

THE MEASURABLE DIFFERENCE.



DEWETRON

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# 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

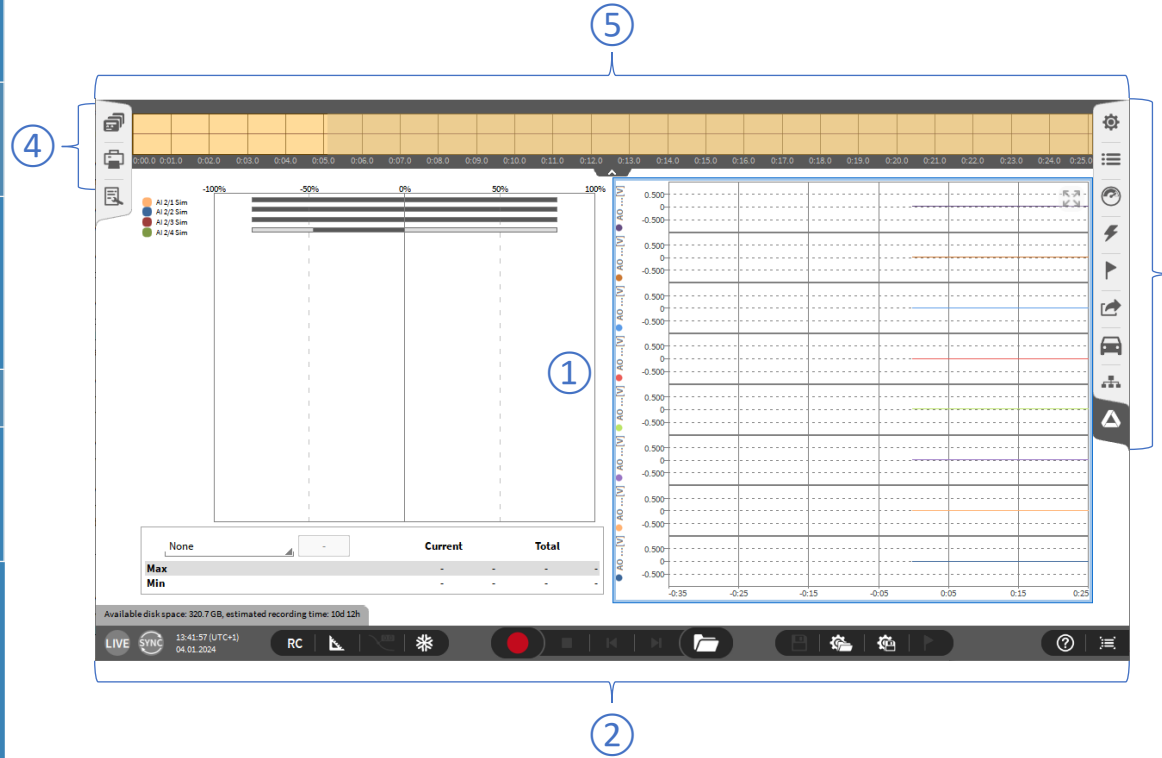


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# SOFTWARE OVERVIEW

- 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



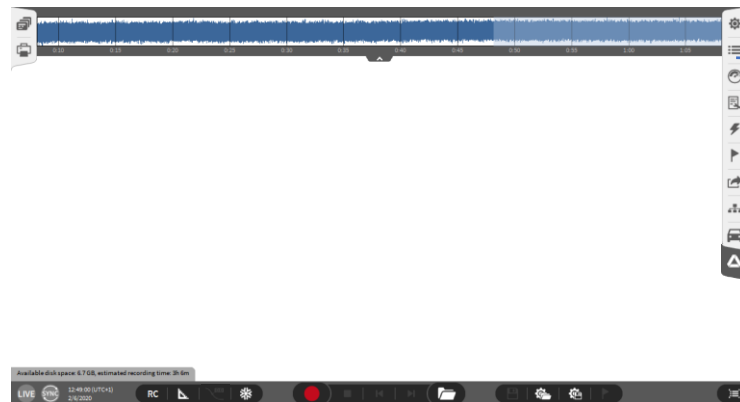
# SOFTWARE OVERVIEW



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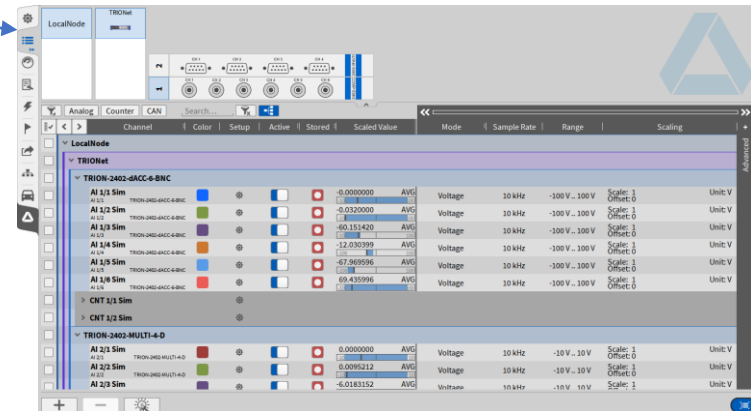
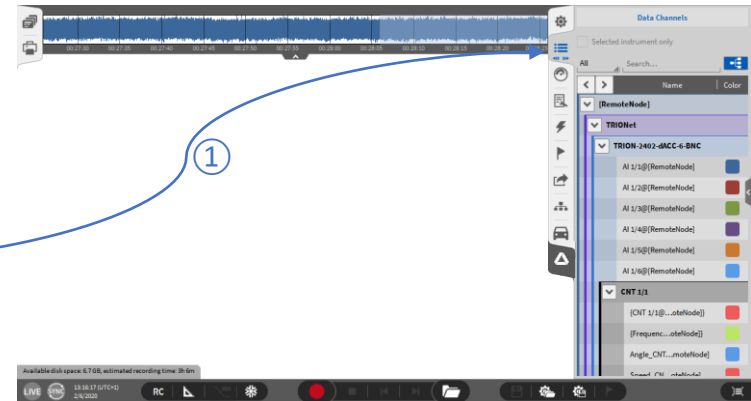
Software operation is inspired by touch operation of smart phones and tablets

- 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

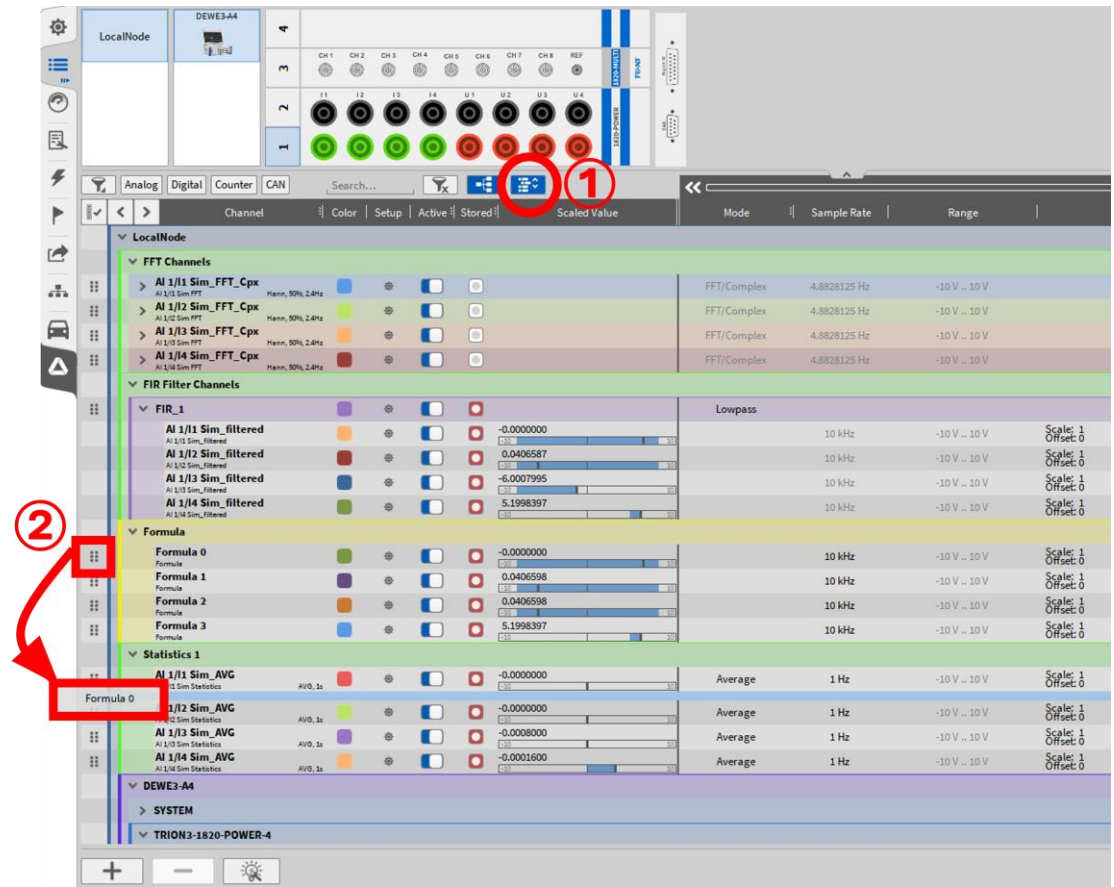
The screenshot displays the Dewetron software interface. At the top, a hardware schematic shows channels CH1 through CH6. Below it, a search bar and filter options are visible. The main area is a table of channels, with columns for Channel, Color, Setup, Active, Stored, Scaled Value, Mode, Sample Rate, Range, and Scaling. The table lists channels under 'LocalNode' and 'TRIONet', including 'TRION-2402-dACC-6-BNC' and 'TRION-2402-MULTI-4-D'. A red box highlights the 'Setup' button for the 'AI 1/6 Sim' channel. A blue box highlights the math section at the bottom of the interface.

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



# 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.



# CHANNEL LIST – HARDWARE CHANNEL CONFIGURATION



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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

The screenshot shows the Dewetron software interface for hardware channel configuration. The main window displays a channel list on the left and configuration options on the right. The configuration options are divided into several sections:

- AMPLIFIER OPTIONS:** Mode (Voltage), Range (100 V), Coupling (DC), Sensor delay (0 ms), Effective senso... (0 ms).
- VOLTAGE SETTINGS:** Input type (Differential).
- SENSOR SCALING:** Scaling type (Scaling), Unit (V), Scaling (1 V/V), Offset (0 V).

The preview window at the bottom shows a graph of the channel's output, with a peak-to-peak voltage of 80.000 V and an RMS value of 56.566 V.



# 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

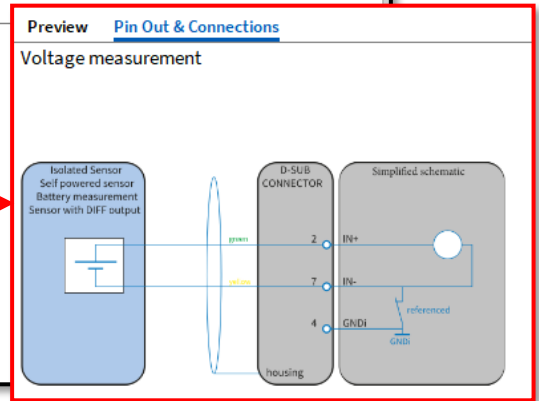
TRION3-18xx-MULTI-4-D

9-pin D-SUBconnector male

- 1: EXC+ (CAN power supply 12V, CH1 only)
- 2: IN+
- 3: Sense- (CAN low, CH1 only)
- 4: GND<sub>sensor</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



Channel	Mode	Sample Rate	Range	Scaling
AI 1/1 Sim	Voltage	20 kHz	-100 V.. 100 V	Scale: 1 Offset: 0
AI 1/2 Sim	Voltage	20 kHz	-100 V.. 100 V	Scale: 1 Offset: 0
AI 1/3 Sim	Voltage	20 kHz	-100 V.. 100 V	Scale: 1 Offset: 0
AI 1/4 Sim	Voltage	20 kHz	-100 V.. 100 V	Scale: 1 Offset: 0
AI 1/5 Sim	Voltage	20 kHz	-100 V.. 100 V	Scale: 1 Offset: 0
AI 1/6 Sim	Voltage	20 kHz	-100 V.. 100 V	Scale: 1 Offset: 0
AI 2/1 Sim	Voltage	10 kHz	-10 V.. 10 V	Scale: 1 Offset: 0
AI 2/2 Sim	Voltage	10 kHz	-10 V.. 10 V	Scale: 1 Offset: 0
AI 2/3 Sim	Voltage	10 kHz	-10 V.. 10 V	Scale: 1 Offset: 0



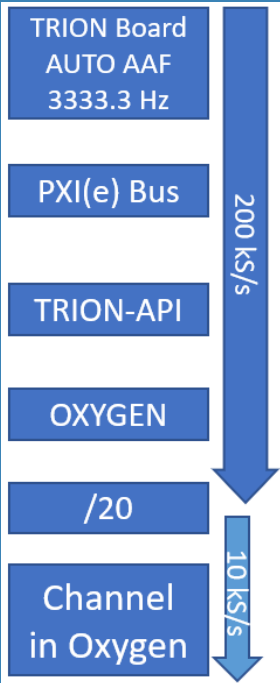
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# CHANNEL LIST – CHANNEL-WISE SAMPLE RATE SELECTION

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 'Channel List' window with columns for Channel, Color, Setup, Active, Stored, Scaled Value, Mode, Sample Rate, Range, and Scaling. A dialog box titled 'Sample Rate' is open, showing 'Samplerate' set to 200000 Hz and 'Target rate' set to 10 kHz. The 'Enable reduction' checkbox is checked. The dialog also has 'Cancel' and 'Ok' buttons.



- > 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



# 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 (100000 Hz)	-10 V .. 10 V

HighSpeed

Sample Rate

Samplerate: 50000 Hz

Enable reduction

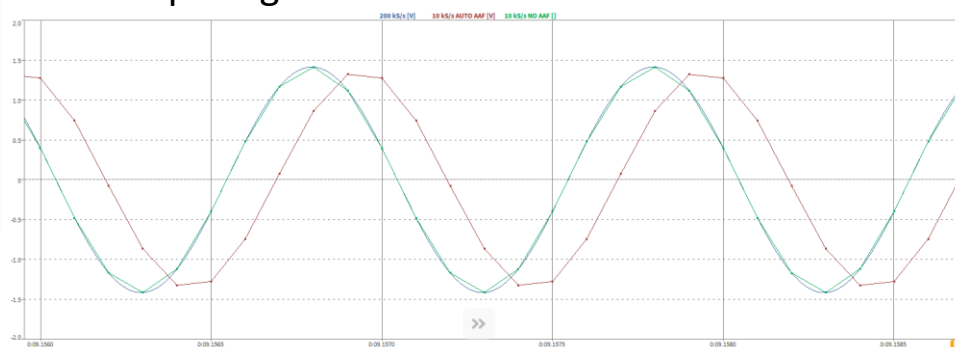
Target rate: 100000 Hz

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



# 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 shows the 'Channel List' window in the DEWETRON software. It displays a list of channels under 'LocalNode' and 'TRIONNet'. The 'Active' and 'Stored' columns are highlighted with yellow and green boxes respectively, corresponding to callout 1. A blue box highlights the 'Mode' column, corresponding to callout 4. A red box highlights the '+' icon in the top right corner, corresponding to callout 5. A red arrow points from callout 5 to the 'Advanced' tab in the bottom right corner. The interface also shows a table of channel settings including Mode, Sample Rate, Range, and Scaling.

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 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 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 Offset: 0
AI 1/4 Sim	Orange	⚙️	<input type="checkbox"/>	<input type="checkbox"/>	-59.984796	Voltage	20 kHz	-100 V .. 100 V	Scale: 1 Offset: 0
AI 1/5 Sim	Light Blue	⚙️	<input type="checkbox"/>	<input type="checkbox"/>	20.015199	Voltage	20 kHz	-100 V .. 100 V	Scale: 1 Offset: 0
AI 1/6 Sim	Red	⚙️	<input type="checkbox"/>	<input type="checkbox"/>	-29.961998	Voltage	20 kHz	-100 V .. 100 V	Scale: 1 Offset: 0
<b>TRION-2402-MULTI-4-D</b>									
AI 2/1 Sim	Red	⚙️	<input type="checkbox"/>	<input checked="" type="checkbox"/>	0.0000000	DC	Auto	DC	Differential
AI 2/2 Sim	Green	⚙️	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-0.0000000	DC	Auto	DC	Differential
AI 2/3 Sim	Purple	⚙️	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.0055999	DC	Auto	DC	Differential
AI 2/4 Sim	Orange	⚙️	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-5.9981596	DC	Auto	DC	Differential
CAN 2/1 Sim	Light Blue	⚙️	<input type="checkbox"/>	<input type="checkbox"/>	used as analog	DC	Auto	DC	Differential

# CHANNEL LIST – COPY-PASTE CHANNEL SETTINGS



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- 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 with two windows showing channel settings. The top window shows the 'AI 1/1 Sim' channel selected, with its settings highlighted in yellow. A yellow circle with the text '1 CTRL+C' is placed over the selection checkbox. The bottom window shows three channels ('AI 1/4 Sim', 'AI 1/5 Sim', and 'AI 1/6 Sim') selected, with their settings highlighted in red. A red circle with the text '2 CTRL+V' is placed over the selection checkboxes of these channels. A red arrow points from the '1 CTRL+C' circle to the '2 CTRL+V' circle.

Channel	Color	Setup	Active	Stored	Scaled Value	Mode	Sample Rate	Range	Scaling	Unit
AI 1/1 Sim	Red	TRION-2402-dACC-6-BNC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0.0000000	IEPE	20 kHz	-3 V .. 3 V	Scale: 5 Offset: 0	Unit: V
AI 1/2 Sim	Green	TRION-2402-dACC-6-BNC	<input type="checkbox"/>	<input type="checkbox"/>	0.0000000	Voltage	20 kHz	-100 V .. 100 V	Scale: 1 Offset: 0	Unit: V
AI 1/3 Sim	Purple	TRION-2402-dACC-6-BNC	<input type="checkbox"/>	<input type="checkbox"/>	-60.075852	Voltage	20 kHz	-100 V .. 100 V	Scale: 1 Offset: 0	Unit: V
AI 1/4 Sim	Orange	TRION-2402-dACC-6-BNC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-3.0022798	IEPE	20 kHz	-3 V .. 3 V	Scale: 5 Offset: 0	Unit: V
AI 1/5 Sim	Blue	TRION-2402-dACC-6-BNC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-8.9977195	IEPE	20 kHz	-3 V .. 3 V	Scale: 5 Offset: 0	Unit: V
AI 1/6 Sim	Red	TRION-2402-dACC-6-BNC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-10.494299	IEPE	20 kHz	-3 V .. 3 V	Scale: 5 Offset: 0	Unit: V
CNT 1/1 Sim	Blue	TRION-2402-MULTI-4-D	<input type="checkbox"/>	<input type="checkbox"/>						
CNT 1/2 Sim	Blue	TRION-2402-MULTI-4-D	<input type="checkbox"/>	<input type="checkbox"/>						
AI 2/1 Sim	Red	TRION-2402-MULTI-4-D	<input type="checkbox"/>	<input type="checkbox"/>	0.0000000	Voltage	10 kHz	-10 V .. 10 V	Scale: 1 Offset: 0	Unit: V
AI 2/2 Sim	Green	TRION-2402-MULTI-4-D	<input type="checkbox"/>	<input type="checkbox"/>	-0.0095212	Voltage	10 kHz	-10 V .. 10 V	Scale: 1 Offset: 0	Unit: V
AI 2/3 Sim	Purple	TRION-2402-MULTI-4-D	<input type="checkbox"/>	<input type="checkbox"/>	-5.9815996	Voltage	10 kHz	-10 V .. 10 V	Scale: 1 Offset: 0	Unit: V
AI 2/4 Sim	Orange	TRION-2402-MULTI-4-D	<input type="checkbox"/>	<input type="checkbox"/>	-2.0036799	Voltage	10 kHz	-10 V .. 10 V	Scale: 1 Offset: 0	Unit: V
CAN 2/1 Sim	Blue	TRION-2402-MULTI-4-D	<input type="checkbox"/>	<input type="checkbox"/>	used as analog	High Speed				



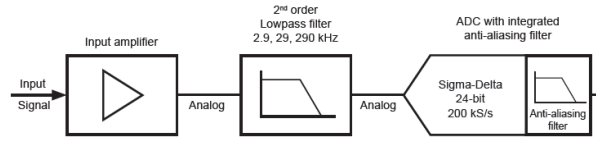
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# CHANNEL LIST – EXAMPLE PCB ICP 352A71

SPECIFICATIONS	
<b>Model Number</b>	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 -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 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

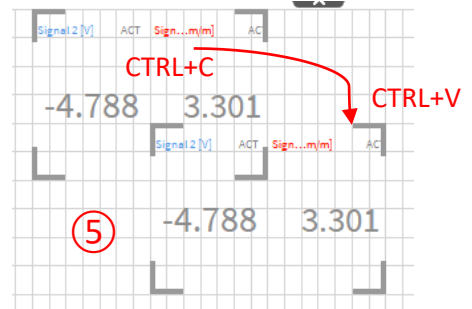
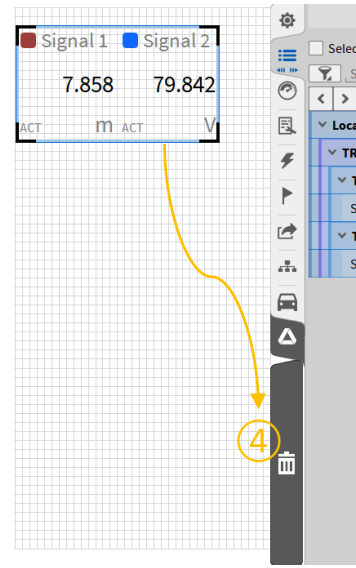
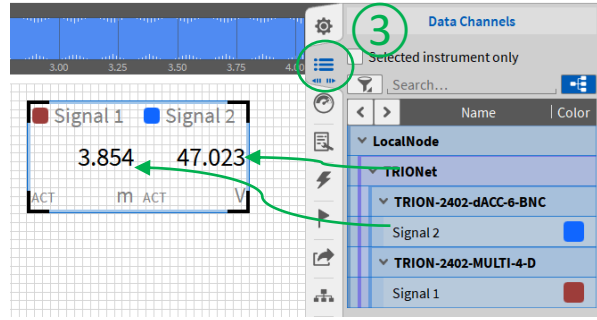
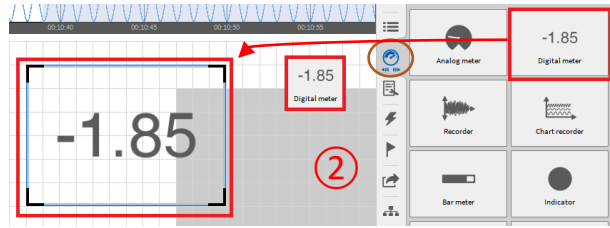
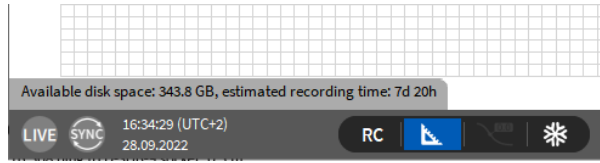


Sample rate	Max. analog filter bandwidth	Digital filter bandwidth	Oversampling
100 S/s to 1 kS/S	2.9 kHz	0.494 *fs	256 *fs
>1 k to 10 kS/S	29 kHz	0.494 *fs	256 *fs
>10 to 51.210 kS/S	290 kHz	0.494 *fs	256 *fs
>51.2 to 102.410 kS/S	290 kHz	0.5 *fs	128 *fs
>102.4 to 204.810 kS/S	290 kHz	0.38 *fs	64 *fs



# 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



# INSTRUMENTS DISPLAYS - OVERVIEW



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The screenshot displays the DEWETRON software interface with various instrument displays and a control panel. The interface is divided into several sections:

- Top Panel:** Shows a signal waveform and a status bar with labels like "Signal 1 [V]", "AVG Signal 1 [µm/m]", "AVG", "Signal 2 [V]", "ACT", "Signal 1 [µm/m]", "ACT", "Signal 2 [V]", "AVG", "Signal 1 [µm/m]", "AVG", "Signal 1 [V]", "ACT", "Signal 1 [µm/m]", "ACT".
- Central Panel:** Features two analog meters (1), two digital readouts (2) showing "2.484" and "21.760", two bar meters (5), and two red circular indicators (6).
- Waveform Section:** Contains two time-domain waveforms (3) and two frequency-domain waveforms (4).
- Table:** A data table with columns for Time, Signal 1 [µm/m], and Signal 2 [V].
- Spectrum Analyzer:** A frequency spectrum plot (11) showing Signal 1 [µm/m] and Signal 2 [V] with a frequency range from 0 Hz to 800 Hz.
- Zoomed-in Waveform:** A detailed view of a waveform (10) with a red shaded area and a text overlay "This is a text" (9).
- Control Panel:** A vertical sidebar on the right containing various instrument icons (1-11) and a "SCREEN" section with "Clear" and "Clear all" buttons.

Time	Signal 1 [µm/m]	Signal 2 [V]
8:38.363000	21.7622699303108	2.
8:38.3635000	24.01614332295318	2.
8:38.3634000	26.43656888226085	2.479003815591563
8:38.3633000	20.49493911832208	2.
8:38.3632000	12.15934825893332	2.
8:38.3631000	6.90436404374314	2.470444588091647
8:38.3630000	4.621267594174599	2.467740912143484
8:38.3629000	6.57463112918324	2.
8:38.3628000	7.894993298947411	2.
8:38.3627000	9.160280773656414	2.
8:38.3626000	6.272077934269782	2.
8:38.3625000	-3.57699415546620	2.
8:38.3624000	-7.7304846956184	2.
8:38.3623000	-3.7965767990694	2.
8:38.3622000	-1.94321434489830	2.
8:38.3621000	-7.75837944497939	2.443009760559187
8:38.3620000	-12.3245723440988	2.440385963939784
8:38.3619000	-4.42957904515141	2.
8:38.3618000	6.	2.
8:38.3617000	15.62547776850925	2.432000782012986
8:38.3616000	25.33605049217135	2.
8:38.3615000	26.5195385273357	2.
8:38.3614000	15.7072182102063	2.42405674483816
8:38.3613000	6.452376714490455	2.421269561127994
8:38.3612000	6.90436404374314	2.418345357081017
8:38.3611000	9.8753665393667	2.
8:38.3610000	9.215355468711562	2.412707949442145
8:38.3609000	4.	2.



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

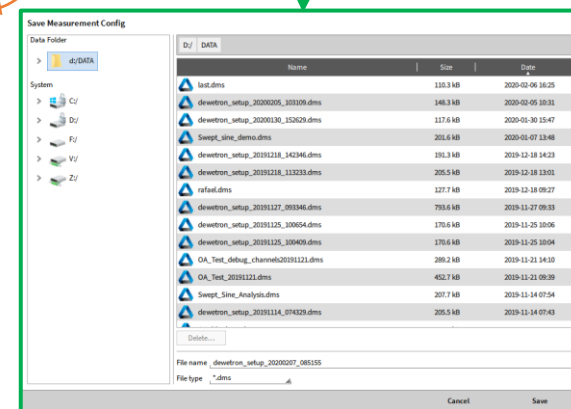
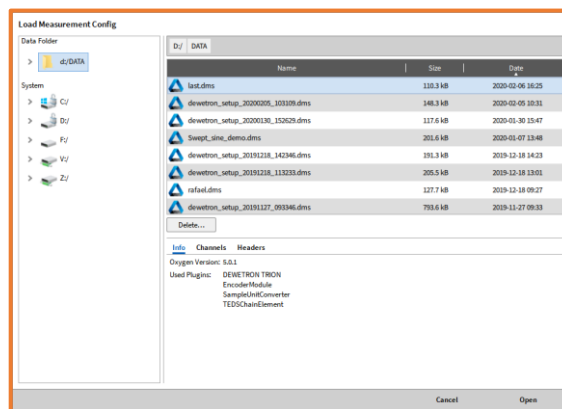


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Opens the Setup-load dialog

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

Screens

① + ② -

PNG [icon] [icon]

Available disk space: 6.7 GB, est

Screens

③ + [icon] -

PNG [icon] [icon]

Time	Signal 1 [µm/m]
00:30:49.5402000	4.
00:30:49.5401000	0.
00:30:49.5400000	-7.53808066475
00:30:49.5399000	-9.02366691968
00:30:49.5398000	4.
00:30:49.5397000	12.59923066359
00:30:49.5396000	1.
00:30:49.5395000	-11.5049571248
00:30:49.5394000	-12.3245723440
00:30:49.5393000	-11.6093165641
00:30:49.5392000	-13.6426497696
00:30:49.5391000	-8.82447265932
00:30:49.5390000	8.
00:30:49.5387000	5.
00:30:49.5386000	1.
00:30:49.5385000	8.
00:30:49.5384000	8.
00:30:49.5383000	-0.82540517004

Available disk space: 6.7 GB, est

Screens

+ [icon] -

PNG [icon] [icon]

Time	Signal 1 [µm/m]
00:30:49.5402000	4.
00:30:49.5401000	0.
00:30:49.5400000	-7.53808066475
00:30:49.5399000	-9.02366691968
00:30:49.5398000	4.
00:30:49.5397000	12.59923066359
00:30:49.5396000	1.
00:30:49.5395000	-11.5049571248
00:30:49.5394000	-12.3245723440
00:30:49.5393000	-11.6093165641
00:30:49.5392000	-13.6426497696
00:30:49.5391000	-8.82447265932
00:30:49.5390000	8.
00:30:49.5388000	5.
00:30:49.5387000	1.
00:30:49.5386000	8.
00:30:49.5385000	8.
00:30:49.5384000	-0.82540517004

Available disk space: 6.7 GB, est



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# UNDOCKING SCREENS

- ① Select the respective screen and keep the left mouse button pressed for 2 seconds until the blue frame becomes bold
- ② Keep the mouse button pressed and move it away from the software; Release the mouse button afterwards

The screenshot displays the DEWETRON software interface with several data screens. A table at the bottom shows the following data:

Time	Signal 1 [µm/m]	Signal 2 [V]
00:50:40.880000	1.51279045872926	-3.51204699517283
00:50:40.881000	11.7187008491972	-3.51302142529654
00:50:40.881800	19.477131411367	-3.110977226048
00:50:40.881700	19.246970814031	-3.50186186260075
00:50:40.881600	13.2877062189437	-3.50877736286796
00:50:40.881500	8.820013818778	-3.501177281307
00:50:40.881400	12.1341338153158	-3.50417648367294
00:50:40.881300	15.465178982658	-3.501177281307
00:50:40.881200	9.0501118354677	-3.49914592189465
00:50:40.881100	9.2432044421621	-3.49174241309466
00:50:40.881000	17.3364919186123	-3.49496922128064
00:50:40.880900	16.1128873028955	-3.4927394877533
00:50:40.880800	7.71727171146195	-3.49522115857213
00:50:40.880700	7.8424084902205	-3.48810451121394
00:50:40.880600	7.9026208439137	-3.49121662681848
00:50:40.880500	4.51113204486137	-3.4825218615874
00:50:40.880400	3.17294705948378	-3.48127461993242
00:50:40.880300	-3.04117871338218	-3.47884618771747
00:50:40.880200	-6.0884869898073	-3.4764251748485
00:50:40.880100	-2.021148810367653	-3.47466487311923
00:50:40.880000	-0.1104483961103714	-3.472043427810484
00:50:40.879900	2.56649644471736	-3.471029233081
00:50:40.879800	5.967646897819	-3.47413113318793
00:50:40.879700	4.84168137495273	-3.46578830541066
00:50:40.879600	5.41361544548471	-3.463230218370916
00:50:40.879500	2.86102113749164	-3.460641828648
00:50:40.879400	-3.31862249414813	-3.46041111147176
00:50:40.879300	-2.28717010846517	-3.4568070281146
00:50:40.879200	4.6761228922167	-3.45415174301385
00:50:40.879100	5.32821778848719	-3.451489464648213
00:50:40.879000	-0.90344630574813	-3.44848630106496
00:50:40.878900	-7.78916441711	-3.446820000001071
00:50:40.878800	-7.48300469705025	-3.441212526292101

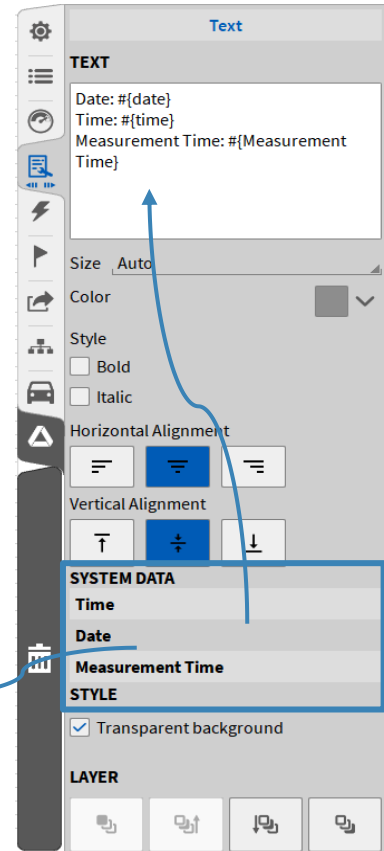
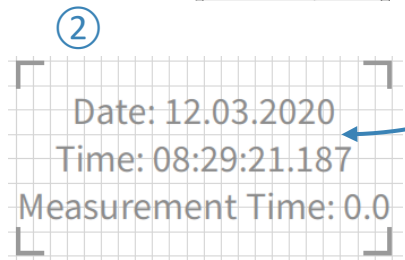
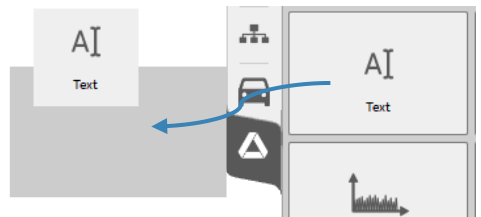
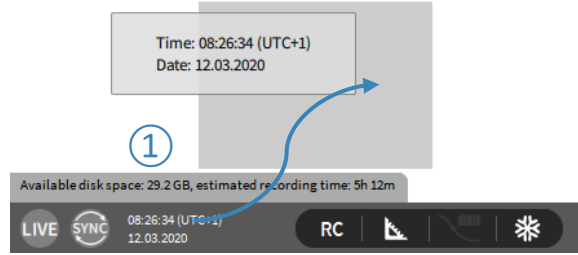
This is a text





# DISPLAY TIME, DATE AND MEASUREMENT TIME ON THE SCREEN

- ① Drag and drop time and date from the Action bar to the screen  
Generates a text instrument
- ② Drag and drop a text instrument to the screen, open its properties and drag and drop time, date and measurement (recording) time to it





# 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

**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

**Storing & Filename**

**DATA STORING**

Data folder

Export folder

**RECORDING FILENAME**

Time, Local 14:16:08	Date, Local 20220929	Counter, Local 167
Time, UTC 12:16:08	Date, UTC 20220929	Counter, Session 0
Time, hh-mm-ss 14-16-08	Date, dd-MM-yy 29-09-22	

Filename preview  
m\_20220929\_141608.dmd

Local Counter

Ask for filename before recording start

Automatically open DMD after measurement with Oxygen Viewer

[Jump to measurement settings](#)

# SYSTEM SETTINGS – STARTUP SETTINGS



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

The screenshot shows the 'Oxygen Setup' application window. The left sidebar contains a list of settings categories: Storing & Filename, Startup Settings (highlighted), Advanced Settings, Hardware, DAQ Hardware, Amplifier / RS232 / RS485, Sensors, Remote Control, User Interface, Localization, UI Options, Advanced Graphics, System Information, Component Versions, Errors and Warnings, Plugin Overview, License, OXYGEN Features, Developer, and QML Sandbox. The main content area is titled 'Startup Settings' and features a section labeled 'STARTUP BEHAVIOUR' with three radio button options: 'Default', 'Empty setup' (selected and highlighted with a blue bar), and 'Last setup'. Below these options is a 'Load setup file' option with a 'Browse...' button. At the bottom of the window, there are buttons for 'Quit to OS', 'Shutdown System...', and a link for 'Jump to measurement settings'. A circled '1' is placed over the 'Empty setup' radio button to indicate the selection point.



# 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

The screenshot shows the 'Advanced Settings' window in the Oxygen software. The left sidebar contains a menu with 'Advanced Settings' selected. The main area is divided into sections: INSTRUMENTS, FREEZE BUFFER, SYSTEM TIME SYNCHRONIZATION, and MISCELLANEOUS SETTINGS. Numbered callouts (1-5) point to specific settings: 1. 'DejaView enabled' checkbox; 2. 'Minimum duration' and 'Maximum duration' sliders; 3. 'Synchronize operating system time with acquisition time' checkbox; 4. 'Prevent OXYGEN from shutdown during measurement' checkbox; 5. 'Suppress all confirmation prompts' checkbox.

**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](#)

**Advanced Settings**

**INSTRUMENTS**

- DejaView enabled** 1
- Max. DejaView files to keep (0 = all)

**FREEZE BUFFER** 2

Minimum duration  s, Maximum duration  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  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.



# SYSTEM SETTINGS – HEADER DATA

- 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 Text instrument is generated

*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*

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"/>	-

Name	Description
Operator	= DEWETRON
Running Speed [rpm]	=

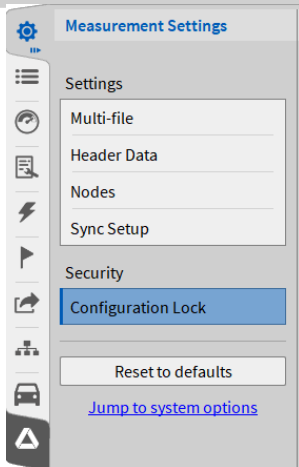
*Data files can be selected according to Header data while loading a data file from the OXYGEN file browser*





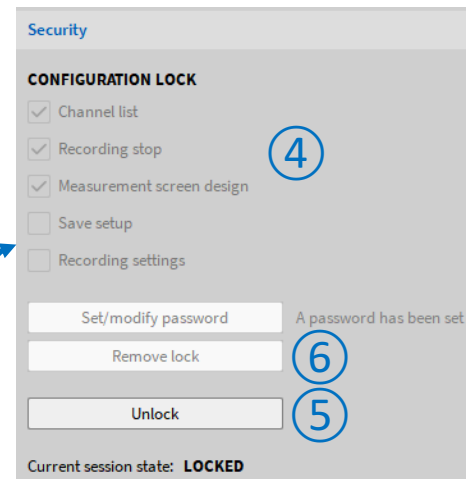
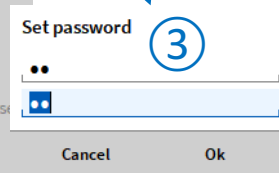
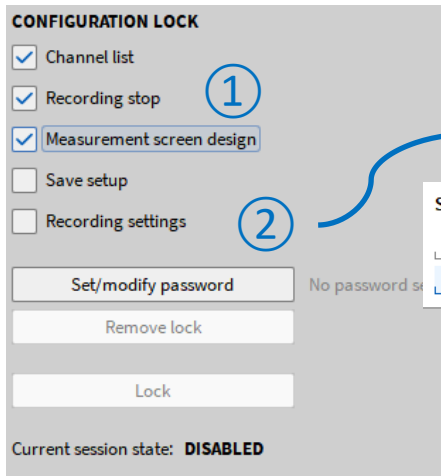
# SYSTEM SETTINGS – SETUP SECURITY

- 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

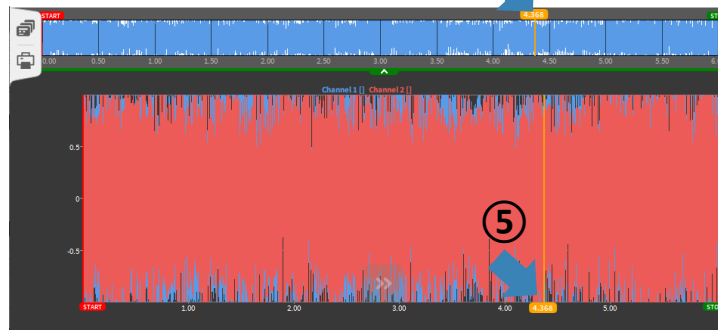
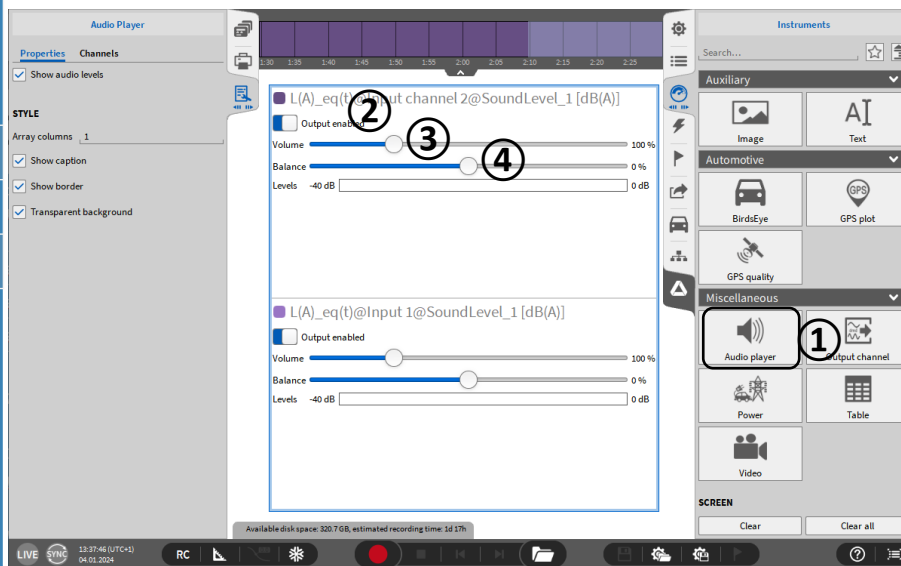
*Maximum number of replay channels per instrument is 2.*

*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.*

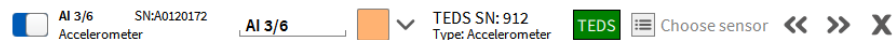
*In PLAY mode, replay is snapped to Orange cursor (5).*



# TEDS SUPPORT

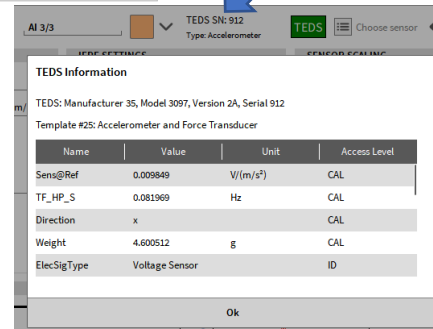
- TEDS data can be read out and applied to channel settings
- Template 25 ... 33 according to IEEE1451.4 supported
- TEDS support for TRION-2402-MULTI  
TRION(3)-18x0-MULTI  
TRION-2402-dACC (IEPE mode only)

- > 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	IEPE SETTINGS	SENSOR SCALING
Mode: IEPE	Excitation: Current 4 mA	General TEDS
Range: 3045.859 m/s <sup>2</sup>		Type: Sensitivity
		Sensitivity: 9.8e-3 V/(m/s <sup>2</sup> )
Coupling: 0.16 Hz		Offset: 0 m/s <sup>2</sup>

Detailed TEDS info can be displayed



AI 3/3 TEDS SN: 912 Type: Accelerometer **TEDS** Choose sensor <<

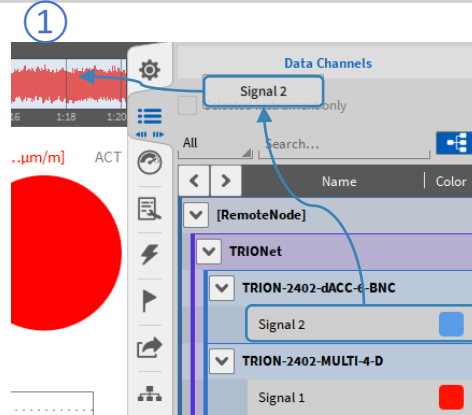
**TEDS Information**

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

Ok

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

