

THE MEASURABLE DIFFERENCE.



DEWETRON

# OXYGEN TRAINING > SETUP GENERATION





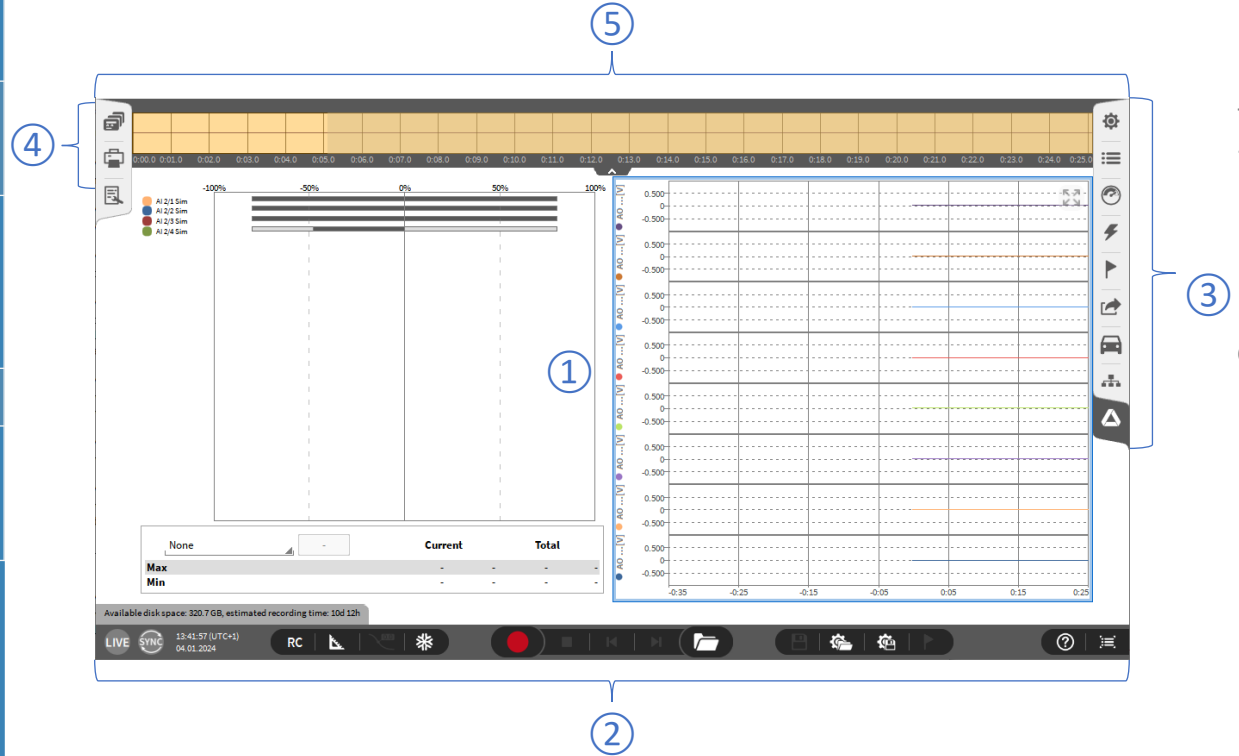
- > Software Overview
- > Channel List & Channel Setup
- > Sample Rate Selection (board-wise & channel-wise)
- > Multi-channel configuration
- > Measurement screen configuration
- > Instruments overview
- > Load & Save setups
- > Configuration of multiple screens and undocking of screens
- > Display time, date and measurement time on the screen
- > Header Data
- > Setup Security
- > Audio Replay
- > TEDS support

# SOFTWARE OVERVIEW



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- ① Measurement screen  
Displays for data visualization can be placed here
- ② Action Bar  
Contains all relevant control buttons
- ③ Menu bar  
Menus for General Software Settings, hardware channel access, recording mode, data export and others
- ④ Menu bar cont'd
- ⑤ Overview bar  
One data channel can be displayed here for general overview



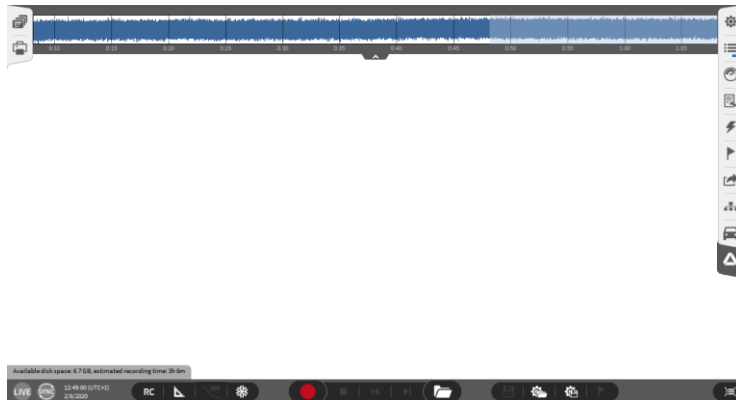
# SOFTWARE OVERVIEW



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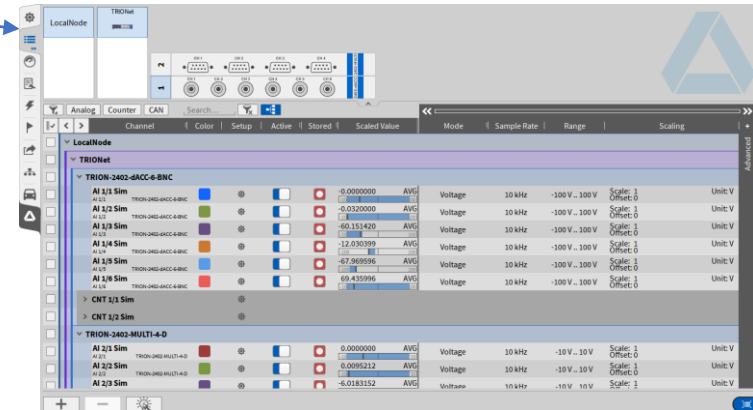
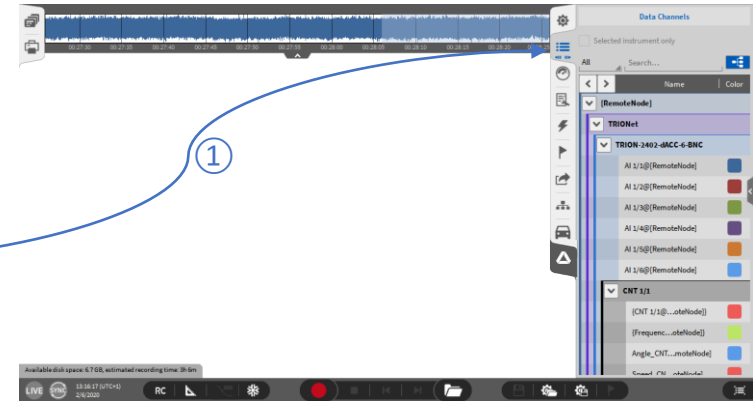
Software operation is inspired by touch operation of smart phones and tablets

- Touch and swipe gestures are applicable



① A touch (or single click) to a menu opens a small view of the respective menu

② A swipe to the other side of the software (or double click) opens the full screen menu





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# CHANNEL LIST - GENERAL

- 1 Schematic of the measurement hardware
- 2 Different Search and table filtering options
- 3 Hardware channels sorted in list view
- 4 Math section to add and delete channels like formulas, statistics, misc
- 5 Setup button to enter the channel setup of one specific channel

The screenshot displays the Dewetron software interface. At the top, there is a hardware schematic labeled 'LocalNode' and 'TRIONet' with channels CH 1 through CH 6. Below this is a search bar with 'Analog', 'Counter', and 'CAN' tabs. The main area is a table of channels, with 'TRIONet' expanded to show 'TRION-2402-dACC-6-BNC' and 'TRION-2402-MULTI-4-D'. The table columns include Channel, Color, Setup, Active, Stored, Scaled Value, Mode, Sample Rate, Range, and Scaling. The bottom section contains a math section with '+', '-', and a lightbulb icon.

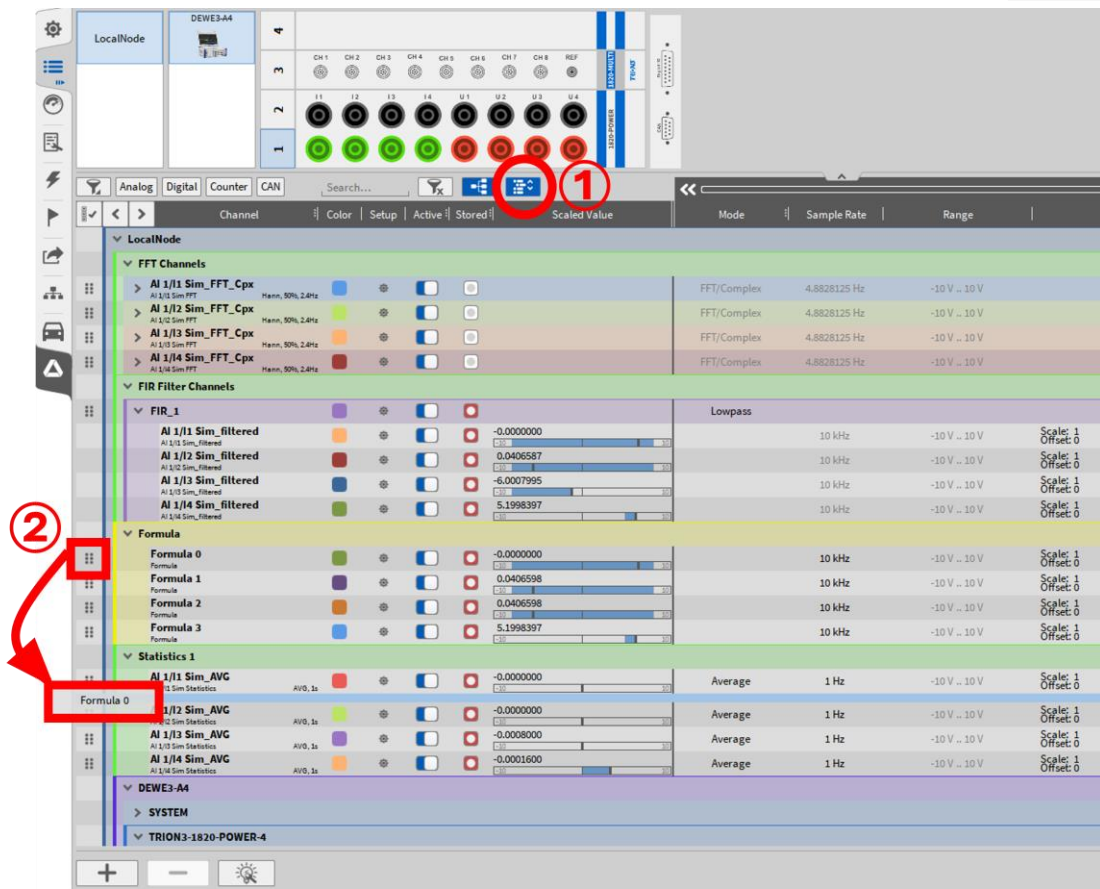
| Channel                      | Color  | Setup | Active | Stored | Scaled Value | Mode | Sample Rate | Range           | Scaling                          |
|------------------------------|--------|-------|--------|--------|--------------|------|-------------|-----------------|----------------------------------|
| <b>TRIONet</b>               |        |       |        |        |              |      |             |                 |                                  |
| <b>TRION-2402-dACC-6-BNC</b> |        |       |        |        |              |      |             |                 |                                  |
| AI 1/1 Sim                   | Blue   | ⚙️    | ☑️     | ❌      | -0.0000000   | AVG  | 10 kHz      | -100 V .. 100 V | Scale: 1<br>Offset: 0<br>Unit: V |
| AI 1/2 Sim                   | Green  | ⚙️    | ☑️     | ❌      | -0.0320000   | AVG  | 10 kHz      | -100 V .. 100 V | Scale: 1<br>Offset: 0<br>Unit: V |
| AI 1/3 Sim                   | Purple | ⚙️    | ☑️     | ❌      | 60.151420    | AVG  | 10 kHz      | -100 V .. 100 V | Scale: 1<br>Offset: 0<br>Unit: V |
| AI 1/4 Sim                   | Orange | ⚙️    | ☑️     | ❌      | 19.969599    | AVG  | 10 kHz      | -100 V .. 100 V | Scale: 1<br>Offset: 0<br>Unit: V |
| AI 1/5 Sim                   | Blue   | ⚙️    | ☑️     | ❌      | 60.030396    | AVG  | 10 kHz      | -100 V .. 100 V | Scale: 1<br>Offset: 0<br>Unit: V |
| AI 1/6 Sim                   | Red    | ⚙️    | ☑️     | ❌      | -9.9239994   | AVG  | 10 kHz      | -100 V .. 100 V | Scale: 1<br>Offset: 0<br>Unit: V |
| <b>TRION-2402-MULTI-4-D</b>  |        |       |        |        |              |      |             |                 |                                  |
| AI 2/1 Sim                   | Red    | ⚙️    | ☑️     | ❌      | 0.0000000    | AVG  | 10 kHz      | -10 V .. 10 V   | Scale: 1<br>Offset: 0<br>Unit: V |
| AI 2/2 Sim                   | Green  | ⚙️    | ☑️     | ❌      | 0.0095212    | AVG  | 10 kHz      | -10 V .. 10 V   | Scale: 1<br>Offset: 0<br>Unit: V |
| AI 2/3 Sim                   | Purple | ⚙️    | ☑️     | ❌      | 6.0183152    | AVG  | 10 kHz      | -10 V .. 10 V   | Scale: 1<br>Offset: 0<br>Unit: V |



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# CHANNEL LIST – Change Order of math channels

- 1 By pressing the “Channel sorting” button, the channel selection boxes disappear and math channels such as formulas and statistics channels can be reorganized, also via groupings
- 2 Drag and Drop the channel to the desired location. Please mind, that an empty grouping will be removed.

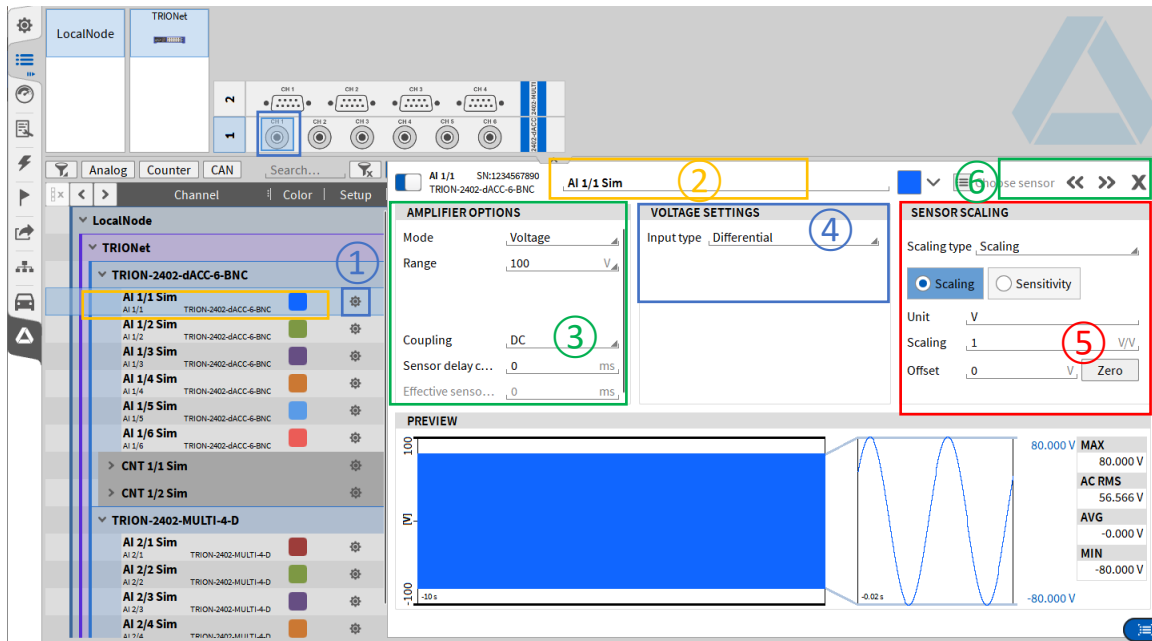




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# CHANNEL LIST – HARDWARE CHANNEL CONFIGURATION

- ① Select the channel to be configured either in the hardware schematic and double click on it or press the channels' gear button in the channel list
- ② Change the channel name if desired
- ③ Channel dependent hardware settings (i.e. measurement mode, Input Range, Coupling/ HP-Filter or LP-Filter settings)
- ④ Depending on the input Mode settings, different settings will be available, i.e. for
  - Voltage: Single-ended or differential sensor connection
  - Current: Shunt selection
  - IEPE: Excitation current
- ⑤ Sensor specific scaling factor and engineering unit input as
  - Scaling factor or Sensitivity
  - 2-point scaling
  - Table scaling
  - Polynomial scaling
- ⑥ Close Channel setup or swap to the next one





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# CHANNEL LIST – Channel pin out & connections

- ① Based on the selected Channel mode, the connector pinning is shown next to the preview tab. The connection schematic is located under the pin out.

AI 1/1 SN:1234567890 AI 1/1 TEDS Choose sensor << >> X

TRION3-1820-MULTI-4-D

**AMPLIFIER OPTIONS**

Mode Voltage

Range 10

LP filter Auto

10 Bessel

Compensate delay

Coupling DC

Input i... High

Sensor... 0

**VOLTAGE SETTINGS**

Excitation Voltage 0 V

Input type Input

**SENSOR SCALING**

Scaling type Scaling

Scaling Sensitivity

Unit V

Scaling 1 V/V

Offset 0 V Zero

Preview **Pin Out & Connections** ①

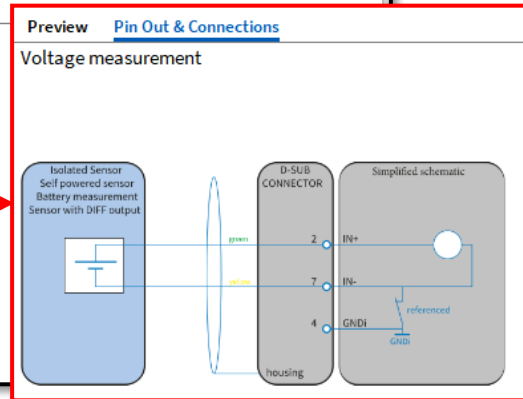
TRION3-18xx-MULTI-4-D



9-pin D-SUB connector male

- 1: EXC+ (CAN power supply 12V, CH1 only)
- 2: IN+
- 3: Sense- (CAN low, CH1 only)
- 4: GND<sub>sense</sub> (CAN GND, CH1 only)
- 5: R+
- 6: Sense+ (CAN high, CH1 only)
- 7: IN-
- 8: EXC-
- 9: TEDS Housing connected to chassis GND

Voltage measurement







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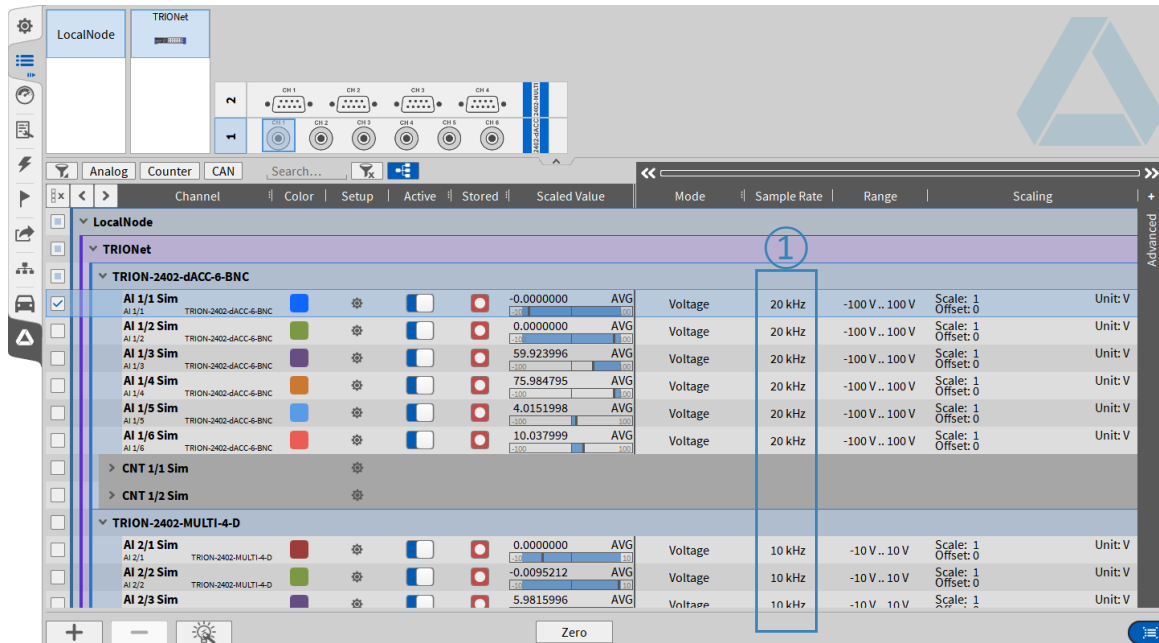
# CHANNEL LIST – BOARD-WISE SAMPLE RATE SELECTION

- > Sample Rate can be set in Channel List (①)
- > Min. Sample Rate: 100 Hz
- > Max. Sample Rate depending on TRION board
- > In case of different board sample rates: lower sample rates must be integer multiple to the highest sample rate
- > i.e.

- > Board 1: 10 kHz
- > Board 2: 50 kHz
- > Board 3: 100 kHz



- > Board 1: 10 kHz
- > Board 2: 20 kHz
- > Board 3: 50 kHz





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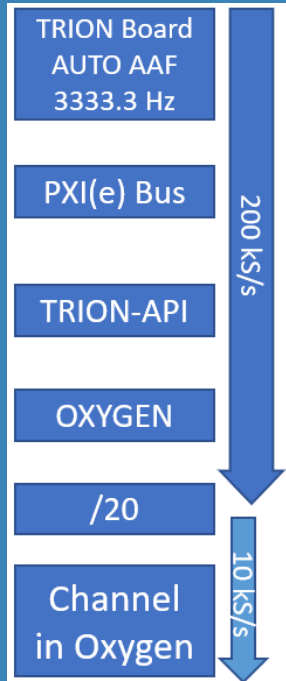
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# CHANNEL LIST – CHANNEL-WISE SAMPLE RATE SELECTION

- ① Since OXYGEN R5.2, it's possible to select individual sample rates per channel
- ② This feature is simply activated with the "Reduction" when setting the sample rate of a channel

The screenshot shows the DEWETRON software interface. The 'Channel List' on the left lists channels under 'LocalNode' and 'TRIONet'. The 'Sample Rate' dialog box is open, showing the 'Enable reduction' checkbox checked and the 'Target rate' set to 10 kHz. The dialog also shows the 'Samplerate' as 200000 Hz. The 'Sample Rate' dialog box has two callouts: ① pointing to the 'Sample Rate' column in the channel list and ② pointing to the 'Enable reduction' checkbox.

| Channel               | Color | Setup | Active | Stored | Scaled Value | Mode           | Sample Rate | Range        | Scaling               |
|-----------------------|-------|-------|--------|--------|--------------|----------------|-------------|--------------|-----------------------|
| LocalNode             |       |       |        |        |              |                |             |              |                       |
| TRIONet               |       |       |        |        |              |                |             |              |                       |
| TRION-2402-dACC-6-BNC |       |       |        |        |              |                |             |              |                       |
| TRION-2402-MULTI-4-D  |       |       |        |        |              |                |             |              |                       |
| AI 2/1 Sim            |       |       |        |        | -0.0000000   | AVG            | 200 kHz     | -10 V.. 10 V | Scale: 1<br>Offset: 0 |
| AI 2/2 Sim            |       |       |        |        | -0.0000000   | AVG            | 10 kHz      | -10 V.. 10 V | Scale: 1<br>Offset: 0 |
| AI 2/3 Sim            |       |       |        |        | 1.9963999    | AVG            | 2 kHz       | -10 V.. 10 V | Scale: 1<br>Offset: 0 |
| AI 2/4 Sim            |       |       |        |        | -3.6000638   | AVG            | 100 kHz     | -10 V.. 10 V | Scale: 1<br>Offset: 0 |
| CAN 2/1 Sim           |       |       |        |        |              | used as analog |             |              |                       |



- > Under the hood
  - > The samples are physically sampled with the set sample rate
  - > If the reduction is enabled, the user can set a reduced sample rate which is converted to an integer divider in background
  - > The unnecessary samples are skipped
- > Aliasing?!
  - > No bothering, when using TRION-Boards with onboard filtering
  - > The AUTO filters are adjusted according to the target sample rate
  - > In this example, the AAF is AUTO-adjusted to 3333.3 Hz
  - > BUT the user can override the filter setting if he wants to



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# CHANNEL LIST – CHANNEL-WISE SAMPLE RATE SELECTION

All synchronous input channels in OXYGEN are now capable of this feature (except DI and CNT)

Can also be used in formula (if synchronous)

① If the (Board-)sample rate is set to another value, the internal integer divider gets re-adjusted to match the target sample rate

② In case, this is not possible, the user gets a hint and can accept the adjustment (effective rate)

|         |                         |               |
|---------|-------------------------|---------------|
| Voltage | 50000 Hz                | -2 V .. 2 V   |
| Voltage | 10000 Hz                | -2 V .. 2 V   |
| Voltage | 2000 Hz                 | -10 V .. 10 V |
| Voltage | 50000 Hz<br>(100000 Hz) | -10 V .. 10 V |

HighSpeed

Sample Rate

Samplerate 50000 Hz

☒ Enable reduction

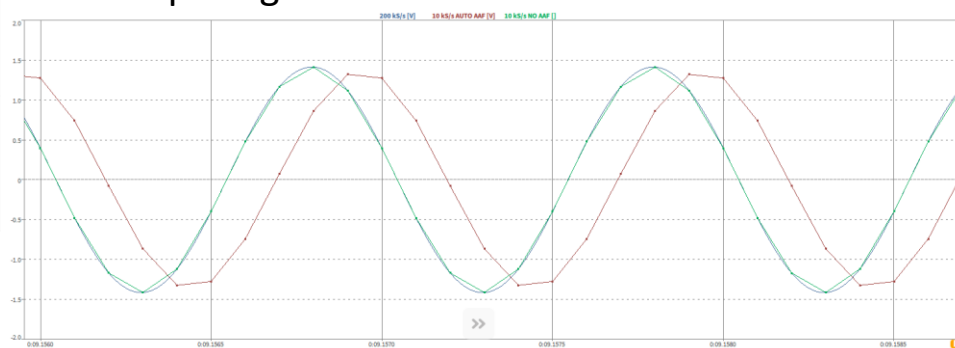
Target rate 100000 Hz

Effective rate 50000 Hz

Accept

Cancel Ok

## > Example Signals



BLUE:

- Sample rate: 200 kS/s
- AAF AUTO

RED:

- Reduced SR: 10 kS/s
- AAF AUTO

GREEN

- Reduced SR: 10 kS/s
- AAF 66666.6 Hz

> One can see, that the RED signal is phase shifted due to the AAF, but also AA-free

> If the user only wants the skipped samples without additional filtering, just rise up the AAF frequency



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# CHANNEL LIST – MULTI-CHANNEL CONFIGURATION

- 1 Select the check boxes of the channels to be configured
- 2 All selected channels can be (de-) activated at once (de-activated: data not transferred from TRION-board to PC)
- 3 All selected channels can be selected for storing  
Storing enabled: Data is written to HDD in case of recording  
Storing disabled: Data is transmitted from TIRON-board to PC and displayed and can be used for math operations but is not stored to HDD
- 4 All channel settings can be accessed and edited once for all selected channels
- 5 Open advanced setup for accessing the entire channel settings

The screenshot displays the DEWETRON software interface. The main window shows a list of channels under the 'LocalNode' tree. The 'Channel List' table has columns: Channel, Color, Setup, Active, Stored, Scaled Value, Mode, Sample Rate, Range, and Scaling. The 'Advanced Setup' panel is open on the right, showing settings for the selected channels. A red arrow points from the 'Advanced Setup' button in the Channel List to the 'Advanced Setup' panel.

| Channel                      | Color  | Setup | Active                              | Stored                              | Scaled Value   | Mode    | Sample Rate  | Range           | Scaling               |
|------------------------------|--------|-------|-------------------------------------|-------------------------------------|----------------|---------|--------------|-----------------|-----------------------|
| <b>TRION-2402-dACC-6-BNC</b> |        |       |                                     |                                     |                |         |              |                 |                       |
| AI 1/1 Sim                   | Blue   | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 0.0000000      | Voltage | 20 kHz       | -100 V .. 100 V | Scale: 1<br>Offset: 0 |
| AI 1/2 Sim                   | Green  | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 0.0000000      | Voltage | 20 kHz       | -100 V .. 100 V | Scale: 1<br>Offset: 0 |
| AI 1/3 Sim                   | Purple | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 20.075999      | Voltage | 20 kHz       | -100 V .. 100 V | Scale: 1<br>Offset: 0 |
| AI 1/4 Sim                   | Orange | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | -59.984796     | Voltage | 20 kHz       | -100 V .. 100 V | Scale: 1<br>Offset: 0 |
| AI 1/5 Sim                   | Blue   | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 20.015199      | Voltage | 20 kHz       | -100 V .. 100 V | Scale: 1<br>Offset: 0 |
| AI 1/6 Sim                   | Red    | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | -29.961998     | Voltage | 20 kHz       | -100 V .. 100 V | Scale: 1<br>Offset: 0 |
| <b>TRION-2402-MULTI-4-D</b>  |        |       |                                     |                                     |                |         |              |                 |                       |
| AI 2/1 Sim                   | Red    | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 0.0000000      | DC      | Differential | it: V           |                       |
| AI 2/2 Sim                   | Green  | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | -0.0000000     | DC      | Differential | it: V           |                       |
| AI 2/3 Sim                   | Purple | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2.0055999      | DC      | Differential | it: V           |                       |
| AI 2/4 Sim                   | Blue   | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | -5.9981596     | DC      | Differential | it: V           |                       |
| CAN 2/1 Sim                  | Orange | ⚙️    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | used as analog | DC      | Differential | it: V           |                       |



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# CHANNEL LIST – COPY-PASTE CHANNEL SETTINGS

- 1 Select the check box of the channel whose settings shall be copied and press CTRL+C
- 2 Select the channel(s) the settings shall be pasted to by checking their boxes and press CTRL+V

The screenshot displays the Dewetron software interface, specifically the Channel List window. The interface is divided into two panels. The top panel shows the 'TRION-2402-dACC-6-BNC' channel group with three channels (AI 1/1 Sim, AI 1/2 Sim, AI 1/3 Sim) highlighted in yellow. A yellow box around the first channel's checkbox is labeled '1 CTRL+C'. The bottom panel shows the 'TRION-2402-MULTI-4-D' channel group with four channels (AI 1/4 Sim, AI 1/5 Sim, AI 1/6 Sim, CNT 1/1 Sim) highlighted in red. A red box around the first channel's checkbox is labeled '2 CTRL+V'. A red arrow points from the yellow box to the red box, indicating the copy-paste action.

| Channel     | Color                 | Setup      | Active | Stored  | Scaled Value | Mode            | Sample Rate           | Range   | Scaling | Unit |
|-------------|-----------------------|------------|--------|---------|--------------|-----------------|-----------------------|---------|---------|------|
| AI 1/1 Sim  | TRION-2402-dACC-6-BNC | 0.0000000  | AVG    | IEPE    | 20 kHz       | -3 V .. 3 V     | Scale: 5<br>Offset: 0 | Unit: V |         |      |
| AI 1/2 Sim  | TRION-2402-dACC-6-BNC | 0.0000000  | AVG    | Voltage | 20 kHz       | -100 V .. 100 V | Scale: 1<br>Offset: 0 | Unit: V |         |      |
| AI 1/3 Sim  | TRION-2402-dACC-6-BNC | -60.075852 | AVG    | Voltage | 20 kHz       | -100 V .. 100 V | Scale: 1<br>Offset: 0 | Unit: V |         |      |
| AI 1/4 Sim  | TRION-2402-MULTI-4-D  | -3.0022798 | AVG    | IEPE    | 20 kHz       | -3 V .. 3 V     | Scale: 5<br>Offset: 0 | Unit: V |         |      |
| AI 1/5 Sim  | TRION-2402-MULTI-4-D  | -8.9977195 | AVG    | IEPE    | 20 kHz       | -3 V .. 3 V     | Scale: 5<br>Offset: 0 | Unit: V |         |      |
| AI 1/6 Sim  | TRION-2402-MULTI-4-D  | -10.494299 | AVG    | IEPE    | 20 kHz       | -3 V .. 3 V     | Scale: 5<br>Offset: 0 | Unit: V |         |      |
| CNT 1/1 Sim | TRION-2402-MULTI-4-D  |            |        |         |              |                 |                       |         |         |      |
| CNT 1/2 Sim | TRION-2402-MULTI-4-D  |            |        |         |              |                 |                       |         |         |      |
| AI 2/1 Sim  | TRION-2402-MULTI-4-D  | 0.0000000  | AVG    | Voltage | 10 kHz       | -10 V .. 10 V   | Scale: 1<br>Offset: 0 | Unit: V |         |      |
| AI 2/2 Sim  | TRION-2402-MULTI-4-D  | -0.0095212 | AVG    | Voltage | 10 kHz       | -10 V .. 10 V   | Scale: 1<br>Offset: 0 | Unit: V |         |      |
| AI 2/3 Sim  | TRION-2402-MULTI-4-D  | -5.9815996 | AVG    | Voltage | 10 kHz       | -10 V .. 10 V   | Scale: 1<br>Offset: 0 | Unit: V |         |      |
| AI 2/4 Sim  | TRION-2402-MULTI-4-D  | -2.0036799 | AVG    | Voltage | 10 kHz       | -10 V .. 10 V   | Scale: 1<br>Offset: 0 | Unit: V |         |      |
| CAN 2/1 Sim | TRION-2402-MULTI-4-D  |            |        |         | High Speed   |                 |                       |         |         |      |



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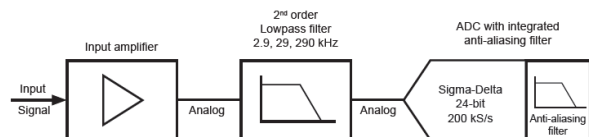
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# CHANNEL LIST – EXAMPLE PCB ICP 352A71

## SPECIFICATIONS

|                                   |                                  |
|-----------------------------------|----------------------------------|
| Model Number                      | 352A73                           |
| <b>Performance</b>                |                                  |
| Sensitivity                       | 5 mV/g ③                         |
| Range                             | ±1,000 g pk ②                    |
| Frequency Range (±5%)             | 2.0 – 10,000 Hz ④                |
| Resonant Frequency                | ≥70 kHz                          |
| Electrical Filter (low pass)      | No                               |
| Broadband Resolution (g rms)      | 0.002                            |
| <b>Environmental</b>              |                                  |
| Overload Limit                    | ±10,000 g pk                     |
| Temperature Range (operating)     | -65 to +250 °F<br>-54 to +121 °C |
| <b>Electrical</b>                 |                                  |
| Excitation Voltage                | 18-30 VDC                        |
| Constant Current Excitation       | 2-20 mA ⑤                        |
| <b>Physical</b>                   |                                  |
| Housing Material                  | Titanium                         |
| Weight                            | 0.01 oz<br>0.3 gm                |
| Dimension A (see Outline Drawing) | 0.16 in [4.1 mm]                 |
| Dimension B (see Outline Drawing) | 0.27 in [6.8 mm]                 |
| Dimension C (see Outline Drawing) | 0.11 in [2.8 mm]                 |
| <b>Accessories - Supplied</b>     |                                  |
| Removal Tool                      | 039A26                           |
| Petro Wax                         | 080A109                          |

## TRION-2402 sample system architecture



| Sample rate            | Max. analog filter bandwidth | Digital filter bandwidth | Oversampling |
|------------------------|------------------------------|--------------------------|--------------|
| 100 S/s to 1 kS/S      | 2.9 kHz                      | 0.494 *fs                | 256 *fs      |
| >1 k to 10 kS/S        | 29 kHz                       | 0.494 *fs                | 256 *fs      |
| >10 to 51.210 kS/S     | 290 kHz                      | 0.494 *fs                | 256 *fs      |
| >51.2 to 102.410 kS/S  | 290 kHz                      | 0.5 *fs                  | 128 *fs      |
| >102.4 to 204.810 kS/S | 290 kHz                      | 0.38 *fs                 | 64 *fs       |

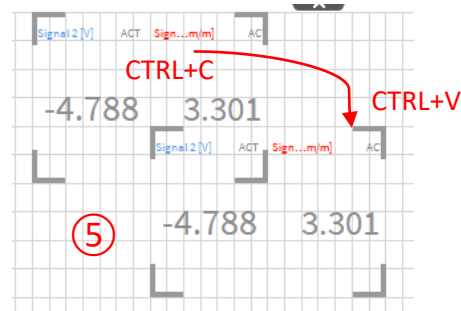
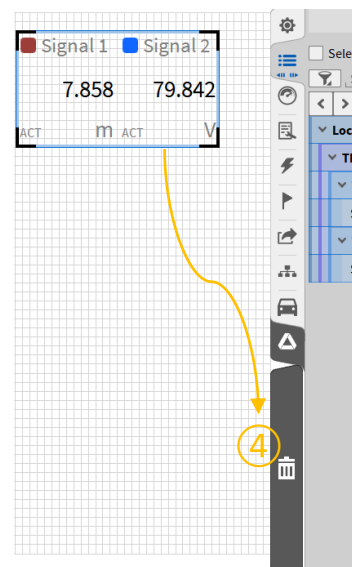
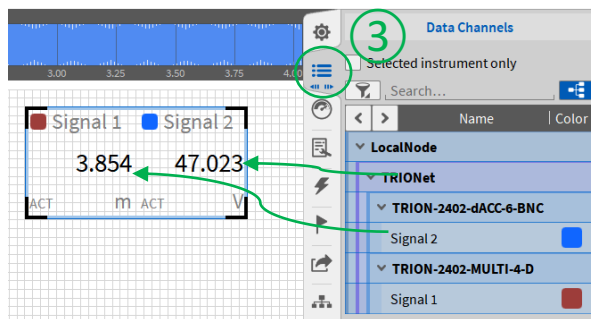
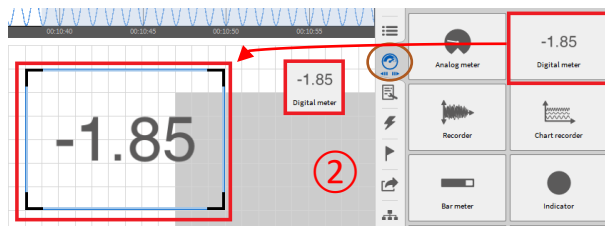
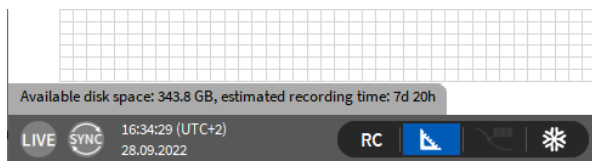


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# CONFIGURATION OF MEASUREMENT SCREENS

- 1 Activate the *Design Mode* to change the screen layout (Grey grid in background)
- 2 Go to the Instruments menu and place instruments via drag and drop on the screen  
(Design Mode is also activated automatically when instrument is dropped)
- 3 Go to the data channels menu and select the channels to be displays by clicking  
(If several instruments are on the screen, the one with the blue frame is the active one)
- 4 To delete instruments from the screen, drag and drop them into the rubbish bin  
(Only available when Design Mode is active)
- When finished deactivate the Design Mode again to work with the data in the instruments
- 5 Copy (CTRL+C) – Paste (CTRL+V) to duplicate instruments

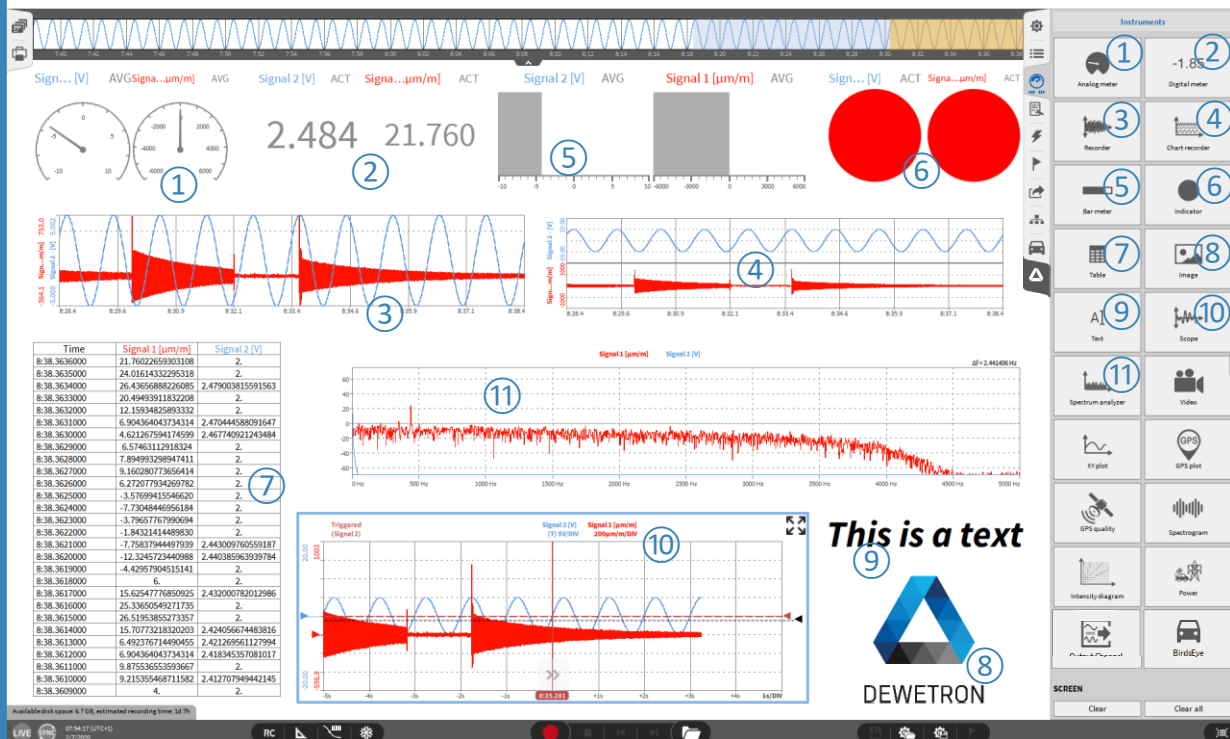




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# INSTRUMENTS DISPLAYS - OVERVIEW



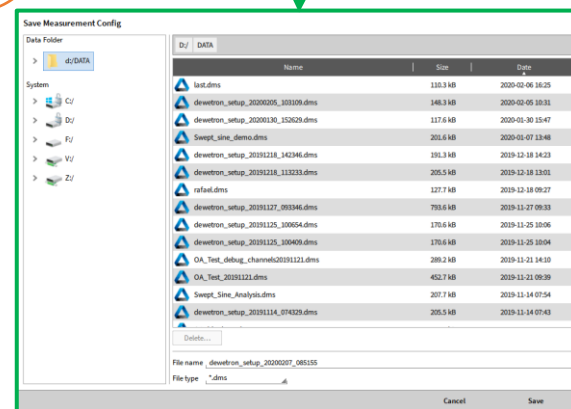
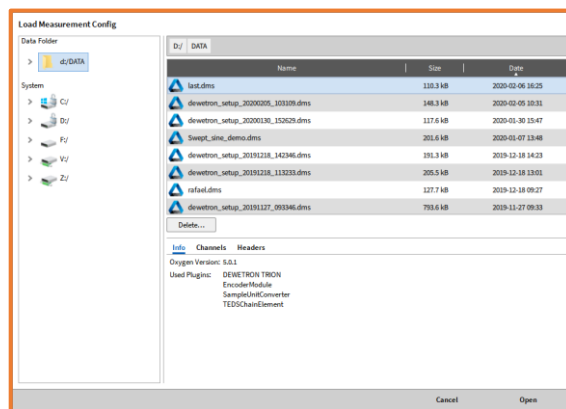


# SAVE/LOAD A SETUP FILE (DMS-FILE)



Opens the  
Setup-load dialog

Opens the  
Setup-save dialog





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# GENERATING AND ACCESSING MULTIPLE SCREENS

- ① Generates a new blank screen
- ② Deletes the currently selected /blue frame) screen
- ③ Duplicates the currently selected screen
- ④ Saves the currently selected screen as png or jpeg  
If an instrument is active (blue frame) only the selected instrument is saved as png or jpeg
- ⑤ Copies the currently selected screen to clipboard  
If an instrument is active (blue frame) only the selected instrument is copied

Available disk space: 6.7 GB, est

Available disk space: 6.7 GB, est

Available disk space: 6.7 GB, est



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- The screenshot displays the DEWETRON software interface, which is used for data acquisition and analysis. The interface is divided into two main sections, labeled 1 and 2, each showing a different set of data.
- Section 1 (Top):** This section displays data for 'Signal 1 [V]' and 'Signal 2 [V]'. It includes a table of data points, a waveform plot, and a summary of key values. The key values are: -1.041, -3.577, and -1.041. The waveform plot shows a signal that fluctuates between approximately -1.0 and -3.6 V. The summary table lists the following data points:
- | Time            | Signal 1 [µm/m] | Signal 2 [V]     |
|-----------------|-----------------|------------------|
| 00:50:05.792000 | -0.570827046462 | -1.04362478840   |
| 00:50:05.792200 | -0.586271911817 | -1.038804840594  |
| 00:50:05.792400 | 0               | -1.0309794645473 |
| 00:50:05.792600 | 10.2221444      |                  |
| 00:50:05.792800 | 10.5819648000   |                  |
| 00:50:05.793000 | 8               |                  |
| 00:50:05.793200 | 0               |                  |
| 00:50:05.793400 | -0.5467030000   |                  |
| 00:50:05.793600 | 0               |                  |
| 00:50:05.793800 | 1               |                  |
| 00:50:05.794000 | 8               |                  |
| 00:50:05.794200 | 12.9988948000   |                  |
| 00:50:05.794400 | 8               |                  |
| 00:50:05.794600 | 3               |                  |
| 00:50:05.794800 | 4               |                  |
| 00:50:05.795000 | 6.3277262000    |                  |
- Section 2 (Bottom):** This section displays data for 'Signal 1 [µm/m]' and 'Signal 2 [V]'. It includes a table of data points, a waveform plot, and a summary of key values. The key values are: -3.517, 1.513, and -3.517. The waveform plot shows a signal that fluctuates between approximately -3.5 and 1.5 V. The summary table lists the following data points:
- | Time            | Signal 1 [µm/m]    | Signal 2 [V]       |
|-----------------|--------------------|--------------------|
| 00:50:40.800000 | 5.51270481572005   | 3.5112404955172813 |
| 00:50:40.801000 | 11.73870090001072  | 3.515302152305354  |
| 00:50:40.802000 | 19.47710143478167  | 3.518397972740448  |
| 00:50:40.803000 | 18.24907081004031  | 3.516586462006073  |
| 00:50:40.804000 | 13.28736621894317  | 3.508777396396796  |
| 00:50:40.805000 | 8.820382088787788  | 3.500737726513057  |
| 00:50:40.806000 | 12.51343383515758  | 3.5041303486987284 |
| 00:50:40.807000 | 15.40517988082859  | 3.501714615672787  |
| 00:50:40.808000 | 9.05511383140077   | 3.4970495192189665 |
| 00:50:40.809000 | 9.24320444129235   | 3.49742413100495   |
| 00:50:40.810000 | 17.33648033866323  | 3.494965211587133  |
| 00:50:40.811000 | 16.31288776208955  | 3.492739480775533  |
| 00:50:40.812000 | 7.77247171441919   | 3.490221158772723  |
| 00:50:40.813000 | 7.04438480522255   | 3.488105511215394  |
| 00:50:40.814000 | 7.56230849435137   | 3.486238652043438  |
| 00:50:40.815000 | 6.51115204942620   | 3.483202965209183  |
| 00:50:40.816000 | 3.17297059480378   | 3.48123451935242   |
| 00:50:40.817000 | -3.041738753582828 | 3.478864387777161  |
| 00:50:40.818000 | -6.98884903988073  | 3.47604577484045   |
| 00:50:40.819000 | -2.421140915087053 | 3.47403627111031   |
| 00:50:40.820000 | -0.101817061103714 | 3.472504627030481  |
| 00:50:40.821000 | 2.58564644473176   | 3.4710582318021    |
| 00:50:40.822000 | 5.99674868080819   | 3.474313181847613  |
| 00:50:40.823000 | 4.84156674395271   | 3.465768354170565  |
| 00:50:40.824000 | 4.14943844546713   | 3.463078037830394  |
| 00:50:40.825000 | 2.861021137910524  | 3.45604565046848   |
| 00:50:40.826000 | -3.3942505403835   | 3.448481941104716  |
| 00:50:40.827000 | -2.28771022844837  | 3.450507704811448  |
| 00:50:40.828000 | 4.67842880267672   | 3.45415143013851   |
| 00:50:40.829000 | 5.62801713849379   | 3.451430944548251  |
| 00:50:40.830000 | -0.963406355754833 | 3.448160361010456  |
| 00:50:40.831000 | -7.7803104417612   | 3.446862303901875  |
| 00:50:40.832000 | -7.48300960718800  | 3.441212125262101  |

***This is a text***





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- [illegible]



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# SYSTEM SETTINGS – STORING & FILENAME

- 1 Specify the default folder for data file storage
- 2 Specify a recording filename
- 3 Specify the default folder for data export
- 4 If enabled, a popup appears after pressing the Rec button to specify the file name
- 5 When a recording is finished, the created data file will be opened automatically in Oxygen Viewer

The screenshot shows the 'Oxygen Setup' window with the 'Storing & Filename' tab selected. The left sidebar contains various setup categories. The main area is divided into 'DATA STORING' and 'RECORDING FILENAME' sections. Numbered callouts point to specific settings: 1 points to the 'Data folder' field, 2 points to the 'Recording filename' field, 3 points to the 'Export folder' field, 4 points to the 'Ask for filename before recording start' checkbox, and 5 points to the 'Automatically open DMD after measurement with Oxygen Viewer' checkbox.

**Oxygen Setup**

**Storing & Filename**

**DATA STORING**

Data folder **1** C:/DATA/ Browse...

Export folder **3** C:/Users/MFuchs Browse...

**RECORDING FILENAME**

m\_{Date}\_{Time} **2**

| Time, Local | Date, Local | Counter, Local |
|-------------|-------------|----------------|
| 14:16:08    | 20220929    | 167            |

| Time, UTC | Date, UTC | Counter, Session |
|-----------|-----------|------------------|
| 12:16:08  | 20220929  | 0                |

| Time, hh-mm-ss | Date, dd-MM-yy |
|----------------|----------------|
| 14-16-08       | 29-09-22       |

Filename preview  
m\_20220929\_141608.dmd

Local Counter  
167

**4** ☐ Ask for filename before recording start

**5** ☐ Automatically open DMD after measurement with Oxygen Viewer

[Jump to measurement settings](#)



DEWETRON

# SYSTEM SETTINGS – STARTUP SETTINGS

|   |                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------|
| ① | Specify the startup behaviour of the software by selecting a certain setup to be loaded while startup |
|   |                                                                                                       |
|   |                                                                                                       |
|   |                                                                                                       |
|   |                                                                                                       |
|   |                                                                                                       |
|   |                                                                                                       |



Oxygen Setup

Storing & Filename

Startup Settings

Advanced Settings

Hardware

DAQ Hardware

Amplifier / RS232 / RS485

Sensors

Remote Control

Remote Control

User Interface

Localization

UI Options

Advanced Graphics

System Information

Component Versions

Errors and Warnings

Plugin Overview

License

OXYGEN Features

Developer

QML Sandbox

Quit to OS

Shutdown System...

[Jump to measurement settings](#)

Startup Settings

STARTUP BEHAVIOUR

①

☐ Default

☒ Empty setup

☐ Last setup

☐ Load setup file

Browse...



DEWETRON

# SYSTEM SETTINGS – ADVANCED SETTINGS

- |   |                                                                                                                                                                                                                                                 |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | If enabled it is possible during recording to look into the past just by swiping to the right in the recording window                                                                                                                           |
| ② | Defines the duration of the freeze buffer, a higher duration leads to a increased memory consumption                                                                                                                                            |
| ③ | If an IRIG or GPS signal is received via a TRION-BASE, TRION-TIMING or TRION-VGPS module and will be used for synchronization, this option allows to set the system time of the PC Oxygen is running to this timing signal. (min. every 10 sec) |
| ④ | If enabled, it is not possible to shut down Oxygen during a recording.                                                                                                                                                                          |
| ⑤ | If enabled any interactive UI prompts will not be shown and a default response will be assumed                                                                                                                                                  |

Oxygen Setup

Storing & Filename

Startup Settings

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Advanced Settings

**INSTRUMENTS**

☒ DejaView enabled ①

Max. DejaView files to keep (0 = all) 100

**FREEZE BUFFER** ②

Minimum duration 0 s, Maximum duration 20 s

By default the length of the freeze buffer depends on the configured sample rates and varies between 1 and 20 seconds. Forcing this to higher values will lead to increased memory consumption.

**SYSTEM TIME SYNCHRONIZATION** ③

Feature not available because OXYGEN has insufficient permissions!

☐ Synchronize operating system time with acquisition time (if available)

Synchronize every 10 s after acquisition start.

**MISCELLANEOUS SETTINGS**

☒ Prevent OXYGEN from shutdown during measurement ④

☐ Suppress all confirmation prompts ⑤

Setting this option prevents any interactive UI prompts from showing up and assumes a default response. This may be used during automated operation of OXYGEN but can have unintended effects for normal usage scenarios.



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# SYSTEM SETTINGS – HEADER DATA

*Header (Meta) Data can be created in „System Settings → Header Data“ to add test relevant information to the data file, like date of the test, the operator name, running speed of a DUT or other environmental conditions*

Header Data

| Type             | Name                     | Value                    | Prompt          | Mandatory                           |   |
|------------------|--------------------------|--------------------------|-----------------|-------------------------------------|---|
| Text             | Company                  | = DEWETRON               | Never           | <input type="checkbox"/>            | + |
| Text             | Operator                 | = Manual & Documentation | Recording start | <input type="checkbox"/>            | + |
| Text             | Version                  | = R5.6                   | Recording stop  | <input checked="" type="checkbox"/> | + |
| Formula constant | Reference Velocity [kmh] | = 80                     | Never           | <input type="checkbox"/>            | + |

Header Data

| Name                | Description |
|---------------------|-------------|
| Operator            | = DEWETRON  |
| Running Speed [rpm] | =           |

Close

System Settings

DATA STORING

Filename prefix:  
m\_

Filename preview:  
m\_yyyymmdd\_hhmmss.dmd

HEADER DATA

Date  
2020 02 14

Operator  
DEWETRON

Running Speed [rpm]  
3000

## Open Data File

Data Folder  
D:/DATA

System  
C:/  
D:/  
V:/

D:/ DATA

| Name                  | Size   | Date             |
|-----------------------|--------|------------------|
| m_20200414_154711.dmd | 2.0 MB | 2020-04-14 15:47 |
| m_20200414_154720.dmd | 3.3 MB | 2020-04-14 15:47 |

Delete... New folder...

Info Channels Headers

| Name                | Description |
|---------------------|-------------|
| Date                | 2020 02 14  |
| Operator            | DEWETRON    |
| Running Speed [rpm] | 3000        |

Browse... Cancel Open

*Data files can be selected according to Header data while loading a data file from the OXYGEN file browser*

- 1 The +button adds a Header input field consisting of Name and Description
- 2 Select between text header and numeric header that can be further processed in formulas
- 3 The name should include the general purpose of the header field and can be filled arbitrarily
- 4 The description should include the relevant information for each data recording
- 5 If Prompt at Recording start/stop is selected, a popup opens after pressing the Record button and requests the user to fill out the Description field (Recording is already running even if the popup is still open)
- 6 If Mandatory is selected as well, the popup can only be opened after entering a Description
- 7 Headers can be added to the screen by dragging and dropping them from the System Settings menu  
Text instrument is generated

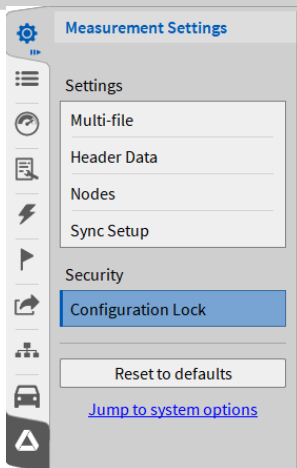




DEWETRON

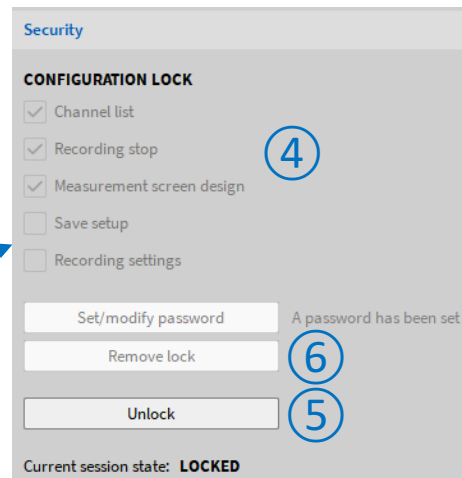
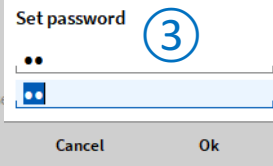
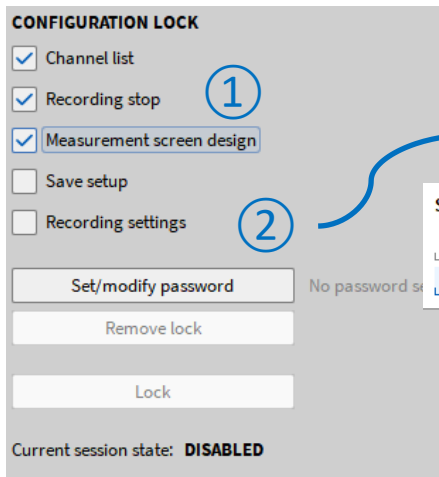
# SYSTEM SETTINGS – SETUP SECURITY

- ① Select the settings that shall be locked
- ② Press *Set/modify password*
- ③ Enter the password and confirm it
- ④ The selected settings will be locked afterwards
- ⑤ To unlock the settings again, press the *Unlock* button and enter the password
- ⑥ To remove the lock from the setup again, press *Remove lock* in the unlocked state



*In „System Settings → Security“, the user can protect certain measurement setup settings by password against unwanted or unauthorized changes.*

*If Enabled: Automatic Lock on Setup Load*





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# AUDIO REPLAY

- ① It's possible to replay channels via the default PC sound card by using the Audio Player Instrument
- ② Possibility to Mute channels
- ③ Possibility to set the volume
- ④ Possibility to change the left-right Balance

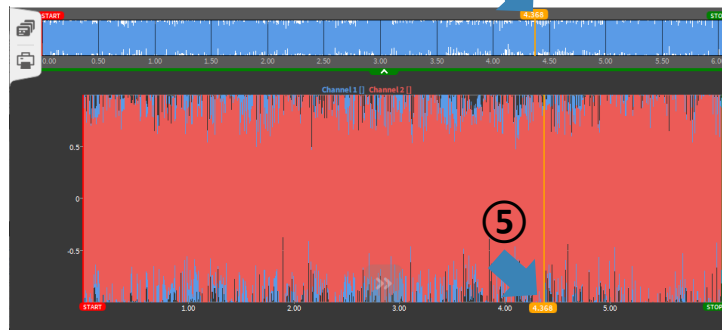
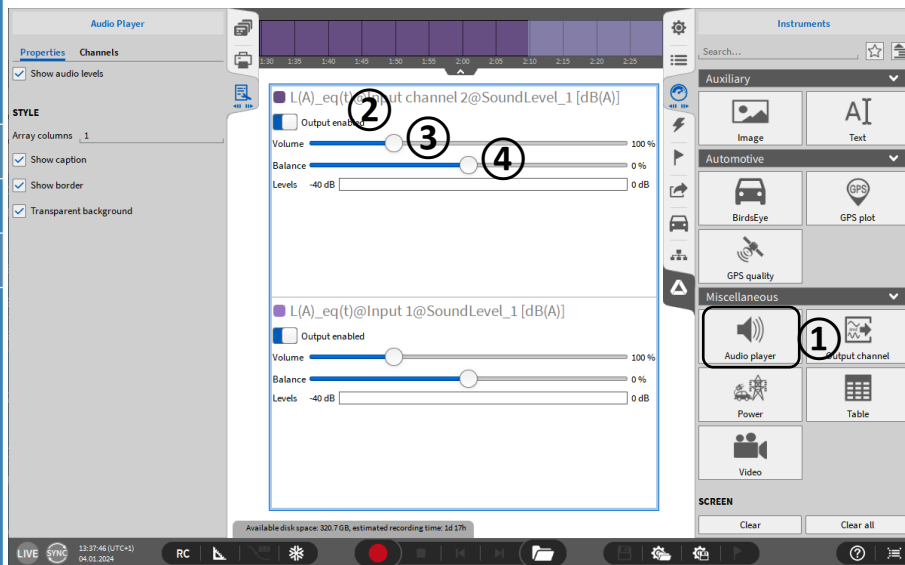
*Maximum number of replay channels per instrument is 2.*

*Recommended sample rate of replay channels is from 1 kHz to 200 kHz*

*Replay is available in LIVE, REC and PLAY mode.*

*In LIVE and REC mode, the actual data is replayed.*

*In PLAY mode, replay is snapped to Orange cursor (⑤).*



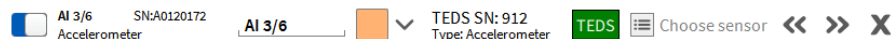
# TEDS SUPPORT



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- TEDS data can be read out and applied to channel settings
- Template 25 ... 33 according to IEEE1451.4 supported
- TEDS support for TRION-2402-MULTI  
TRION(3)-18x0-MULTI  
TRION-2402-dACC (IEPE mode only)

- > For TRION-MULTI:
  - > TEDS scan is always active when Channel List is open
  - > TEDS is automatically recognized when connected
- > For TRION-2402-dACC
  - > Open Channel Setup and select IEPE mode
  - > Click on the TEDS icon to activate TEDS scan
- > If TEDS is recognized, the icon will become green and the settings will be applied to the channel



| AMPLIFIER OPTIONS |                           |
|-------------------|---------------------------|
| Mode              | IEPE                      |
| Range             | 3045.859 m/s <sup>2</sup> |
| Coupling          | 0.16 Hz                   |

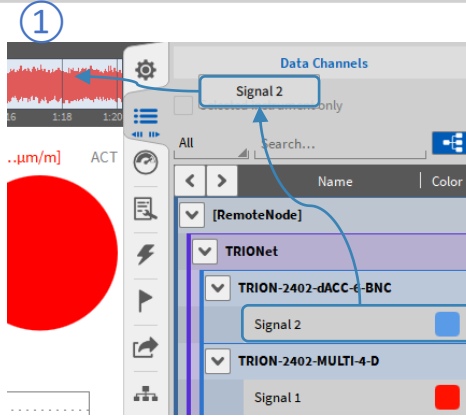
| IEPE SETTINGS |              |
|---------------|--------------|
| Excitation    | Current 4 mA |

| SENSOR SCALING |                              |
|----------------|------------------------------|
| General TEDS   |                              |
| Type           | Sensitivity                  |
| Sensitivity    | 9.8e-3 V/(m/s <sup>2</sup> ) |
| Offset         | 0 m/s <sup>2</sup>           |

Detailed TEDS info can be displayed

| TEDS Information                                          |                |                       |              |
|-----------------------------------------------------------|----------------|-----------------------|--------------|
| TEDS: Manufacturer 35, Model 3097, Version 2A, Serial 912 |                |                       |              |
| Template #25: Accelerometer and Force Transducer          |                |                       |              |
| Name                                                      | Value          | Unit                  | Access Level |
| Sens@Ref                                                  | 0.009849       | V/(m/s <sup>2</sup> ) | CAL          |
| TF_HP_S                                                   | 0.081969       | Hz                    | CAL          |
| Direction                                                 | x              |                       | CAL          |
| Weight                                                    | 4.600512       | g                     | CAL          |
| ElecSigType                                               | Voltage Sensor |                       | ID           |

| Template ID | Name of template                                     |
|-------------|------------------------------------------------------|
| 25          | Accelerometer/Force transducer w. const. curr. ampl. |
| 26          | Charge amplifier (incl. attached accelerometer)      |
| 27          | Microphones w. built-in preamp.                      |
| 28          | Microphone preamps. w. attached micr. or system      |
| 29          | Microphones (capacitive)                             |
| 30          | High-level voltage output sensors                    |
| 31          | Current loop output sensors                          |
| 32          | Resistance sensors                                   |
| 33          | Bridge sensors                                       |



Change the signal displayed in the overview bar by dragging and dropping it from the Channel List

