

# RRE-SYNCREO

## Repetition Rate Synchronization Electronics

**MenloSystems**



Synchronize your pulsed laser sources with highest accuracy: the Menlo Systems RRE-SYNCREO provides state-of-the-art phase lock electronics. The complete, user-friendly system allows for plug & play use. We have developed the Repetition Rate Synchronization for the patented, Nobel Prize awarded Optical Frequency Synthesizer technology. The RRE has been field-tested in this highly demanding environment enabling measurements with precision never reached before.

### KEY SPECIFICATIONS

- RMS Timing Jitter <200 fs (0.1 Hz - 500 kHz)

### APPLICATIONS

- Synchronization and Timing

### FEATURES

- Synchronization to Fixed or Tunable Repetition Rate
- Two Stage Locking Scheme Fundamental / Harmonic

### OPTIONS

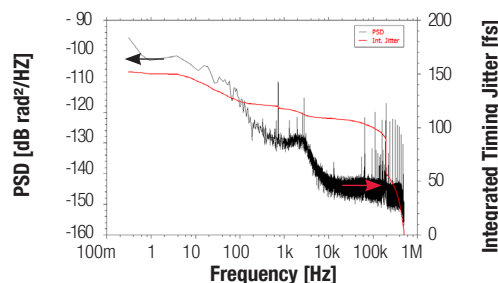
- **Custom Reference Frequencies**
- **Custom Phase Detectors** for low drift
- **Adjustable Offset** to set the relative time delay between the laser pulses and the reference signal, enabling time-resolved experiments without using a mechanical delay stage
- **Tunable Repetition Rate**

### PERFORMANCE DATA

#### Timing Jitter

laser vs RF

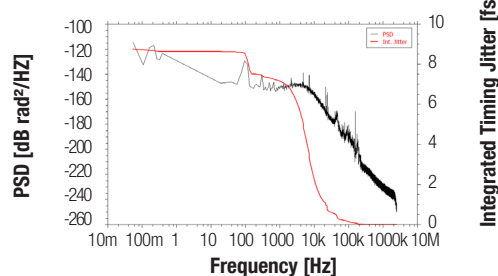
Relative Phase Noise between stabilized laser and 10 MHz reference



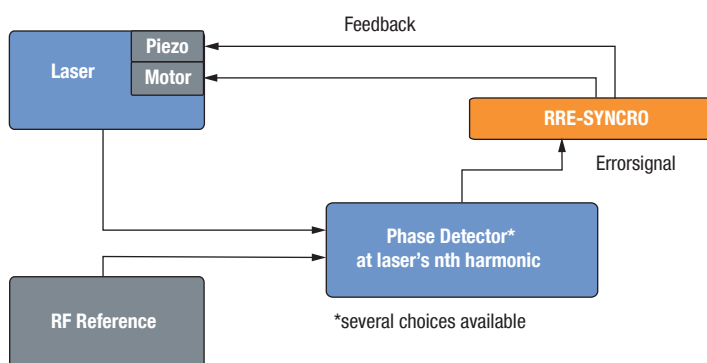
#### Timing Jitter

laser vs laser

Relative Phase Noise between two lasers in master-slave configuration



### SCHEMATIC SETUP



# RRE-SYNCRO



## Repetition Rate Synchronization Electronics

### SPECIFICATIONS

RMS Timing Jitter	<200 fs (0.1 Hz - 500 kHz) or same as reference whichever applies first *
External Reference Input	10 MHz ** (provided by customer), signal level +5 ... +10 dBm
Stepper Motor Signal Output	Stepper Motor Control, Sub-D, 9 pin
Piezo Signal Output	Piezo Control, BNC
Error Signal Output	Error Signal for monitoring, BNC

\* Values specified for models of the C-Fiber Femtosecond fiber laser series of Menlo Systems GmbH. Please contact us when stabilizing lasers from other manufacturers to optimize the performance of the RRE locking electronics.

\*\* For custom reference frequencies please contact us.

### REQUIREMENTS

Operating Voltage	110/220 V
Storage Temperature	0 °C - 40 °C
Dimensions/Weight	449 x 148 x 317 mm <sup>3</sup> / 7 kg
Remote Control	Unit can be connected to a PC via the USB or RS232 interface

### ORDERING INFORMATION

Product Code	RRE-SYNCRO
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Please call for pricing. Specifications are subject to change without notice. Custom modifications are available, please inquire.



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