DEWETRON Aerospace Applications & General Test and Measurements
DEWETRON Company Profile

From our founding in 1989, DEWETRON has become a market-leading provider of test and measurement systems. Our 200+ employees are located at our headquarters in Graz, Austria - and also in more than 25 countries around the world.

DEWETRON develops, manufactures, and distributes high-precision PC based systems with robust housings for portable and laboratory use. The scalability, modularity and innovative platform technology of the hardware and software allow the systems to be deployed in almost all areas of research and development. Test and measurement engineers and technicians from many well known companies rely on our 20 years expertise. All over the world, around 230,000 measurement channels and more than 10,000 systems are in permanent operation in Automotive, Energy & Power, Aerospace & Defense, Transportation, as well as in General Test & Measurement applications. DEWETRON is part of the AUGUSTA Technologie AG located in Munich.

In shortest time to highest quality test and measurement data

DEWETRON systems help users to produce highest quality test and measurement data in shortest time. Both, our hardware and software are optimized to support this general target. How?

The hardware offers vastly different signal inputs like analog, digital, counter/encoder, video, GPS and various bus systems like CAN bus which are all recorded perfectly synchronized. Thus data analysis can be done very easily. Additionally a picture paints a thousand pieces of data. Of course sensor connection is matched to practical needs, that’s why we offer various connector options for most inputs.

The software contributes by its ease of use and powerful features. Setup of the amplifiers is a matter of a few clicks and sensors can either be automatically setup by TEDS or chosen from a sensor database. You can record as easily as pressing the STORE button, or as elaborately as having separate – even multiple – triggers on each input channel. Once data are stored, press ANALYZE and you can replay it to the screen as easily as replaying a movie, with PLAY controls. Cursors can be used to zoom in and inspect specific areas of interest. In a matter of seconds nice looking reports can be printed. If you are using 3rd party analysis software you are also well served, export of the whole recording or just the interesting part to many different file formats is supported. So you can e.g. keep your Excel® spreadsheets.
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DEWETRON measurement units are a perfect fit for a wide range of complex tests required in aerospace and flight test. The rugged instruments are suitable for almost all kind of grounded and in-flight tests.

The ability to measure analog signals and channels provided from the aircraft via ARINC or 1553 bus will help to understand the recorded data. Video, high speed video and or thermal imaging video can be recorded along with all other channels simultaneously.

The scalable instruments with various power supply options will give the user the possibility to operate it in different measurement tasks. Battery powered instruments can be operated independent from the aircrafts power grid. GPS synchronization of measured data will help to compare recorded and aircraft data afterwards.

**Key Features**
- Scalable systems from 8 to 1000 channels
- Multipurpose input amplifier
- Portable and ruggedized
- ARINC-429 and 1553 support
- Telemetry system (PCM data)
- Video, high-speed video and thermal imaging video
- Chapter 10 support
- High precision inertial data and timing

**Aerospace Customers**
NASA, US Air Force, US Navy, Lockheed Martin, Raytheon, Goodrich, Sikorsky, Honeywell, Boeing, ...
Synchronous Input Signals

ARINC bus, PCM data stream, thermo and high-speed video, and GPS can be recorded synchronously to all analog input signals.

System Architecture

The centre of DEWETRON data acquisition system (no matter if 8 channel or 1000 channel are required) are the DEWE2 (TRION) or DEWE series (ORION) platforms. All of those platforms can record various analog input signals. No matter, if strain gauge, an accelerations sensor, or a voltage or current input is required, the multipurpose amplifier can handle almost all.
User exchangeable modules

All TRION™ amplifier modules can be changed within a few seconds. Modules in different sampling speed and resolution can be used in one chassis. Use isolated and differential inputs at the same time.
Measurement Software

Setup
The unique live mode of the acquisition software, allows controlling the channels already during the setup of the configuration. Scaling errors, sensor faults or cabling issues could be seen already at a very early stage. Each input type has a setup screen, depending on the hardware configuration.

- TEDS
- XML setup format for automated setup creation
- Sensor database (XML based)
- Traceable amplifiers

Online features
The software also provides powerfully online calculation capabilities. Statistic values, FFT, Filter, are only a few examples of the powerful math available.

- Filter
- FFT, octave
- Statistic
- Formulas
- Modal, order tracking, balancing

Individual measurement screens
After start, predefined measurement displays are automatically provided. The Design mode allows the user do individually define measurement screens even during storing. So in case a signal is not shown on your screen simply add it, even when you measurement task already was started.

Typical screens

Just a few examples of the highly graphical displays that you can create in moments using DEWESoft. Arrange elements freely on the display - create multiple displays - everything is saved into the setup.
**NET-Configuration for distributed measurement (up to 1000 m)**

TRION™ and ORION platform can be operated in a NET-configuration as well. Instruments can be distributed along the device under test, and linked via LAN and SYNC interface (IRIG) and become a single system, operated from a master unit. This will save cabling effort on large installations. The unique SYNC-CLOCK™ technology allows to combine any DEWETRON system to large scale data acquisition system or distributed data acquisition system - with absolute time reference.

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**Data export and analysis**

After reload, data can be analyzed and printed directly in DEWESoft, or can be exported into various data formats for further analysis.

All mathematic functions are also available in analyze mode for further investigation of your data.

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**Various export formats**

- ASCII
- MATLAB
- Excel
- Wave
- Famos
- FlexPro
Flight Test

Environment
All systems under normal flight conditions (in-flight operation)

Typical inputs
Voltage, temperature, RPM, strain, vibrations, fuel flow, ARINC 429 or MIL-STD-1553, CAN

DEWETRON benefits
Fully automated test routines can be performed as well as operator supervised operation.

Due to highest vibration ratings and superior ruggedness, our instruments are predestined for flight testing.

Distributed measurement locations combined into one synchronised data file.

Battery power
Battery powered measurement acts totally independently from the airplane’s on board system, thus giving 100% reliable measurement results. Hot-swappable batteries for continuous operation without an external power source for hours.

Reference Customers
- Honeywell, USA
- BOEING, USA
- Sikorsky Helicopter, USA
- US Air Force

Engine Test

Environment
Control room / ground test

Typical inputs
Voltage, temperature, RPM, strain, pressure, force, vibrations, fuel flow

Typical tests
Run-up, run-down, steady speed engine profiles, load tests, fuel consumption, sound, vibration

DEWETRON benefits
- High reliability for expensive test cases with redundant power supplies
- Up to 128 static temperature channels additionally
- Synchronized video capabilities

Reference Customers
- Honeywell Engines, USA
- Goodrich Electrical Power Systems OH, USA and UK
Wind Tunnel Test

Models of proposed aircraft, engines or components are aerodynamically tested using a variety of sensors options.

Environment
Control room

Typical inputs
Acceleration, pressure, load, displacement, torque, tilt angle, temperature

DEWETRON benefits
Fully scalable systems provide variable input configurations for 100s or 1000s channels of accelerometers (IEPE) or strain gauges (bridge input) totally synced to further analog, digital or video inputs.

Reference Customers
- NASA Langley, USA
- NASA Glenn, USA
- DLR, Germany

Maintenance

Environment
Airplane hangar

Typical test
Various systems according to maintenance schedule (power, engine, hydraulics, aviation, …)

DEWETRON benefits
- Battery power
- Portable system
- Multiple input types
- Infrared camera support (FLIR)
- Same features and software on every type of system
Safety Equipment

Environment
Onboard aircraft / test facility

Typical test
Evacuation slide inflation, emergency exit

DEWETRON benefits
- High speed data acquisition (up to 50 MS/ch)
- Fully synchronized high speed video (up to 125 000 fps)

Cabin Comfort

Environment
Aircraft fuselage / ready to fly aircraft

Typical test
Air conditioning, cabin noise

DEWETRON benefits
- Up to 128 external static temperature channels
- Distributed temperature testing over 100m distance
Component Test

Environment
In laboratory environment component testing is monitored by our fully scalable systems, 1000s of synchronous measurement channels are possible, including high-precision counter and video input. In case of fault trigger, alarm outs are used to stop test procedures or inform test operator via email or text message.

Typical components under test
Avionics, servo motors and actuators, INU (inertial navigation units), power supplies, valves, landing gear mechanics, generators

DEWETRON benefits
Networked measurement data availability throughout the whole testing facility, data analysis with license-free software.

Database storing
All test series data can be directly stored into SQL database or transferred via FTP protocol.

Reference Customers
- MOOG, USA

Report generation
Automatic report generation in compliance with standards and regulations
System Integration Lab

Major systems of a spacecraft or aircraft are connected and functioning under simulated loads.

Environment
Laboratory / ground test

Typical inputs
Voltage, current, temperature, RPM, strain, pressure, force, vibrations, fuel flow

DEWETRON benefits
- Fully synchronized +ARINC 429 / MIL1553 input and output
- Alarm out to support test operator
- No programming required – out of the box operation

DEWE2-M7s with option DW2-LINK-PCIe-1-S
PCle connection up to 7 meters (250 MB/s)
TRION-SYNC-bus

DEWE2-F13s with option DW2-LINK-PCIe-2-S

Reference Customers
- Sikorsky Helicopter, USA
- Lockheed Martin, USA
- Raytheon, USA

Noise and Vibration

Environment
Test facility

Typical test
Engine noise and vibration, cabin noise

DEWETRON benefits
- SYNC-CLOCK™
- Online octave analysis, Leq, C-weighting...
- Online FFT (up to 64 channels displayed simultaneously)
- Online order tracking analysis module
- Torsional vibration
- Field balancing
- Envelope analysis
Tactical/Land Vehicle

Today’s state of the art of tactical wheeled vehicles incorporate highly sophisticated electrical, power, and hydraulic systems, including hundreds of CAN BUS parameters plus location tracking via GPS and networked communication.

Environment
Testing grounds

Typical inputs
Voltage, acceleration, strain, temperature, CAN, GPS, video

DEWETRON benefits
- Compact and rugged (SSD hard-drives, MIL-STD-810F construction)
- Synchronized CAN
- Video (low-light, infrared)
- Networked sync and data transfer
- High-speed data acquisition (up to 50 MS/ch)

Structural Test

Environment
Test facility

Typical tests
Strain, shock, vibration, modal analysis

DEWETRON benefits
- Fully scalable systems (same features and software on portable and rack systems)
- Online statistic functions, such as rainflow analysis for fatigue testing
- Modal calculations directly available in measurement software
- Export modal measurement data into Me Scope, MATLAB,...
PCM Telemetry

Measurement data is transmitted to a distant receiver station, which uses it for online interaction and recording. Digital data is coded before radio transmission, PCM being the most prominent type.

Environment
Control room

DEWETRON benefits
Fully synchronized PCM data integration in addition to analog and video data acquisition.

PCM features
- Bit sync
- Clock recovery
- Frame sync
- Chapter 10 input/output
- PCM encoding
- Continuous printing to dedicated hardware

Reference Customers
- NASA Kennedy Space Center, USA
- NASA Wallops Space Center, USA
- Lockheed Martin, USA
- Raytheon Missiles, USA

RF transmitter
analog-, digital-, video-, ... sources encoded to a PCM signal

PCM decoder
- up to 33 Mbit/sec
- bit sync/frame sync/decom in one single card
Modal Test

Modes are used as a simple and efficient means of characterizing resonant vibration; the majority of structures can be made to resonate. Resonances are determined by the material properties (mass, stiffness, and damping properties), and boundary conditions of the structure. Objects or structures are excited by a shaker according to its amplified input signal.

Environment
Test facility

Typical test
Modal analysis of satellites, space- or aircraft components or payloads

DEWETRON benefits
Internal, fully synchronized signal generator for shaker operation; scalable multi-channel system (> 1000 channels)

Reference Customers
IABG, Germany
Noise Origin

Fully synchronized measurements inside an aircraft and on the ground are performed to determine the origin of noise, noise distribution and sources.

Environment
Field test

Typical test
Overflight over measurement area

DEWETRON benefits
- Synchronized measurement data (on-board and ground station)
- GPS integration
- Multi purpose systems (stand-alone operation or combined multi-channel measurement > 1000 channels)

Distributed measurement system overview
Simultaneous data acquisition of air and ground data synchronized via GPS is controlled by the so called “Master client” – the administration center of the whole system used for setup and control operations and as the central data recorder. Modular client measurement systems can then be added to the measurement network via gigabit LAN. Additionally, multiple “View clients” are used to monitor data acquisition remotely.

Reference Customers
- DLR, Germany
Rotating machines and engines are sources of rotational and torsional vibration. Rotational vibration is a result of the change in shaft speed during one revolution and torsional vibration is due to angular twist in the shaft or drive train which may cause fatigue.

So you will observe: vibration, force, strain, voltage, current, power, CAN data and rotational- and torsional vibration with only one instrument at the same time.

That’s unique!

**Key Features**
- Time domain measurement
- Angle based view
- Additional to all other functions (analog, CAN, GPS, video, ...)
- Configurable display
- Direct sensor connection
- 80 MHz time base
- High resolution +0.03rpm +2mdeg@12000rpm

**Applications**
- Power train
- Paper mill
- Combustion engine
- Belt drive
- Engine test bench
- Power plant testing and monitoring
- Examination of rotating field
Overview

Setup

For rotational vibration measurement one rpm sensor is used to determine the rpm deviation and for torsional vibration there is one at each end of the power train. DEWETRON supports a wide range of different sensors e.g. encoder, pickup, RIE-360/720 and many other sensors. All these are connected directly to a counter input of the DEWETRON system. Each counter input provides a power supply, three differential inputs with selectable trigger level compatible with all sensor outputs.

A ready to use template makes it easy to setup the measurement within a few minutes. Digital input filters, a sensor database and a reference curve eliminates sensor errors.

Various output channels are immediately provided for further investigation:

- Reference angle [deg]
- RPM [rpm]
- Rotational angle [deg]
- Rotational velocity [deg/s]
- Rotational acceleration [w/s]
- Torsion angle [deg]
- Torsion velocity

The picture on the right shows a typical analysis screen. Data is shown either in

- time domain or
- angle domain

together with all other measured channels.

By selecting the order analysis module you will get order based results.

System Requirements

Any DEWETRON system equipped with

- DEWE-ORION series AD card
- 4 available counter inputs
- Software option DEWESoft-OPT-TORVIB

Please ask for your customized solution!
Modal Analysis

Modal Analysis is needed in every modern construction. The measurement of system parameters, called modal parameters, are essential to predict the behavior of a structure.

These modal parameters are needed also for mathematical models. Parameters like resonant frequency(s), structural damping, and mode shapes are experimentally measured and calculated.

DEWETRON provides a hard and software solution which is adapted to your application. Starting up from 8 channels used for maintenance, service and troubleshooting till up to 1000 channels used for complex structures. The easy-to-use software is suitable for professional and occasional users.

Key Features

- SISO, SIMO, MIMO configurations
- Spectral ODS
- Geometry editor
- Mode indicator function MIF
- Circle fit analyze tool
- Function generator up to 16 channels
- FRF from stored time data
- Triggered-, free-run measure mode
- Roving hammer excitation support
- Unv-file export for modal packages (ME-Scope, ...)
- Animated FRFs
- Up to 1000 channels linked over NET
Overview

To measure a FRF of a structure basically two channels are needed. One channel is used to measure the excitation force, which could be an impact hammer or a shaker. This excitation force excites the structure, and at least one acceleration sensor measures the response of the structure. Out of that the transfer characteristic (FRF) and the modal parameters are calculated. To determine the structure you have to measure several points to get the whole system identified. This could be done either with one response or up to hundred or thousand channels depending on the complexity of the structure.

Channel Setup

In the channel setup the excitation- and the response channels are defined. DEWETRON amplifiers support the state of the art TEDs interface which gives the maximum comfort especially at high channel count.

The FRF Setup provides all parameters needed for the measurement

- Free run, triggered mode
- Average
- Excitation window length
- Response decay
- Trigger levels
- Overlap

Also the channel definition according to structure is done in the FRF setup. A structure could be imported from any other software with unv. file format or created with the included geometry editor.
Analysis

In the analyze screen the FRF spectra are shown together with the geometry.

The included analyze tools like
- animation of the geometry,
- Circle Fit,
- MIF
are provided to determine the results immediately.

In case of an error the spectrum could be re-measured immediately. This saves time and money. Display options could be set according to the needs, Phase, Coherence, Re-, Imag, are only a few possibilities which could be set.
FRF Export

For further investigation and analyses in modal packages like ME-Scope the FRF data, coherence and excitation can be exported to the UFF (Universal File Format) – or simply copied to clipboard – and used in standard applications like Microsoft Excel or Word.

Function Generator

For a running FRF the structure is excited with a shaker. Here either one shaker or multiple shakers for big structures are used. The shaker(s) have to be controlled mainly in amplitude, phase, waveform and frequency. DEWESoft offers an integrated function generator up to 16 Channels which is fully software controlled.

Various time patterns like
- Fixed
- Burst
- Sweep
- Chirp
- Step sweep
are configurable for any application.

Technical Data Function Generator

- Up to 16 channels
- 16 bit D/A +1 mV to +10 V
- Watchdog
- Frequency resolution 1 mHz with 10 ppm
- Phase adjustment 0,05°

Hardware Requirements

- ICP®-Inputs
- Orion1624 Series AD card
- DEWETRON Option FG
- DEWESoft Option FRF
- DEWESoft Option SRS

Shock Response Spectrum (SRS)

The shock response spectrum shows the maximum responses of a series of uniformly damped single-degree-of-freedom (SDOF) systems caused by a shock waveform applied on the structure. After setting damping, resolution (12, 24, 48, 96/ octave) and primary section the spectra are calculated out of the time domain signals.

The time domain signals are recorded with DEWESoft and exported to FlexPro. A prepared SRS-Script with user interface supports a convenient straight forward procedure for fast results.
Order Tracking

Analysis of rotating machines under operational conditions requires specialized methods, such as order tracking. Compared to the standard FFT calculation, the spectrum is based on orders instead of frequency. Orders describe the fundamental frequency of the actual rotation speed [Hz] and its multiples. With this method frequency components are separated into either engine-speed related or structure related ones, showing problematic areas when overlapping.

DEWETRON provides a powerful and very easy to use order tracking module for fast and efficient results. The data and the rpm information is recorded simultaneously in time domain and re-sampled in the order tracking module. Therefore we can show narrow band FFT, waterfall spectra, and still keep all other convenient functions in time domain.

**Key Features**
- Dedicated re-sampling method for sharp order separation
- Measurement in time domain to keep all benefits
- 2D, 3D waterfall in order or frequency domain
- Amplitude, phase extraction
- Recalculation in post processing
- Phase synchronous rpm input with 12.5 ns resolution
- EASY TO SETUP
Overview

Order tracking requires two signals, the vibration signal and the rpm information. The measurement is done in time domain, and all the order related channels are calculated out of these time signals.

A fast state of the art re-sampling method produces the results online. Run-ups, coast-down or both are possible online.

Time based data recording enables recalculation even in post processing. Narrow band FFT, CPB spectrum and order tracking information could be shown at the same test run, saving time.
Channel Setup

Simply specify the channels to analyze, define the rpm channel and set the parameters for your run. This will only take a few minutes and you are ready for the test. After configuration, you will get the calculated results which could be shown in dedicated instruments for analysis and reporting.

Immediately after configuration, you will get the calculated results which could be shown in dedicated instruments for analysis and reporting.

- Amplitude
- Phase
- RE- Imag- Part
- Order resolution up to 1/64 order
- Upper- lower- rpm limits
- Extract specific orders for further investigation

Analysis

In the easy to use analyze screens data could be shown and analyzed in many different ways. So you could draw orders or narrow band FFT in 2D and 3D waterfall diagrams. Either displayed with time history or rpm. Specific orders or phase information could be recorded over time, rpm or any other physical value. All analysis screens could be arranged in a convenient way.

Amplitude or phase is shown over rpm, RE- IM- Part displayed in XY diagram to observe resonant frequencies.
Orbit view together with Order Tracking?

In addition, the order tracking module is also used to show an orbit plot which is used to observe bearings or movements of rotating machines. The Order tracking module extracts specific harmonics in the orbit view and also averages them.

**Orbit View Features**
- Free definable angle position
- Averaged or free run
- Harmonic extraction
- Easy to use

**Sensors**
- Acceleration sensor(s)
- Trigger probe for rpm

**Any DEWETRON system equipped with**
- DEWE-ORION series AD card
- 4 available counter inputs
- Software option DEWESoft-OPT-OrderTracking
- 2 ICP® input channels

**Example: Paper Mill**

*Please ask for your customized solution!*
Balancing

Rotating machines and engines produce vibration from many sources, including torsional and rotational vibration. Also unbalanced rotating parts are sources for vibration. Unbalanced masses are distributed by the rotor causing vibration. To balance a system, we have to measure and correct the masses so that the rotor is returned to a balanced condition.

DEWETRON provides an easy to use and straight-forward tool for single and dual plane balancing. This add-on is included as an option in every DEWETRON instrument. One or two acceleration sensors and a tacho probe are needed.

Key Features

- User interface which guides through all steps
- Order tracking based balancing method
- Single or dual plane
- Multiple balancing for two directions saves time (X, Y)
- 2D graph for plane view
- RPM channel with color indicator (rpm range)
- Alarm output if velocity exceeds predefined value
- Displays tacho probe time signal to set trigger
- Vector polar plots of 1st order of all runs (initial, trail, ...)
- Weight splitting
- Acceleration, velocity, displacement in recorder
- Time domain measurement
Overview
General

During construction or assembly of a machine or even through abrasion, a rotor could become unbalanced. This condition causes vibration, noise and fatigue of the material.

DEWETRON provides an in-field-balancing method, which enables balancing of the machine. This saves time and money because balancing can be done in situ and the rotor is balanced in its operating condition, which includes the whole structure of the machine.

Balancing includes in general five steps:

1. Measuring the imbalance
2. Add a trial mass
3. Add the correction mass (balancing)
4. Measuring the balanced system
5. Repeat steps 2 to 4 if needed

Balancing is done either for one plane or two planes. One plane is used for small rotors, where two plane is used for long rotors.

For this measurement one or two acceleration sensors (1 plane 2 plane) and a tacho input are needed. The acceleration signals are recalculated into velocity and used in the order tracking module together with the rpm channel to extract the first harmonic and phase.

The prepared balancing template in DEWESoft provides step by step guide through the whole balancing procedure.
Multiple templates linked together!

If a triaxial sensor is used, the balancing can be done on x and y direction of the plane(s) at the same time. Depending where you get the best result (x or y direction) you choose the correction mass. This saves time and guarantees a high quality of balancing.

System Requirements

Any DEWETRON system equipped with
- DEWE-ORION series AD card
- 4 available counter inputs
- Software option DEWESoft-OPT-Balancing
- 2 ICP® input channels

Sensors

- 2 acceleration sensors
- Trigger probe for rpm

Please ask for your customized solution!
Ballistic and Ammunition Testing

A typical configuration for ammunition testing is containing of either one, two or three pressure sensors in the test barrel.

Other sensor inputs might be required for extended test requirements, such as:

- Firing pin accelerometers
- Light barriers
- Photo cells
- Microphones
- High speed thermocouple sensors
- Anemometer, weather station

Key Features

- Isolation amplifiers with 2 MHz bandwidth (voltage, bridge, IEPE)
- AC, DC or battery powered
- High accuracy, 16 bit resolution
- Fast sampling, 5 or 10 MS/s per channel
- Powerful Intel i7 CPU
- 100 or 200 MB/s stream to disk
- High speed camera support
- Triggered measurement or continuous storing
Setup

For pressure measurement in the barrel minimum one, or up to three quartz sensor for ballistic pressure are used. DEWETRON supports a wide range of different sensors and other signal inputs such as firing pin acceleration, target control systems (Light screens), Microphones for rate of fire measurement or high-speed cameras can be easily integrated into the system. The configuration can be adopted to the current needs and above all can be easily configured for other measurement in the field or in the laboratory.

Configuration Examples

<table>
<thead>
<tr>
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<th>DEWE-2600</th>
<th>DEWE-3020</th>
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<tbody>
<tr>
<td>Channels</td>
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<td>8</td>
</tr>
<tr>
<td>Sampling rate</td>
<td>5 or 10 MS/s/ch</td>
<td>5 MS/s/ch</td>
</tr>
<tr>
<td>Data transfer</td>
<td>200 MB/s</td>
<td>100 MB/s</td>
</tr>
</tbody>
</table>
Training

Training is offered on demand or at regular intervals. We run training centers at DEWETRON Ges.m.b.H in Graz/Austria and at DEWETRON Inc. located in Rhode Island, USA. At both locations there is a nice training facility and class sizes are limited in order to preserve the quality of the presentation. Engineers and technicians from many well-known companies participated our classes.

The trainings help users to stay up to date on the latest enhancements and updates as well as become more effective utilizing their DEWETRON systems. The trainings cover effectively using the DEWETRON hardware with DEWEsoft software for a wide range of measurement applications. Sub-topics include instrument setup, sensor connection as well as digging into math modules, triggers, filtering, shock, vibe, pressure, displacement, stress, strain, video, GPS and more.

Of course onsite training is offered, too.

DEWE-ACADEMY

In the DEWE-ACADEMY single or multi-day events are offered. We teach the practical application of our measurement systems, based on the relevant theory. The seminars cover various application areas for engineers with different levels of knowledge - from “newbie” to “expert”. Practical exercises and high interactivity with the trainers ensure the lasting learning success and the suitability for daily use. The course language is GERMAN and courses take place in Austria or Germany. For English courses please contact us directly.

Calibration

DEWETRON maintains two top-notch calibration facilities with the same equipment: one at our worldwide headquarters in Austria, and another one at DEWETRON USA in Rhode Island. Our cal lab is based on the Fluke 5500 series calibrator, and we run the METCAL calibration system, which allows us to automate nearly every process.

For customers running their own calibration lab we offer a calibration hardware kit (CAL-KIT) and METCAL software procedures.