

PRODUCT DATA

DAQ-H Data Acquisition and Handling Software Basic DAQ-H WT-9865, Advanced DAQ-H WT-9866

The Data Acquisition and Handling (DAQ-H) software provides workflow management of complex measurement, recording and analysis tasks. The DAQ-H framework provides a dedicated customer user-interface to control PULSE™ software to manage all setup, calibration, measurement, analysis, data management and reporting.

Basic DAQ-H WT-9865 is a pre-configured, ready-to-run application. Advanced DAQ-H WT-9866 comprises all the functionality of the basic version, but can also be customised to specific user requirements.



Description

With over 12000 licenses sold, PULSE is the most popular and widely used platform for sound and vibration measurements. One of the many features is its open architecture, and this is utilised by the DAQ-H framework to create dedicated solutions.

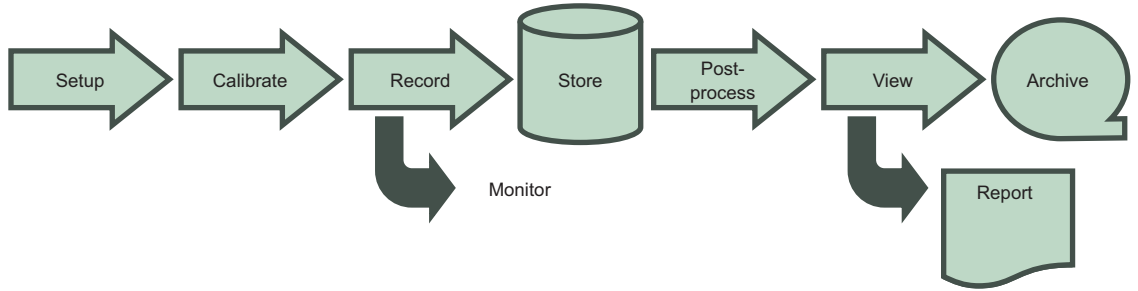
Especially with large channel count systems, the speed and ease of system setup becomes a crucial factor. Typically, these tests are expensive to run and there is little room for error. Here the DAQ-H software can be used to efficiently handle the setup and use of the Brüel & Kjær PULSE platform. Using a Microsoft® Excel® file for specifying the configuration setup allows you to set up your measurement and analysis program without the actual measurement hardware in place, and long before the actual test begins.

These DAQ-H solutions are typically customised to suit specific customer requirements, and functions include, but are not limited to:

- System setup
- System calibration
- Measurement process
- Data acquisition
- Data validation during acquisition
- Data storage
- Data analysis
- Reporting

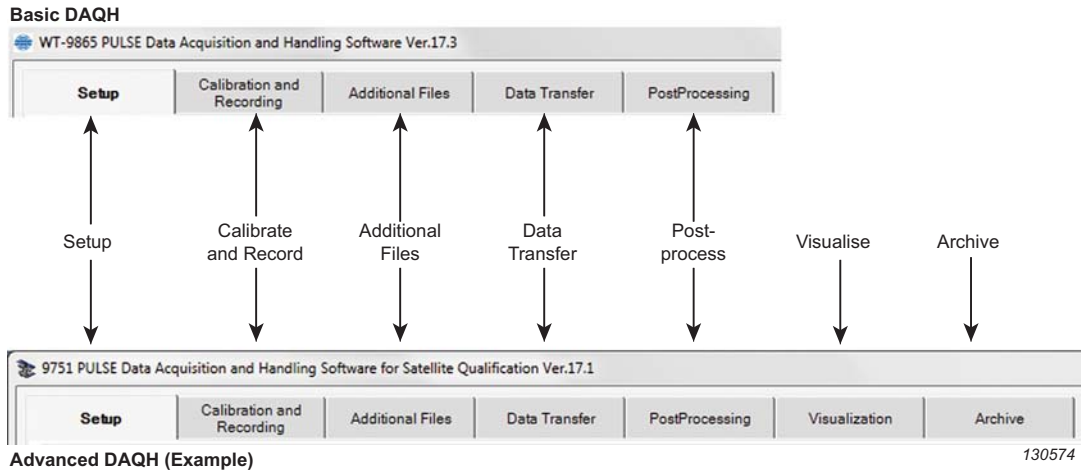
The measurement scenario for the DAQ-H system is illustrated in Fig. 1.

Fig. 1
The user interface is designed with this workflow in mind, allowing you to easily step through the specific parts of your testing



130572

Fig. 2
The main DAQ-H user interface showing the tabs used during the complete measurement configuration. Basic DAQ-H (top) has fixed functionality. Advanced DAQ-H (bottom) can be customised to suit specific needs



130574

Typical Tasks Controlled from DAQ-H

Setup

- Preconfigure the measurement configuration setup in a .xls file. See Fig. 3
- Load the .xls setup file for the appropriate test
- Fill in the project meta-data

Fig. 3
Microsoft® Excel® is used to set up the measurements. Here you can easily predefine channel setups, sensor sensitivity, and other front-end specific setups. The data recording (length and bandwidth) is also set up, together with the display parameters for remote monitor PCs

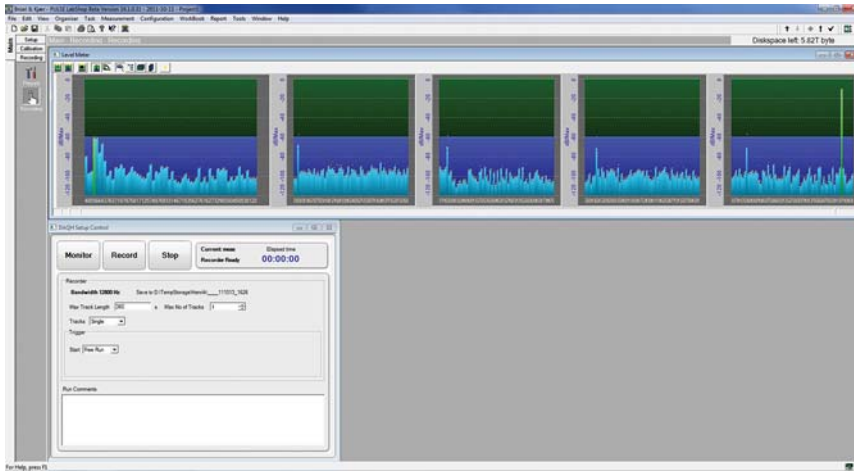
	A	B	C	D	E	F	G	H	I
1	Version	5	0						
2	Measurement mode	Acoustic Fatigue	Swept sine	Random	Acoustic Fatigue	Transient	Modal		
3	Bandwidth [Hz]	12800							
4	Recording time	180							
5	Project								
6	Project Name	myProject name							
7	Subsystem	my Subsystem							
8	Class	my Class							
9	Responsible	I am							
10	Description	this just a demo							
11									
12	Measurement points and configuration set-up								
13	Input Channel	Name	Group	Type	Serial number	Unit	Unit/V	Warning Level	X
14	1.1.1	S1	1		4187			1	1
15	1.1.2	S2	1		4187			1	2
16	1.1.3	S3	1			G	0.5	1	1
17	1.1.4	S4	1			G	0.6	3.1	4
18	1.1.5	S5	1			G	0.7	3.2	5
19	1.1.6	S56	1			G	0.8	3.3	6
20	2.1.2	S7	1			p	0.1	3.4	7
21	2.1.3	S8	1			p	0.2	3.5	8
22	2.1.4	S9	1			p	0.3	3.6	9
23	2.1.5	S10	1			p	0.4	3.7	10
24	2.1.6	S11							
25	2.1.7	S12							
26	2.1.8	S13							

Calibrate and Record

- Fill in the test meta-data
- Calibrate the sensors using the PULSE Calibration Master
- Acquire data. See Fig. 4
- Monitor data acquisition using display of PULSE Level Meter (all channels), FFT and CPB spectral data (selected channels). Monitoring can be made at remote PCs. See Fig. 5

Fig. 4

The main user interface used during recording, showing level meters for each channel (top) plus the recorder start/stop control (bottom)



Additional Files

- Import any additional files that are used with the system, for example, photos, process data, etc.

Data Transfer

- Copy/move recorded time data between recording location and disk

Post-Process

- Retrieve raw measurement data for post-processing
- Perform post-processing analysis using predefined analyzer setups that provide FFT analysis and 1/3-octave analysis

Visualisation (Advanced DAQ-H only):

- View post-processed data
- Compare analysis results from single or multiple measurements
- Create and print a report

Archive (Advanced DAQ-H only):

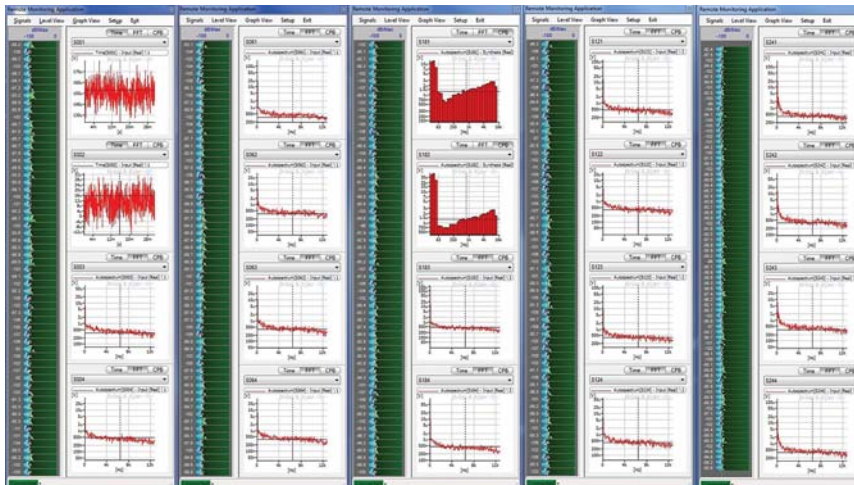
- Archive the test data, time and frequency domain and meta-data

Remote Monitoring During Recording

The Remote Monitoring function provides instant feedback on the ongoing test for multiple users. Remote monitoring software can be installed on a number of remote PCs, which are connected via LAN to the Data Collection PC. For very large channel count systems, the use of multiple remote monitors is supported.

Fig. 5

The Remote Monitor software is included in both Basic DAQ-H and Advanced DAQ-H. It enable users on LAN-connected PCs to monitor data recording in real time



At the remote monitoring stations you can select some or all of the channels to monitor in real time as Histogram Level (far left), Time, FFT or CPB displays during recording.

Uses and Applications

The DAQ-H software is specifically intended to lighten the burden of users who make repetitive testing, where the main test objective is to record data for later post-processing. It reduces test time, increases test efficiency, and assures data quality.

DAQ-H is for those who have a specific, well-defined, repetitive test workflow. DAQ-H leads the user through the tasks of setting up data recording in PULSE LabShop, making and monitoring the recording and then analyzing and handling the data.

Examples of solutions that utilize DAQ-H can be read about in System Summaries on our website bksv.com:

- [Aircraft noise certification system](#)
- [Static engine certification test system](#)
- [Satellite qualification test system](#)
- [Self-noise monitoring system](#)

Specifications – DAQ-H Data Acquisition and Handling Software

BASIC DAQ-H WT-9865

WT-9865 is a ready-to-run application that is preconfigured to provide:

- Quick setup of measurement channels via Microsoft® Excel®
- One-button start/stop recording using PULSE Data Recorder Type 7701
- Data validation on remote PCs during acquisition – display of Level, Time, CPB and/or FFT
- Pre-configured PULSE LabShop FFT post-analysis. CPB analysis is optional

ADVANCED DAQ-H WT-9866

WT-9866 contains the same functionality as Basic DAQ, and also allows customising the software for specific uses. This could be within areas such as:

- LAN distributed systems
- Interfacing with process control computers
 - weather, flight path, engine performance
 - remote start/stop of data recording
 - importing process data for display
 - exporting data for archiving
- Interfacing with PULSE Reflex™ post-processing software
- Specific post-processing analysis
- Specific user-interface and reporting requirements

Ordering Information

WT-9865 Basic DAQ-H
WT-9866 Advanced DAQ-H

OPTIONAL SOFTWARE

Type 7767 PULSE Data Manager

SOFTWARE REQUIREMENTS

WT-9865 and WT-9866 require the following software:

Type 7701 PULSE Data Recorder
Type 7700 PULSE FFT & CPB
Type 7789 PULSE Time

Trademarks

Microsoft and Excel are registered trademarks of Microsoft Corporation in the United States and/or other countries

Brüel & Kjær reserves the right to change specifications and accessories without notice. © Brüel & Kjær. All rights reserved.

