

January 2005

**CEL-6830 dB30 v1.0
DOWNLOAD, DATABASE
& CONTROL SOFTWARE
User's Handbook
HB3315-01**

CEL SOUNDTRACK LIBRARY

**dB30 FOR CEL-430/1 AND CEL-430/2
SOUND LEVEL METERS**

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Introduction

dB30 is a new software package written specifically for downloading data stored in CEL-430 Sound Level Meters. It can also export results to other applications. Data displayed on the screen may be stored in a database format for quick and convenient storage and organization of data. dB30 is built using the latest technologies from Microsoft, the application itself is designed to take advantage of the new ".NET framework" and all database functions have been implemented using SQL (Structured Query Language).

The database backend will run with either the supplied "Microsoft MSDE 2000A" (SQL server) or an existing SQL server installation.

The dB30 software also offers real-time communication between your PC and the CEL-430. This allows the CEL-430 to be connected directly to the PC for simple test and laboratory purposes.

Minimum PC specification

Hardware

Pentium III - 1 GHz

128 MB memory

20 GB hard drive

Operating system

Windows 2000 (service pack 4)

Windows XP Home or Professional (service pack 2)

Windows NT 4 (service pack 6a)

Installation

dB30 software is supplied on CD, together with all necessary components.

From the supplied CD run the application SETUP.EXE located in the root directory. This will check the host PC for pre-installed components and prompt the user before installing any missing/out of date items.

If the "Installation Requirements" dialog appears (Figure 1) then one or more of the necessary components needs installing or updating.

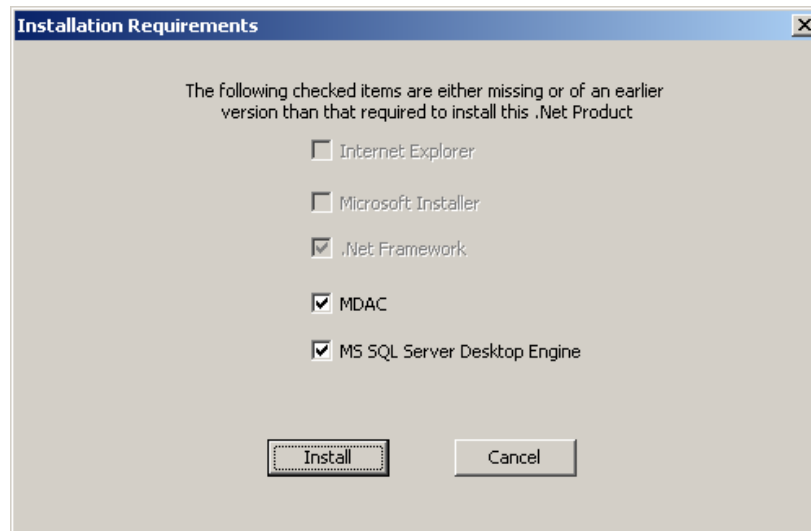


Figure 1

The example given shows that the ".NET Framework" is a mandatory pre-requisite whereas the "MS SQL Server Desktop Engine" is not (the user can opt to use an existing SQL server installation instead).

Unless instructed otherwise by your IT department leave all items checked and click on the "Install" button.


A full installation of dB30 together with all required components will now take place. This may take some time depending on the speed of your pc. There may be periods of time during the installation when nothing appears to be happening, however looking at the hard-disk activity light should show that the installation is copying/updating the necessary Windows files needed for correct installation.

If an error or warning message is displayed, make a note of it and continue with the installation.

If prompted to restart the PC during the installation, **DO NOT**. Once everything has been installed the PC can be restarted. Once dB30 is installed, a message will appear saying “dB30 installed successfully”.

If the PC is restarted during the installation process then the user will need to start the installation process again. The "Installation Requirements" dialog will detect previously installed components, so will not try to install them again.

Once dB30 has installed the PC should be restarted.

If the "MS SQL Server Desktop Engine" was installed an icon  will appear in the "system tray" of the "task bar". This indicates that the "desktop server" is loaded and running ready to service SQL requests from dB30.

Starting dB30 for the first time

During installation a shortcut, named "dB30", will be created on the Windows desktop. Double-click on this shortcut to run dB30. After the splash screen (showing a CEL-430) fades, the main application window should be visible (Figure 2).

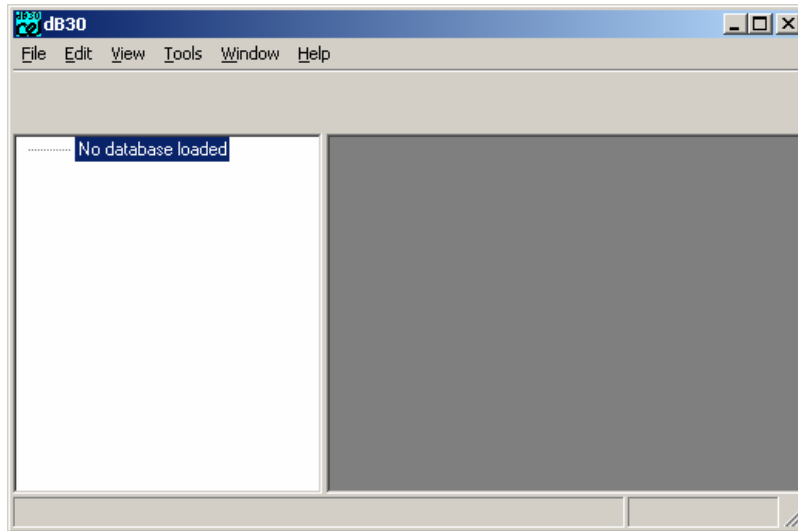


Figure 2

The first step before actively using dB30 is to create an empty database ready to accept data from a CEL-430. From the main menu select: "Tools | options..." and in the displayed dialog box select the "Database" tab (Figure 3).

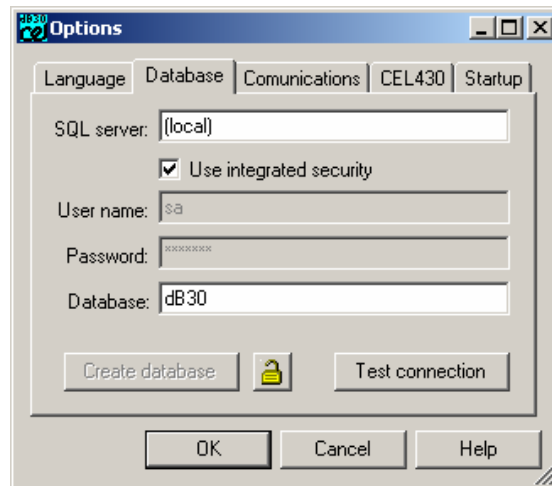


Figure 3

If using the "MS SQL Desktop Server Engine", un-check "Use integrated security" then set:

SQL server: (local)


User name: sa

Password: casella

Database: dB30

Then re-check "Use integrated security".

If using an existing SQL server installation, get your IT department to enter a user account with enough privileges to allow database creation/update and fill in the rest of the details.

To create the empty database, click on the "lock" icon  next to the "Create database" button. When prompted, re-enter the "User name" and "Password" details and click "OK".

Click the "Create database" button (which should now be enabled), the user will be prompted twice to ensure this is the

intended action. Click "Yes" to both prompts and dB30 will create a new empty database on the selected SQL server.

If a database of the same name already exists on the SQL server then **THIS WILL BE DELETED AND ALL INFORMATION WILL BE LOST.**

Once the empty database has been completed click "OK" to return to dB30.

Opening the database

Having created an empty database the user must now tell dB30 to use this as the source of data for the application. From the main menu select "File | Connect to database". If the database is opened successfully the "No database loaded" text should disappear from the application window.

This can be set to occur automatically whenever dB30 is started. From the main menu select "Tools | Options..." and in the displayed dialog select the "Startup" tab (Figure 4).

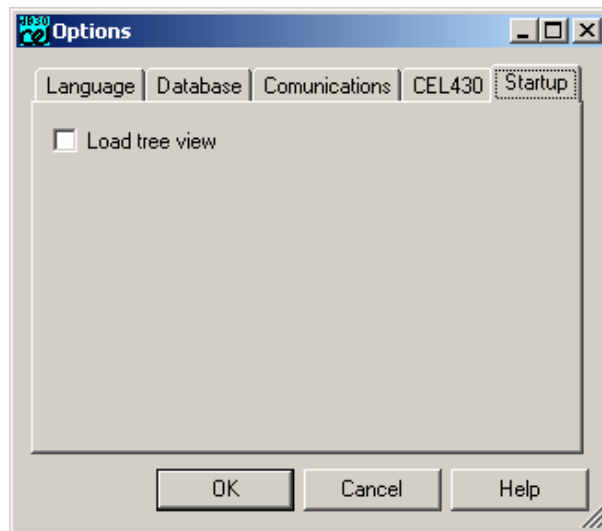


Figure 4

Make sure the "Load tree view" option is checked to get dB30 to automatically connect to the SQL server when the application is first launched.

Serial communication

While the "options dialog" is open select the serial port to which instruments will be connected. Select the "Communication tab"

and pick the correct serial port from the list provided. Click "OK" to save these changes.

Populating the Tree View

The leftmost section of the main application window is dedicated to displaying the hierarchical structure of the database used by dB30. By default this is an empty view into which the user can insert a directory structure of how the downloaded run data is to be stored.

In addition to making folders for the downloaded results entries can be made for separate instruments, to hold configuration information and for personnel, to hold user details.

To start populating the structure right-click within the structure window to add a "Top level folder" (Figure 5):

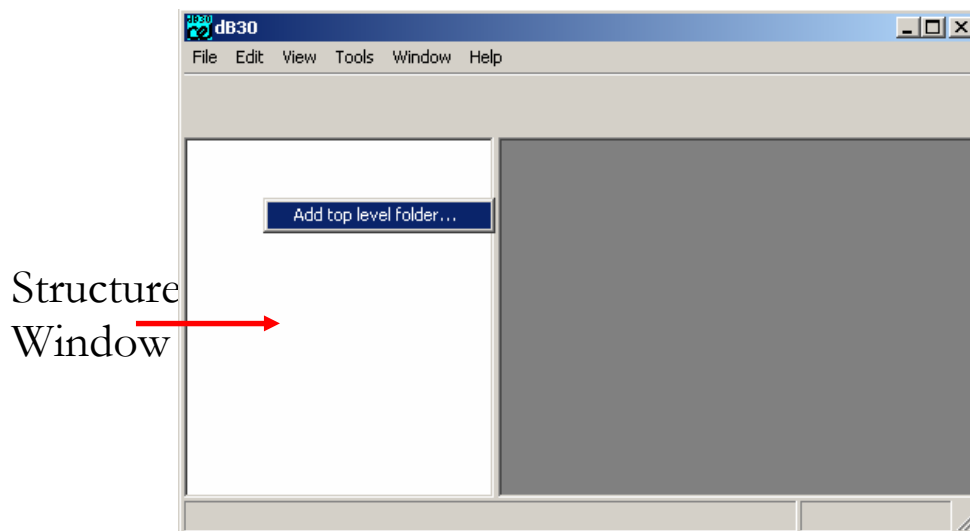


Figure 5

When the folder properties dialog appears (Figure 6), enter a suitable name and select the required folder icon:

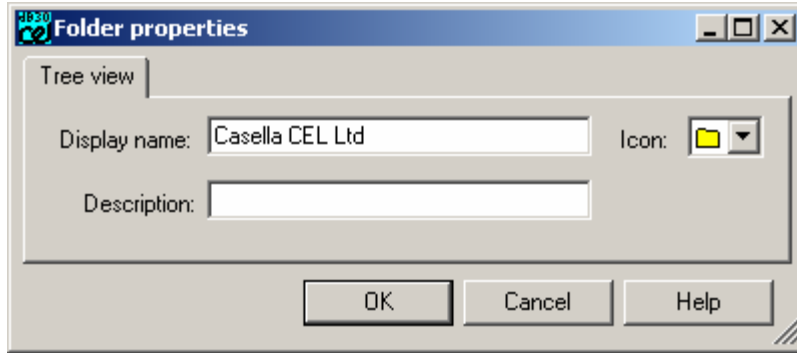


Figure 6

Click "OK" to create the new folder. Right click on a parent directory (in the structure window) to add further sub-directories (Figure 7):

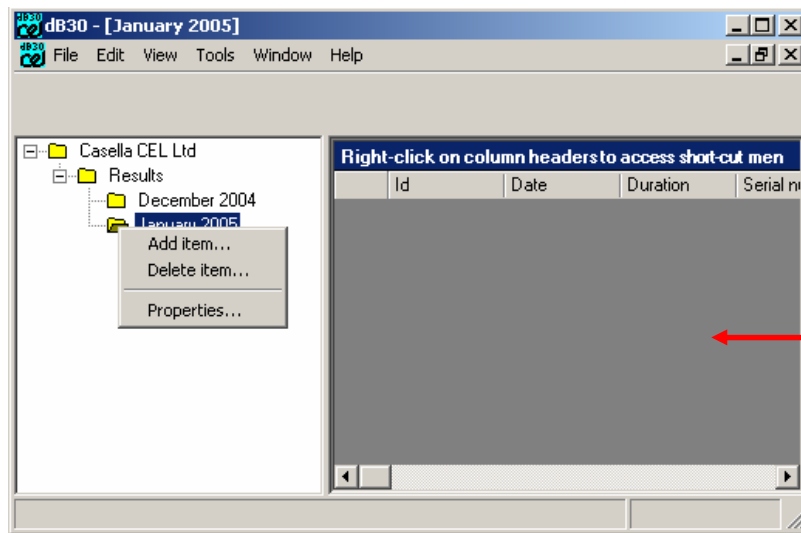


Figure 7

Once a directory exists in the structure window, a data view will occupy the remaining space of the main application window. At present this will only show the column headings as no noise measurement data has yet been saved to the database.

Adding instruments

In order to configure/download a CEL-430, an instrument item must be added to the structure window.

Again, right click on a directory and select "Add item..." from the menu. Select "CEL-430 instrument" and click "OK" (Figure 8):

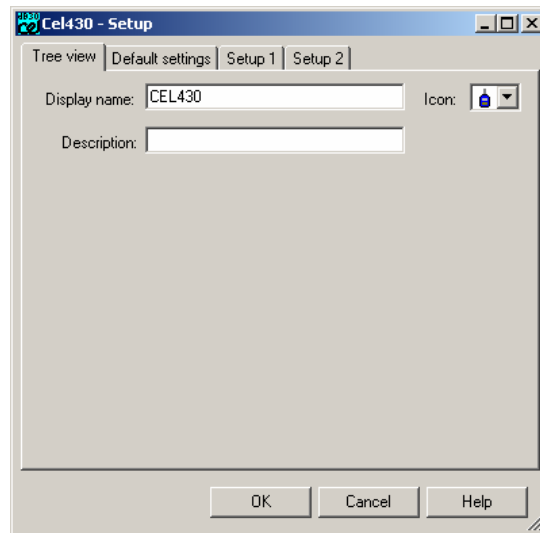


Figure 8

Fill in the "Display name" and select an instrument icon then select the "Default settings" tab (Figure 9):

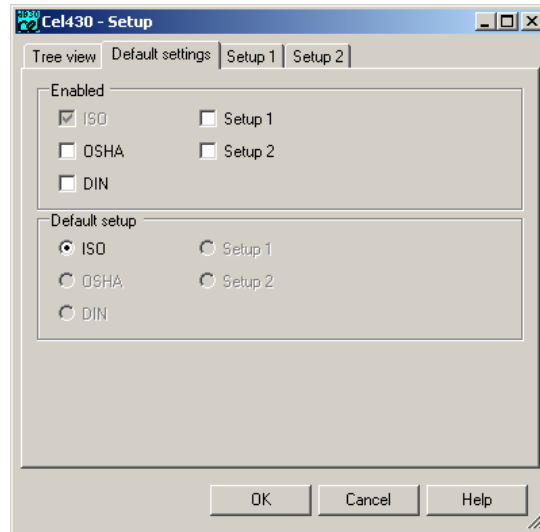


Figure 9

The CEL-430 has three permanent set-ups (pre-configured by the factory) and two user configurable set-ups. By default the instrument uses the ISO set-up. For further information about the default set-ups, please refer to the CEL-430 manual.

To change the default set-up, put a check against the required setup in the "Enabled" section then select it as the default setup in the "Default setup section".

To use either of the user set-ups "Setup 1" and "Setup 2" the user should select the relevant tab and make sure the required options are properly configured within this setup (Figure 10):

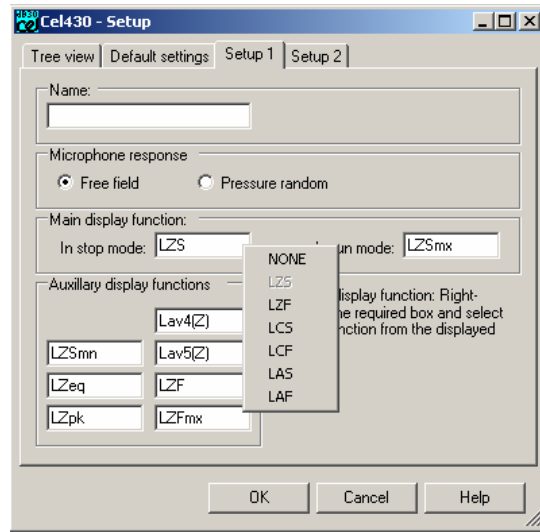


Figure 10

To select a different function within the set-up, right click on a function box and select the required function from the available list. Any number up to a maximum of 9 of the available 33 measured functions may be selected from the list for inclusion into a user setup.

Once the instrument setup is complete, click "OK".

Configuring the CEL-430

Although the structure window has been updated with the required setup information the user must now transfer this to the instrument. Connect the CEL-430 to the serial port previously selected in the "Options dialog" using the cable supplied.

In the structure window, right click on the instrument and select "Upload setup to instrument". This will only take a few seconds to update the instrument with the selected configuration details (Figure 11):

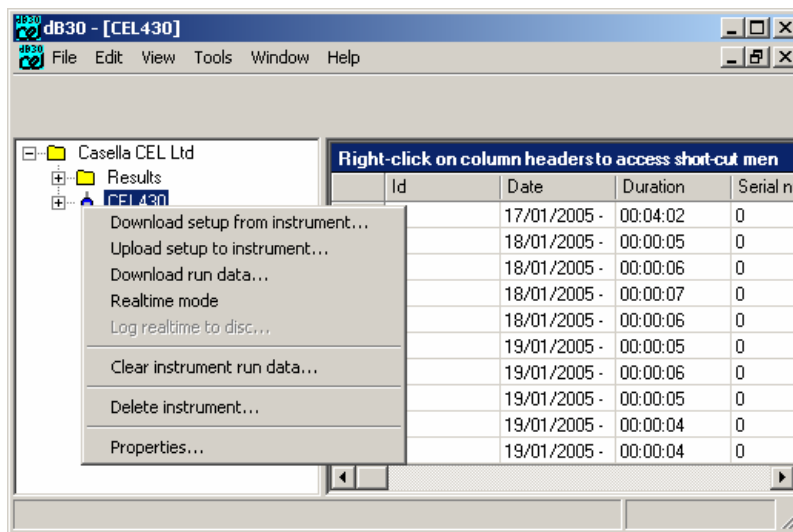


Figure 11

Reading back the configuration

The CEL-430's current configuration can be read from the instrument, by right clicking again on the instrument icon in the structure window but this time selecting "Download setup from instrument". This will overwrite any existing setup held against the

selected instrument, within the structure window (and hence the database).

Recovering data

Once the CEL-430 has been used to record run data, this data can be downloaded and saved to the database. Right click on the instrument in the structure window and select "Download run data".

Each run in the instrument will be checked for integrity and added to the dB30 database. After a run is downloaded an entry for it will appear under the currently selected instrument (Figure 12).

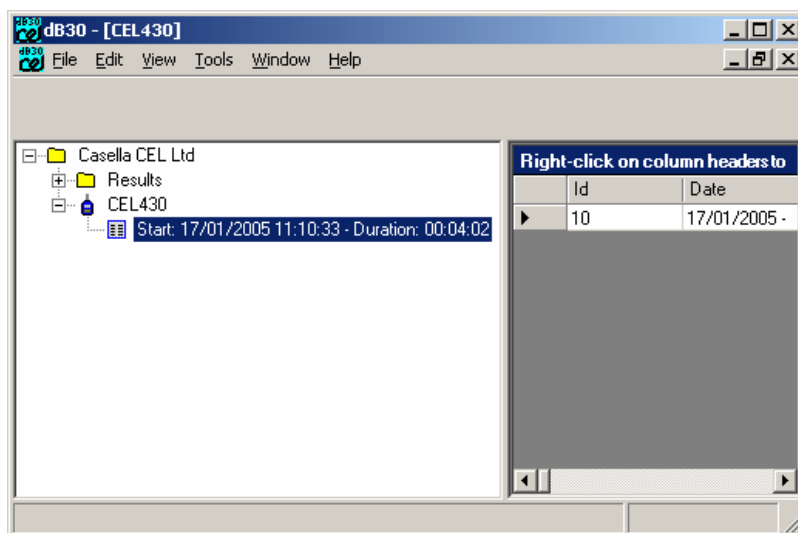


Figure 12

Should the user get the "Run already exists in database" error message then that particular run has already been inserted into the database. This will only happen when old runs have not been erased from the currently connected CEL-430 meter.

Erasing run data from the CEL-430

To remove downloaded runs from the CEL-430, right click on an instrument in the structure window and select "Clear instrument run data...". This will erase all run data currently held in the actual connected CEL-430 instrument. It will NOT erase the data held in the database on the hard drive on the pc.

Alternatively dB30 can be set to automatically erase downloaded runs from the CEL-430. This is done by checking the "Delete runs automatically" option on the "CEL-430" tab of the "Options" dialog (Figure 13):

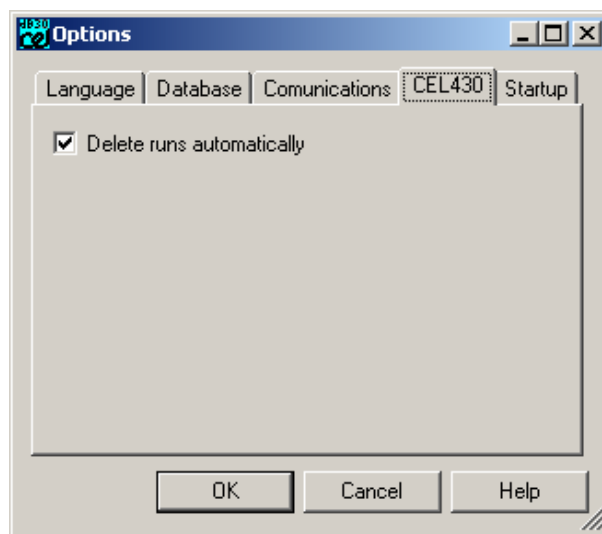


Figure 13

Only those runs that have been successfully downloaded to the database will be erased from the instrument. If this option is not checked then the run data will stay in the instrument and may be downloaded to more than one pc before being finally erased.

Data window

To view downloaded run data highlight the structure item that has the required data beneath it. The data window will automatically update to show all available run data for that item (Figure 14).

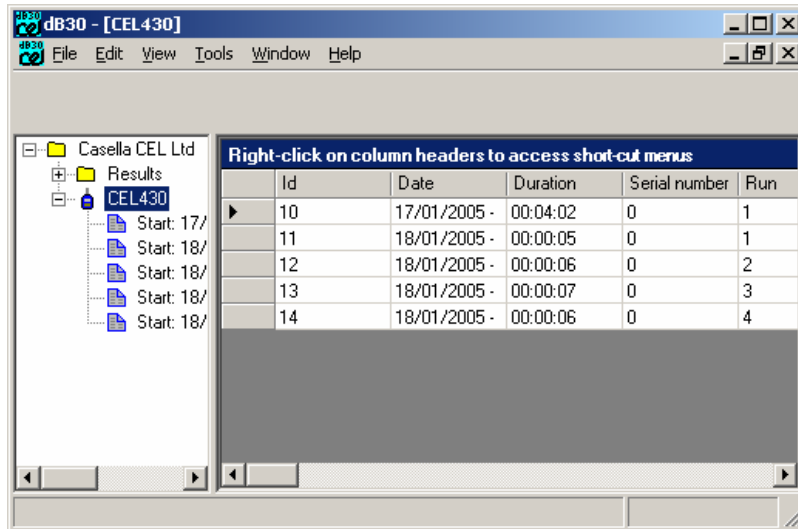


Figure 14

In addition to the supplied default options, the quantity of data displayed in the data window can be tailored to the user's own requirements.

As indicated by the note displayed at the top of the data view "Right click on the column headers to access short cut menus". These short cut menus allow the data view to be configured depending on the data required (Figure 15).

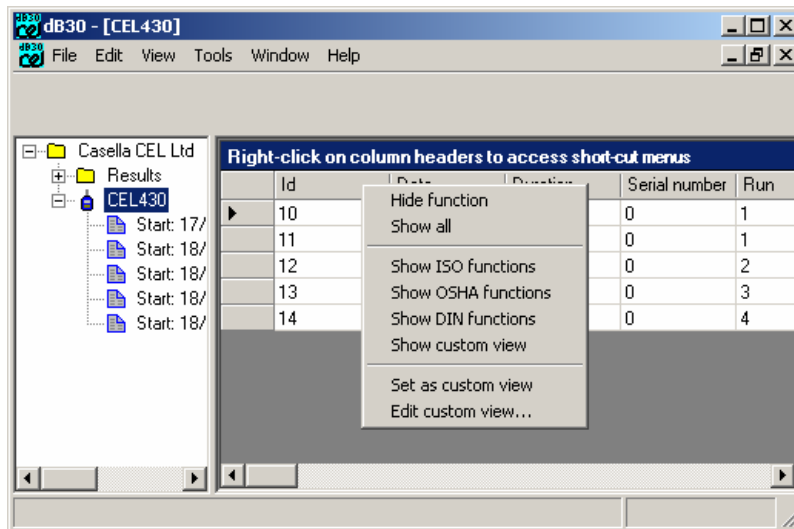


Figure 15

By default, the data view offers three pre-configured data displays, ISO, OSHA and DIN. In addition a fourth "custom view" is also available.

Select ISO to display only those functions specified in the ISO standard, likewise for OSHA and DIN.

Individual columns can be hidden/shown and the entire selection set as the user's "custom view" using the "Set as custom view" option.

A quicker way to configure the "custom view" is to select "Edit custom view..." and specify the required functions in the "Custom view" dialog box. Use the single arrow buttons to move individual functions between the available and selected lists, or use the double arrow buttons to add all the functions. (Figure 16):

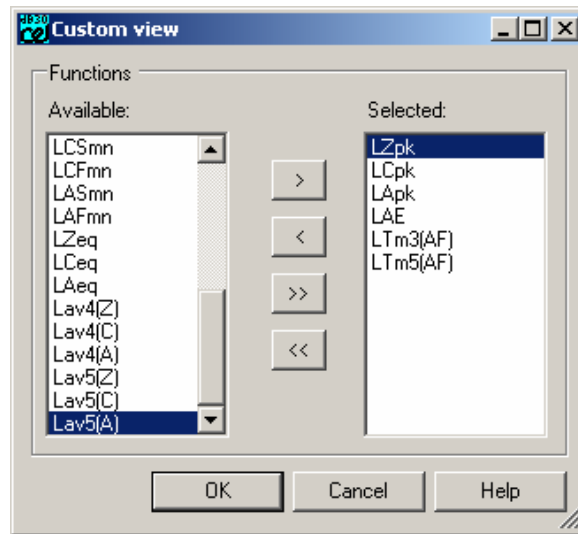


Figure 16

Exporting data

To export data to other packages, highlight the required runs in the data view and select the "Edit | Copy records to clipboard" option from the main menu.

The resultant clipboard data can then be pasted into other applications. The data is held on the clipboard as comma delimited text, each run on a separate line.

Moving data

Once downloaded from the CEL-430 to the structure window, run data can be moved to other folders, sub-directories and even personnel entries in the structure window. To minimise accidental movement of data, runs can only be moved by dragging from the "data view" to the "structure window", they cannot be moved by dragging from within the "structure window".

Updating the structure

The other items in the structure can be moved around the structure directly by dragging and dropping items from one folder

to the other. Only valid moves are allowed, i.e. instruments cannot be dropped onto other instruments.

To rename structure items, right click on the required item and select "Properties..." from the menu.

Likewise to delete structure items, right click and select "Delete item..." from the menu. dB30 will prompt for confirmation before deleting items from the structure window, because once deleted this data becomes unavailable to dB30. If an item to be deleted has other items beneath it (sub-directories or run dates) then a second prompt will appear confirming deletion of these items.

Data deleted from the structure window **CANNOT BE RECOVERED** by dB30. Please be careful about deleting folders!

Real-time data display

dB30 can display readings as they are calculated in the connected CEL-430 instrument, giving a real-time representation of the current surroundings. Real time results are shown as a table of noise levels with simultaneous calculation and transfer of the Slow and Fast Maximum noise levels with the A, C and Z frequency responses together with the A, C and Z time average (or Leq) levels.

Right clicking on a currently connected instrument and selecting "Real-time mode" from the menu activates the "Real-time" option. Once activated, a "Real-time" view will appear in the right hand side of the application's main window (Figure 17):

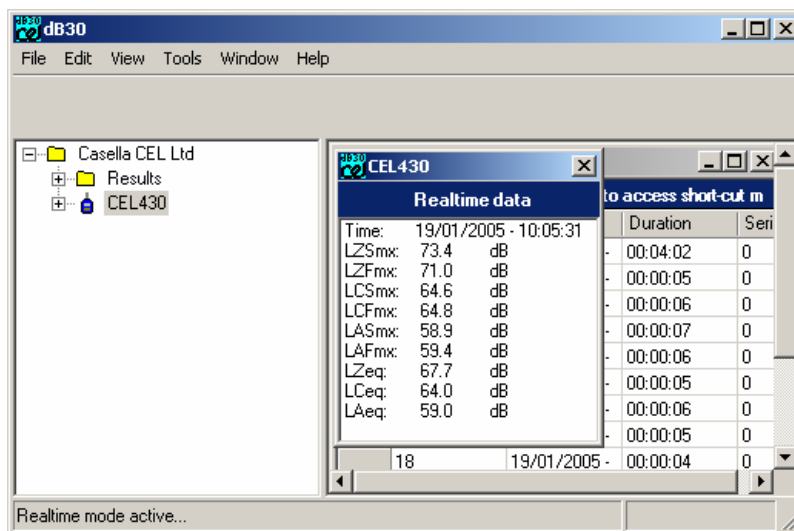


Figure 17

This "Real-time" view will continue to update with the latest values from the CEL-430 every second as long as the instrument remains connected to the RS232 port and switched on.

To stop the "Real-time" view from updating select the same option from the instrument menu as before and remove the check mark placed there when the option was first activated.

While active, the data collected by the "Real-time" view can be saved to disc. Again right click on the instrument to access this option ("Log Real-time to disc") from the instrument menu. dB30 will prompt the user for a filename and location into which the data is to be saved.

Data is saved in CSV or "comma delimited" format to the specified file, an example of a typical file is shown here:

Date	Time	LZSmx	LZFmx	LCSmx	LCFmx	LASmx	LAFmx	LZeq	LCeq	LAeq
19/01/2005	10:14:40	67.7	69.8	64.3	65.1	59.1	59.4	67.3	64.2	59.0
19/01/2005	10:14:41	68.1	69.6	65.3	66.5	59.2	59.6	68.2	65.7	59.4
19/01/2005	10:14:42	68.2	69.3	65.7	66.7	59.2	59.5	67.6	65.6	59.1
19/01/2005	10:14:43	67.7	67.9	65.4	64.9	59.3	59.8	66.4	64.3	59.4
19/01/2005	10:14:44	67.1	69.2	64.7	65.1	59.3	59.8	66.7	64.3	59.1
19/01/2005	10:14:45	67.2	69.1	64.6	65.3	59.2	59.5	66.0	64.0	59.1
19/01/2005	10:14:46	66.5	67.1	64.3	64.8	59.3	59.8	66.4	64.1	59.3
19/01/2005	10:14:47	66.6	67.8	64.3	64.8	59.2	59.3	66.4	64.2	58.9
19/01/2005	10:14:48	67.6	70.3	64.2	64.5	59.1	59.4	67.9	63.9	59.0

To stop logging data to a disc file, select the same "Log real-time to disc" option and remove the check mark placed there when the option was first activated.

Redistribution of Microsoft components

Casella CEL Ltd redistributes some or all of the following Microsoft products as part of the dB30 installation:

- Microsoft Explorer
- Microsoft Installer
- Microsoft Data Access Components
- Microsoft SQL Desktop Engine
- Microsoft .NET Framework

Casella CEL Ltd redistributes these under the terms and conditions of the relative "End User Licence Agreements" (EULA) as stipulated by Microsoft. Copies of each EULA can be obtained from the Microsoft web site "www.microsoft.com".

No additional warranty is offered or implied by Casella CEL Ltd in relation to these Microsoft products.

Software warranty

The manufacturers undertake to replace any disk containing significant errors that are directly attributable to faulty design or manufacture that make the program unusable, and which become apparent during the warranty period. In order to take advantage of this warranty, the disk or disks must be returned, carriage paid, to the manufacturer's factory or accredited agent. The warranty period runs for three months from the date of receipt of goods.

Casella CEL Ltd's liability is limited to items of their manufacture and they do not accept liability for any loss resulting from the operation of, or the interpretation of results obtained by using this software. All technical information for individual sets of software is filed under the version and issue number given on the installation disks, therefore the version and issue numbers should be quoted in any correspondence concerning this software. In the event of a malfunction appearing during the warranty period, the disk or disks should be returned either to Casella CEL Ltd's local agent or to the Casella CEL Ltd's Customer Services Department at Bedford. Please include the following information:

- Instrument type(s), serial number(s) and firmware version number(s)
- Customer name and address
- Contact name and phone number
- Details of any PC and software involved, including version number(s)
- Reason for returning the equipment with a detailed description of the fault
- List of any error messages that may have been displayed

Uninstalling/removing dB30

To uninstall any or all of the components installed as part of the dB30 product, locate each component/package within the "Control Panel", "Add/Remove Programs" applet and select the "Remove" option.

Warning, removing components may result in dB30 failing to operate as expected. This may even result in loss of all data currently held within the database.

Backing up the dB30 database

The dB30 database results are held in the \DATA sub directory where dB30 software was initially installed. The file format is a MS™ database with the file extension .mdf. An associated file with the same name and the .ldf extension will also be present in this directory and must stay with the main database to ensure correct operation in the CEL program. To make a backup simply copy both of these files to another folder to archive them.