ABC Wireless Sound Level Meter

Hardware

Software

Cloud

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Hardware and features:

- Small dimensions: 19 mm x 42 mm x 160 mm
- Light weight: 100 grams
- Weatherproof, temperature range of: -20 degC to 60 degC
- Microphone technology: digital MEMS
- Precision class: complying to ANSI S1.4 and IEC651 Type 1
- Real-time spectral display: 2048-Point Power Spectrum – dB or Lin Scale
- Saturation level (typical at 1Khz): 120 dBA/Z/C
- Typical noise-floor: 30 dBA, 46 dBC, 52 dB
- A, C and Z weighting curves
- Field-calibrated using a 94 dB 1/2” calibrator, provided with certificate
- Single recording memory threshold of non-volatile 128 Mb
- Minimum log interval: 125 ms (8 points of Lmin, Lmax and LEQ per second)
- Sensitivity to vibrations: 60 dBSPL/g
- Duty rate of signal capture: 100%, no missed samples
- Long life internal rechargeable battery that recharges from USB
- Accurate date/time clock
- Reliable WiFi connection that provides data to PC server everywhere or directly to the Cloud
- Affordable, user-friendly 1 year-long Cloud subscription working on every platforms´ internet browers (Android, iOS, Mac, Windows)
- Complete monitoring of the instrument via Cloud (sound levels, battery status, temperature)
- Provided with Outdoor 4G Router if needed, especially for industrial noise monitoring
- 2 LED light signals periodically show info about battery status, temperature and recording situation

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Type of measurements and recordings:

- Sound level and acoustic dose measurement and recording
- Calculation of Lday, Levening, Lnight, Lden from server PC
- Short-term Leq, Lpercentile calculation from server PC
- Short-term and long-term Leq, Lmin, Lmax monitoring from Cloud

Applications:

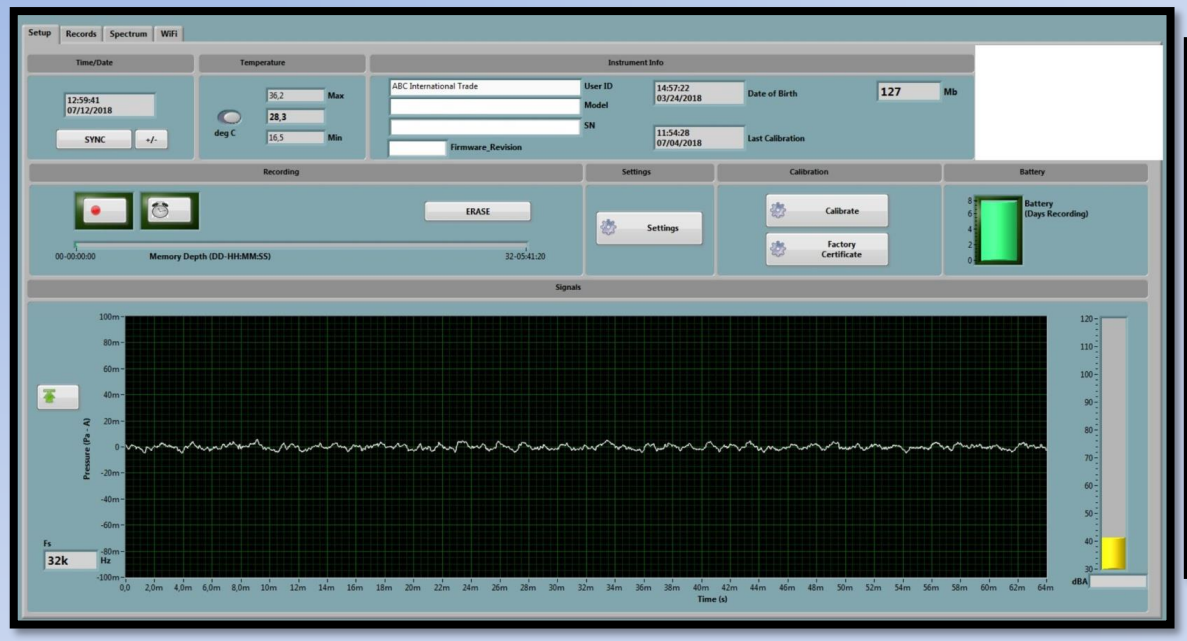
- Monitoring of safe working conditions
- Long-term measurement and recording of acoustic levels for environmental impact studies
- Specially designed for long-term outdoors applications
- Indoor monitoring of music loudness, noise or speech loudness

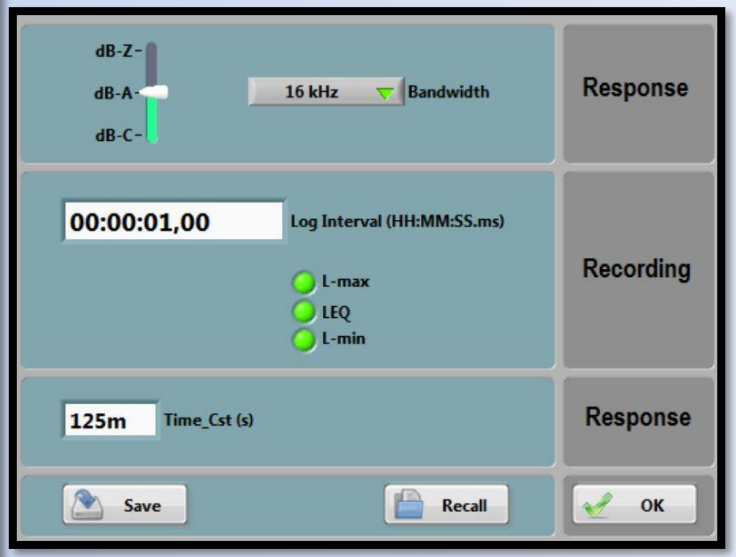
LED light signals

Mode	Operation	Power Consumption
Idle	Disconnected from USB and not actively recording - Only keeps time.	Minimal: can stay on for up to 6 months.
Active	Connected to USB – Not recording – Instrument is fully on and measuring	Instrument draws power from USB to power itself, and if necessary recharge its battery. Battery is not depleted.
Recording	USB-connected or not - Fully on and recording.	If USB-connected, power comes from USB. If not, power comes from the internal battery. If not connected the instrument can record for up to 7 days.
Periodic *WiFi*™ Connect	From any state, including *Idle* and *Recording*, the instrument can periodically wake up its *WiFi*™ interface and attempt to connect to a server. If the connection is not established after 1 minute it falls back to its original state until the next connection time.	If USB-connected, power comes from USB. If not, power comes from the battery. The *Periodic Connect* feature consumes battery. This is especially the case if the connection interval is set to be short so it occurs often.

LED State	Meaning
Off	Instrument is disconnected, or is connected to a PC that is in standby.
Green	Instrument is connected to a PC or USB charger, and the battery is full.
Orange	Instrument is connected to a PC or USB charger, and the battery is charging.

Sound Meter Management: setup





- Arrange sound meter's settings
- Calibrate
- Check time synch, temperature, memory and signals
- Manually set dB-weighting, bandwidth and log time interval
- Set the level that will be recorded: *Lmax*, *Leq*, *Lmin*
- Adjust time constant
- Save your settings and quickly recall them

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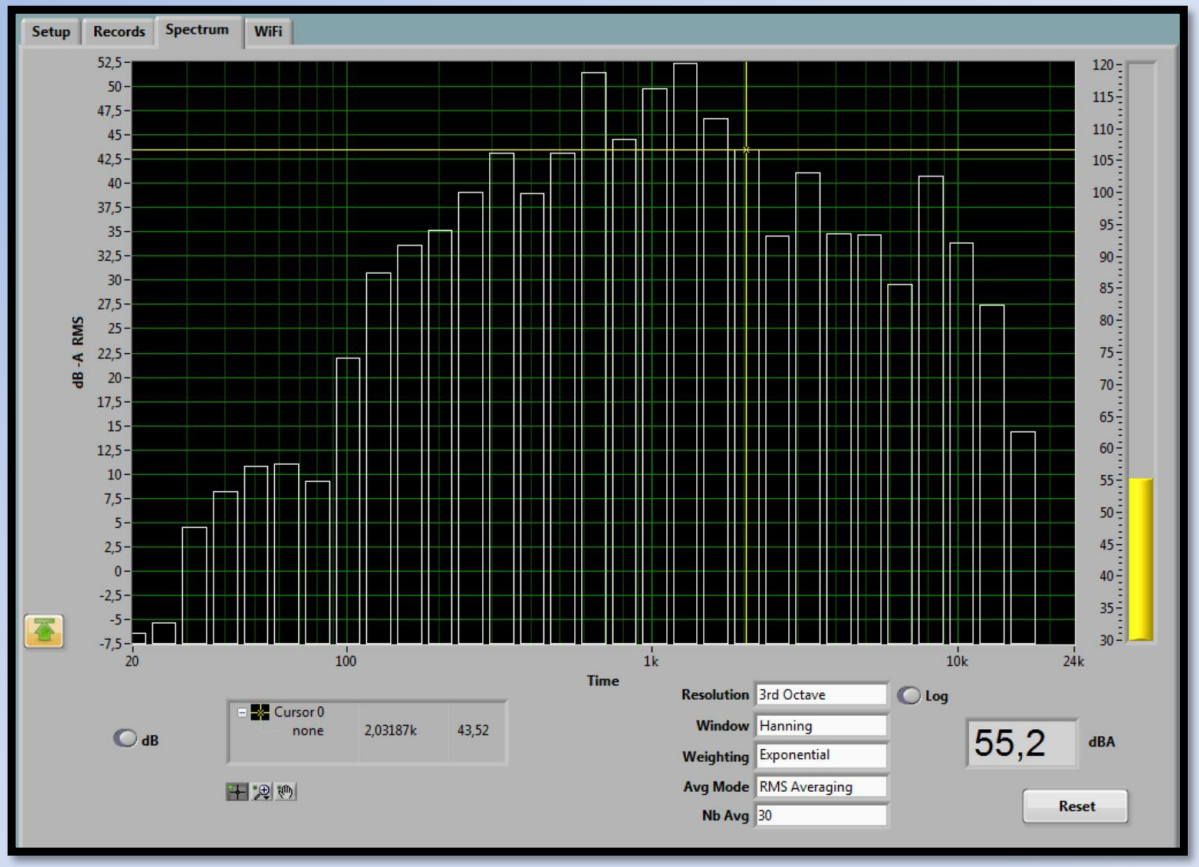
Sound Meter Management: saved records

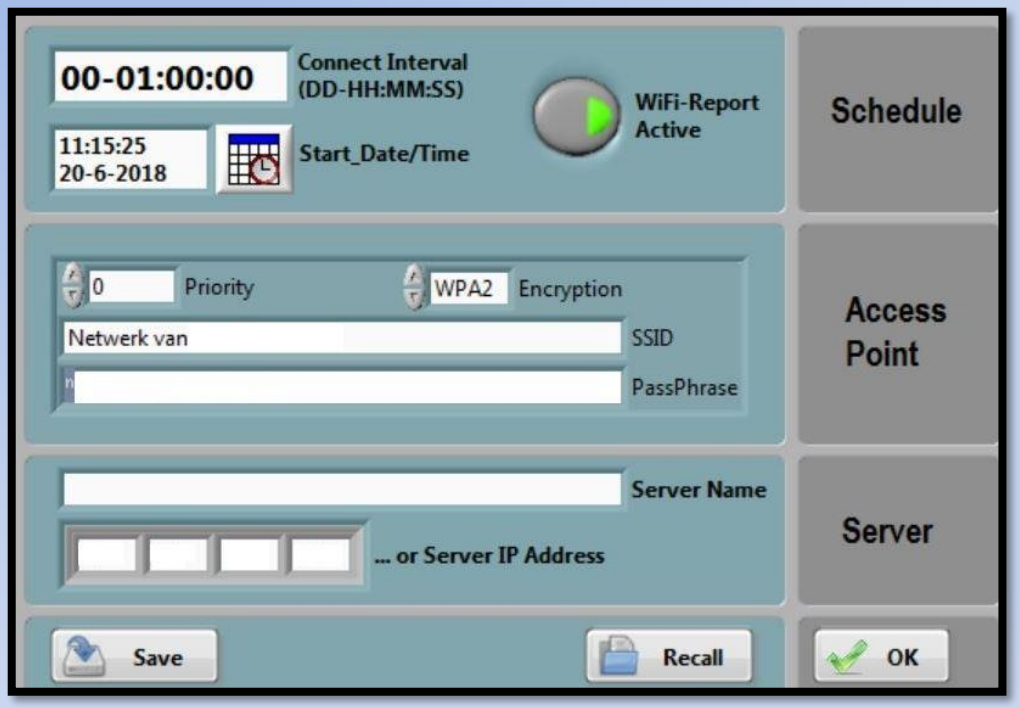
- Linear or logarithmic levels
- *Leq*, *Lmax* and *Lmin* trend
- Global *Leq* level
- Global *Dose* Percentage
- Global *Lpercentile* (*L1, L5. L10, L20, L50, L80, L90, L95, L99*)
- Choose each graphical setting at your leisure
- Add costum cursors

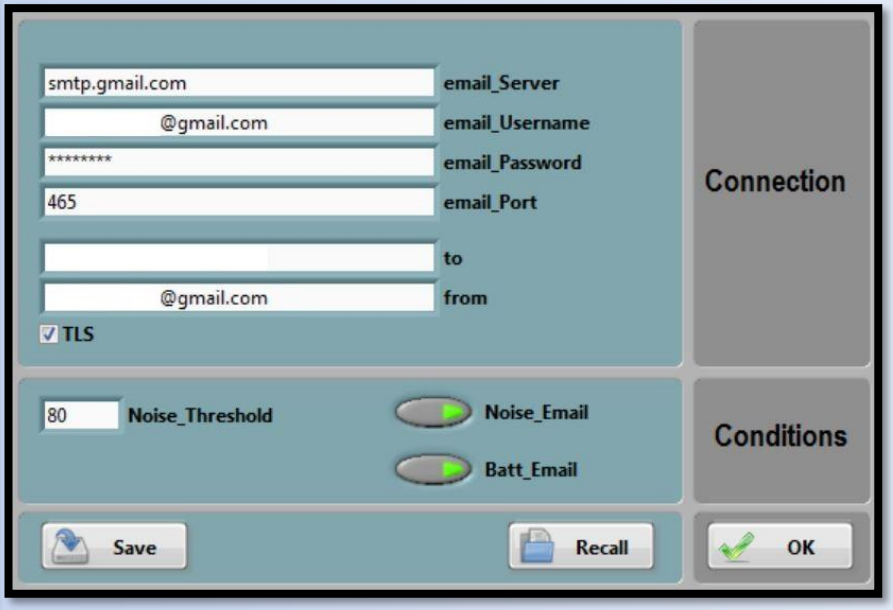
Sound Meter Management: spectrum



- Integrated spectral analyzer that can show real-time spectrum in 3rd-octave bands in real time
- Linear or logaritmic
- Available *RMS Averaging* or *Peak Value*

Sound Meter Management: WiFi setup





- Choose your connection interval
- Set the timer for starting the forecasted mode
- Insert Access Point SSID and password (WEP, WPA, WPA-2)
- Connect to a provided gmail account to receive automatic email alarms for over the threshold noise or low battery
- Put in your server IP address to get real-time data

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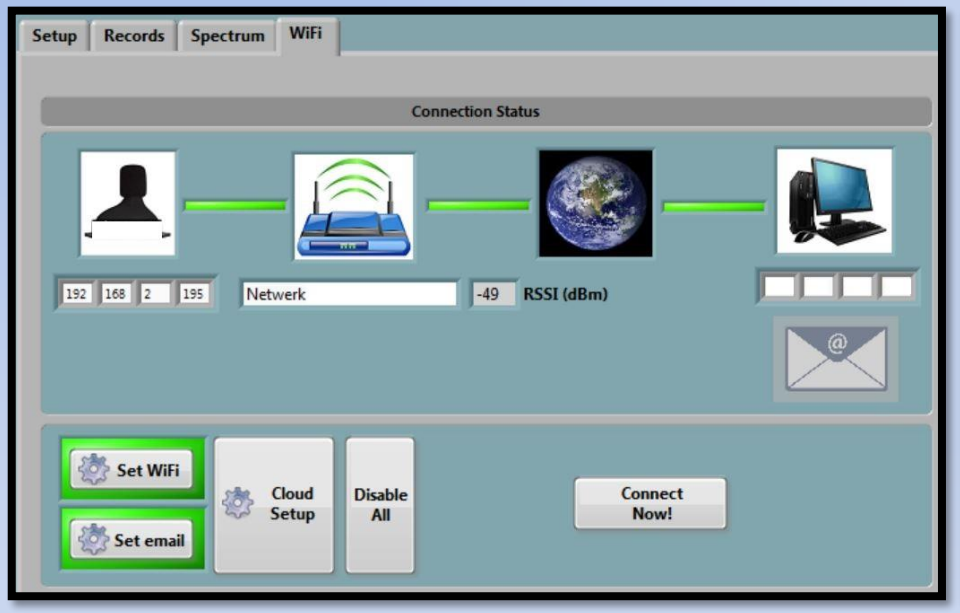
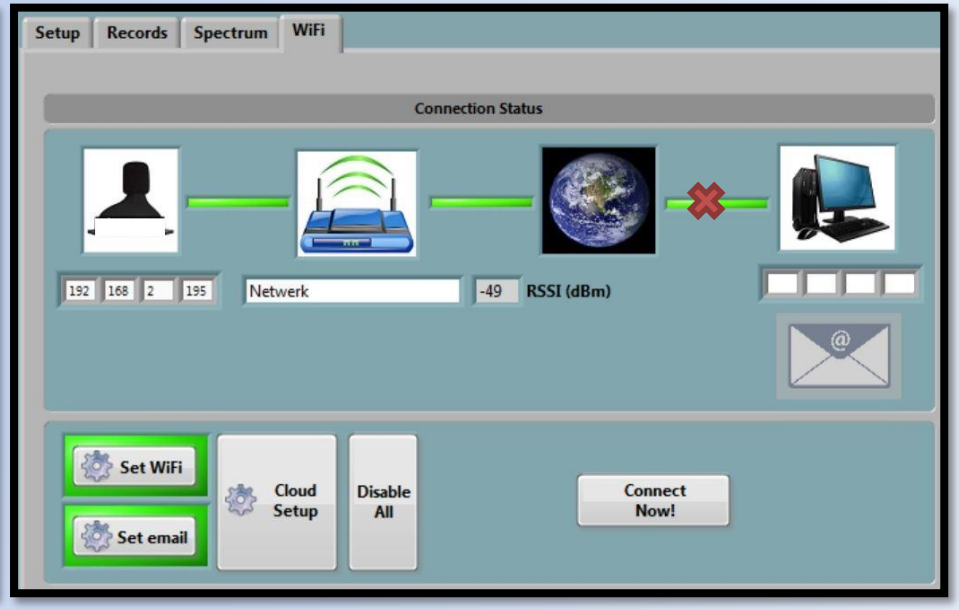
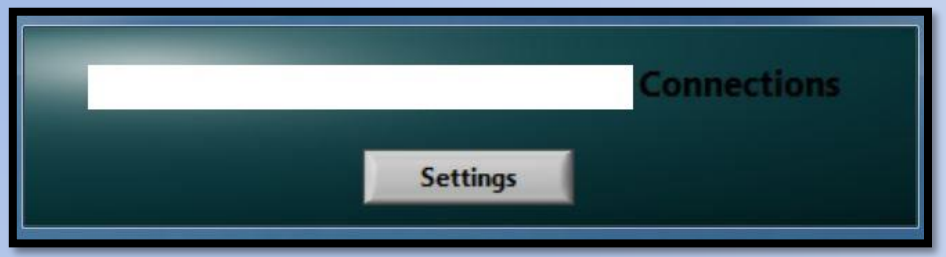
Sound Meter Management: WiFi and email check

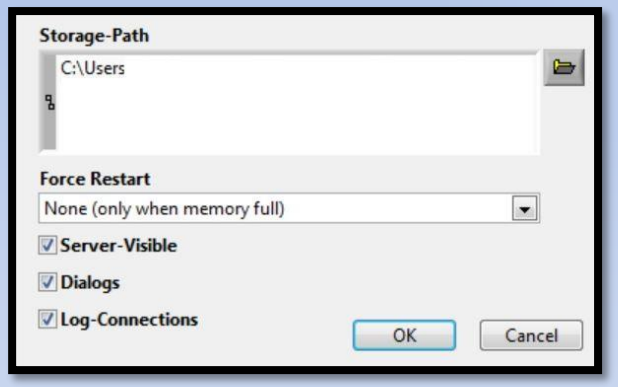


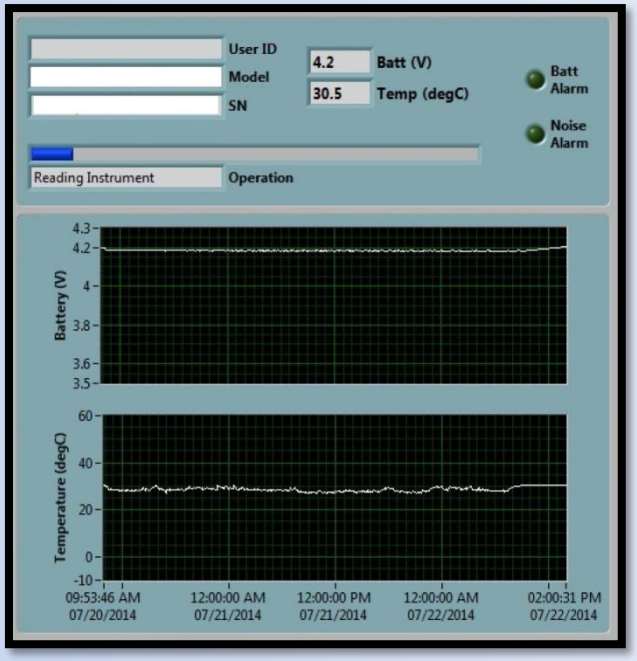


- Check the wireless connections ahead of the measurement with the button *“Connect Now!”*
- In case of connection error you can handily recognize a problem thanks to the interface (right image)

Sound Meter Listener







- Receive incoming connections from multiple devices
- Choose your storage-path
- Set when to force restart
- Select what communications you need active
- Monitor battery and temperature status while storing real-time sound level data

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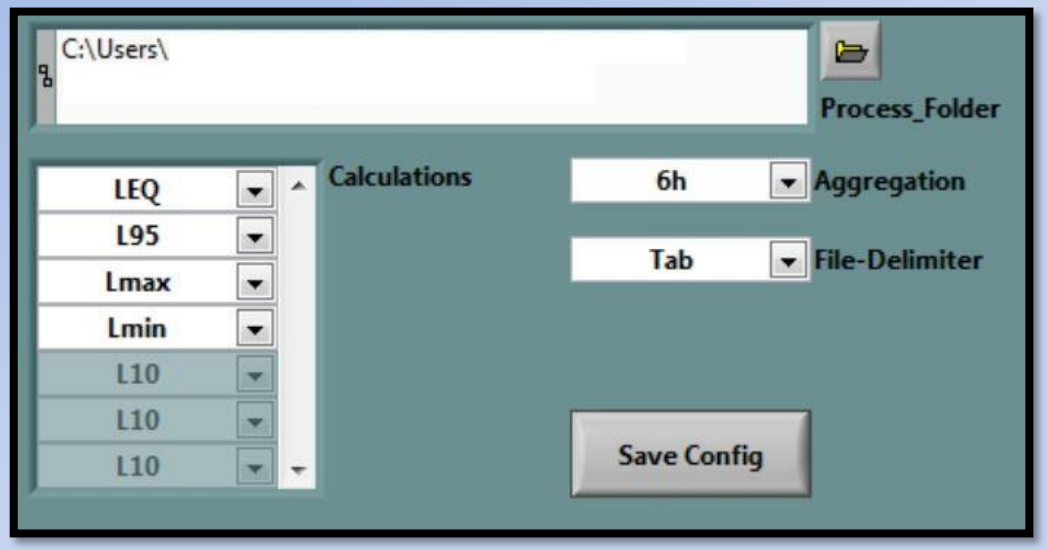
Autocalculator: real-time spreadsheets



Time (Date hh:mm)	LAeq-6h [dBA	L95 [dBA]	Lmax [dBA]	Lmin [dBA]
14-07-18 0:00	31,1	30,4	53,0	29,6
14-07-18 6:00	31,5	30,7	51,8	29,6
14-07-18 12:00	32,4	30,8	66,5	30,0
14-07-18 18:00	34,5	30,7	62,3	29,9
15-07-18 0:00	31,1	30,6	59,1	29,8
15-07-18 6:00	33,4	30,4	70,1	29,8
15-07-18 12:00	33,0	30,9	69,2	29,9
15-07-18 18:00	34,1	30,9	73,0	29,9
16-07-18 0:00	31,1	30,5	48,7	29,7

- Configure sound levels to calculate
- Choose between raw or time aggregated data
- Select the map to process
- Run Autocalculator
- Get the real-time spreadsheets with one click

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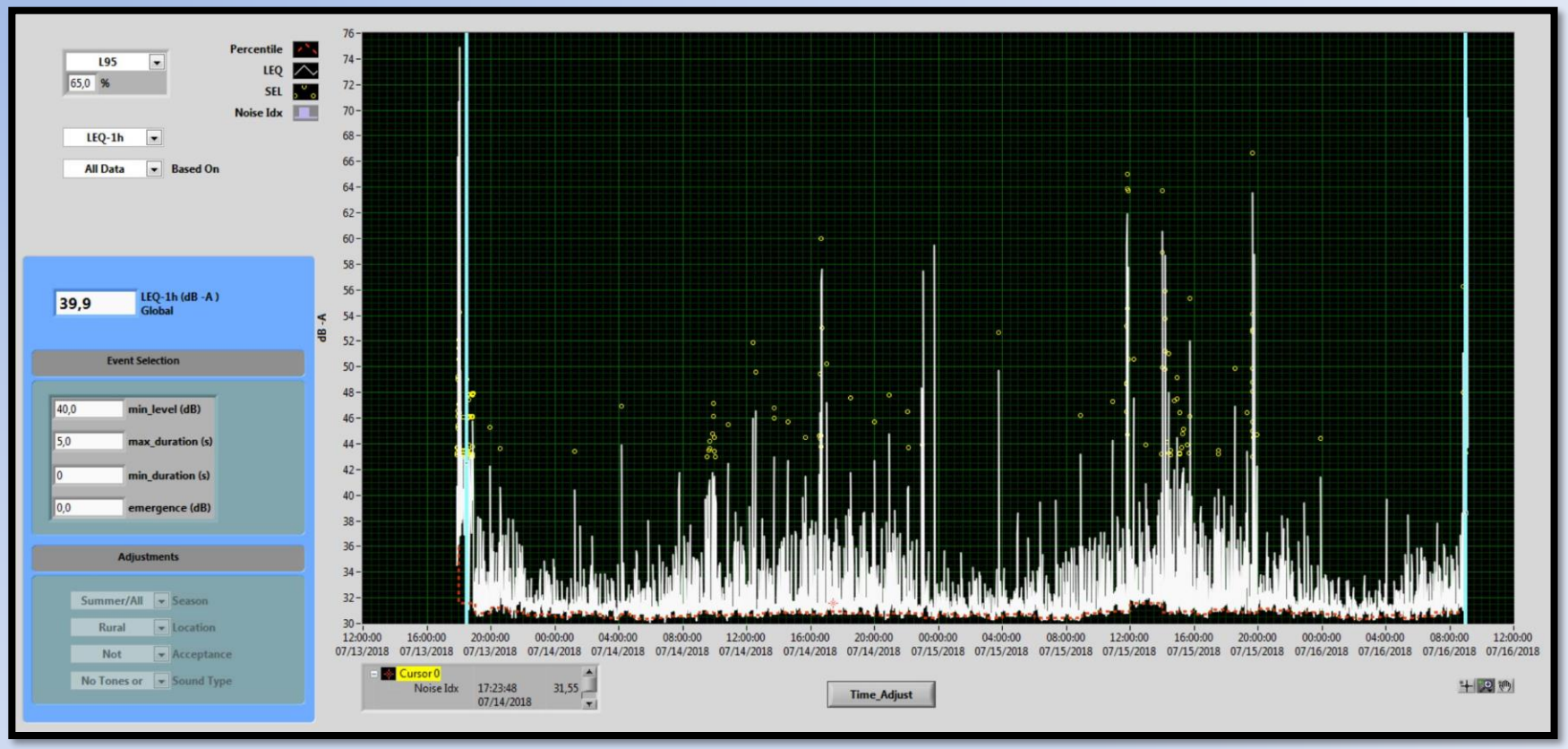
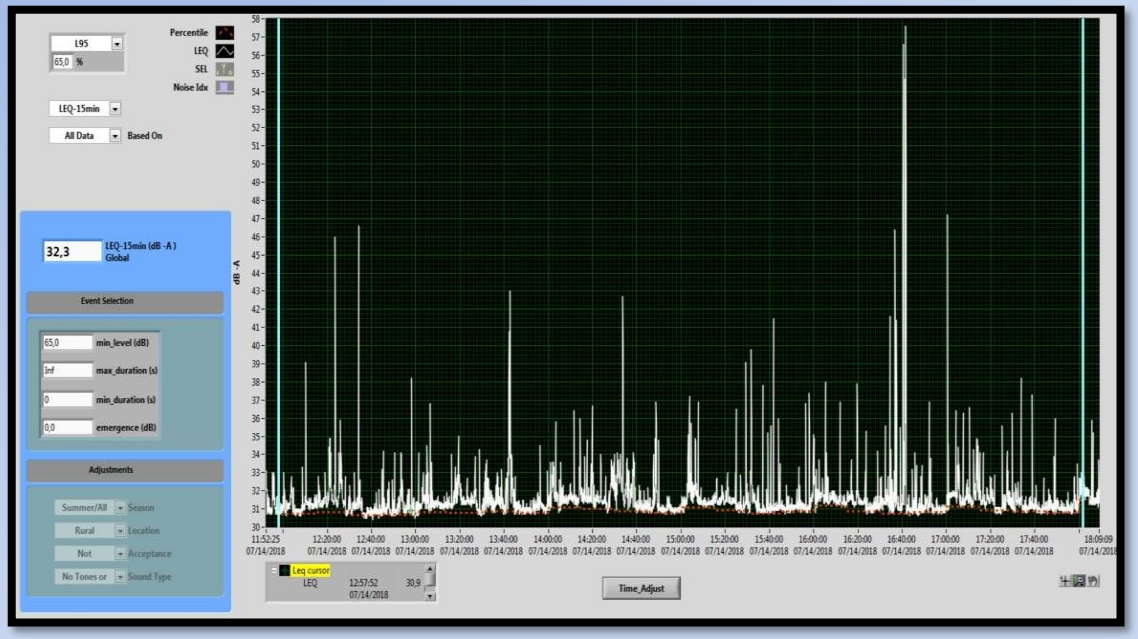
Community Noise Metrics: real-time global results

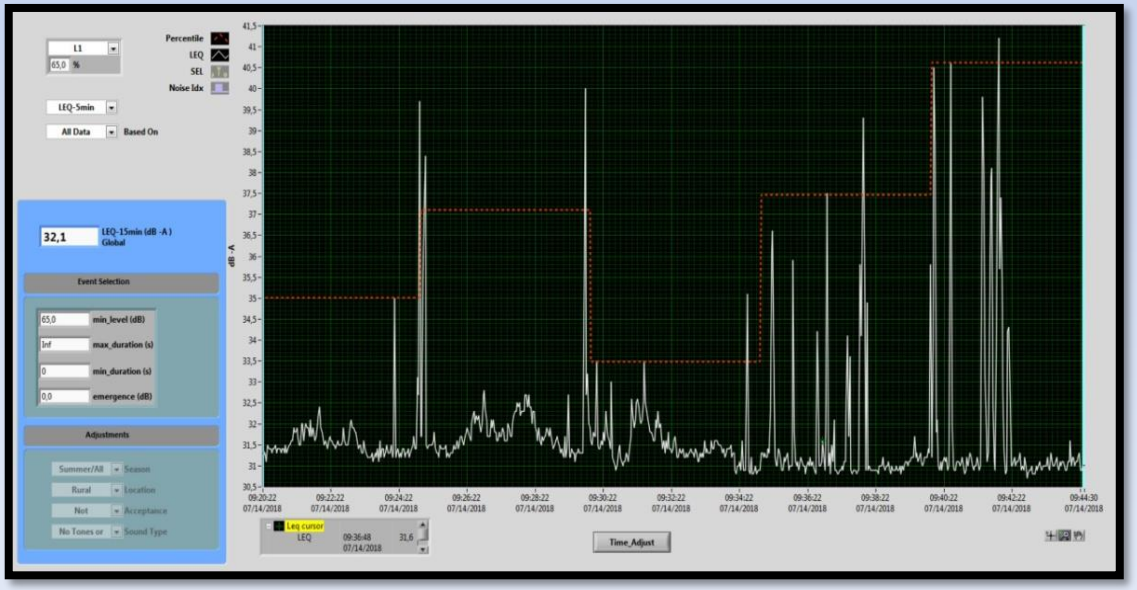


- Work on your whole measurement in real-time
- Read *LAeq-T, Lday, Leve, Lnight, Lden, DNL, HNL, CNEL*
- Set the *Lpercentile* that you want to be showed
- Regulate the *Sound Exposure Level* event settings
- *Noise Index* indicator available

Community Noise Metrics: long and short-term results



- Put time limits on your long-term measurements with the appropriate cursors
- Work on a selected long-term measurement in real-time
- Read*LAeq-T ,Lday, Leve, Lnight, Lden, DNL, HNL, CNEL*
- Adjust *SEL* and *Lpercentile* settings



- Put time limits on your short-term measurements with the appropriate cursors
- Work on a selected short-term measurement in real-time

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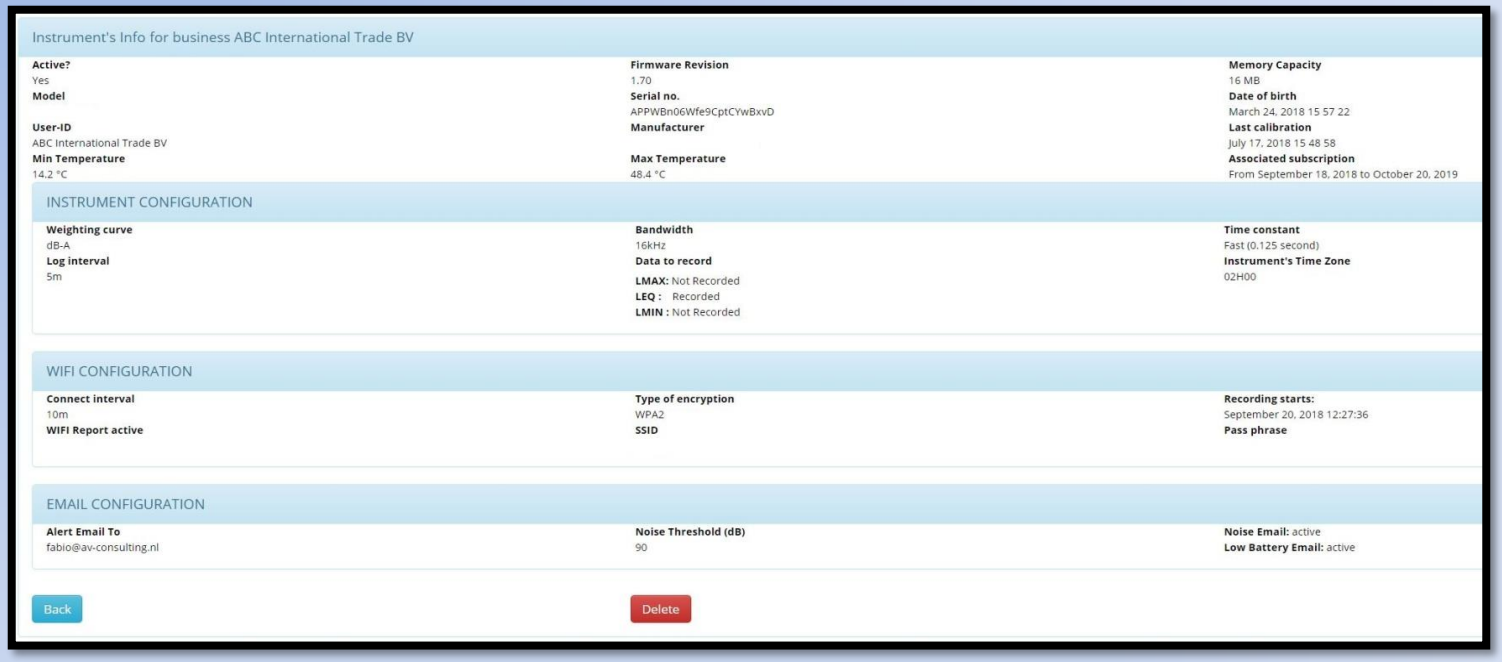
USB-Audio Option

- The USB Audio Option allows it to be recognized by the host computer as a USB Microphone. Work on a selected long-term measurement in real-time.
- The USB-Microphone interface streams a mono audio signal, like any standard USB microphone, except the pressure signal is calibrated in Pa and weighted by the selected weighting function (A, C or Z).
- Develop your own acoustics analysis or monitoring application on any platform that recognizes a standard USB microphone.
- Sampling rate: 32 kHz, 48 kHz.
- If you purchased the Audio option separately from the instrument, contact us for the installation of it.

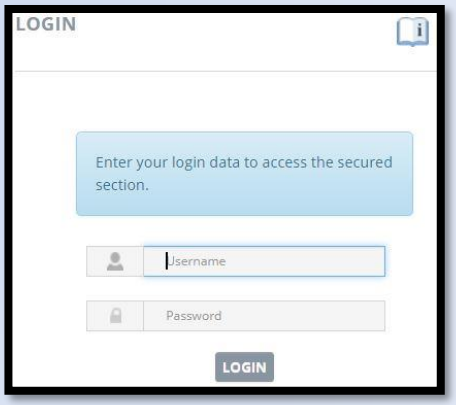
Cloud Subscription: setup

- Enter your Cloud username
- Click on *"Instrument Config Web Page"*
- Setup your measurement (see next page)
- Click on *"Activate Instrument"*

Cloud Subscription: configuration

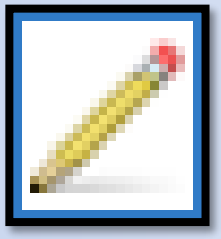


- Login on a internet browser
- Input your configuration
- Fill in your router SSID and password
- Choose the email account for the eventual alarms and the related noise threshold
- Activate the instrument with the *“Instrument Manager”*



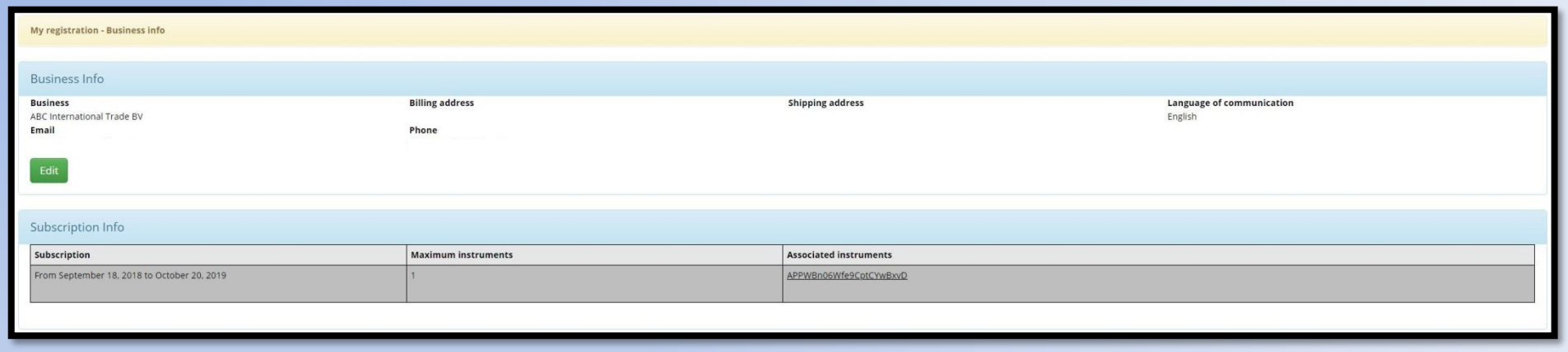
Cloud Subscription: re-configuration

ID	Model	Name	Serial no.	Active	Subscription	Message	Actions
1254	VSEW_mk2		CFHcrX0weXe9CDvSx2pRnD	Yes	ID: 1538 (1) Until Jun 30, 202		
1668	VSEW_mk2		CNHWhv0Y0fUVlhlQZ6rZID	Yes	ID: 1539 (1) Until Jun 30, 202		
1421	VSEW_mk2		Ctj8LH26e38%qrtCwyhZPD	Yes	ID: 1542 (1) Until Jun 30, 202		
1416	VSEW_mk2		CvB8rH2aUf8%lrlQb+JRND	Yes	ID: 1541 (1) Until Jun 30, 202		
1422	VSEW_mk2		CvtcB9U4+%WfArnQa2lI5ID	Yes	ID: 1540 (1) Until Jun 30, 202		

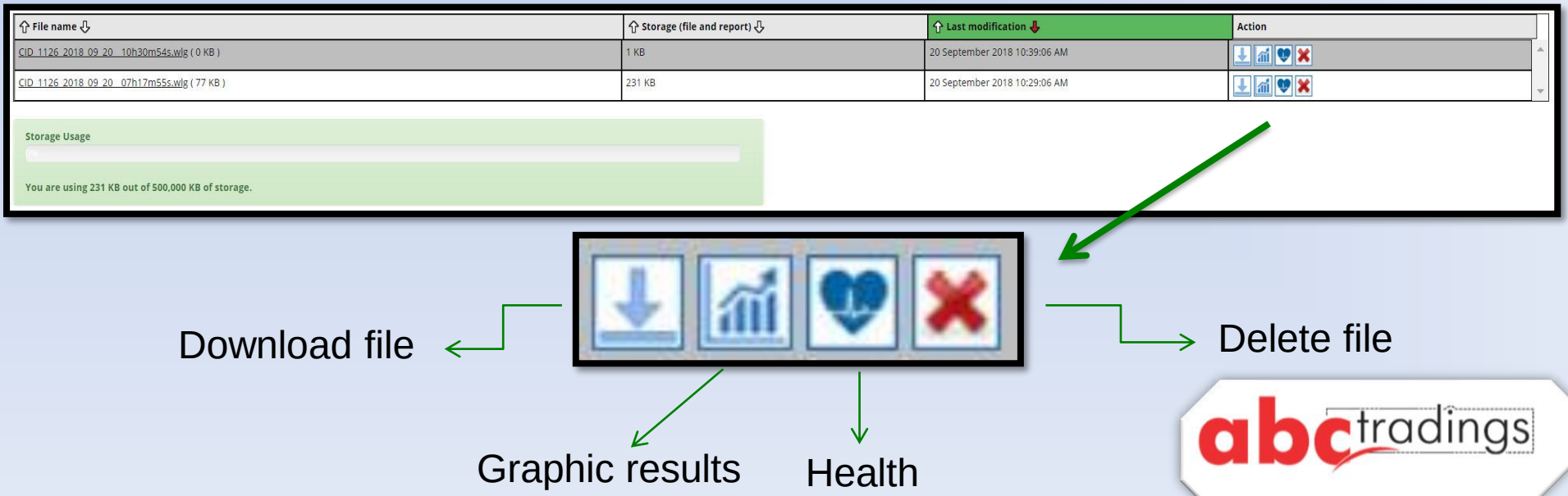


- Reconfigure at any moment
- All the measurement's configuration can be adjusted
- The connection's configuration cannot be changed via internet
- At the first next successful connection a new file will be created with the adjusted settings

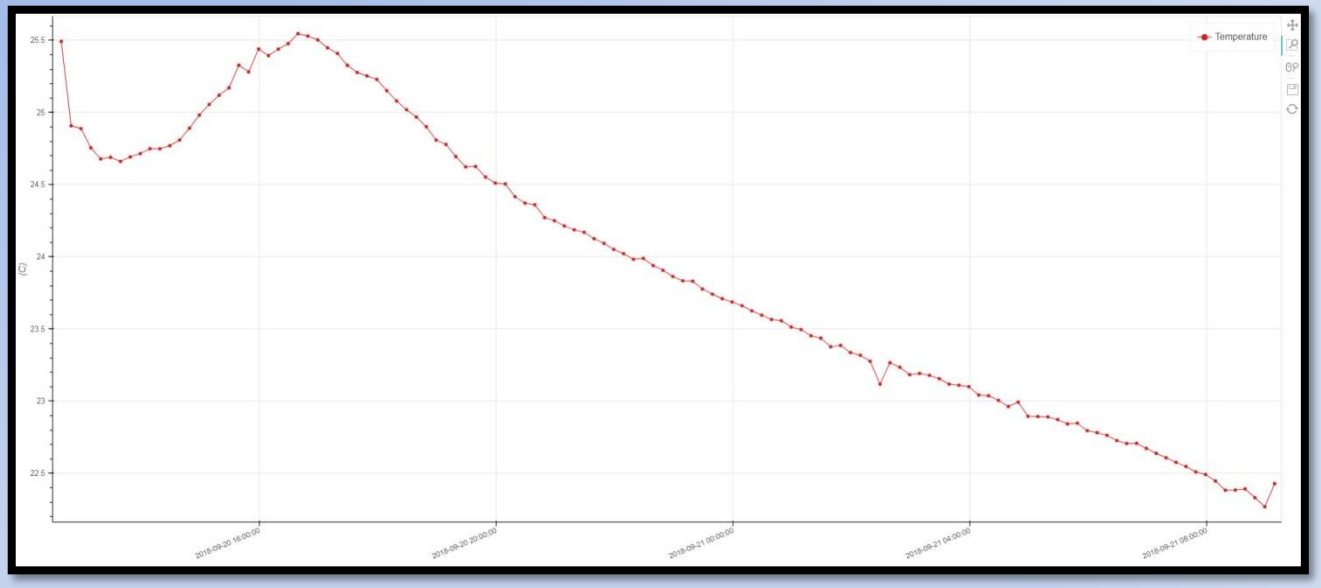
Cloud Subscription: instruments management



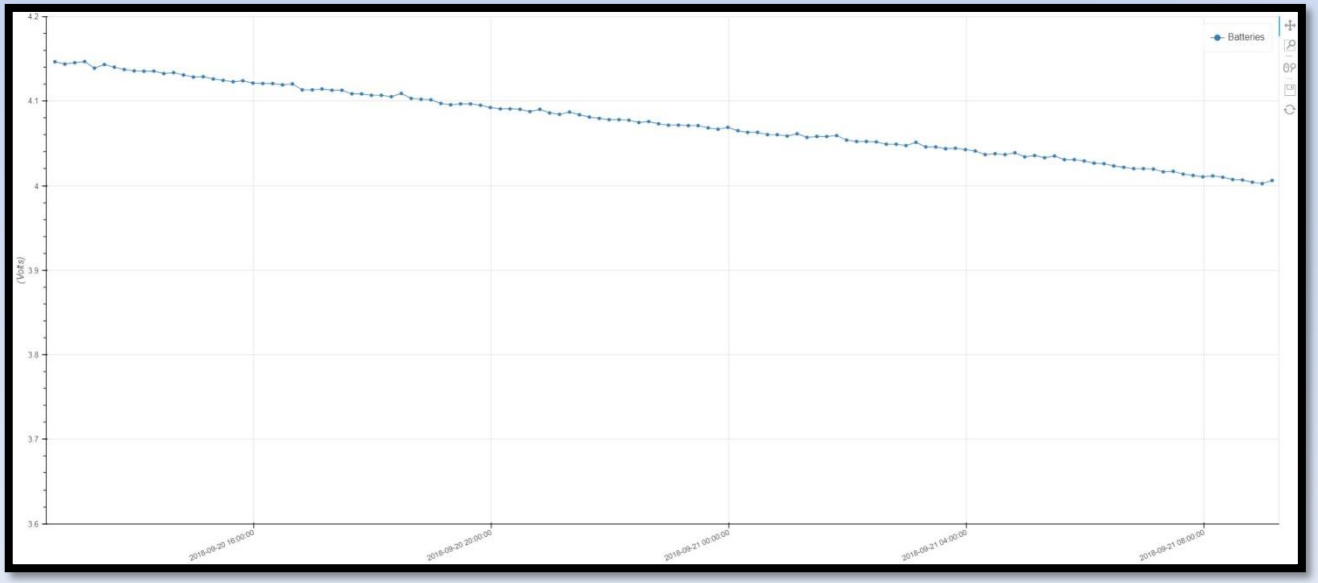
- Login from every platform (smartphones, tablets, PCs, MACs)
- Manage and riconfigure the instruments, check their health, read all the measurement data from here



Cloud Subscription: instrument's health



- Example of temperature's monitoring in C°
- One value every 5 minutes



- Example of battery's status in Volts
- One value every 5 minutes

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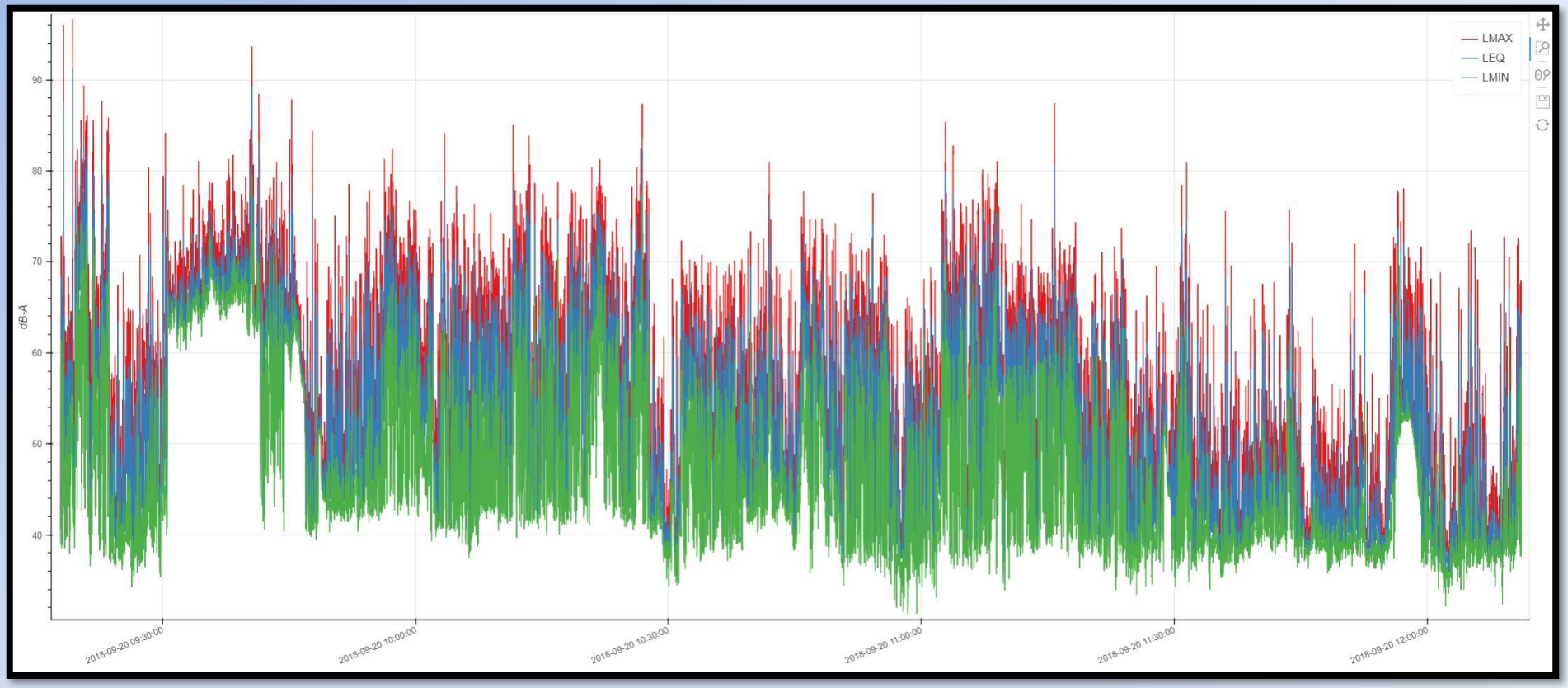
Cloud Subscription: graphic data



- Example: graphical displaying of *LAMax, LAeq & LAMin* measured every 30 seconds for 3 hours
- Surf smoothly through and zoom into the graphic thanks to the buttons (up in the right corner)
- Save a .png with one click

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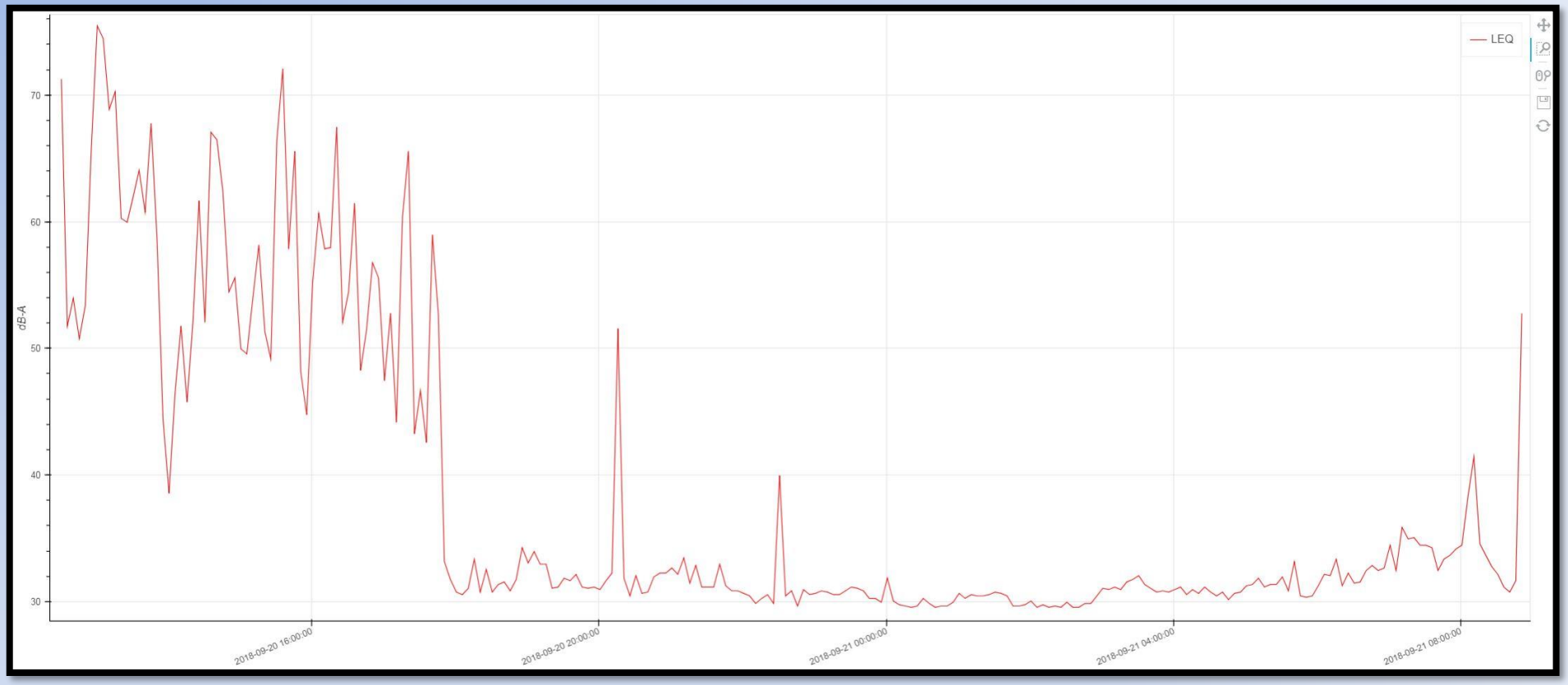
Cloud Subscription: graphic data



- Example: graphical displaying of *LAeq* measured every 5 minutes for 20 hours
- Once logged in with a device, you just need to refresh your browser's page to see the updated results

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Cloud Subscription: additional features

- Primary and secondary email alarms for noise and low battery directly from the Cloud
- Deactivate / reactivate an instrument without losing its Cloud stored data
- Manage your instruments and recordings at will
- Download the data and post-process it at any time
- Download the file and obtain Excel's spreadsheets with two clicks (*Auto Calculator* software)
- In the rare case of storage space becoming full (figure below), the Cloud will send you several emails with enough notice

- At worst, the Cloud will delete your oldest file in order to avoid stopping your current measurement
- No limit for number of instruments on a storage account (*f.i. you buy 3 subscriptions, you can have unlimited instruments on the cloud, but up to three instruments ACTIVE at the same time*)
- No limit for number of files on a single activated instrument