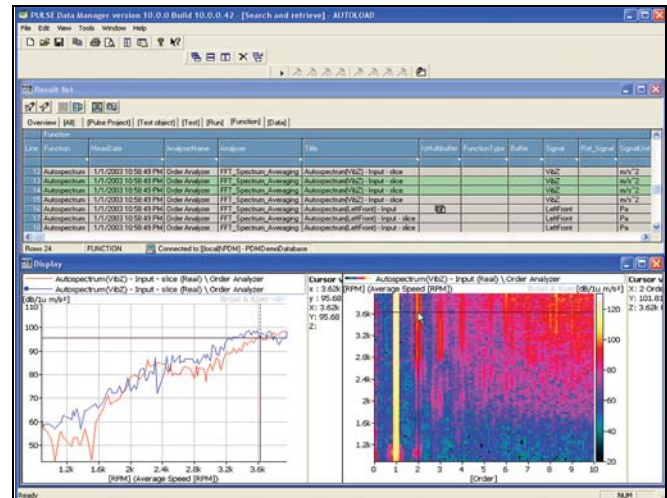


PRODUCT DATA

PULSE Data Manager — Type 7767-A, -B, -C, -D

PULSE Data Manager is a family of data management solutions that enables measurements from PULSE™ or any of its applications to be labelled with meta-data (descriptive data about data) and saved to a database. Based on the Microsoft® SQL Server® database, PULSE Data Manager streamlines data handling, test documentation and archiving for PULSE. The software can run independently or as a component within PULSE and can be installed locally – on a laptop for fieldwork – or on the local area network supporting multiple users across the organisation. With PDM, any and all stored measurement data can be searched for and retrieved intuitively for display, comparison, additional calculation or reporting.



Uses and Features

Uses

- Save labelled measurement data from PULSE and its applications safely and orderly in a centralised database
- Save data of any file type together with measurement data
- Manage, compare and calculate measurement data and analysis results across entire organisation
- Search for and retrieve historic data for display, evaluation, comparison, calculation and reporting
- Create live reports fast and efficiently

Features

- Type 7767-A: Single-user license using a local database (Microsoft® SQL Server® 2008 Express) with predefined layout
- Types 7767-B, -C, and -D: Multiple user licenses allowing creation of customised databases
- Supports Microsoft® SQL Server 2008 databases
- Save and label multichannel, multi-analysis results with a single-click

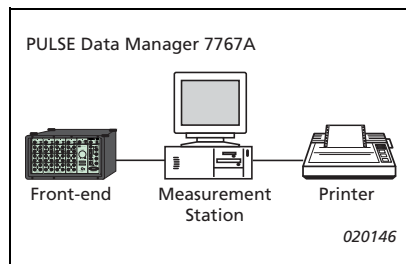
- Flexible data search and retrieval using intelligent queries and multiple search criteria
- Copy meta-data or selected data between databases
- Drag-and-drop graphical displays of measurement and analysis results, and overlay curves for easy data comparison
- Advanced display functionality including 3D displays and meta-data-based legends
- Simple, intuitive reporting using Microsoft® Word templates
- Advanced reporting with Report Generator allows customised reporting in Microsoft® Word or Excel®
- Live reports in Microsoft® Word using drag-and-drop – change displays, colours, legends, axis scaling, cursors, etc., in the report
- Calculator tool provides dynamic post-processing, and arithmetical and statistical calculations of data
- Data stored in XML data format
- Storage of related files using separate file farms
- Runs as a stand-alone application outside PULSE or fully integrated in PULSE
- Automation possible using Visual Basic®

Introduction

PULSE Data Manager Type 7767 (PDM) provides all the tools necessary for efficiently managing PULSE-related data – whether storing, finding, combining, post-processing or reporting. To make things even easier, personalised settings can be stored for easier overview of the data.

Having measured and analysed large amounts of high-quality data, placing it in a database provides the most efficient means of storing it for easy retrieval and sharing (see Fig. 2). Using a database also allows you to combine old and new data sets into reports, comparing and illustrating exactly what you need and eliminating the need for large paper archives of reports.

Fig. 1
Example of single-system, single-user setup

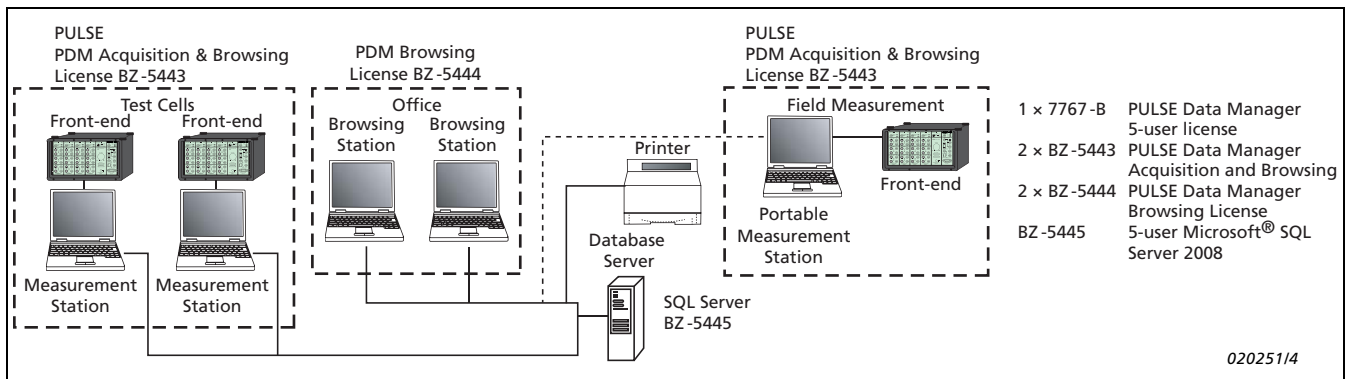


Type 7767-A is a single-user license for organisations with a single PULSE system. The license includes a Microsoft® SQL Server® 2008 Express Edition installed locally with predefined databases ready for immediate use. It includes tools for saving, searching, retrieving, displaying, calculating and reporting all your PULSE measurement data. Type 7767-A can be upgraded to a multiple user license.

Types 7767-B, -C and -D are licenses for up to 5, 10 and 25 users, respectively, which require a Microsoft® SQL Server® 2008. These multi-user licenses have the same functionality as Type 7767-A, with the added feature of a database configuration tool for personalised database creation with meta-data that matches your company’s requirements.

PDM and its components can be run both independently of PULSE as well as from the PULSE task bar.

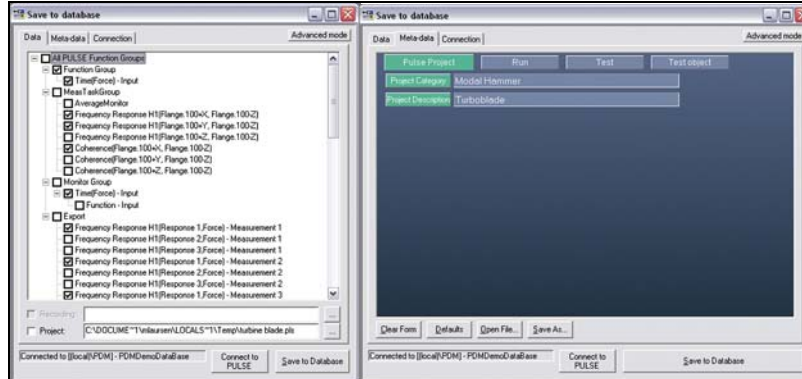
Fig. 2 A typical PULSE Data Manager scenario with 3 PULSE acquisition systems and 2 “office” systems for post-analysis and reporting



Saving Data to the Database

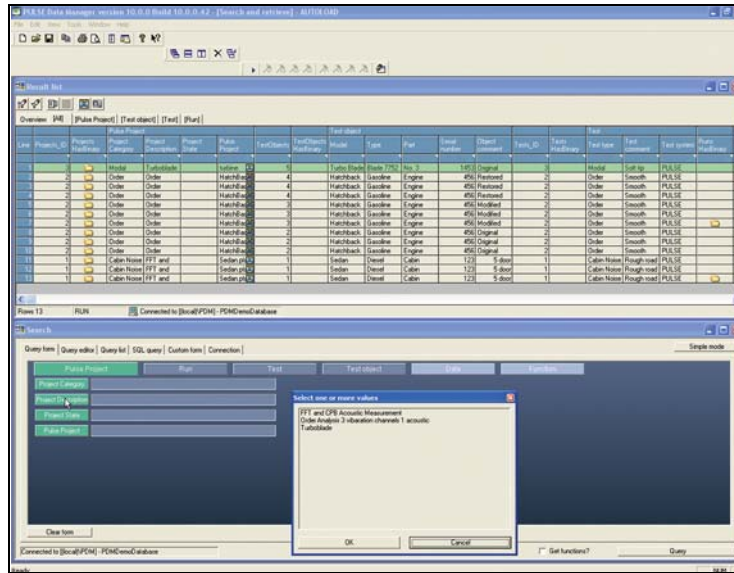
Saving the data is a single-click operation, even with large amounts of data with many analyzers and many channels. After you measure and analyse data with PULSE, the Save to Database task allows you to select data from the PULSE project to be saved in a PDM database and label the data with any information on operator, location, test type, model, etc. (the labels are known as meta-data). You can also save the entire project or any type of file-based annotation (pictures, reports, etc.) with the measurement data. Click *Save to Database* and the data is safely stored for future processing, reporting or viewing.

Fig. 3
 Selecting data from a PULSE project to be saved in the database. Meta-data is then assigned to the data



Searching the Database and Retrieving Data

Fig. 4
 A search of the database is performed with defined meta-data. Clicking on a green button calls up a list of possible meta-data values for that field

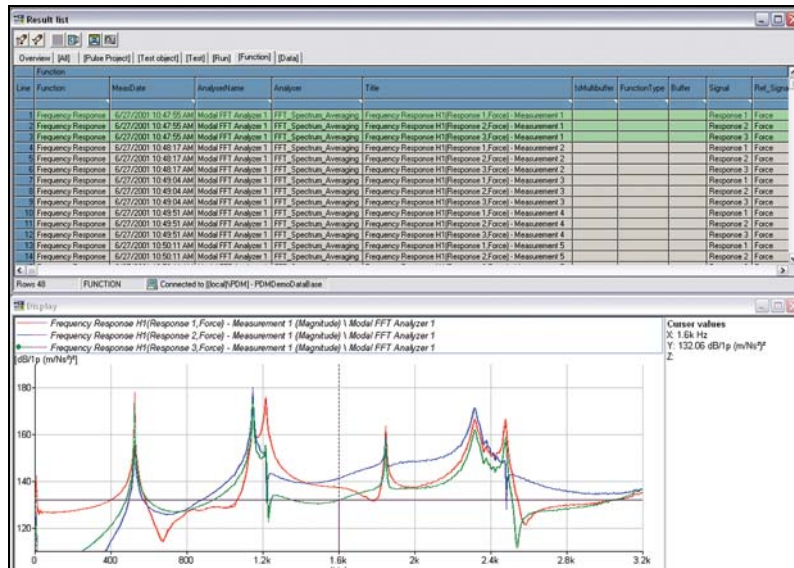


PDM's Search and Retrieve task lets you find and retrieve data stored in a database. With correctly labelled data, you can, for example, search for and retrieve all measurements made over time at a specific measurement point on all vehicles of a specified type.

Searches use the same meta-data as the Save to Database task, and can be saved in a query list for future searches. You can also initiate and define queries in SQL.

Displaying Data

Fig. 5
 Display data by dragging and dropping from the Result List



Display results by dragging and dropping retrieved data from the Result List into a GCX graph area (or report, see below). The display window can be divided into up to 25 graph areas, each of which can hold one or more sets of data, allowing easy comparison of data. Each graph area can be set up independently, for example, to display curves, 3D plots, etc.

Calculating Data

Fig. 6

Input data selected for calculation are displayed in one graph, an operation is selected from a menu and the resulting output is displayed in another graph



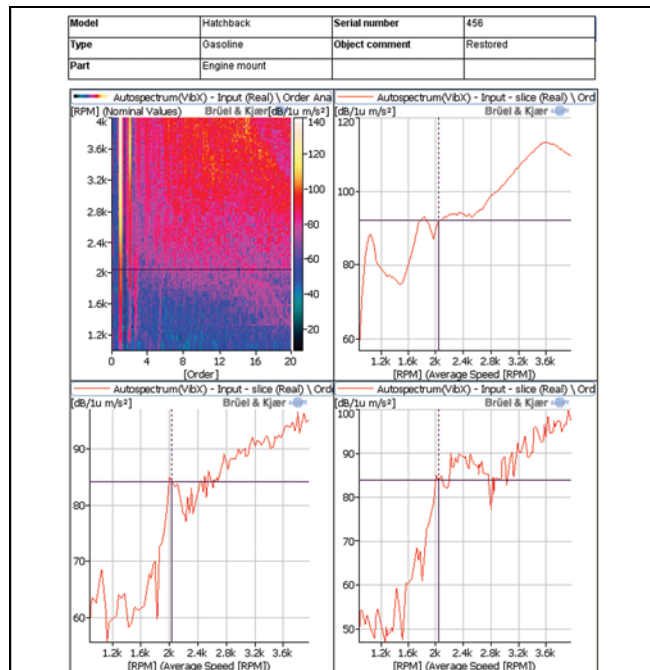
With PULSE Calculator, simple arithmetic, statistics and dB calculations can be performed on selected data, including functions, scalars and previous calculation results. Drag-and-drop data directly from PULSE or PDM, or Windows® Explorer (PULSE ASCII or UFF files) to the Calculator and apply calculations on selected functions as necessary.

Results can be immediately displayed, saved to the database and copied as live or static graphs to any Microsoft® Word, Excel®, etc., for reporting.

Reporting

Fig. 7

Microsoft® Word document with live displays and cursors



Drag-and-Drop Reporting

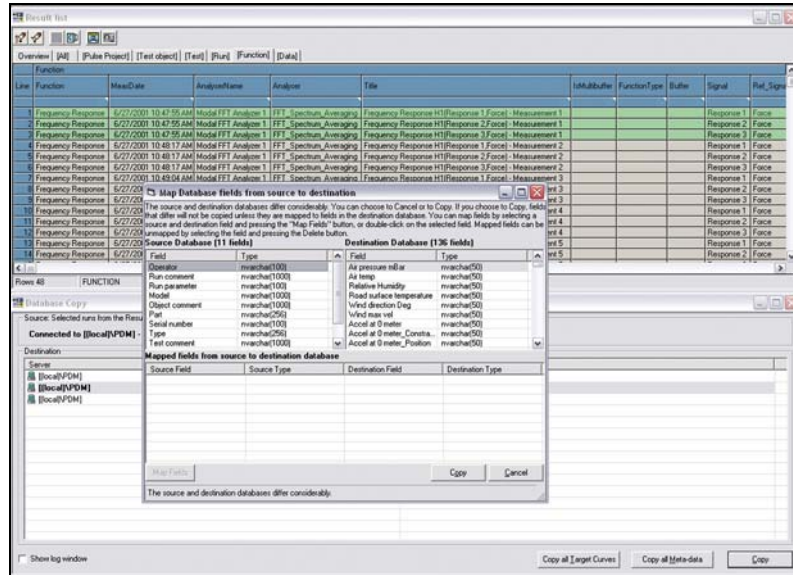
PDM allows you to drag-and-drop data into live displays in Microsoft® Word reports, with active cursors and cursor values. You also have full access to graph properties and options to change, for example, axis-scaling, colours or add annotations. You can also add more curves to a report at a later date, avoiding the recreation of the entire report – simply open an existing report and add more data.

Automated Reporting

Using the built-in Report Generator, create report templates by defining the type of meta-data and displays to be shown in a report. Once created, selected data from the database is automatically added to the report with one click, complete with meta-data, ready for printing. A number of predefined report templates are also provided.

Copying Data

Fig. 8
Mapping dissimilar meta-data from one database to another



The Copy task allows you to copy selected data, all meta-data, or all tolerance curves from one database to another. If the structure of the databases differs, you are given the opportunity to map fields between the databases.

Specifications – PULSE Data Manager Type 7767-A, -B, -C, -D

General specifications for all Type 7767 versions:

OPERATING SYSTEM

Microsoft® Windows® XP, Windows Vista® and Windows® 7

SOFTWARE FORMAT

Microsoft® ActiveX® Components embeddable directly in a PULSE project, an Internet browser or their own dedicated component container

TOOLS INCLUDED

- Save to database
- Search and retrieve data
- Data display
- Drag and drop reporting
- Database maintenance and field editor
- Copy between databases
- New database creation

Search Options:

Searches on all meta-data fields
Via user-defined SQL queries

Copy Options:

- From one database to another:
- Selected data
 - All meta-data
 - All tolerance curves

DATA STORAGE

XML data format

Any Other File Types: Binary format

CALCULATOR

Database Interface: Search, retrieve and save to database

Calculation Options:

- Addition
- Subtraction
- Multiplication
- Division
- Squaring
- Square root
- Reciprocal
- Minimum
- Maximum
- Sum value
- Variance
- Mean
- Mean +/- standard deviation
- Mean +/- 3 standard deviation

Unit Calculation: Any included calculation also deals with units. Units can be manually edited
Reporting: Copy of functions or displays to clipboard for pasting to Microsoft® Word document as live displays or fixed metafiles

REPORTING

Via Microsoft® Word

Reporting Options:

- Drag-and-drop
- Automated

Specifications – PULSE Data Manager Types 7767-A only

Applies only to Type 7767-A – single-user system

DATABASE

Database Type: Microsoft® SQL Server® 2008 Express (SP 1)

Optional Database Type: Microsoft® SQL Server® 2008 Standard Edition (in a network environment)

Data Capacity: 4 GB

Number of Users: 1

Specifications – PULSE Data Manager Types 7767-B, -C and -D only

Applies only to Types 7767-B, -C, and -D – licenses for up to 5, 10 and 25 users, respectively

DATABASE

Database Types: Microsoft® SQL Server 2008 Standard Edition (in a network environment)

Data Capacity: Hardware dependent

Number of Users: Dependent on Type 7767 license or SQL Server, whichever is smaller

Ordering Information

Single-user System

Type 7767-A-X¹ PULSE Data Manager, Single-user license, includes all necessary tools
 M1-7767-A-X¹ PULSE Annual Software Maintenance and Support Agreement
 An upgrade to a multi-user license, requires BZ-5445, BZ-5446 or BZ-5447 and BK-0058

Options

BK-0058 Database Installation and Configuration
 BZ-5443-X¹ PULSE Data Manager Acquisition and Browsing License
 BZ-5444-X¹ PULSE Data Manager Browsing License

Accessories

BZ-5445 5-user Microsoft® SQL Server 2008 Standard Edition
 BZ-5446 10-user Microsoft® SQL Server 2008 Standard Edition
 BZ-5447 25-user Microsoft® SQL Server 2008 Standard Edition

Multi-user System

Type 7767-B-X¹ PULSE Data Manager, 5-user license
 Type 7767-C-X¹ PULSE Data Manager, 10-user license
 Type 7767-D-X¹ PULSE Data Manager, 25-user license
 M1-7767-B-X¹ PDM Annual Software Maintenance and Support Agreement

1. Where 'X' indicates the license model, either N: Node Locked or F: Floating

M1-7767-C-X¹ PDM Annual Software Maintenance and Support Agreement
 M1-7767-D-X¹ PDM Annual Software Maintenance and Support Agreement
requiring
 BK-0058 Database Installation and Configuration, per day

LICENSE CONTENT

Type 7767-B, -C, -D PULSE Data Manager contains:
 1 × BZ-5443 PULSE Data Manager Acquisition and Browsing License
 Each additional user requires 1 × BZ-5443 or 1 × BZ-5444
BZ-5443-X PULSE Data Manager Acquisition and Browsing License contains:
 BZ-5444-X PULSE Data Manager Browsing License
 Save to database tool
BZ-5444-X PULSE Data Manager Browsing License contains:
 Data search and retrieval tools
 Data displays
 Report creation tools
 License control

SAMPLE INSTALLATIONS

3 users with 2 PULSE systems and one office browsing station – the following licenses are required:
 1 × Type 7767-B-X¹ PULSE Data Manager, 5-user License
 2 × BZ-5443-X¹ PULSE Data Manager Acquisition and Browsing License
 2 × BZ-5444-X¹ PULSE Data Manager Browsing License
 1 × BZ-5445 5-user Microsoft® SQL Server 2008 Standard Edition
 1 × BK-0058 Database Installation and Configuration

Overview of PULSE Data Manager Products

	PULSE Data Manager – Single System – Single User	PULSE Data Manager – B: 5 User – C: 10 User – D: 25 User	MORE TEST SYSTEMS PDM Acquisition and Browsing License – Single User	MORE OFFICE USERS PDM Browsing License – Single User
TOOLS PROVIDED	Type 7767-A	Type 7767-B, -C, -D	+ BZ-5443	+ BZ-5444
Save PULSE Data to Database	✓	✓	✓	–
Search and Retrieve	✓	✓	✓	✓
Drag and Drop Reporting	✓	✓	✓	✓
Automatic Report Generation	✓	✓	✓	✓
Copy between Databases	✓	✓	✓	✓
Database Maintenance ^a	✓	✓	✓	✓
Calculation of Data	✓	✓	✓	✓
DESIGN TOOLS				
Report Template Design ^b	✓	✓	✓	✓
Database Creation and Configuration ^c	✓	✓	–	–
DATABASE				
Microsoft® SQL Server® 2008 Express Edition	Included	Sample database included	–	–
Microsoft® SQL Server® 2008 Standard Edition	Optional	Required	–	–
SERVICE				
Installation and Configuration ^d	–	✓	–	–

a. Database Attach-Detach, Field Editor, Database Upgrade and Maintenance Tool (Backup, Repair, Shrink and Restore)

b. For automated reporting

c. New Database Tool can be used by all PDM types, New Database (Advanced) Tool can be used by 7767-B, -C and -D only

d. For multi-user systems, on-site installation and configuration of the database by a qualified Brüel & Kjær representative is required

TRADEMARKS

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Local representatives and service organisations worldwide

