December 2002

CEL-6702 dB10 V2.0 to V2.3
& CEL-6704 dB12 V2.0 to V2.4
CONTROL & DOWNLOAD SOFTWARE
Users Handbook

060281/HB-05

CEL SOUNDTRACK LIBRARY

Software for the CEL-320/CEL-360 and CEL-420/CEL-460
Series Noise Dosimeters & Sound Level Meters

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New features for dB10 / 12 Version 2.0

Versions 2.0 of dB10 and dB12 were produced to enable the Software to be used with the extended measurement and storage capabilities of the CEL-320/360 Series of Dosimeters / Miniature Sound Level Meters released in the latter part of 2001.

The CEL-320 is a development of the earlier CEL-420, while the CEL-360 is a development of the CEL-460.

Compared with the CEL-420/460 series, the CEL-320/ 360 instruments have extended measurement and storage capabilities, with 3 more built-in standard dose measurement setups, 13 more user specified dose setups, 34 more (giving a total of 50) result stores, user selection of a total of 10 profiles on the CEL-360 plus user selection of up to 32 cumulative functions on the CEL-360 for all setups except SLM, which allows a total of 7 cumulative functions.

The opportunity was also taken to convert the software to 32 bit operation.

New features for Version 2.1

It is no longer necessary to save a newly created configuration file before it can be sent to either CEL-320/360 or CEL-420/460 (see Section 3.3.1).

Long filenames can now be accepted without truncation during a multiple download from either CEL-320 / 360 or CEL-420 / 460 (see Chapter 4).

New features for Version 2.2 & 2.3

Further improvements were made in the functioning of the software that required minor changes in the wording of some dialogs.

New features for Version 2.4 of dB12

The ability to display screen information and messages in an automatically- or user-selected local language has been added.

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1. INTRODUCTION

1.1 The Dosimeters

Versions 2.0 and later of dB10 and dB12 Software are intended to download and control the CEL-320/360 dosimeters and the earlier CEL-420/460 series. For a description of the functions of the various dosimeters, please refer to the CEL-320/360 and CEL-420/460 instruction books.

In dB12 from Version 2.4, the software is able to present messages, menus and data in a local language.

1.2 The Software

The dB10 and dB12 programs offer post processing, cut and paste between applications and comprehensive word processing capabilities, while dB12 has extensive on screen graphing facilities. In addition, the software also enables CEL-320/360/420/460 configuration files to be changed and a setup for automatic loading to be specified. They also allow hard copies of the instrument configuration files to be made.

Changes to any user configurable setup in the dosimeter can be made ONLY by replacing the complete instrument configuration file by sending another configuration file from the PC.

Data displayed on the screen may be assembled in any order to produce reports that can be stored and recalled for editing & printing.

Diagrams illustrating the relationships of the menu bars and main command options are included on the fold-out sheets at the back of this book.

Please review the **readme.txt** file on the program disk for the latest setup information. In addition, please register your copy of the software by completing and returning the accompanying reply card, to ensure that you receive information on software upgrades.

1.3 Data Terms Used

Datafile:

Once downloaded to the PC, the data set for a single run is

stored in three files and the term Datafile means all of these files. These files have the same filename with **.dta**, **.rec** and **.not** file extensions.

Copying Datafiles:
If you use copy Datafiles to another disk or directory, make sure that you always copy ALL FILES with the same filename, otherwise you will not be able to use the data.

Target File:
The filepath and filename for saving the next run you want to download.

Flags: Sometimes dB values are accompanied by additional information in the form of "Flag" characters. See the dosimeter instruction manual for details of these characters.

2. INSTALLATION / UN-INSTALLATION

> Casella CEL licence this software for single-site use. For the convenience of the user, the software may be copied for back-up purposes, and installed simultaneously on one desk-top computer (the site) and on one portable computer.
>
> *SFT-4*

2.1 Introduction

2.1.1 Using Microsoft Windows®

To use dB10/12, a basic working knowledge is required of the Microsoft Windows® 95 or later user interface and operating system. This manual assumes that the reader is familiar with Microsoft Windows® and associated terminology.

2.1.2 File Handling - Input

On installation, Measurement Data, Report and Setup directories are created in the dB10 or dB12 program directory.

Measurement data files are stored with a filename specified by the user and a **.dta** file extension. Each downloaded run will also include other types of file, with the same filename as follows:

.dta Run summary file,

.not Text file, accessed via the View menu, in which comments and information can be entered by the user,

.rec All run data: dose results plus profiles, stored in binary format.

Report files carry an .rtf file extension while dosimeter configuration files have an .mts file extension.

2.1.3 File Handling - Output

Reports can be output directly to a printer (without saving them first). The following formats are available when you open or save a report file.

.hed HighEdit: not recommended, as editing can be performed only by CEL Soundtrack software.

.txt ANSI: recommended for text only report files, as it uses the same character set as Microsoft Windows®.

.txt OEM: not recommended for text only report files, as some characters may be changed, depending on the current PC settings.

.rtf Rich Text Format: recommended for reports that are to contain text and graphical information, as further editing can be performed by many other Windows applications.

2.1.4 Notepad Functions

Once you have opened a datafile, a notepad becomes available via the View menu that allows you to enter relevant notes and comments that will be attached to the datafile under the same filename, but with a .not file extension. This allows any unusual or special circumstances about the measurements to be noted.

2.1.5 Options for Standard Reports

A separate Options menu enables the company name and information about the dosimeter wearer to be stored so it can be inserted directly into standard reports. Recalculation options can also be accessed from this menu.

2.2 Install & Un-Install

2.2.1 System Requirements

IBM® compatible PC, with 80486, or better processor,
At least 8 MByte of free RAM space (16 MB is recommended),
Microsoft Windows® V95 or later
Hard disk drive with at least 10 MB of free space,
RS 232 Serial Communications Port or USB Connector with USB to RS 232 converter,
3½ inch, high density (1.44 MByte) floppy disk drive for program installation,
Monochrome or colour VGA or Super VGA monitor,
Printer - Optional.

2.2.2 Install on Windows® 95 and Later

Before installation, it is recommended that back-up copies be made of the program disks (or CD-ROM). Keep the originals in a safe place and use the copies to install the software as described below.

To start the installation, run the **Setup** program on the application disk and follow the on-screen instructions for installation.

In dB12 from V2.4, when the software is started, it checks what the local language is then attempts to match it and show displays and messages in this language. If the software is unable to determine a language, it will display in English.

1. To change the displayed language, click on the **Language** option on the main application screen and display a **Select...** option.

   Please note that the **Language** option is available only while both Control and Download views are closed.

2. Click on the **Select** option to display the **Select Fixed Languages** dialog.

   The following options are available from the **Select Fixed Languages** dialog:

   - Attempt to match loaded OS language (this is the default where the software attempts to match the local language)
   - Use English
   - Use *other available languages*

   Only English may be available while operating in Windows 95.

3. Choose a language from those available and click OK.

4. Restart dB12 software to display information in the selected language.

   From now on, the information will be displayed in the chosen language every time the software is started, unless changed again via this procedure.

2.2.3 Un-Install from Windows® 95 and Later

The Setup program installs files in both the specified program directory (i.e. **c:\celprogs\dB10**) and in the **Windows\System** directory.

The file **logfile.txt** in the program directory lists the files that have been installed in the **Windows System** directory.

Logfile.txt also contains instructions for un-installing dB10/12; to un-install, follow these instructions.

Installation

3. DOSIMETER CONTROL

It is not possible to operate in control and download windows simultaneously. Operations must be concluded in one window before they can be started in the other.

The dB10/12 software offers simple PC control of a CEL-320/360/420/460, with no on-line display of results.

The software can be used to edit and save parameter settings in a CEL-320/360 configuration file containing seven standard dose measurement setups (including the Meter setup) plus up to 13 user programmed setups, SLM (sound level meter) setup, and a timer setup (CEL-360 only).

The software can be used to edit and save parameter settings in a CEL-420/460 configuration containing four standard dose measurement setups plus up to three user programmed setups, a SLM (sound level meter) setup, and a timer setup (CEL-460 only).

The configuration file can be stored by the PC, a copy sent to the dosimeter and printed as a hard copy. Similarly, the PC can read the current dosimeter configuration file, save it and print a copy.

Both dB10 and dB12 enable the user to nominate any setup in the configuration file to be ready for use by the dosimeter when the instrument is switched on. The power up mode of CEL-320/360 instruments can be specified, and restrictions placed on the use of the CEL-320/360 keypad.

3.1 Establish Connection with a PC

Connection between instrument and PC can be established as follows.

1. With the dosimeter switched OFF, connect it to the PC serial port using the C6671 Communication Cable as shown in Figure 1.

   The C6671 fits a 9-way communication port, however, a 9-to-25-way Adaptor may be used to fit a 25-way port. On some modern laptop PCs that have no serial port, use a USB to RS 232 Converter to connect to the serial connector.

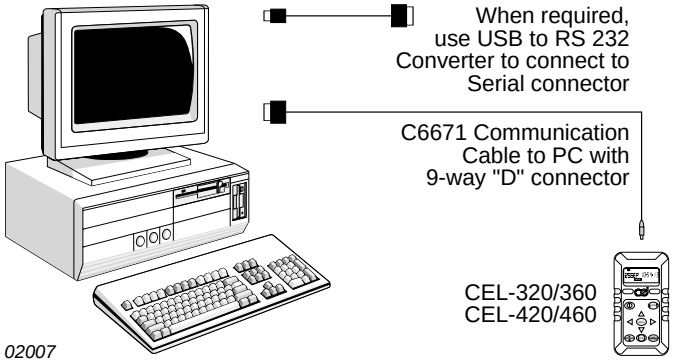


Figure 1: Connection between dosimeter and PC

2. Start dB10/12 by double clicking the windows pointer on the icon in the CEL SoundTrack Program Group, or from the Windows® 95 and later **Start** menu.

   The main application screen will be displayed.

3. Select **Change COM port...** from the **Instrument** menu.

   A two page dialog is offered. The default settings of the **Serial** page should appear automatically and normally, only the **Port** setting may need to be changed.

Port	Indicates the communications port to be used.
Baud rate	Both CEL-320/360 and CEL-420/460 series use 9600
Parity	None
Data Bits	8
Stop Bits	2
Flow Control	
Input	None
Output	None
Buffer Size	
Input	1536
Output	1536

   The **Session** page has two settings that cannot be changed.

Name	dB10 - dB12
Type	Serial

4. Specify the communications port to be used.

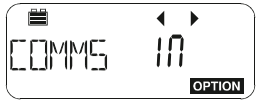
   The settings will be stored for future use.

5. When standard information about the subject of the dose measurement and the company where they work must be included in your PC reports, use the required options from the **Options** menu.

   Select the appropriate option to enter data relating to the measurement. This data will be saved and included in the user information section of all standard report forms.

6. Switch the dosimeter ON.

   The dosimeter recognises that it is connected to a PC, and immediately after running through the start up displays, it should select the Communications Option as shown below.



7. If this option is not selected automatically, use the instrument **Menu** key and left or right **navigator keys** to display the **Comms** option.

8. From the **Instrument** menu on the PC, select whichever of **Control CEL-320/360** or **Control CEL-420/460** is relevant.

   This displays the **Control** dialog shown in Figure 2.

   The software inspects the dosimeter to find what model it is, scans the current settings, then shows its findings in the **Dosimeter Information** field.

   The arrangement is now ready for modification from the PC. The software will not allow you to make a selection that is not available in your dosimeter.

3.2 Direct Dosimeter Control

3.2.1 Set Dosimeter Clock

This is achieved by synchronising the dosimeter clock (date and time) to the same date and time as the PC.

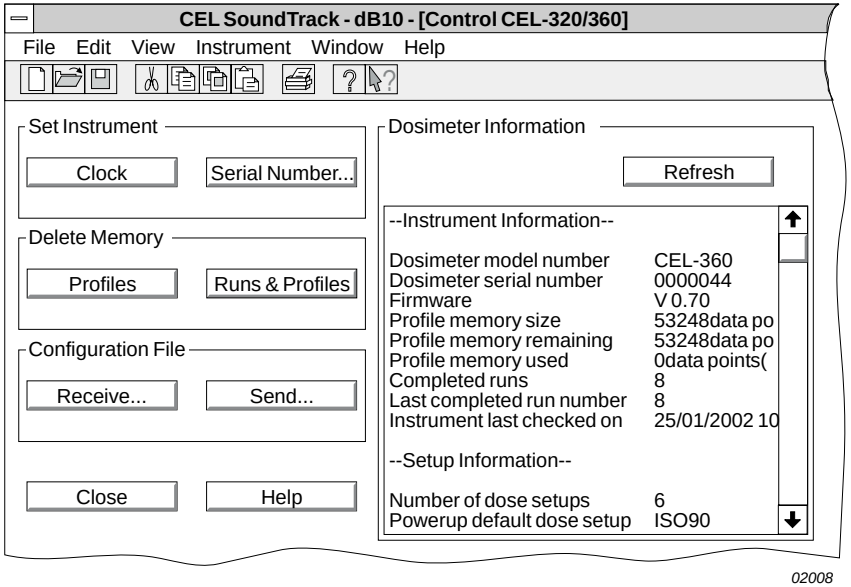


Figure 2: Dosimeter control dialog

1. Click on the **Clock** button.
2. Confirm your decision by clicking **Yes** in response to the question, **Are you sure etc...**.

   The dosimeter clock will be synchronised to the same time and date as the PC.

3.2.2 Set Dosimeter Serial Number

1. Click on the **Serial Number...** button.
2. Enter up to six digits in the **Serial Number** field, then click **OK**.

   This serial number will be stored in the dosimeter for future reference. The **Serial Number** line in the PC display will change to show the new number.

3.2.3 Delete Runs (CEL-320, CEL-360), Delete Runs & Profiles (CEL-360, Delete Profiles (CEL-360, CEL-460)

These commands delete ALL RUNS AND / OR PROFILES from the instrument.

These are the only commands that allow you to clear runs and / or profiles from a CEL-320, CEL-360 or CEL-460.

1. Click on the relevant button in the **Delete Memory** field.
2. Confirm your decision by clicking **Yes** in response to the question, **Are you sure etc...**.

   ALL stored profiles and runs, or profiles will be deleted from the dosimeter store.

3.2.4 Receive & Send a Configuration File

The **Receive** option sends a copy of the complete configuration file to your PC, including ALL setups currently residing in the dosimeter. It is not possible to copy individual setups.

1. Click on the **Receive...** button.

   A dialog will open to allow you to specify a filename and path for the configuration file.
2. Enter a suitable filename. It is suggested that dosimeter setups be stored in the **dB10\setups** or **dB12\setups** directory.
3. The configuration file, containing all setups currently residing in the dosimeter, will be copied to the PC, and saved with the specified filename and path with a **.mts** file extension.

To send a configuration file that has been modified or created in dB10 or dB12 to the dosimeter, follow a similar procedure.

1 Select the **Send...** button.

Depending on recent operations with the software, one of the following options will be offered.

A dialog opens to allow you to select a configuration file for loading.

When a configuration file is active, (i.e. currently displayed on the **Configuration** dialog), you will be asked if you want to load it, even when it has not been saved.

2. Select an existing configuration file (**.mts**) from the dialog, or load the active configuration as appropriate.

3. Click OK to load the required file.

3.3 Prepare a Configuration File

It is possible to transfer measurement setups between PC and dosimeter only as part of a configuration file containing all dosimeter setups. Such a file must contain the pre-programmed standard dose measurement setups, any user programmed dose measurement setups, a single SLM setup, plus timer and Ln settings when the file is for a CEL-360 or CEL-460.

The standard dose measurement setups have most parameter settings fixed to comply with the relevant protocol and only a few changes are permitted. User programmed dose setups are more flexible, where virtually all settings can be changed. However, restrictions can be placed on the changes that may be made from the CEL-320/360 keypad.

Create a user programmed measurement setup as follows:

Select and load any existing setup,
Edit it,
Then select a user location and save it.

When required, any existing user setup can be overwritten.

SLM and timer setups can also be edited on the CEL-360 and CEL-460. It is not necessary to have a dosimeter connected to the PC while performing these operations.

3.3.1 Create a User Setup & Save a Configuration File

1. From the **File** menu, select **New 460/420 Configuration File** or **New 360/320 Configuration File** as applicable.

   This displays dialogs asking if you want to create a configuration file for a CEL-420 or CEL-460, or for a CEL-320 or CEL-360.

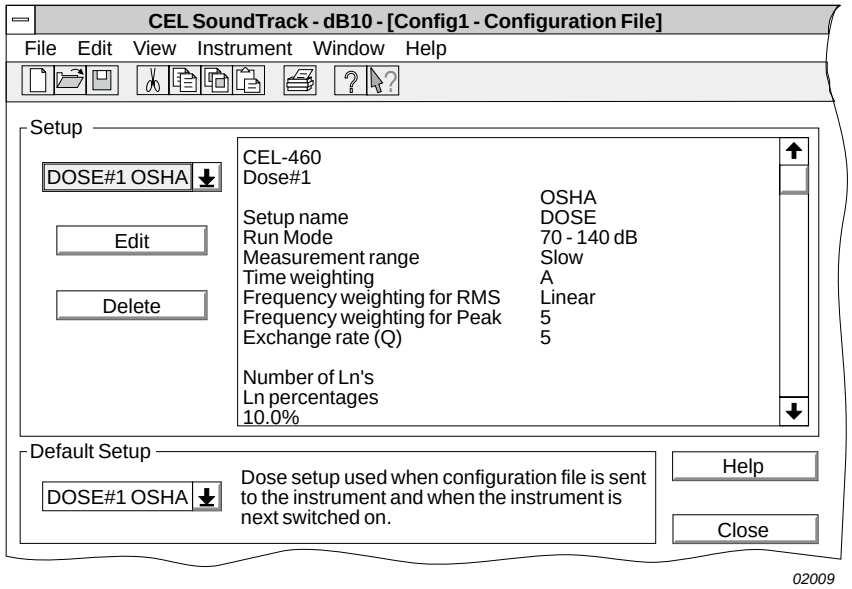


Figure 3: Dose measurement configuration dialog for CEL-420/460

You can also use **Open Configuration File...** , to select an existing configuration file with settings close to those you need, then edit and save it as described below.

2. Make a selection appropriate to your dosimeter.
3. A **Configuration** dialog is displayed showing details of the first setup in the configuration file - always OSHA.

   Figure 3 shows the configuration dialog for a CEL-420/460 while Figure 4 shows the dialog for a CEL-320/360.
4. From the **Setup** list-box, choose a location in which to store the new setup.

   This can be the first empty setup location in the list, for example **DOSE#5 (Empty)**, **DATA#8 (Empty)**, or a location where a setup is already stored.
5. Click the **Edit** button.

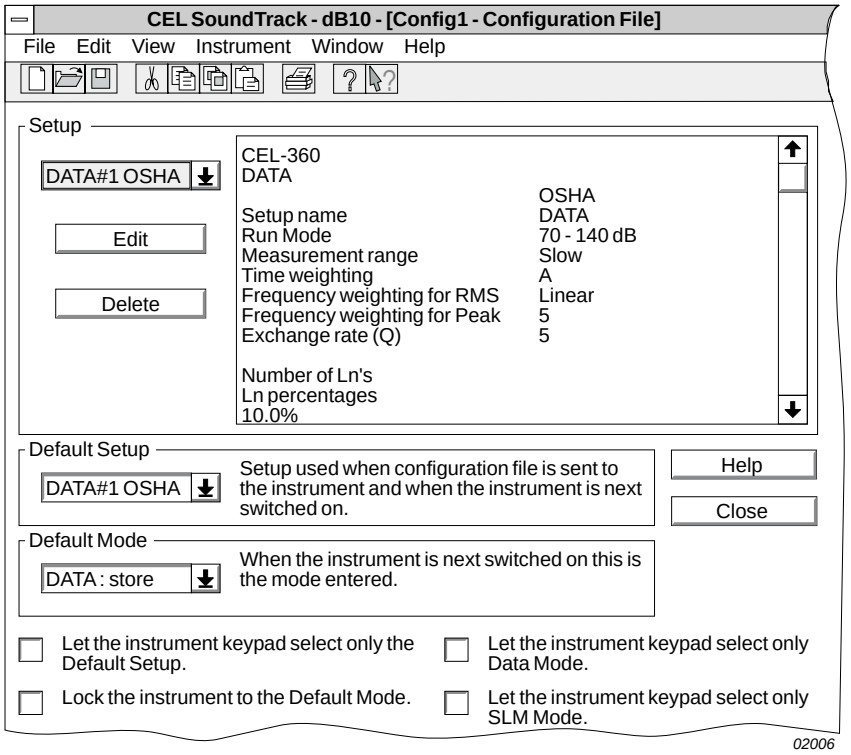


Figure 4: Dose measurement configuration dialog for CEL-320/360

If the setup location is occupied, the existing settings will be displayed.

When the location is empty, an existing setup must be loaded in order to start editing. The software may offer to load an existing setup.

6. If prompted by the application, please enter a suitable five character name, for example **USER1**.

   User name entries are always shown as upper case.

7. The software displays the **General Dose Setup Editor** property page on top of the **Setup** dialog.

8. If required, load one of the standard setups by pressing the relevant button and edit the settings shown on the various property pages.

9. When you have completed editing all required property pages as described in the following sections, press **OK** (on any page) to accept all settings in the property pages and return to the relevant **Configuration File** dialog.

   The settings are written into the **Setup** field.

10. When you have finished creating and editing user setups, select the **File** menu and use the **Save As...** option.

    A dialog prompts you to save the configuration file and suggests a filename and filepath.

11. Use this filename and file path or enter some other filename and path, then click **OK**.

3.3.2 Nominate Default Setup & Mode for Dosimeter

The Default Setup of a CEL-320/360/420/460 will be the measurement setup loaded for use automatically when the instrument is switched ON. In addition, the Default Mode of a CEL-320/360 is the measurement mode (DATA: store or SLM: no store) loaded for use when switched ON.

Such a nomination enables a setup and mode to be chosen for use from the PC. In addition, restrictions can be placed on the setup and mode changes that can be made from the CEL-320/360 keypad. This enables personnel unfamiliar with measurement procedures to perform measurements using a specific setup with the minimum of intervention from the dosimeter keys.

1. Start from the relevant **Configuration File** dialog (Figure 3 or 4).

2. From the **Default Setup** list-box, highlight whichever of the setups you want the dosimeter to load for immediate use when it is switched on.

3. From the **Default Mode** list-box of CEL-320/360 series, highlight whichever of the modes you want the dosimeter to load for immediate use when it is switched on.

4. Select the **File** menu and use the **Save** option.

When this configuration file is sent (copied) to a dosimeter, as described in Section 3.2.5, the dose measurement setup and mode that you have just nominated will be loaded immediately for use on powerup.

3.3.3 Specify Dose Measurement Settings

Start by displaying the relevant **Configuration File** dialog. Select the **Dose Setup** you want to edit, then press **Edit** to display the **Setup Editor Property Pages** for the selected configuration file and setup. The various instrument models produce different property pages as follows.

General - All models
Allows one of the available standard setups to be selected as a basis for editing.

Range - All models
Allows the measurement range to be set, two ranges on CEL-420 and CEL-320, three ranges on CEL-460 and CEL-360.

Weightings - All models
Allows time and frequency weightings, energy conversion factor Q, thresholds and criterion to be set.

Lns - CEL-320, CEL-360 and CEL-460
Allows the Ln settings to be specified.

Profiles - CEL-460 and CEL-360
Allows up to 10 parameters and a common sampling time to be specified on a CEL-360 and up to two on a CEL-460.

Cumulative - CEL-320 and CEL-360 (not Timer Mode)
Allows selection of up to 23 parameters for measurement, plus threshold levels and dose measurement times.

Some of the controls on the property pages of pre-programmed standard dose setups will be shown grey. This is to indicate that the relevant parameter setting is fixed by the measurement protocol so the option is disabled. On the pages for user programmed setups, most controls can be edited, except those that become unavailable due to mutually exclusive settings in other pages.

To set these parameters, select the appropriate property page from the **Setup Editor** and modify the required settings. When the

changes are complete, click **OK** to close the dialog and accept the settings.

3.3.4 Set Dose Measurement Timer (CEL-460 & CEL-360 only)

Timer settings are stored in their own setup in the configuration file, and will be applied to the currently loaded dose measurement setup.

Start by displaying the relevant **Configuration File** dialog. Select **Timer** from the bottom of the **Setup** list, then press **Edit** to display the **Setup Editor** property pages for the selected configuration file and setup.

1. If required, load the default timer setup.

   The tick box on the **General** page allows the timer to be selected for use.

2. Tick the box to enable the timers.

3. Select the **Timers** page.

4. When you want to edit and use the Elapsed Timer, select a suitable dose run duration, then proceed to step 10.

5. When you want to edit and use the Delayed Start and Stop Timers, set the **Elapsed Timer** to **Disabled** then go to step 6.

6. Select the Delayed Start and Stop Timer that you want to edit, **Timer number 1, 2, 3,** etc, then use the **Edit** button.

7. Edit the timer settings as required, saving each **Timer** setting in turn by clicking the **OK** button on the **Setup Delayed Start/ Stop Timer** dialog.

8. Tick the **Synchronise Timers** box on the **CEL-360 Configuration** dialog when you want the run start to be synchronised with a profile period boundary. Leave the box unticked to start at the next whole second.

9. Edit the number in the **Repeat Delayed Timers** multiplier box on the **CEL-360 Configuration** dialog when you want the table of start/stop times to be repeated up to 49 times. Leave set to “0" when only a single series is required.

10. When all changes to the timer setup have been made, they may be accepted by clicking **OK** on the **Timer Setup Editor** page.

3.3.5 Specify SLM Measurement Settings

All sound level meter (SLM) settings can be changed from the dosimeter keypad, however restrictions can be placed on the changes that can be made via a CEL320/360 keypad.

Sound level meter settings are stored in their own setup in the configuration file, with different property pages are as follows.

General - All models
Allows one of the available standard setups to be selected as a basis for editing.

Range - All models
Allows the measurement range to be set, two ranges on CEL-420 and CEL-320, three ranges on CEL-460 and CEL-360.

Weightings - All models
Allows time and frequency weightings, energy conversion factor Q, thresholds and criterion to be set.

Cumulative - CEL-320 and CEL-360 (not Timer Mode)
Allows selection of up to 7 parameters for measurement.

The editing of SLM settings is performed in a similar way to dose settings using the property pages found in the setup editor.

3.3.6 Additional Options For Use With CEL-320/360

Restrictions can be placed on the use of the instrument keypad. Four of these restrictions are applied via tick boxes on the **Configuration File** dialog, see Figure 4. The functions are clearly defined on the dialog.

Let the instrument keypad select only the Default Setup.
Lock the instrument to the Default Mode.
Let the instrument keypad select only Data Mode.
Let the instrument keypad select only SLM Mode.

A further option is available on the **General** page of **Dose Setup Editor**.

Allow setup to be changed in the meter.

This lets the user make setup changes via the instrument keypad.

4. DATA DOWNLOAD

It is not possible to operate in control and download windows simultaneously. Operations must be concluded in one window before they can be started in the other.

1. Establish communication between the dosimeter and PC as described in Section 3.1.

2. Select the relevant **Download from CEL-320/360/420/460** option from the **Instrument** menu, which displays a **Download** dialog (as shown in Figure 5).

3. Give a filename to the files you wish to download by writing the required filepath and filename in the **Target File** field.

   Alternatively use the **Target File** button to display a dialog, in which you can specify the required filepath and filename.

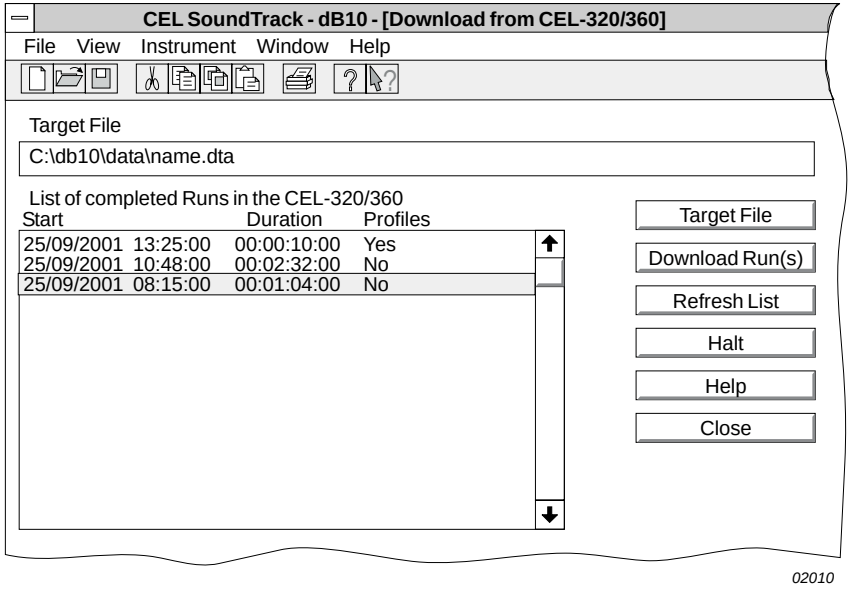


Figure 5: Download dialog

(Version 2.0 software was unable to accommodate more than six characters in the filename* used for a multiple download. The software deleted any more than this to make room for a two digit file number.)

The **.dta** file extension will be added automatically.

4. Select the run(s) that you wish to download from **List of Completed Runs** shown.

5. Use the **Download Run(s)** button.

   If more than one run is highlighted, a dialog will prompt you to select a start number for the file numbering scheme.

6. Enter a suitable start number and press **Continue**.

   Downloaded run data will be transferred from the dosimeter, then converted and stored in the specified filepath under the chosen filename. Multiple downloaded files will also carry the file number in their filename as an identifier.

7. **Halt** can be used to stop transfer for any reason during download.

   Once data transfer and conversion are complete, a **Download Successful** message and dialog asking:

   Do you wish to see the Run Summary for filepath\ filename ?

   will be displayed for the last successfully downloaded run.

8. Select Yes to display the **Run Summary***.

9. To download from another dosimeter, switch the currently connected device OFF and disconnect the serial cable. Having connected the next dosimeter and switched ON, wait for approximately 15 seconds and then press the **Refresh List** button to obtain the **List of completed Runs** stored in the new instrument then re-start from step 2.

10. Switch OFF and disconnect from the PC when you have finished.

Note *: When required, once datafiles have been downloaded, their names can be changed, for example by using Windows Explorer.

5. DATA MANIPULATION

It is not necessary to have a dosimeter connected to the PC during data manipulation and export.

5.1 View Downloaded Data

At the end of a data download operation, the software can display a run summary for the last run downloaded, as described in Chapter 4. If you need to access some other stored data file, proceed as follows.

1. Select **Open Data File...** from the **File** menu, choose the data file you want to open and confirm your choice (**OK**).

   The data file will be opened and the **Run Summary** dialog displayed.

2. From the **View** menu, select the option for the data you wish to view.

   In dB10, only the standard text format for the protocol used to measure the dose data will be available.

   When using dB12, the standard General text report will be available, plus OSHA, ISO, or DOD, when the time weighting, frequency weighting and Q factor (i.e. measurement protocol) match the data in the run.

5.2 Display Statistical Information (CEL-360, CEL-460 & dB12 Only)

Statistical data downloaded from a CEL-360 or CEL-460 can be displayed as a graph or as text. With the run summary for the required data file displayed in the active window, proceed as follows.

1. Select **Statistical Information** from the **View** menu.

   A cumulative graph will be displayed while the **View** menu now has **Probability** and **Text** options.

2. Select **Text** to open an additional display showing the data as text. Select **Graph** to return to the graphical display.

3. The cursors can be controlled in the same way as viewing profile data, with similar options for zooming and scrolling available.

The **Reset Graph** option from the **View** menu returns to the original display.

4. It is possible to calculate five Ln values from the statistical data. The percentile values calculated are specified using the **Specify LN's** option from the **Calculations** menu.

5. Use the **Show Readout Box** option from the **View** menu to display a dialog showing the results of calculations performed.

5.3 Display Profile Data (CEL-360 & CEL-460)

Profiles downloaded from a CEL-360 or CEL-460 can be displayed as text. Profiles downloaded from a CEL-360 or CEL-460 can also be displayed as a graph when using dB12.

With the run summary for the required data file displayed in the active window, proceed as follows.

1. Select the **Profile** option from the **View** menu, to display the profile*.

   CEL-360 and CEL-460 profiles will be displayed as text by dB10, go to step 2 for text options.

   CEL-360 and CEL-460 profiles will be displayed as a graph by dB12, go to step 3 for graphical options.

2. When dB10 software displays a profile as text, it is displayed in sections consisting of 300 data points together with information about the WHOLE profile.

   Use the **Section** options on the **View** menu to display specific 300 point sections of the profile.

   When more than one profile is available, use the **Profile** option on the **View** menu again to display a **Current Profiles** dialog from which the required profile can be selected.

Note *: Provided profiles have been enabled for the run, there can be three possible causes for a shorter profile to be displayed than expected, or for the complete profile to be absent.
1. The run lasted for less than one complete sample period.
2. The profile store in the instrument became full during the run.
3. Profiles were deleted from the instrument store before the run was downloaded.

3. When dB12 displays a profile as a graph, the **View** menu will include **Text** and **Show Readout Box...** options.

   Selecting the **Text** option opens an additional dialog showing the data as text. The options described above in step 2 become available. (**Select Graph** from the **View** menu to return to the graph display.)

   Use **Colour, Style and Legend** from the **Options** menu to configure the appearance of the graph.

   Use the cursor keys, mouse, options on the **Cursor** menu, or toolbar options to control the cursors.

   Cursors 1 & 2 are used together to mark portions of the profile for expansion on screen.

   Use options on the **Options** menu to zoom and scroll the profile or carry out data manipulations.

   Use the **Reset Graph** option to return to the full profile.

   The **Calculations** menu offers a range of options to compute Leq, noise exposures, statistical parameters and carry out various other calculations on the displayed profile. These options allow different exposure scenarios to be quickly investigated.

   Use the **Show Readout Box** option from the **View** menu, to display a dialog showing results of the calculations that have been performed.

   This data can be copied for pasting into other applications such as word-processors and spreadsheets.

5.4 Recalculation Options (CEL-360 & CEL-460 Data)

The projected dose measurement can be re-calculated for a different user specified period. The time at or above a user specified noise level can also be determined for a different level (entered by the user) and if using dB12, results can be calculated using an additional criterion level and threshold level. These features allow you to obtain new results from existing data, and to indulge in **What if ?** exercises.

Data Manipulation

Display data in one of the standard report formats as described in Section 5.1 then proceed as follows.

1. Scroll down the text and find the section headed by Threshold level among the Results of measurements.

   The lines "User specified projected period"

   and "User specified projected dose"

   occur at the foot of this block of text,

   and the lines "Above or equal to user specified level"

   and "User specified level"

   at the foot of the next block of text.

2. From the **Options** menu, choose the **Variable Results** option.

   This allows you to specify different values for the period over which the projected dose is calculated and add a further dB exceedance level. In dB12 additional criterion and threshold levels can be applied.

3. Make suitable changes. For example change the projected period time to 5 Hours, the exceedance dB level to 95 dB, set an additional criterion level of 85 dB and threshold level of 80 dB (dB12 only).

4. Press the **Save** button to save these values for use next time a data file is called to the display.

   Otherwise press the **Save and Apply to Text** button to save the values AND apply them to the text currently on display.

6. REPORT PREPARATION

The CEL dB10/12 software has the ability to produce simple text reports in a format standardised for the relevant measurement protocol.

Alternatively, the built-in word processor allows you to prepare totally customised reports. This word processor offers many of the abilities found in professional packages such as Microsoft Word®, and has a similar method of operation. It is possible to edit reports created in dB10 and dB12 using such packages.

6.1 Standard Format Text Reports

1. Open the required datafile.
2. From the **View** menu, select the required option to display a report in the standardised format.
3. If user information was entered, the most recently stored information will appear in a section near the top of the report.
4. When the information shown is for a user who is not the subject of the report, use the **User Information** option from the **Options** menu.
5. Scan through the **User Numbers** until you display the correct information for the subject of your report, then press the **Save and Apply to Text** button to write information for the correct subject into your report.
6. Should you want to save (or modify) a standard format text report, select the **Edit** menu and use the **Copy All to New Report Window** option.

   A report window is opened and the whole of the standard report text copied into it.

   The contents of this window can now be edited, saved and printed as detailed in the following sections.

6.2 Open a Customised Report

1. Select **New Report** from the **File** menu if a new customised report is to be produced.

Alternatively, use **Open Report** if an existing report is to be edited.

A report window is opened. If a new report has been opened, the report filename will be shown as Report plus a unique number. However, if an existing report has been opened, the report filename will be shown.

2. If you are generating a new report, use the **Print Setup** options in the **File** menu to select a suitable page orientation (portrait or landscape), and the toolbar options to select font, justification and line spacing, then start entering text at the cursor, or import text from other files as described in the tutorial below.

3. If you are editing an existing report move the cursor to the part of the report to be changed, then use the text editing and import options as described in the tutorial below.

   Note that some other windows applications change the system default page settings.

4. dB10/12 software makes use of the default windows printer page size and orientation.

   If another application has changed the default settings, even though a report was compiled and saved with portrait oriented pages for example, when you next open it, they may be in landscape orientation.

5. If page orientation has been changed, select the **File** menu again. When a report file is open, it includes a **Print Setup** option.

6.3 Save & Print a Report

When you have finished inserting text and graphs from the data files, or typing text into a report, proceed as follows.

1. Make the **Report** window the active window.

2. Select the **Save** option from the **File** menu.

   Alternatively, use the **Save As** option when you have just prepared a new report, or wish to save the edited version of an existing report under a new identity. You will be required to enter a filename.

The report will be saved with an **.rtf** file extension.

3. If necessary, use the **Print Preview** option (on the **File** menu) to check how your report pages will look.

   The print preview window shows the whole of the current page, with paper size and margin information.

4. Use the **Print Preview** option from the **File** menu to return to the **Report** window.

5. If necessary, use the **Print Setup** option to check and adjust the printer settings to match your report.

6. Select the **File** menu and use the **Print** option to print the report.

   A standard windows print dialog will be displayed so that specific instructions can be given to the printer.

7. Click **OK** to start printing.

Report Preparation

7 DATA EXPORT

7.1 Export Run Data as a Spreadsheet (dB12 only)

Open the file you want to export and display it in the active window. If you are displaying profile or statistical information, display them as a graph.

1. Select **Spreadsheet Export Options** from the **File** menu. Make suitable entries in the dialog to specify which section and point are to be exported.
2. Select **Export as Spreadsheet** and specify a filename for the spreadsheet.
3. While the export operation is in progress, the software locks out all other active applications. This prevents any other operations from being started that could destroy, corrupt or otherwise change the datafile being exported.

7.2 Export Profile Data as Text

1. Display the profile for the file you want to export as text in the active window.
2. Select **Export Profile as Text...** from the **File** menu, then enter a suitable filename in the Export dialog.
3. Make suitable entries in the subsequent dialog to specify exactly which points you want to export.

   While the export operation is in progress, the software locks out all other active applications. This prevents any other operations from being started that could destroy, corrupt or otherwise change the datafile being exported.

7.3 Export Statistical Data as Text (dB12 only)

1. Display the statistical data from the file you want to export as text in the active window.

2. Select **Export Statistical Information as Text...** from the **File** menu and specify a filename for the text file.

3. While the export operation is in progress, the software locks out all other active applications. This prevents any other operations from being started that could destroy, corrupt or otherwise change the datafile being exported.

8. dB SOUNDTRACK 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 manufacturers factory or accredited agent. The warranty period runs for three months from the date of receipt of goods.

Casella CEL's liability is limited to items of their own 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's local agent or to the Casella CEL 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.

As Casella CEL are continually improving their software, please complete the details on the card supplied, and register your copy to receive comprehensive technical support and information on software upgrades.

The manufacturer reserves the right to change this product without notice.

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Warranty