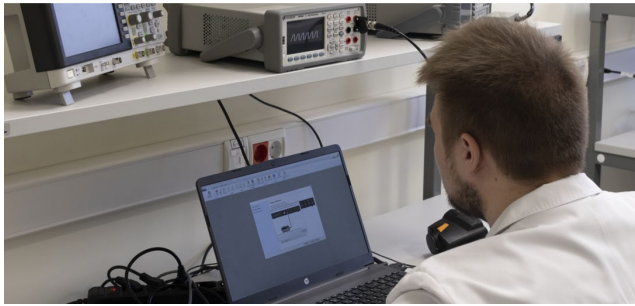
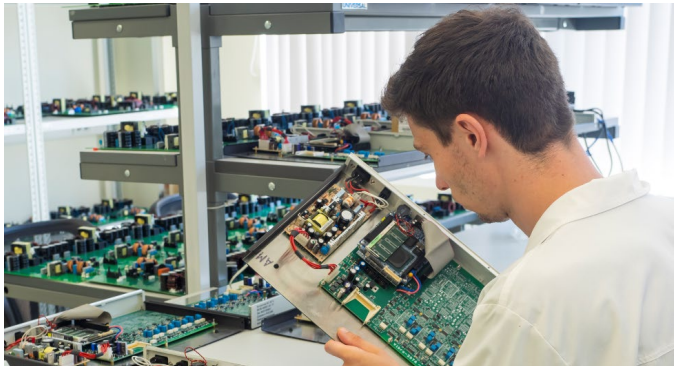
RULA

The Harmony of Solutions





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About Us

RULA Technologies is a leading-edge European manufacturer of test and measurement instruments.

We implement customized solutions for Automotive, Aerospace, Research and other industries.

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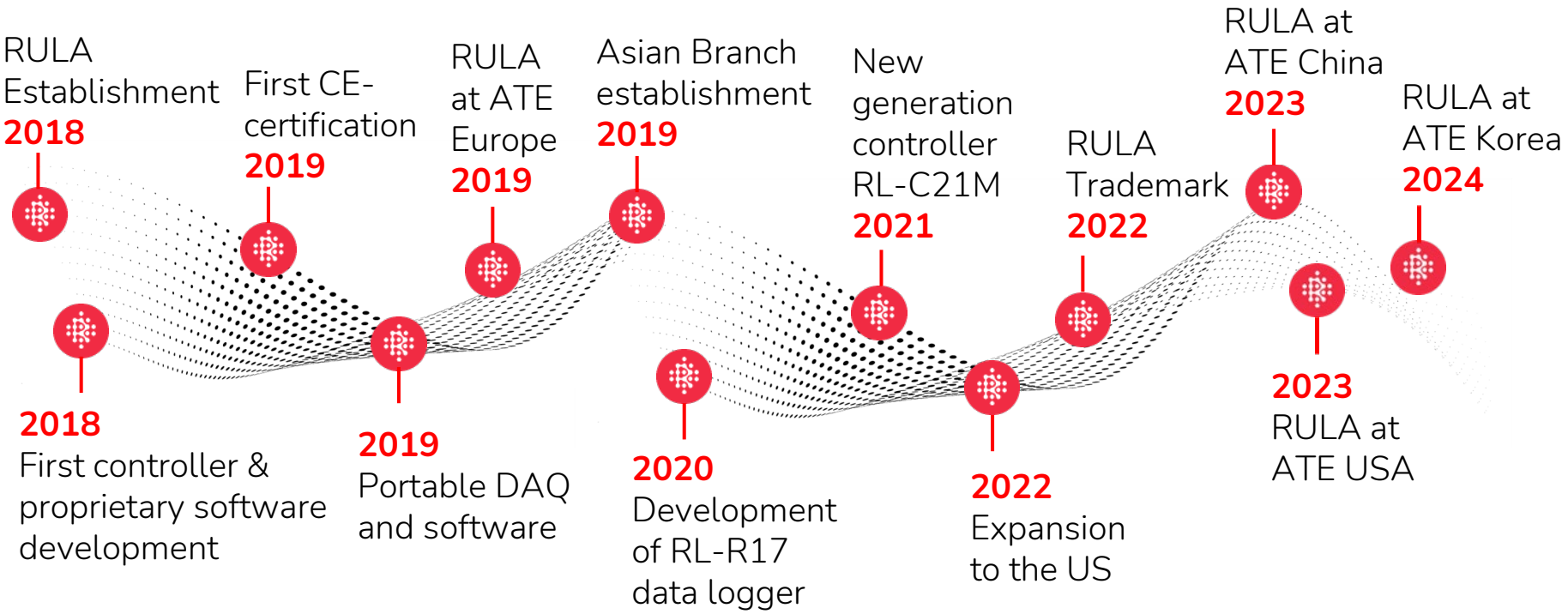
Our History



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Our Plans

- Developing a DAQ-system with over 1000 channels
- Further development of EMA and modal hammer module
- A project for a basic 2-4 channel controller
- Further expansion to the Americas
- Further expansion to ASEAN market

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RULA in Numbers

13

products are made by us

We develop products from scratch and manufacture them in Latvia. CE marking included.

>15

software releases

All of our software updates are free. We provide backward compatibility for all versions of Windows from Windows 7.

>40

countries of presence

We are constantly expanding our network of partners and dealers.

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Territory of Business

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The Range of Products

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Vibration Control & DAQ Systems

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RL-C21

Frequency range, Hz	0,1 ÷ 35000
ADC resolution, bits	24
Sensor type (inputs)	IEPE, displacement, TEDS, velocity, force sensors, charge

State-of-the-art vibration control and data acquisition system. The controller has modular scalable architecture, which allows the user to get from 1 to 32 input channels.

- 4 inputs
- 2 outputs
- LCD

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RL-C21

Spectrum lines	800 to 52500
Sample rate	1290 Hz -108 kHz
Filtration (inputs, outputs)	Analog, digital high-pass and low-pass filters
Temp. range	+5 ÷ +50 °C

Main Parameters

- From 1 to 32 input channels
- From 1 to 8 output channels
- 6 DOF MIMO tests
- Auxiliary logical inputs, outputs

RL-C21 enables running multi-shaker tests and controls 2- and 3-axes shakers with up to 6 degrees of freedom.

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RL-C21M

Frequency range, Hz	DC ÷ 80000
ADC resolution, bits	24
Sensor type (inputs)	IEPE, displacement, TEDS, velocity, force, charge, voltage, temperature

Direct successor to RL-C21, featuring up to 8 input channels in one box, direct control of power amplifiers and climatic chambers, as well as support for voltage and temperature sensors.

- 8 inputs
- 2 outputs
- LCD

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RL-C21M

Voltage range	±10 ÷ ± 40 V
Sample rate	up to 216 kHz
Filtration (inputs, outputs)	Analog, digital high-pass and low-pass filters
Temp. range	10 ÷ 40 °C

Main Parameters

- From 1 to 64 input channels
- From 1 to 16 output channels
- 6 DOF MIMO tests
- Auxiliary logical inputs, outputs

RL-C21M enables running multi-shaker tests and controls 2- and 3-axes shakers with up to 6 degrees of freedom.

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RL-C25

Frequency range, Hz	DC – 106000
Sample rate	up to 265 kHz
DAC/ADC resolution, bits	24
Power supply, V	180 ÷ 240 AC
Dynamic range, dB	≥ 120

Advanced vibration control and data acquisition system designed for multichannel applications. Scalable architecture allows the user to expand the system up to **512 channels**.

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RL-C25

RL-C25 has Electromagnetic Compatibility Directive 2014/30/EU and Low Voltage Directive 2014/35/EU certificates.

Sensor type (inputs)	IEPE, linear, charge, acoustic, displacement, velocity, force sensors, strain gauge
Digital interfaces	Ethernet, USB, RS-232, RS-485, CAN 2.0

TÜV NORD

Certificate of conformity with the following European Directives

1803604707E/E21/48009

Electromagnetic Compatibility Directive 2014/30/EU

TÜV NORD

Certificate of conformity with the following European Directives

1803604707E/L21/48010

Low Voltage Directive 2014/35/EU

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Amplifiers

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RL-A200

Output power, VA	200
Dynamic range, input, dB	≥ 110
Frequency range, output, Hz	2÷20000
Maximum output voltage, V	30
Maximum output current, A	10

Easy-to-use class-D power amplifier designed to work with electrodynamic shakers in the lab or in production. The nominal output power of the amplifier is **200 VA**.

- Smart protection system
- High accuracy
- Low THD

Perfect for modal analysis.

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RL-A500

Output power, VA	500
Signal-to-noise ratio, dB	> 80
Frequency range, output, Hz	DC ÷ 20000
Maximum output voltage, V	44
Maximum output current, A	11.5

The class-D power amplifier is distinguished by high efficiency, accuracy and low THD of the output signal. Among other advantages are lightweight and compact case.
The nominal output power of the amplifier is **500 VA**.

- The embedded LCD
- Smart protection system

Perfect for modal analysis.

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RL-A500

Parameters

THD	< 0.2 %
Dimensions, mm	390 × 290 × 80
Weight, kg	5.6
Power supply, V	(50-60 Hz) 1~/N/PE, 180-240

RL-A500 has a **smart protection system**, which monitors the main parameters of the device to prevent failures and equipment damage.

The embedded LCD of the device displays the main parameters: the output current and voltage, temperature and other information about the state of the system.

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RL-A1000

Output power, VA	1200
Signal-to-noise ratio, dB	> 80
Frequency range, output, Hz	DC ÷ 20000
Maximum output voltage, V	78
Maximum output current, A	18.5

The class-D power amplifier designed to work with electrodynamic shakers in the lab or in production. The nominal output power is **1200 VA**.

It has smart protection system, high efficiency, accuracy and low THD of the output signal. Perfect for modal analysis.

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RL-S039

Number of channels	4
Gain (configurable)	10/100/1000
Frequency range, output, Hz	DC ÷ 2000
Excitation range (conf.), V	2.5; 5; 10
Maximum excitation current, mA	50

Universal four-channel amplifier and power supply unit for strain measurement sensors with **configurable gain and excitation voltage.**

Every channel is equipped with a noise filter.
The amplifier provides programmable **bridge offset nulling** and **shunt calibration**.

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Other Products

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RL-R19

Stack up to 8 devices with synchronization subsystem to collect data from 1 to 64 sensors

Data acquisition system RL-R19 enables the user to:

- acquire and transfer data from vibration sensors;
- examine the vibration condition and defects of machines, mechanisms, mechanical constructions, etc.;
- balance rotors of machines and mechanisms.

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RL-R17

Frequency range, Hz	0.1 ÷ 800
Number of axes	3
Acceleration range	±15, ±190 g

Battery-powered portable vibration and shock recorder. The device has an embedded 3-axial accelerometer and a high-accuracy temperature sensor.

RL-R17 can operate in two recording modes:

- continuous
- shock-event

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SOFTWARE

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TestUP

TestUP

✔ **supports all types of vibration tests**

✔ **integrates into any Windows system**, starting from Windows 7 and later.
To start work, you are to install the program using the installation wizard and run the software.

Vibration control software for:

- RL-C21
- RL-C21M
- RL-C25

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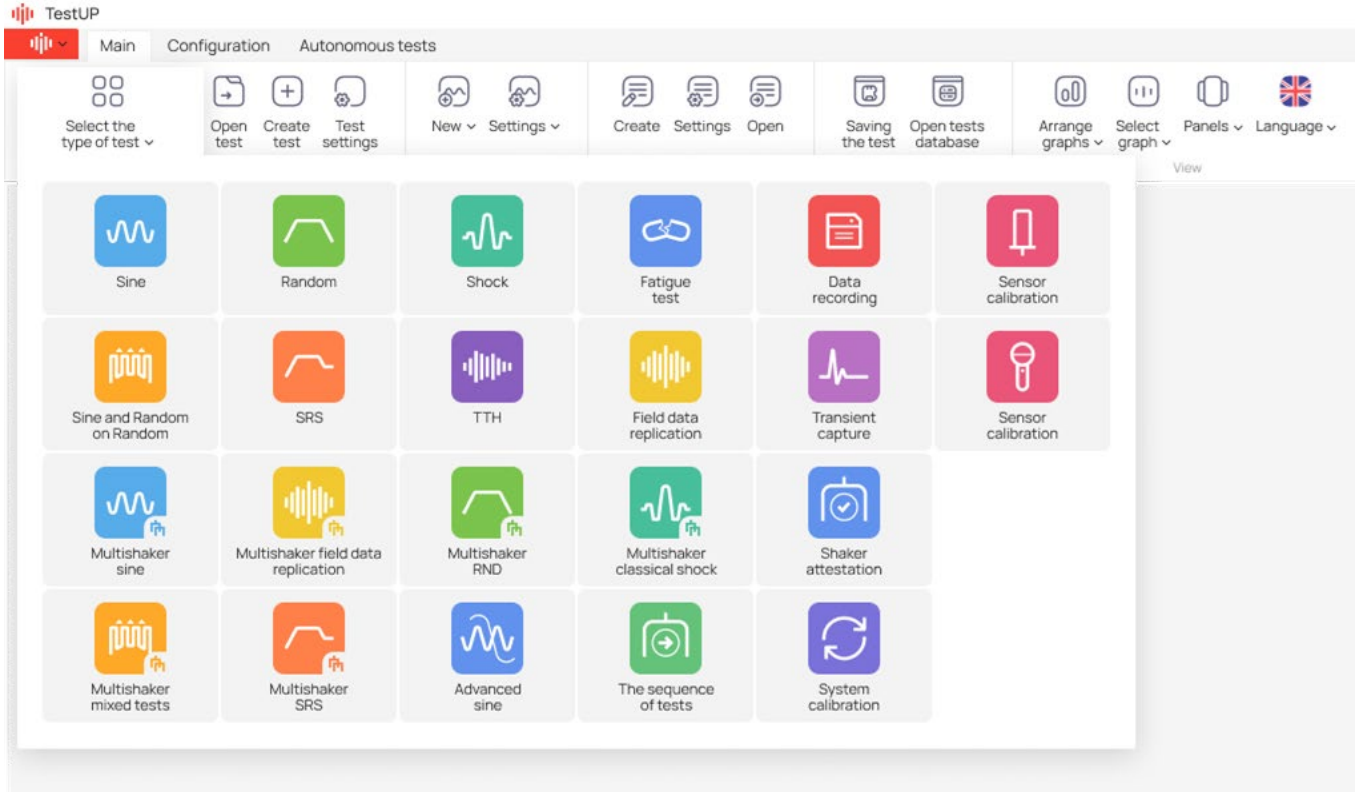
TestUP



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TestUP

Shock Control

- Classical Shock
- Shock Response Spectrum (SRS)
- Transient Time History (TTH)

Sine Control

- Displacement and velocity control
- Notching control for Sine
- Resonance Search, Track and Dwell
- Multi-Sine control

Random Control

- Notching control for RND

Multi-Shaker tests

2 and 3-Axis Phase Control

- Sine
- Random
- Classical Shock
- Field Data Replication
- Sine and Random on Random

3-Axis Phase Control

- Random on Random
- Sine and Random

Other options

- Data Recording
- Test Data Recording
- Field Data Replication (FDR)
- Sine and Random on Random (SRoR)
- Random on Random (RoR)
- Sine on Sine (SoS)
- Notching control for RoR, SoR, SRoR
- Shock Transient Capture
- Test Sequence
- Hardware Calibration
- Accelerometer and Microphone Calibration
- Automated Calibration Software
- Kurtosis control
- Fatigue Damage Spectrum
- Shaker Verification
- Autonomous tests
- Fatigue blade test

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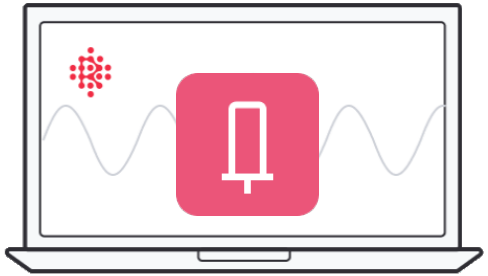
Calibration Software



The software provides traceable back-to-back calibration of vibration sensors according to ISO 16063-21.

The program module has advanced technical capabilities:

- User-defined sine excitation
- Random signal excitation
- Calibration by substitution method
- Triaxial measurements in one protocol

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Calibration Software

✔ Flexible application

The software is intended for calibrating transducers in production, as well as for research and development. For the latter purpose, the system supports manual calibration mode.

✔ Intuitive Interface

The software provides an innovative, yet user-friendly and comprehensive interface, which allows calibrating a wide range of vibration sensors.

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SignalUp

Features of SignalUp

- ✔ Viewing the waveform of the recorded signal
- ✔ Spectrum graphs
- ✔ Statistical analysis
- ✔ Signal integration and double-integration
- ✔ Filtration with FIR or IIR filters
- ✔ Arithmetic operations
- ✔ Waterfall analysis
- ✔ Data recording
- ✔ Modal analysis
- ✔ Shock response spectrum

Software for data analysis.
Compatible with
all RULA devices.

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SignalUp

SignalUp

✔ **has a data export.** If you want to use an analysis function, which is not implemented in SignalUp software, there are two possible solutions:

- export / import the data into CSV or binary format to view it in Matlab, LabVIEW, etc.
- implement your own reading program according to open specifications.

✔ **integrates into any Windows system**, starting from Windows 7 and later.

✔ **enables the user to view files of virtually any length.** The whole file or any file fragment can be shown on the graphs.

✔ **online and offline mode**. Analyze the recordings or perform analysis in real-time while connected to a device.

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Modal Analysis

SignalUp enables calculating all the relevant modal parameters of the object and animating **a 3D model**. We implemented the frequency response calculation algorithms H1, H2, Hv. The calc. FRFs can be plotted as magnitude, phase, Nyquist graphs.

The program uses robust frequency domain curve-fitting methods, as well as more basic algorithms, such as peak-picking and circle fit.

All the analysis results, including but not limited to frequencies, q-factors, moving animations, FRF data, can be saved for the report.

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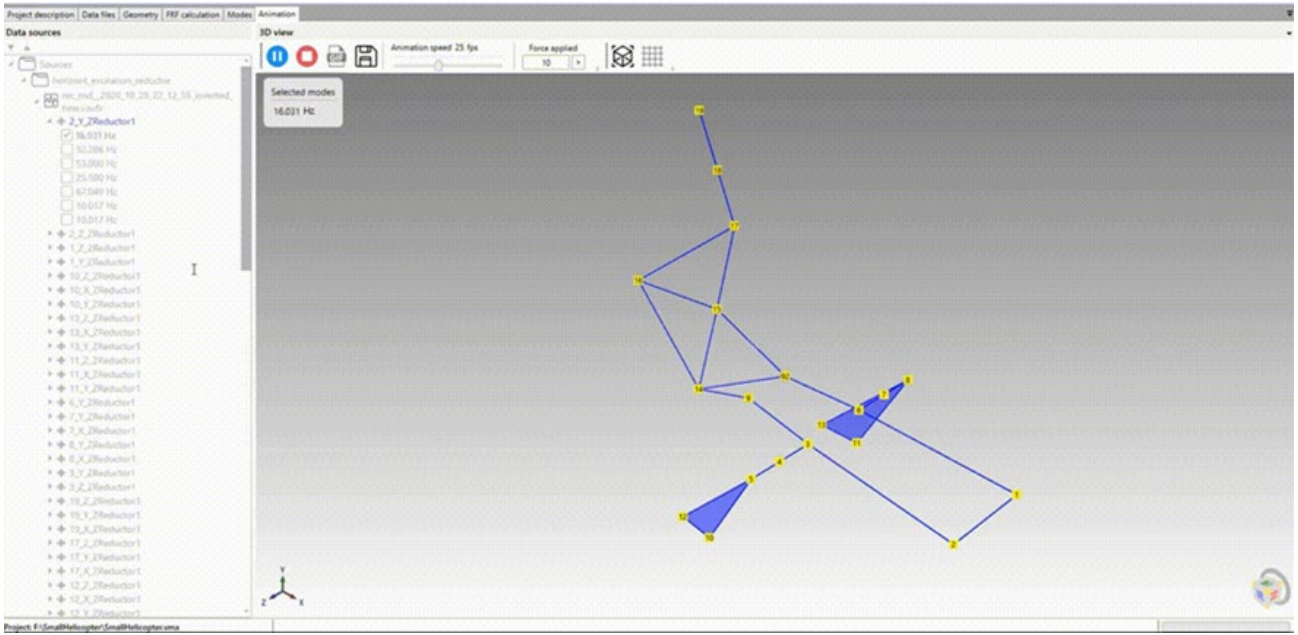
Modal Analysis



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ADVANTAGES

We compared our products to other controller brands.

This is what we excel at:

- Versatile, expandable, modular solutions
- Advanced test types: MultiSine, FDS, Fatigue, MIMO FDR, etc.
- Automated transducer and microphone calibration module
- Amplifier and climate chamber control through ModBus TCP
- Most accurate and developed MIMO-test subsystem
- Strain gauge support with and without the amplifier

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TECHNICAL SUPPORT

EU-based service

- Free training
- Installation support
- 1-3-year full warranty
- 24/7 technical support online

Plus:

- Free factory calibration
- Unlimited demo software
- Demo hardware for trial period

CE-certification

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FAVOURABE PRICES

A number of paid features for free:

- Random import,
- CDOF in Random
- Sine step
- Sine oscillator
- File Viewer, etc.

With RULA you will get a saving

20%-50%

More affordable
solutions for the matching
or better quality

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FAVOURABLE PRICES

Your company saves a minimum of

6 000 USD
per year

with free RULA Technologies
software updates

RULA

Our Strengths

- Free updates
- Lifetime compatibility
- Installation and training
- Versatile equipment
- Tailor-made solutions
- Free online education
- Agile support 24/7
- Flexible warranty

Contact Us

RULA

Balta iela 7, Riga, LV-1055, Latvia

www.rula-tech.com

+371 6610 2166

em@rula-tech.com

+371 2914 2030

manager@rula-tech.com

LinkedIn