

## LMS Test.Xpress

Powering personal productivity



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### Powering personal productivity

Traditional analyzers have proven to be one of the most flexible tools to qualify a product's noise and vibration performance. They are easy to operate and immediately show the frequency content of a vibration or sound signal. But traditional analyzers are also very limited. Why restrict easy and flexible measurements to just 2 or 4 channels, when productivity would be so much higher with 8 channels or more? How much time could you gain by running FFT, order and octave analysis in real time and in parallel? And why not finish your measurement with a single click to generate a comprehensive report on the spot?

LMS Test.Xpress is a no-compromise noise and vibration analyzer and recorder that is designed to do all of this and much more. It combines the ease of use of a traditional analyzer with the high-speed performance and measurement quality of an advanced noise and vibration measurement system.

LMS Test.Xpress integrates over 25 years of experience in noise and vibration engineering from LMS. It is part of a complete offering of scalable testing and engineering solutions, that offer optimal scalability, openness and investment protection. Start with a 4-channel analyzer today, and expand your system to a multi-channel, advanced engineering solution? It's all possible with LMS Test.Xpress.

**LMS Test.Xpress is one of the most powerful analyzers of its class: up to 102,4 kHz sampling rate per channel, 24 bits resolution, 105 dB signal to noise ratio – all bundled in a fully rugged and ultra portable front-end system.**



#### Real time power

Faster testing – easier diagnosis

Designed for optimal productivity, LMS Test.Xpress provides the right combination of acquisition and analysis capabilities. Whether you run qualification measurement or troubleshooting tests, LMS Test.Xpress processes FFT, order, octave and throughput in parallel and in real time. The system shows instant results and saves raw time data for backup or possible post processing. Want to tackle more complex tasks? Test.Xpress offers easy access to advanced online tools like filtering, smoothing, averaging and a mathematical combination of channels.

- Perform FFT, order, octave and throughput in parallel while displaying real-time results on screen
- Run multiple tasks in real-time and eliminate post processing time
- Validate data quality on the spot – diagnose problems while you measure



#### Click, test, done

Automating measurement tasks

Want to accelerate your day-to-day test work, without compromising on data quality? LMS Test.Xpress features powerful capabilities to automate your specific measurement campaigns, from measurement setup, over dedicated post processing, up to the final report generation in MS Office. To reduce setup and execution time, you can create your measurement projects upfront in the office. During your test campaigns, all you have to do is load the appropriate project and step through it.

- Automate measurement procedures from acquisition to report
- Prepare measurement campaigns upfront and reduce setup and execution time
- Lock critical parameters to safeguard data quality and consistency

## ➤ The power of simplicity

Fit for the analyzer job

LMS Test.Xpress has been designed for optimal ease of use and productivity. The intuitive user interface – which is available in your local language – sets all the function and parameter displays at your fingertips. The system displays all relevant parameters at any time and immediately shows you the effect of every change. With the interactive screen layout, you drag and drop data, add displays, and easily compare measurements. This provides a short learning curve and optimal efficiency – with Test.Xpress you will get the most out of your analyzer system.

- Single sheet user interface places all function and parameter displays at your fingertips
- Interactive and flexible – add displays and drag and drop data at any time
- A short learning curve – no need for extensive training – localized language versions

## ➤ Light, compact, portable

Optimal flexibility for lab and field testing

LMS Test.Xpress is seamlessly integrated with the state-of-the-art LMS SCADAS Mobile data acquisition front-ends. You can choose the compact and ultra-portable 4 to 8 channel SCM01 system or go for the laptop-size SCM05 unit, a modular front-end with five slots that host up to 40 input channels. Both systems provide impressive performance, solid quality and advanced measurement technology into a robust and compact package.

- 4 to 40 channels
- Up to 102,4 kHz sampling rate per channel
- 24 bit DSP technology
- 105 dB signal to noise ratio
- 2.2 Msamples/s throughput rate
- High-speed Ethernet connection
- Runs more than 2.5 hours on internal battery
- Qualified for rough and high-temperature operating conditions

## ➤ Investment protection

A scalable solution that adapts to future needs

The LMS Test.Xpress system is scalable and allows you to grow from 4 up to 40 channels. You can directly connect the strain gauges, connect your CAN bus system to the front-end and use the built-in GPS receiver. The LMS Test.Xpress system is an open system and easily imports and exports external formats, and exchanges data with the LMS Test.Lab suite. You can even extend your Test.Xpress system with advanced LMS Test.Lab noise and vibration engineering tools, while using the same LMS SCADAS Mobile front-end.

- Scalable front-end systems and scalable software solutions
- Full data compatibility with LMS Test.lab
- Easy import and export of external data formats
- 25 years of LMS experience in noise and vibration testing built-in



# LMS Test.Xpress, Integrated acquisition and analysis capabilities

## Single sheet user interface

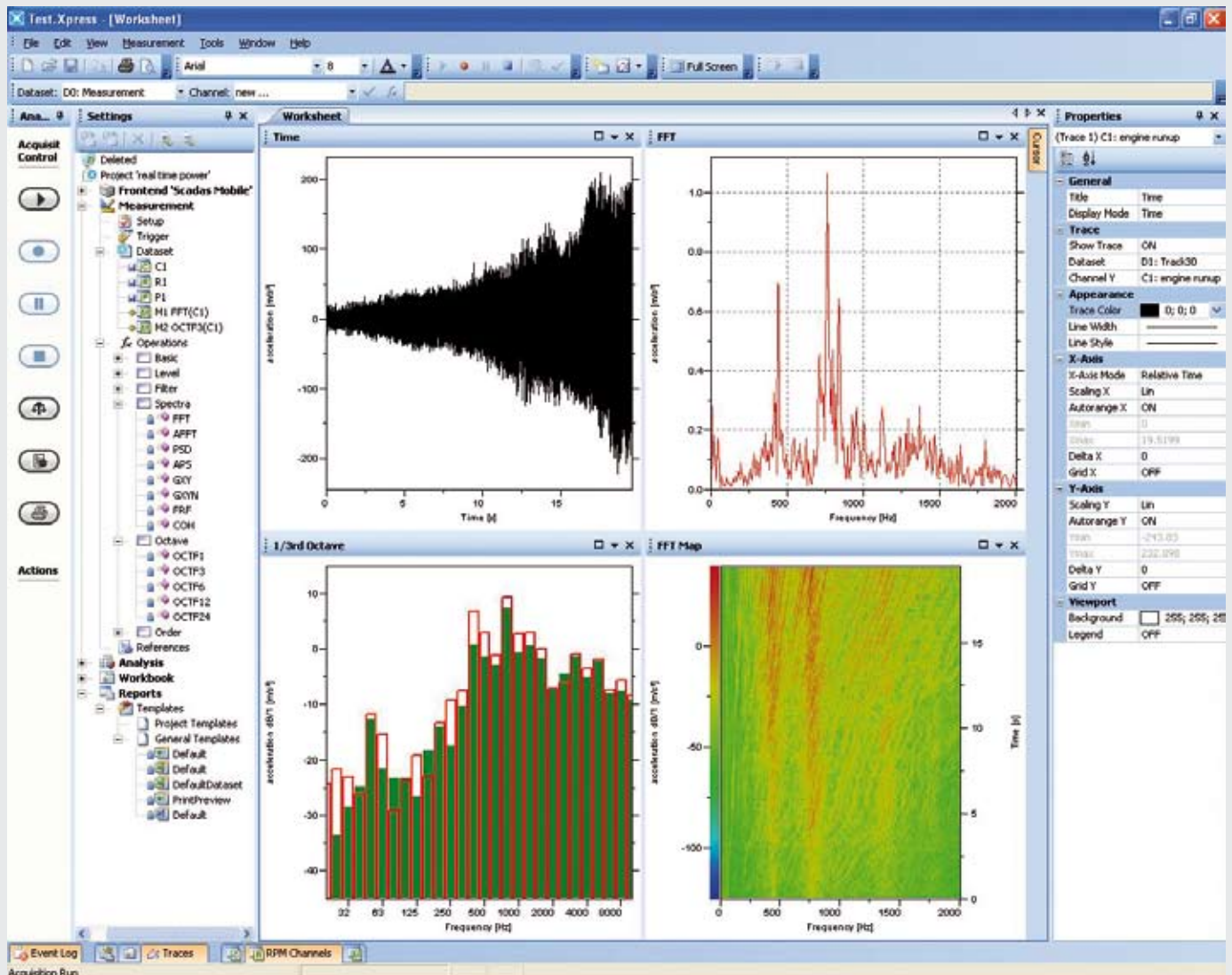
- All functions and parameters at your fingertips
- Direct response to parameter changes
- Designed for optimal productivity

## Real time power

- FFT, order, octave and throughput in parallel and in real-time
- Online visualization of all functions
- Diagnose problems while you measure

## Short learning curve

- Connect your system and start measuring
- Interactive and intuitive screen layout
- Ease of use and power in one system



## Guided operator use

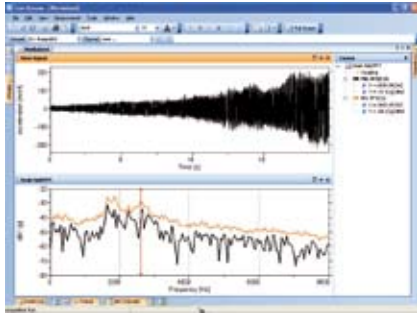
- Toolbar guides user through process
- Full screen mode for easy execution
- Parameter locking guarantees data quality and consistency

## Automating measurement tasks

- Prepare measurement campaigns upfront
- Automate from acquisition to report
- Customize toolbars for specific tasks

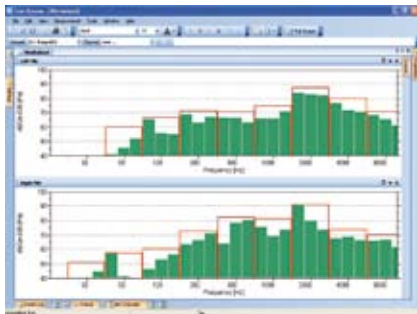
## Easy reporting

- Generate your report with a single click
- XML or MS Office based reporting
- Customize report templates without programming



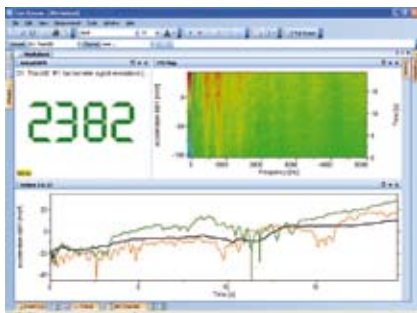
## FFT analyzer

The FFT analysis in LMS Test.Xpress uses narrow-band frequency analysis and offers multiple real-time analysis of basic FFT's, zoomed FFT's, PSD's, crosspowers, FRF's, coherences, etc. It allows you to quickly determine resonances, damping values or harmonic content from the frequency spectrum, averaged or tracked to a specific channel. Functions such as envelope, Hilbert transform and Cepstrum allow to do advanced machine diagnostics. The FFT analysis can be combined with any of the other analyzer functions in Test.Xpress without losing performance, which supports a simultaneous multi-analysis of the data.



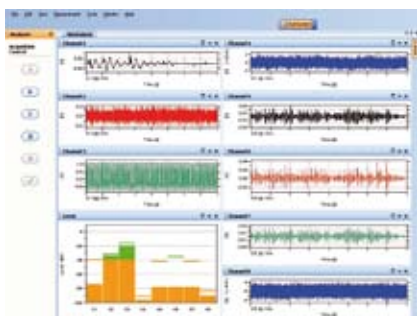
## Octave analyzer

The LMS Test.Xpress octave analysis is the ideal solution to troubleshoot acoustic problems. The software supports 1/1, 1/3rd, 1/6th, 1/12th and 1/24th octave filter functions according to IEC and ANSI standards, all averaged or tracked against a specific channel. Other functions such as Leq, reverberation time (T60) calculation and online Articulation Index and Loudness turn it into an advanced acoustics analyzer. To perform a simultaneous multi-analysis of your data, you combine the octave analysis with any of the other analyzer types in Test.Xpress. The LMS SCADAS front-end has no cooling fan and provides the silent operation required for acoustic testing.



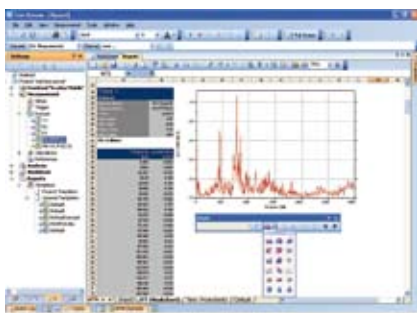
## Order analyzer

The LMS Test.Xpress order analysis function calculates order maps, single order cuts, overall levels, etc. The system resamples data relative to a specific rpm or speed channel and clearly shows you all the speed related phenomena that are hidden in the data. For industrial applications, LMS Test.Xpress offers tacho conditioning and digital processing tools via 2 dedicated tacho inputs or simply using any dynamic channel. This guarantees accurate measurement results, even in case of rapidly accelerating shafts.



## Throughput recorder

Parallel to the analyzer applications, you can use LMS Test.Xpress as a sound and vibration throughput recorder. The system directly streams data to disk, offering gap-free recording of 40 channels at full bandwidth, without affecting the real-time analyzer performance. While the system records to disk, you can open previous measurements on the same PC, run post-processing calculations, replay audio channels and view results. Advanced triggering capabilities with pre- and post-trigger allow the system to operate independently, and start data recording when a specific event occurs.



## Data viewing and reporting

All LMS Test.Xpress analyzer functions include the ability to open different data – even coming from external sources – display, compare and analyze them in different layouts. You can even run Test.Xpress on a separate PC and use it as a standalone data viewer. LMS Test.Xpress includes a variety of tools to help you finish your report with a minimum of fuss. You can easily drag and drop data into displays, copy and paste displays or use the default reports in html, word or excel format, all this using Windows standard XML based reporting. You can easily create and modify your own reporting formats without any need for programming: insert your company logo, change the layout, perform further analysis in excel and create the final graphs you need in your new template.



## LMS SCADAS Mobile

Power and flexibility for lab and field testing

LMS Test.Xpress is seamlessly integrated with the state-of-the-art LMS SCADAS Mobile front-ends. The LMS SCADAS Mobile is one of the most powerful, compact and lightweight data acquisition front-ends of its class: up to 102,4 kHz sampling rate per channel, 24 bits resolution, 105 dB signal to noise ratio, 2.2 Msamples/s throughput rate – all bundled into a fully rugged and ultra portable front-end package.

You can choose the ultra-portable 4 to 8 channel SCM01 system or go for the laptop-size SCM05 unit, a modular front-end with five slots that hosts up to 40 input channels. LMS Test.Xpress shares the same system LMS SCADAS Mobile front-end with the LMS Test.Lab suite with advanced noise and vibration engineering solutions, offering users a scalable path for future application extensions.

**LMS Scadas Mobile provides impressive performance, solid quality and advanced measurement technology in a robust and compact package.**

### LMS SCADAS Mobile at a glance

- 4 to 40 channels
- Up to 102,4 kHz sampling rate per channel
- 24 bit DSP technology
- 105 dB signal to noise ratio
- 2.2 Msamples/s throughput rate
- High-speed Ethernet connection
- Runs more than 2,5 hours on internal battery
- Qualified for rough and high-temperature operating conditions



### Scalable system configurations

The LMS SCADAS Mobile SCM01 is a compact, modular analyzer front-end that accommodates 4 to 8 channels. Its compact size, low weight and battery support makes it the ideal portable signal analyzer. You prefer the power of a higher channel count unit? The LMS SCADAS Mobile SCM05 system also starts with a 4-channel unit, and extends up to 40 channels, all packed in a portable, laptop size unit. Both systems can be equipped with 4 or 8 channels input modules, supporting voltage or ICP sensors, microphones, charge transducers and strain gauges. In addition, you can directly connect the front-end to your CAN bus system and use the built-in GPS receiver to get instant and accurate input on absolute time, speed and position.

### Maximum measurement power

The LMS SCADAS Mobile front-end packs the quality and acquisition power of the renowned LMS SCADAS system into a compact and rugged design, offering versatile data acquisition and signal-conditioning capabilities. Designed for optimal measurement productivity, the LMS SCADAS Mobile system offers one of the most powerful analyzer configuration in its class: up to 102.4 kHz sampling rate per channel, 24 bits resolution, 105 dB signal to noise ratio and a throughput rate of over 2.2 Msamples/s.

### A portable and solid package

The LMS SCADAS Mobile front-ends flexibly adapt to any kind of lab or field-testing setup. The systems are not just easy to carry; they also offer easy cable connections. All cables plug in the front side, facilitating installations in locations that are small or difficult to access. Its wide range power supply accepts AC and DC input voltages, but it can also operate from the built-in battery. The limited power consumption of the system guarantees more than 2,5 hours of independent battery operation. Through its robust design, the LMS SCADAS Mobile withstands rough operating conditions, complying to MIL-STD-810F, and keeps running under extremely low or high temperatures. Its innovative cooling system eliminates the need for a cooling fan, offering absolute silent operation for acoustic measurements.

### Professional support for full productivity

Reaching full productivity in your job also requires high quality technical support. LMS offers access to highly responsive support centers around the world for software and hardware maintenance. LMS hardware calibration services ensure that your system remains calibrated according to ISO and international standards. To provide you with full security, LMS also offers a full hardware maintenance contract, ensuring minimum downtime in case of hardware failure. A software service contracts entitles you to free upgrades of the software, privileged access to the online support section of our web site and the possibility to contact our support center for expert assistance.



LMS SCADAS Mobile SCM01

LMS SCADAS Mobile SCM05

	LMS SCADAS Mobile SCM01	LMS SCADAS Mobile SCM05
Number of slots	2 (1 for system controller)	6 (1 for system controller)
Max number of channels per frame	8	40
Tacho inputs	2 (standard on board)	2 (standard on board)
Generator outputs	2 (standard on board)	2 (standard on board)
Dimensions (WxHxD)	203 x 58 x 260 mm / 7.99 x 2.28 x 10.24 inch	340 x 78 x 295 mm / 13.38 x 3.07 x 11.69 inch
Weight	2.5kg / 5.59lbs	6.2kg max / 13.67 lbs max
AC power input	110/220V	110/220V
DC power input	9-36V	9-36V
Max power consumption	15W	40W
Battery operation (minimum)	2.5 hours	1 hour (4 hours with additional slot battery)
Host interface	Ethernet	Ethernet
Operating temperature	-10°C to +55°C / 14° to 131°F	-10°C to +55°C / 14° to 131°F
Sensor type	V, ICP, MIC, charge, strain, digital audio	V, ICP, MIC, charge, strain, digital audio



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LMS is focused on the mission critical performance attributes in key manufacturing industries, including structural integrity, system dynamics, handling, safety, reliability, comfort and sound quality. Through our technology, people and over 25 years of experience, LMS has become the partner of choice for most of the leading discrete manufacturing companies worldwide.

LMS is certified to ISO9001:2000 quality standards and operates through a network of subsidiaries and representatives in key locations around the world.



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