

# JACKHAMMER 100 kHz

LOW-NOISE, HIGH-REP MID-IR DETECTION



This is a powerful detection system for high repetition rate mid-IR laser systems, capable of shot-to-shot acquisition at up to **100 kHz** with very low noise.

## APPLICATIONS

- Time-resolved IR spectroscopy
- 2D IR spectroscopy
- 2D Electronic-IR spectroscopy

“100 kHz laser systems  
require 100 kHz detection”

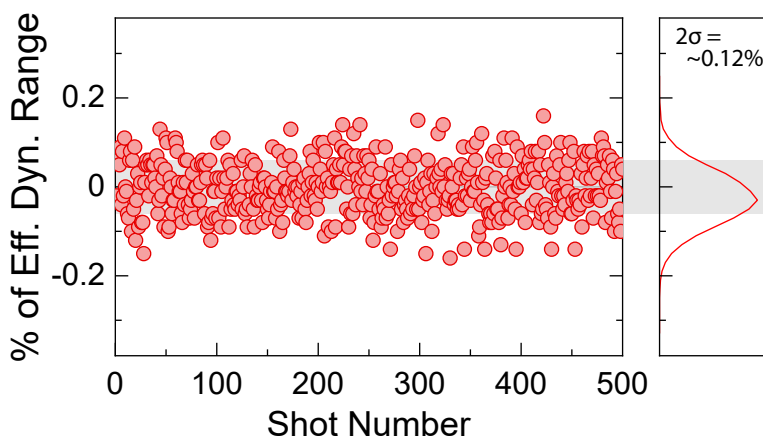
## CAPABILITIES & FEATURES

- Shot-to-shot acquisition mode
- Average-on-chip acquisition mode
- LabView™ control & acquisition VIs
- Extremely low-noise
- External channel acquisition
- USB Connectivity

## PRELIMINARY PERFORMANCE

Wavelength Range	~3 - 10 $\mu\text{m}$ (1000 - 3333 1/cm)
Source Laser Repetition Rate	$\leq$ 100 kHz
Number of Pixels	32-128
External Channels	1 per every 32 pixels
Digital Resolution	16-bit (65,536 counts)
Effective Dynamic Range	typ. 10,000:1
Dark Noise (st. dev.)	typ. 6 counts

## DARK NOISE



**UPGRADE**  
Buy high-rep electronics  
separately to upgrade an  
existing MCT detector.

Electrical design by Prof. Dr. Peter Hamm (University of Zurich) after decades of experience building acquisition systems for ultrafast experiments.

**RELATED: ZDMCT 1 kHz MCT detector, 128 x 128 pixels**

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