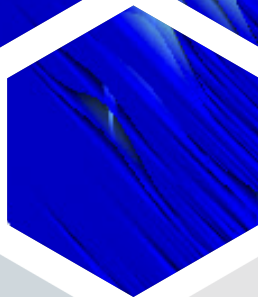
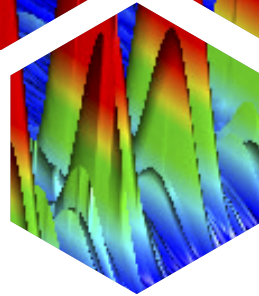
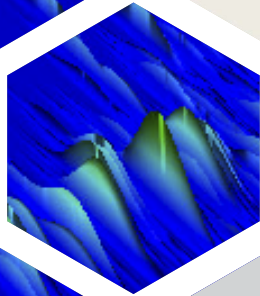
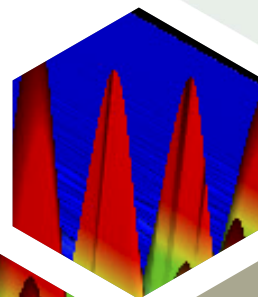
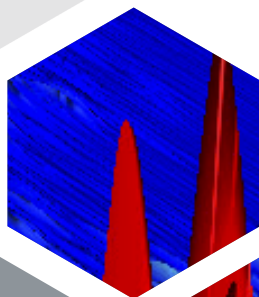
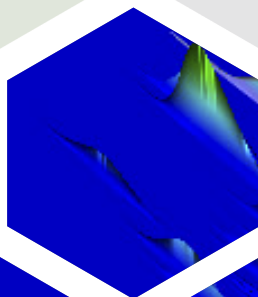
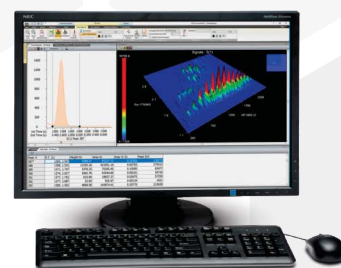


# QuadJet™ SD

GCxGC Detector



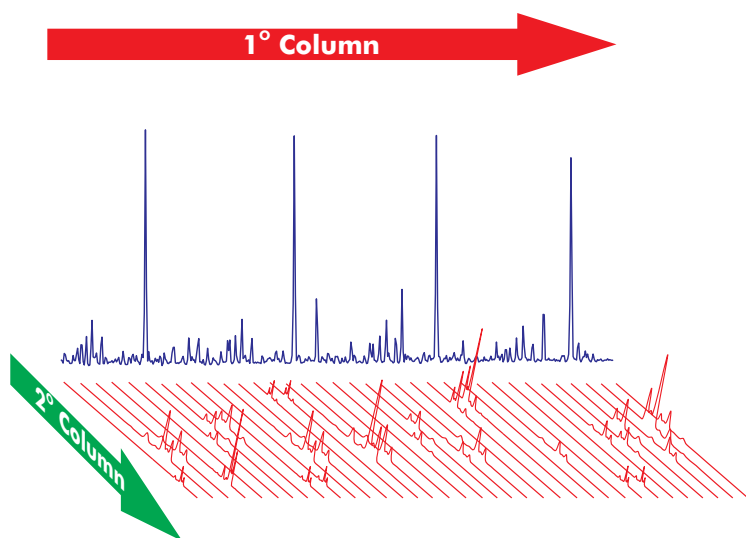
**LECO**  
EMPOWERING RESULTS

# LECO's QuadJet SD

## See what you've been missing

LECO's *QuadJet SD* is the ideal solution for samples which arrive in your lab. By combining the sensitivity of Flame Ionization Detection (FID, or other fast single channel detector SD) with the increased chromatographic resolution of comprehensive two-dimensional gas chromatography (GCxGC), the *QuadJet SD* delivers a better measure of the actual components of your sample than a straight GC analysis. No other system available on the market can deliver the same reduction in noise and error as the *QuadJet SD*.

## The Answers to Your Chromatographic Challenges

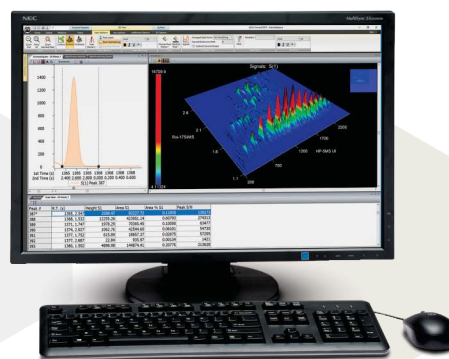


**Schematic demonstrating the creation of a GCxGC surface plot. The linear signal received by the detector is mathematically realigned to form the three dimensional chromatogram.**

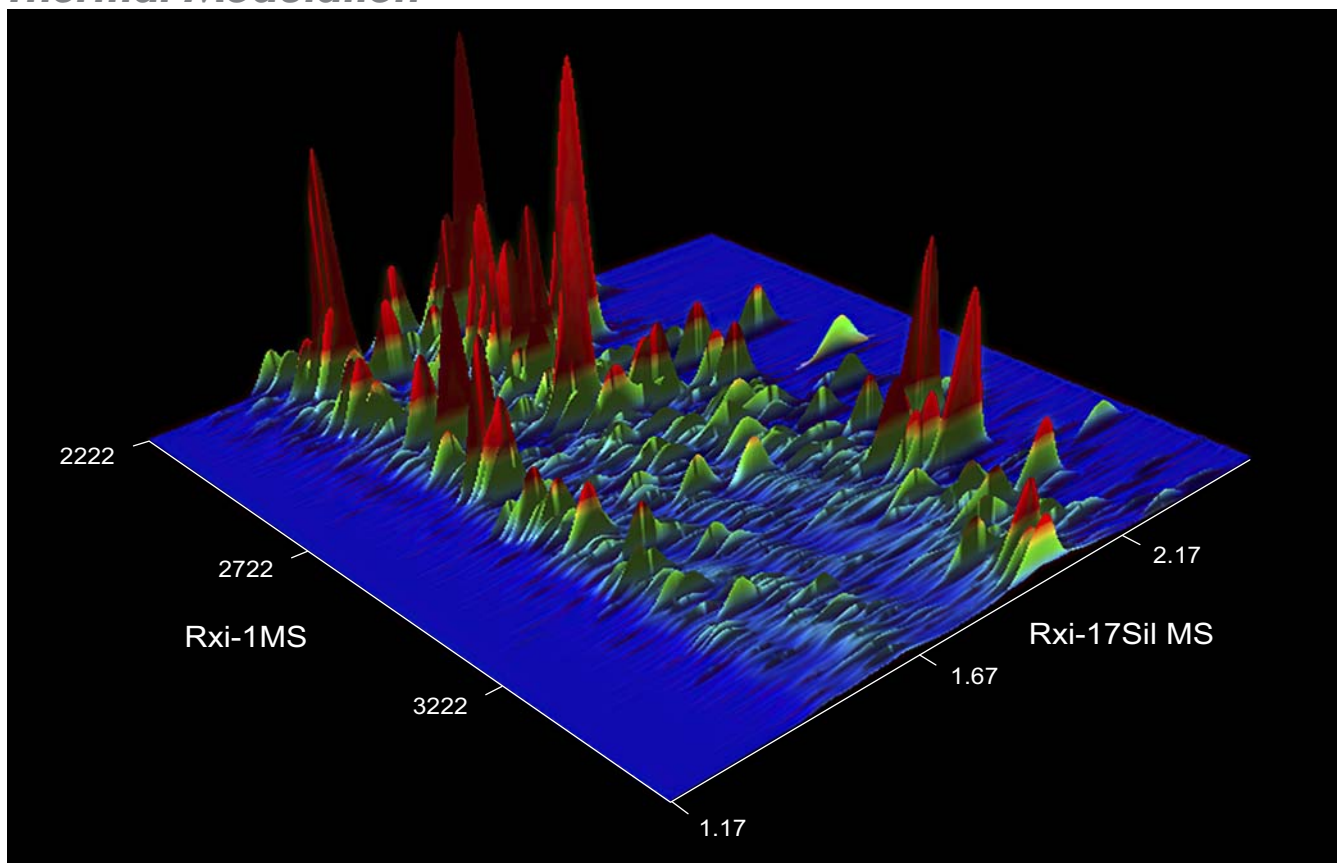
When performing GC-FID analysis, most laboratories quantify compounds using the area of the FID signal. Real world samples are rarely clean and straightforward. For example, a diesel sample can have thousands of different compounds in a single injection. The more compounds in a sample, the higher the chance of coelution; this coelution will increase the FID signal, thus creating a high bias error in the measurement. With GCxGC performing two separate chromatographic separations in one experiment, the accuracy of the FID measurement is maintained.

Due to the orthogonal nature of the separation mechanism in GCxGC, coeluting compounds are easily pulled apart in a single run. True GCxGC instruments, such as the *QuadJet SD*, improve upon simply running the same sample through two different columns by incorporating a modulation device. Peaks eluting from the primary column are quantitatively segmented into smaller sections prior to release onto the second column. This segmenting, along with the cryo-focusing of the modulator, can deliver peak widths as narrow as 50 ms to the second column.

**Separate your peaks of interest and simultaneously lower the limit of detection with the *QuadJet SD*.**



# Thermal Modulation



GCxGC chromatogram sample

There is no better-performing modulator for GCxGC than thermal modulation, and not even other thermal modulators can match up to the ruggedness, reliability, and performance of LECO's GCxGC modulator. With LECO's *QuadJet SD*, modulation is accomplished via a dual-stage, quad-jet thermal modulator positioned between the two columns. LECO's thermal modulator allows for on-column cryo-focusing within the GCxGC system, providing increased peak detectability and increased separation of coeluting compounds for an order-of-magnitude increase in signal-to-noise.

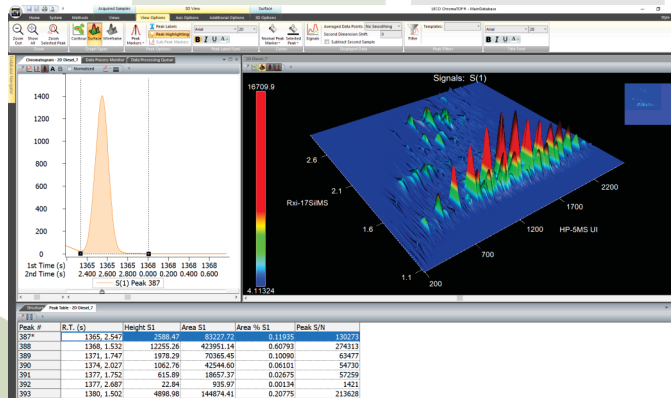
LECO's Consumable-Free Modulator (no use of LN<sub>2</sub>) option is also available, saving time and money without sacrificing performance when modulating moderately volatile compounds.

LECO's *QuadJet SD* is designed to give you the upper hand in laboratory productivity. Its ease-of-use and industry's best secondary oven for the secondary column allows for improved analytical results. When you take the step to the next dimension in gas chromatography, make sure you're taking the step that will let you see what you've been missing.

## Leading the Way in Advanced GCxGC Data Processing

### ChromaTOF® Brand Software

LECO's industry-leading ChromaTOF brand software is the most comprehensive software package available for any GCxGC system. For over 30 years, we have been leading the way in GCxGC data processing, adapting the software to how laboratories actually analyze real data. Even the most demanding analytical samples can be characterized with ease, increasing component identification and laboratory productivity.





## LECOLearn

Maximize your laboratory with LECO's online, on-demand training site.

- 24/7 access to tutorial videos
- Multiple users per account
- Consistent training across your lab and around the world



## Pegasus BT 4D GCxGC-MS

- Enhanced sensitivity by coupling our benchtop Pegasus BT with our high performance GCxGC thermal modulation system for analyzing the most complex samples
- Cost-effective FLUX™ flow modulation system is an excellent option for those looking for added capability over one dimensional GC
- Unique and powerful ChromaTOF brand software simplifies quantitation and analyte identification with features such as NonTarget Deconvolution® (NTD®), Target Analyte Find, library searches, and more
- StayClean® ion source eliminates the need for source cleaning



Our tool takes the worry out of GCxGC by guiding you step-by-step to maximize peak capacity. Learn more at Simply GCxGC <https://www.leco.com/simply-gcxcg>



Technical Research Center



Global Support Center



Customer Demonstration and Application Center

## A Commitment to Quality and Service

LECO instruments are noted for superior precision, speed, and ease-of-use. We are an international company with over 25 subsidiaries worldwide. Our global network of sales/support is dedicated to customer service and satisfaction, and our commitment to quality is further underscored with ISO-9001:2015 certification. We conform to CE quality and safety specifications, fully testing our instruments at our on-site Compliance Testing Center.

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LECO Corporation

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