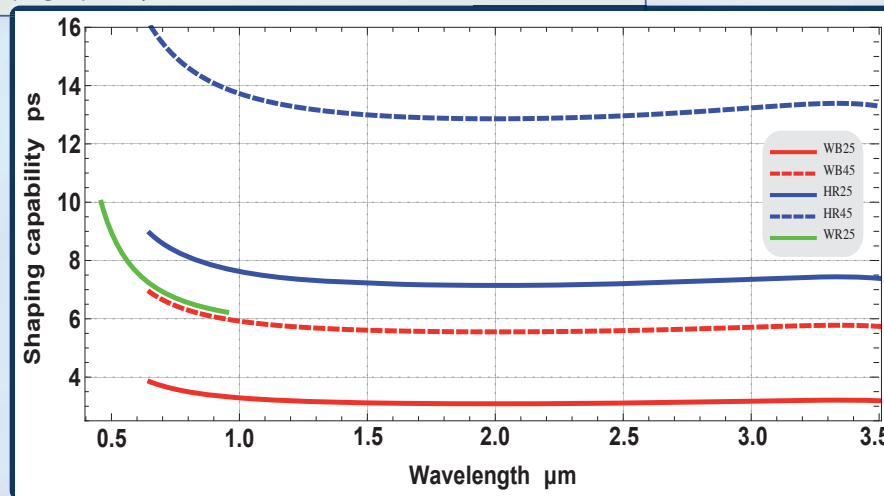


## DAZZLER systems for VIS and IR

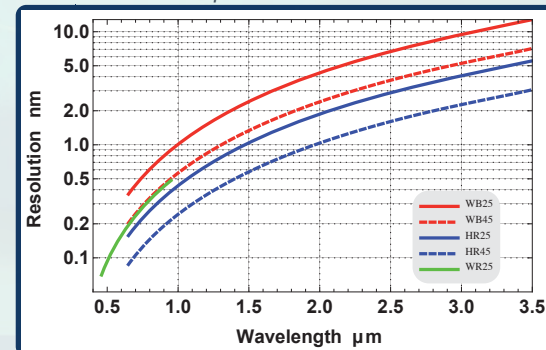
3 crystal cuts for laser pulses between 470 and 3500nm

- HR for optimum shaping capability
- WB for optimum diffraction efficiency
- WR intermediate cut (for visible laser pulses)

Pulse shaping capability of VIS & IR Dazzlers



Spectral resolution of VIS & IR Dazzlers



Input beam requirements for VIS & IR Dazzlers

Energy	Max 30μJ for <1ps pulses on max beam diameter
Spatial properties	Max Φ=2,5mm, collimated

Diffraction efficiency of VIS & IR Dazzlers

	HR25	WR25	WB25	HR45	WB45
Standard	50% on 50nm 25% on 100nm	60% on 50nm 30% on 100nm	50% on 100nm 25% on 200nm	50% on 100nm 25% on 200nm	50% on 200nm 25% on 400nm
With 20W option	40% on 100nm	40% on 100nm	35% on 200nm	40% on 200nm	40% on 400nm
With 50W option	50% on 200nm	50% on 200nm	40% on 400nm	50% on 400nm	50% on 800nm

## UV DAZZLERS

	UV-250-400	UV-255-280-HE
Wavelength tuning range	250 to 400nm	255 to 280nm
Instantaneous bandwidth	up to 150nm	up to 25nm
Spectral resolution	0,1nm at 250nm 0,2nm at 400nm	0,1nm
Maximum programmable delay	4,5ps at 250nm 3,5ps at 400nm	4ps
Diffraction efficiency*	20% at 250nm 10% at 400nm	>40%
Input beam requirements	Max 10μJ	Max 100μJ

\* for 50fs pulses

## Mid-IR DAZZLER

	UWB 3500-7000
Wavelength tuning range	3500 to 7000nm
Spectral resolution	7cm <sup>-1</sup> at 5000nm
Maximum programmable delay	4ps at 5000nm
Diffraction efficiency	15% on 100cm <sup>-1</sup>
Input beam requirements	Max 20μJ