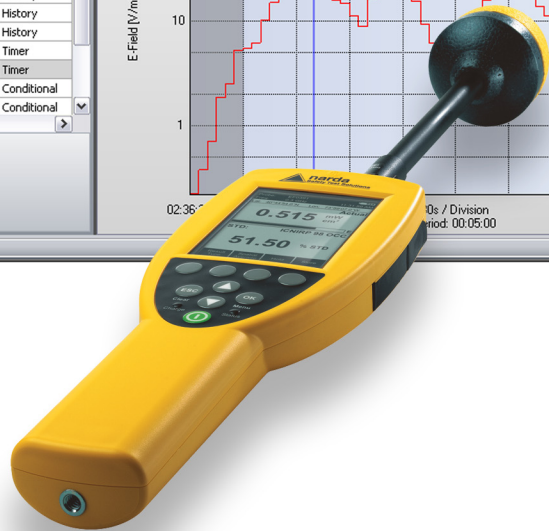
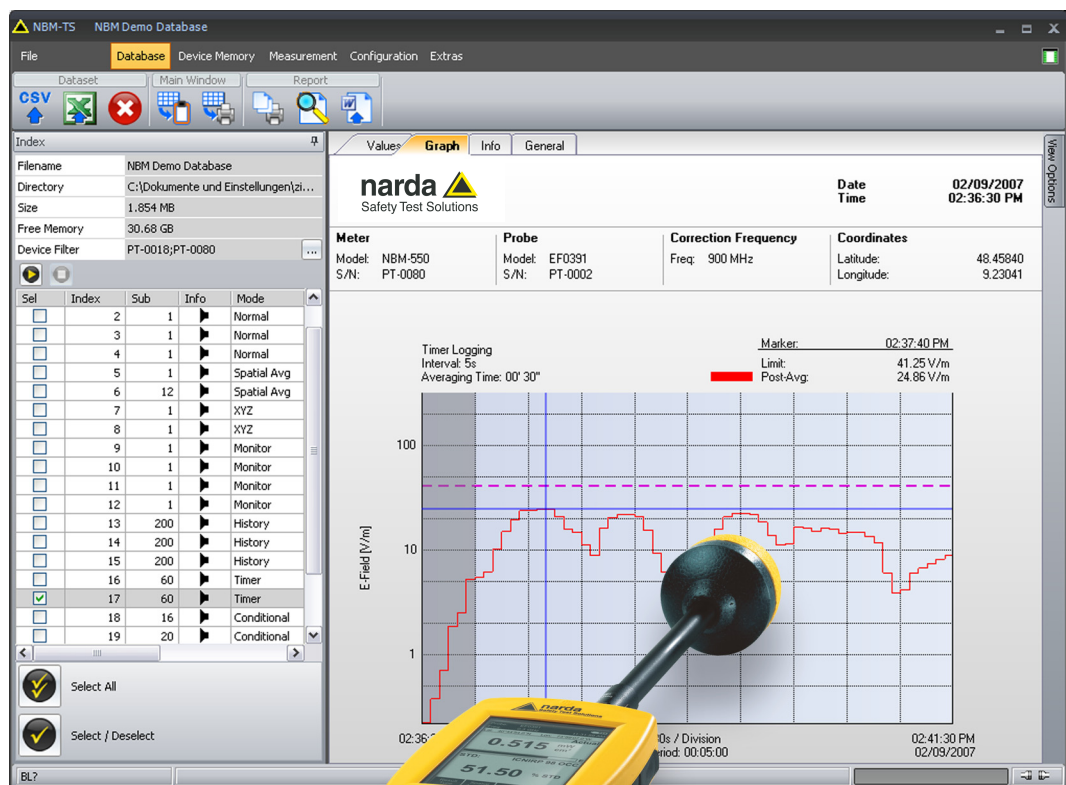


NBM-TS

Narda Transfer Software

Online help



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1 Operating Instructions

This section contains instructions on how to operate NBM-TS. Many functions are self-explanatory. The following guide will help you find out quickly how to perform specific tasks. The links take you where necessary to the corresponding functions in the Function Overview for more information.

The [Function Overview](#) contains a full description of all the functions available with NBM-TS.

This section, Operating Instructions, is divided up into the following subsections:

Connecting the test set to NBM-TS

[Making a USB connection](#)

[Making an optical connection](#)

Reading out, processing, and storing measurement data

[Loading and displaying measurement data](#)

[Storing data sets in a database](#)

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[Automatically adjusting the clock](#)

Firmware and options

[Updating the firmware](#)

[Activating options](#)

[Updating NBM-TS](#)

1.1 Connecting the test set to NBM-TS

Making a USB connection

Making an optical connection

1.1.1 Making a USB connection

Note: You can only make a USB connection to the NBM-550. You must use an optical connection for the NBM-520 (see [Making an optical connection](#)).


Operation via the USB interface of a PC requires a driver, which is installed automatically when the program is installed. Virtual COM ports are used for communication.

The *FTDI USB Serial Converter Driver* can be installed again later if necessary. The driver is located in the *USB Driver* folder on the NBM-TS CD-ROM.

If the connection cannot be made, check whether another application is using the COM ports and make sure that there is a free COM port available.

Information about the COM port settings of your PC can be found in the *Control Panel* of your PC operating system. Contact your IT support if you need to change any of these settings and you are not authorized as the system administrator.

Setting up the USB interface

1. Press the **OK** function key on the test set and select the **USB** setting under *MENÚ - Principal/Interfaz/Interfaz Serie*.
2. Connect the test set to a USB interface on the PC using the device-specific USB cable supplied with the test set.
The operating system of your PC will indicate that it has detected a new USB device and will shortly indicate that it has been installed and is ready to use.
3. Select the **Auto Scan** setting in the NBM-TS *Comunicación* menu and then click on .
The connection will then be set up between the test set and NBM-TS.


Note: If you connected the test set to the PC with the USB cable before you set the configuration to USB, switch the test set off and then on again so that the PC can detect it as a new USB device, otherwise it may not be possible to set up communications between the PC and the test set.

1.1.2 Making an optical connection

The optical interface can be connected to a serial port or to a USB port on the PC using an appropriate adapter.

The interface parameters are configured by the program automatically. You can manually set or use the **Auto Scan** function in NBM-TS to specify the port (COM n) to be used. The USB interface uses virtual COM ports.

Setting up the optical interface

1. Press the **OK** function key on the test set and select the **Óptico** setting under *MENÚ - Principal/Interfaz/Interfaz Serie* (not applicable to NBM-520).
2. Use the optical cable to connect the test set to the
 - a serial port on the PC (Adapter 2260/90.06)
 - or –
 - a USB port on the PC (Adapter 2260/90.07).
3. Select the **Auto Scan** setting in the NBM-TS *Comunicación* menu and then click on . The connection will then be set up between the test set and NBM-TS.

1.2 Reading out, processing, and storing measurement data

[Loading and displaying measurement data](#)

[Storing data sets in a database](#)

[Adding information to measurement data](#)

[Evaluating measurement results](#)

1.2.1 Loading and displaying measurement data

You can read out measurement data from the test set or load measurement data from a database.

Reading out measurement data from the test set

⇒ Connect the test set to NBM-TS (see [Connecting the test set to NBM-TS](#)).
The [Índice pull-out menu](#) gives an overview of the measured values stored in the test set.

Loading measurement data from a database

Note: NBM-TS is supplied with a database that already contains some example measurement data.
You can use this database, but we recommend that you create a new database (see [Creating a new database](#)).

1. Click on *Abrir...* in the *Archivo* menu.
The *Abrir Base de Datos* dialog opens.
2. Select the database you want (file name extension .nbd) and click on **Open**.
An overview of the measurement data is shown in the [Índice pull-out menu](#).

Selecting and displaying measurement data

You can select from the following actions:

Displaying a data set in the Main window:

⇒ Click in any column except column 1:



- The line is highlighted in gray
- If a sound recording was made this can also be replayed (see [Replaying a sound recording](#))




Note: To display a data set in the Main window you must always highlight only one line (one data set) in the Index. It can take some time to transfer the data if the data set contains a large number of sub-data sets or long voice comments. There may therefore be a noticeable delay before the display appears in the Main window.

Saving or exporting a data set or outputting it as a report:

⇒ Click in the first column (**Sel**) of a data set:

- A check mark appears in the check box.

⇒ You can also use the  and  selection buttons.

- You can select several data sets (highlighted in gray) by clicking the left mouse button and pressing the Shift key and selecting them with the  button.
- Use the  to check mark all the data sets.
- You can deselect the check marked data sets by selecting them again and using the  button.


Changing the Main window display:

⇒ Select one of the following tabs

- **Valores:** Displays a table of the measurement data.
- **Gráfica:** Displays a graph of the measurement data.
- **Info:** Displays additional information about the highlighted (gray) data set.
- **General:** Displays the settings used to obtain the measurement data.

Replaying a sound recording

The  icon in the **Info** column indicates that a comment has been recorded.

⇒ To replay the comment click on the relevant data set (the data set will be highlighted in gray) and then click on the  button.

The comment will be replayed through the loudspeaker on your PC.

1.2.2 Storing data sets in a database

You can store the measurement data you read out from the memory of the test set in a database. In this way, you can save the measurement data for later evaluation.

Note: The measurement data from the test set memory are always directly stored in the database that is open. You will not be asked to specify a target database when you start the storing process, so make sure you first open the database in which you want to store the measurement data.

✓ NBM-TS and the test set are connected.

1. Open the database you want using the *Archivo/Abrir...* menu or create a new database (see [Creating a new database](#)).

1. Open the *Memoria del dispositivo* view and check mark all the data sets you want to store in the database.

2. Click on the  button.

NBM-TS will save all the check marked items in the database that is open.

Note: If you save data sets more than once, the existing data sets will not be overwritten. A message will appear indicating how many data sets were imported and how many were not imported.

1.2.3 Adding information to measurement data

You can add information to the measurement data or edit any existing information.

⇒ Open the **Info** tab in the Main window.

You can now add or edit the following information:

- Adding or editing a comment
- Adding or editing measurement site information
- Adding or editing images

Note: If you add information to the measurement data you have recalled from the test set memory, this will be lost when you switch off the test set. You should therefore save the measurement data from the test set memory to a database after you have added information to it (see [Storing data sets in a database](#)).

1.2.3.1 Adding or editing a comment

- ✓ You have selected an item in the [Índice pull-out menu](#).
- ⇒ Click in the **Comentarios** box in the Main window and enter the text that you want.

1.2.3.2 Adding or editing measurement site information

You can enter measurement site information with or without the use of GPS coordinates.

If GPS coordinates were not saved when the measurement was made

- ✓ You have selected an item without GPS coordinates in the [Índice pull-out menu](#).
- ⇒ Click in the **Lugar** box in the Main window and enter the text that you want.

If GPS coordinates were saved when the measurement was made

If you saved the measurement data along with the GPS coordinates, this data can be combined with the measurement site information. In this way, you can automatically assign GPS coordinates to measurement site information that has been saved.

- ✓ You have selected an item with GPS coordinates in the [Índice pull-out menu](#).
The GPS data is displayed in the **Coordenadas** box in the Main window.

A: The Lugar box is empty:

This means that the GPS coordinates have not been used yet.

1. Enter information about the measurement site in the **Lugar** box.
2. Click on the **Aprender** button to record the GPS coordinates and measurement site information in the list of known sites.

B: The Lugar already contains information:

This means that the GPS coordinates have been used already and the associated information about the measurement site has been entered automatically.

1. You can leave the measurement site information as it is
– or –
2. Edit the information if necessary.
3. Click on the **Aprender** button to record the GPS coordinates and measurement site information in the list of known sites.

If you save existing GPS coordinates with new measurement site information, the existing data will not be overwritten. Instead, there will be two entries with identical GPS coordinates but different measurement site information in the list of known sites.

Note: A site in the list will only be used automatically if the GPS coordinates are within a certain radius from the displayed GPS coordinates. You can select this radius from three values under *Extras/Preferencias/GPS/Datos de Posición GPS*. You can also set whether the measurement site information is to be completed automatically or not.

Editing the list of known measurement sites

GPS coordinates and the associated measurement site information are saved in the list of known measurement sites when you click on the **Aprender** button. You can edit this list by clicking on the **Editar Lista** button.

✓ You have selected an item with GPS coordinates in the [Índice pull-out menu](#).
The GPS data is displayed in the **Comentarios** box in the Main window.


1. Click on the **Editar Lista** button.
The list of known measurement sites opens.
2. Select an item in the list and edit the information about the measurement site or delete the item.

Note: You can also edit the list of known measurement sites directly using a word processor or spreadsheet application. To do this, open the **Sites.csv** file (located in the directory selected in *Extras/Preferencias/GPS/Datos de Posición GPS*) with the desired application and edit the list as required.
Make sure that you do not change
the **Units** (always DegDec)
the **decimal separator** (dot) and
the **column separator** (tabulator).

1.2.3.3 Adding or editing images

You can store images along with your measurement results in addition to comments and information. This allows you to save a photograph of the measurement site or a section of an electronic map together with the measurement results, for example.



✓ You have selected an item in the [Índice pull-out menu](#).

1. Select one of the four frames and click on .
2. Insert an image from the clipboard or select a file that you saved previously.
The image is shown within the frame.

Using Internet maps

If you have saved the GPS coordinates of the measurement site, you can display a map of the site locality using the electronic maps available on the Internet.

✓ You have selected an item with GPS coordinates in the [Índice pull-out menu](#).

1. In the **Webbrowser** box, select a web site that offers electronic maps and click on .
2. Select the section of map that you want and copy it on to the clipboard.
3. Select one of the four frames, click on , and select **Desde el Portapapeles**.
The image is shown within the frame.

Note: Make sure you observe any copyright restrictions when you use images and maps from the Internet.

1.2.4 Evaluating measurement results

NBM-TS provides various facilities for evaluating measurement results. It does not matter whether the results were obtained using the test set on its own or by remote control using NBM-TS.

The complete results of up to 32000 sub-data sets for timer-controlled or condition triggered measurements can be evaluated. You can only display a maximum of 999 sub-data sets on the test set itself.

Exclamation marks in the table display indicate any measurement intervals during which auto-zeroing was performed. Measured values cannot be determined during auto-zeroing.

1. Open the database you want using the *Archivo/Abrir...* menu.
All the data sets saved in the database are shown in the [Índice pull-out menu](#).
2. Click on one of the data sets.
The data set contents are shown in the Main window.
3. Open the [Ver Opciones pull-out menu](#)
You can now use the following functions:

Marker function

- ⇒ Use the mouse pointer to move the vertical blue line across the surface of the diagram.
The numerical values corresponding to the line position are shown in a window at the top right corner of the display.
- or –
- ⇒ Use the **Pico más alto** button in the [Ver Opciones pull-out menu](#) to position the marker automatically.

Post average function (Post-Average)

You can use the post average function to average the measurement results after they have been recorded.

1. Select the “Post-Average” result display under **Evaluación**.
2. Select the desired post averaging time.
The diagram now shows the values averaged over the specified time period. The area at the left hand edge of the diagram for which a valid average cannot yet be determined is shown highlighted in dark gray.

Zoom function

A data set can often contain more values than can be displayed on the screen, and it can also be very useful to enlarge a particular section of a diagram so it can be viewed in more detail. You can change the display area in two ways:

- Numerically enter the range for the Y axis values and the time.
Each time you enter a value, NBM-TS adjusts the display accordingly. The measurement data set is not altered by this.
You can reset the display at any time by clicking the **100%** button.
- or –
- Left click on the graph and while holding down the mouse button move the pointer until it indicates a frame that is the size you want. Release the mouse button to expand the frame to fill the screen. The measurement data set is not altered by this.
You can reset the display by right-clicking in the graph area.

Tip: The zoom function has a temporary effect on the table of measurement values. This allows you to pick out the section of interest and document it. All export and documentation functions are applied to the enlarged area.

Select units

You can use this function to change the units used to express the measurement results, e.g. from V/m to A/m. You can also select between fixed and technical notation for the result format.

1.3 Managing data sets and databases

You can use various functions to export, import, or delete individual data sets or entire databases:

[Opening a database](#)

[Creating a new database](#)

[Deleting data sets from a database](#)

[Exporting data sets as a CSV file](#)

[Exporting data sets in an EXCEL file](#)

[Exporting data sets in a ZIP file](#)

[Importing data sets from a ZIP file](#)

1.3.1 Opening a database

You can open a database from any view.

1. Click on *Abrir...* in the *Archivo* menu.
A selection window opens.
2. Select a database and click on the **Abrir** button in the selection window.
The data sets are displayed in the [Índice pull-out menu](#).

1.3.2 Creating a new database


You can create a new database from any view.

1. Click on *Nuevo...* in the *Archivo* menu.
A selection window opens.
2. Select a destination directory, enter a name for the database, and click on the **Guardar** button.
An empty database is displayed in the [Índice pull-out menu](#).


1.3.3 Deleting data sets from a database

You can delete individual data sets or the entire database.

Deleting selected data sets only

1. Open the *Base de datos* view.
 2. In the [Índice pull-out menu](#), select the data sets that you want to delete by clicking on the check boxes.
 3. Click on .
- The first step of the *Eliminar Conjunto de Datos* dialog opens: “Seleccionar qué se desea eliminar”.
4. Select the “Conjuntos de Datos Seleccionados” option and click on **Eliminar**.
The selected data sets will be deleted from the database.


Deleting a complete database

1. Open the *Base de datos* view.
2. Click on .
The first step of the *Eliminar Conjunto de Datos* dialog opens: “Seleccionar qué se desea eliminar”.
3. Select the “Base de Datos Completa” option and click on **Eliminar**.
The database that is open will be completely deleted from the hard disk.
A dialog opens requesting you to create a new database.
4. Click on **Sí** to create a new database.
– or –
Click on **No** to open an existing database.




1.3.4 Exporting data sets as a CSV file

CSV (Character Separated Values) is a simple file format which lists values separated from one another by commas, semicolons, or tab characters. NBM-TS can generate this type of file. CSV files can be easily imported into spreadsheet applications such as EXCEL. It is also possible to export files from NBM-TS directly in EXCEL format (see [Exporting data sets in an EXCEL file](#)).

Only individual selected data sets are exported in a CSV file.

1. Click on  in the Extras view.
2. Select the decimal separator and the column separator you want on the *Exportar (CSV)* tab.


Note: Select different characters for the two separators.

3. Select whether the data sets exported as CSV are to be combined and saved as a single file or as separate files.
4. Switch to *Base de datos* or *Memoria del dispositivo* view.
5. In the [Índice pull-out menu](#), select the data sets that you want to export by clicking on the check boxes or use the following buttons:
 - “Seleccionar Todo”  (check marks all data sets),
 - “Seleccionar / Deseleccionar”  (selects or deselects the data set highlighted in gray).
6. Click on .

A message indicating successful completion will be displayed after the export process has finished. The directory for the CSV files is below the export directory (see [Specifying directories](#)) and is named according to the following convention:

<Year>_<Month>_<Day>_<Hour>_<Minute>_<Second>

1.3.5 Exporting data sets in an EXCEL file

1. Switch to *Base de datos* or *Memoria del dispositivo* view.
2. In the [Índice pull-out menu](#), select the data sets that you want to export by clicking on the check boxes.
3. Click on .
The selected data sets will open in the EXCEL application. Each data set is shown as a separate sheet in the table.
4. Save the EXCEL file.

1.3.6 Exporting data sets in a ZIP file

NBM-TS uses this function to compress a database into a ZIP format archive file.

In this way you can easily copy data sets into other databases or exchange data with other NBM-TS users. All linked objects such as voice comments and images are automatically included in the exported ZIP file.

You can export individual data sets or a complete database.

Exporting selected data sets

1. Switch to *Base de datos* view.
2. In the [Índice pull-out menu](#) select the data sets that you want to export by clicking on the check boxes.
3. Click on *Exportar Base de Datos (zip)* in the *Archivo* menu.
The first step of the *Exportar a un Fichero ZIP* dialog opens: “Exportar un conjunto de datos o la base de datos completa”.
4. Select the “Conjuntos de Datos Seleccionados” option and click on **Siguiente**.
The next step in the dialog appears: “Selección del Fichero ZIP”.
5. Use the **Examinar...** button to select the directory where you want the new ZIP file to be created. You can select an existing ZIP file to be replaced or you can enter a new file name in the “Nombre del Archivo:” box.
6. Click on **Siguiente**. The next step in the dialog appears: “Exportando Conjuntos de Datos”. A status display indicates the progress of the export process.
7. Click on **Terminar**.

Exporting a complete database

1. Click on *Exportar Base de Datos (zip)* in the *Archivo* menu.
The first step of the *Exportar a un Fichero ZIP* dialog opens: “Exportar un conjunto de datos o la base de datos completa”.
2. Select the “Base de Datos Completa” option and click on **Siguiente**.
The next step in the dialog appears: “Selección del Fichero ZIP”.
3. Use the **Examinar...** button to select the directory where you want the new ZIP file to be created. You can select an existing ZIP file to be replaced or you can enter a new file name in the “Nombre del Archivo:” box.
4. Click on **Siguiente**. The next step in the dialog appears: “Exportando Conjuntos de Datos”. A status display indicates the progress of the export process.
5. Click on **Terminar**.

1.3.7 Importing data sets from a ZIP file

You can use this function to import data that were stored in ZIP format from NBM-TS (see [Exporting data sets in a ZIP file](#)).

You can import individual data sets or a complete database.

Importing selected data sets

1. Click on *Importar Base de Datos (zip)* in the *Archivo* menu.
The first step of the *Importar desde fichero ZIP* dialog opens: “Selección del Fichero ZIP”.
2. Use the **Examinar...** button to locate the ZIP file in the directory.

3. Click on **Siguiente**.

The next step in the dialog appears: "*Importar un conjunto de datos o la base de datos completa*"

4. Select "*Conjuntos de Datos Seleccionados*" and click on **Siguiente**.

The next step in the dialog appears: "*Selección de la Base de Datos*".

5. Select the data sets that you want to import by clicking on the check boxes.

6. Click on **Siguiente**.

NBM-TS imports all the data sets that are marked with a check mark.

7. Click on **Terminar**.

Note: If you import the same data sets more than once, the data sets that already exist will not be overwritten. A note indicating how many data sets were not imported will be displayed instead.

Importing a complete database

1. Click on *Importar Base de Datos (zip)* in the *Archivo* menu.

The first step of the *Importar desde fichero ZIP* dialog opens: "Selección del Fichero ZIP".

2. Use the **Examinar...** button to locate the ZIP file in the directory.

3. Click on **Siguiente**.

The next step in the dialog appears: "*Importar un conjunto de datos o la base de datos completa*"

4. Select "*Base de Datos Completa*" and click on **Siguiente**.

NBM-TS imports all the data sets in the database.

5. Click on **Terminar**.

Note: If you import the same data sets more than once, the data sets that already exist will not be overwritten. A note indicating how many data sets were not imported will be displayed instead.

1.4 Using NBM-TS to make measurements

You can perform the following tasks with NBM-TS:

[Displaying a measurement in progress \(History\)](#)

[Making timer-controlled measurements \(Timer\)](#)

[Making long-term measurements](#)

[Making simultaneous measurements with several devices](#)

Note: Remote controlled measurements using NBM-TS can be made with all NBM test sets. The functions available remain the same.

1.4.1 Displaying a measurement in progress (History)

The History display has the same function as it does when you operate the NBM-550 manually.

The progress of the measurement is recorded as soon as you select the Medida menu. You do not have to start or stop the recording.

All measured values that have been saved for more than the set time period are cleared from the measurement memory (rollover).

The entire measurement memory capacity is always exactly 200 measurement intervals.

✓ The test set and NBM-TS are connected.



1. Open the *Medida/History* view.

The measurement values are shown as a continuously updated graph in the Main window.


Note: You can delete previously recorded measurement values by clicking on .

2. Open the [Parámetros de Medida pull-out menu](#) and the [Ver Opciones pull-out menu](#) to make all the necessary settings.

Evaluating results during a measurement:

1. Click on  to evaluate the graph using the marker even while the measurement is in progress. The measurement continues in the background.
2. The graph will be updated when you click on .
3. You cannot average the results (Promedio posterior a la medida) until you have saved the results. Switch to the *Base de datos* menu to do this.

Saving the measurement:

⇒ Click on .

The measurement results from the start of the measurement up until the time of saving the measurement will be saved in the database that is open.

1.4.2 Making timer-controlled measurements (Timer)

This operating mode has the same functions as the manual **Timer Logging** function of the NBM-550.

You can record and save up to 32000 measurement intervals.

✓ The test set and NBM-TS are connected.

1. Open the *Timer* tab in the *Medida* view.
2. Open the [Parámetros de Medida pull-out menu](#) and the [Ver Opciones pull-out menu](#) to make all the necessary settings.
3. Click on the **Iniciar Almacenamiento Inmediatamente** button.
The measurement starts immediately using these parameters.
– or –

Click on the **Hora de Inicio de Almacenamiento Programado** button.



The measurement is ready to start. The countdown indicates the time remaining until the measurement will start.

NBM-TS will start the measurement at the set time. After the measurement starts, the countdown indicates the time remaining until the measurement ends.

NBM-TS saves the results automatically as a data set in the database that is open. The data set usually contains several individual results (measurement intervals). Each of these is identified by a sub-index number.

The measurement values are shown as a continuously updated graph in the Main window.

Evaluating results during a measurement:

1. Click on  to evaluate the graph using the marker even while the measurement is in progress. The measurement continues in the background.
2. The graph will be updated when you click on .
3. You cannot average the results (Promedio posterior a la medida) until you have saved the results. Switch to the *Base de datos* menu to do this.

Ending the recording:

⇒ Click on the button **Parar Almacenamiento**.

Displaying the results:

1. Switch to the *Base de datos* view.
2. Click on the new data set (the one with the highest index number) shown in the [Índice pull-out menu](#) to display the results in the measurement data window.

1.4.3 Making long-term measurements

You can make long-term measurements using the same procedure as described under [Making timer-controlled measurements \(Timer\)](#). Please note the following additional information:

- You must power the test set from an external power supply for uninterrupted measurements lasting more than 12 hours. Please follow the instructions for this in the test set operating manual.
- The maximum measurement time that you can set is 99 hours, 59 minutes and 59 seconds (99:59:59) and is dependent on the interval time setting. You can record a maximum of 32000 measurement intervals.

1.4.4 Making simultaneous measurements with several devices

You can start several instances of NBM-TS and use these to control several test sets at the same time.

Please note that you must open a separate database (e.g. using a batch file) for each instance of NBM-TS. Otherwise NBM-TS will display a message if a database is already open when you start it up.

1.5 Generating test reports

You can perform the following actions to generate a test report:


[Sending measured values to an Excel table](#)

[Sending a test report to a Word document](#)

[Sending a test report to a printer](#)



[Generating screenshots](#)

1.5.1 Sending measured values to an Excel table




1. In the [Índice pull-out menu](#) select the data sets that you want by clicking on the check boxes.
2. Click on .
The parameters and measured values of the selected data sets will be inserted in an Excel table (requires MS-Excel 2000 or above).
Each data set is shown on a separate page of the table.
3. You can now transfer the measured values and parameters you want into your test report.

Note: Alternatively, you can export the data as a CSV file.

1.5.2 Sending a test report to a Word document

1. Click on  in the *Extras* view.
2. Open the *Informe* tab and set the elements that you want the report to contain.
3. Switch to *Base de datos* or *Memoria del dispositivo* view and select the data sets in the [Índice pull-out menu](#) that you want by clicking on the check boxes.
4. Click on .
A separate report will be created and opened in Word for each data set selected (requires MS-Word 2000 or above).

1.5.3 Sending a test report to a printer



1. Click on  in the *Extras* view.
2. Open the *Informe* tab and set the elements that you want the report to contain.
3. Check that the correct printer has been selected under *Archivo/Configuración de Impresora...* and change the selection if necessary.
4. Switch to *Base de datos* or *Memoria del dispositivo* view and select the data sets in the [Índice pull-out menu](#) that you want by clicking on the check boxes.
5. Click on .
You can check the report in the *Print preview* window before it is printed out.
– or –
Click on .
The report will be printed out using the printer selected under *Archivo/Configuración de Impresora....*

Note: A separate report is produced for each data set selected.


1.5.4 Generating screenshots

You can create an image of the contents of the measurement data window as well as of the test set screen display.

Generating a screenshot of the contents of the measurement data window:

- ⇒ Click on  to copy the screenshot onto the clipboard.
You can then paste the screenshot from the clipboard into another application such as Word or PowerPoint.
– or –
- ⇒ Click on  to print out the screenshot directly on the printer specified under *Archivo/ Configuración de Impresora...*

Generating a screenshot of the test set screen display:

1. Click on  in the *Extras* menu.
This takes a snapshot of the test set screen display and shows it in a separate window.
2. Click on **Actualizar** to refresh the display manually.
– or –
Activate the **Refresco cíclico** option to refresh the display automatically.

Note: If you activate **Refresco cíclico**, you cannot close the display window (presentation mode).

3. Select the desired display on the test set.
4. Click on **Guardar**.
5. Enter a destination directory and a name for the screenshot image and save the file.

1.6 Using standards and device configurations

[Generating and managing user standards \(NBM-550\)](#)

[Managing safety standards \(NBM-550 only\)](#)

[Generating and managing device configurations \(setups\)](#)


1.6.1 Generating and managing user standards (NBM-550)

✓ *Configuración* view, [Estándares del Usuario](#) tab.


User standards

- can be created from scratch or by editing existing standards
- can be read out from the test set and loaded back into the test set

Reading out a user standard from the test set

1. Click on .

The user standard saved in the test set will be read out and displayed in the *Estándar de Usuario - Dispositivo:* window.

2. Click on  to insert the user standard into the list of standards.


Adding a new user standard

1. Click on the **Añadir** button below the *Estándares:* window.
The *Añadir Estándar* dialog opens.
2. Select the desired mode:
 - *Crear un nuevo Estándar a partir de uno existente* or
 - *Crear un nuevo Estándar (vacío)*and click on **Siguiente**.

If you selected “Crear un nuevo Estándar a partir de uno existente ”:

3. Select a standard and click on **Siguiente**.
4. Enter a new name for the standard, select the stop frequency for E-field and H-field and click on **Añadir**.

If you selected “Crear un nuevo Estándar (vacío)”:

5. Enter a new name for the standard, select the stop frequency for E-field and H-field and click on **Añadir**.
6. Click on  to save the edited list of user standards.

Editing a user standard

1. Select an item from the *Estándares:* window.
2. Click on **Editar** below the *Estándares:* window to change the name or the stop frequencies.
3. Click on **Añadir** in the *Campo-E* or *Campo-H* window to generate a new parameter
 - or –click on an existing value and click on **Editar** to edit the value.

– or –

click on **Eliminar** to delete the item.

If you selected **Añadir** or **Editar**:

⇒ Enter the desired value, select the units and click on **Editar**.

Information about calculating the parameters is found under [Calculating the values for user standards](#).

Displaying a user standard as a graph

⇒ Click on **Gráfica**.

The graph is displayed.


You can move the vertical line across the graph. The parameters corresponding to the position of the line are shown at the top right.

Transferring a user standard to the test set

You can transfer the user standard to the test set independently from the safety standards.

WARNING: The user standard in the test set will be overwritten by the transfer.

1. Select a standard.

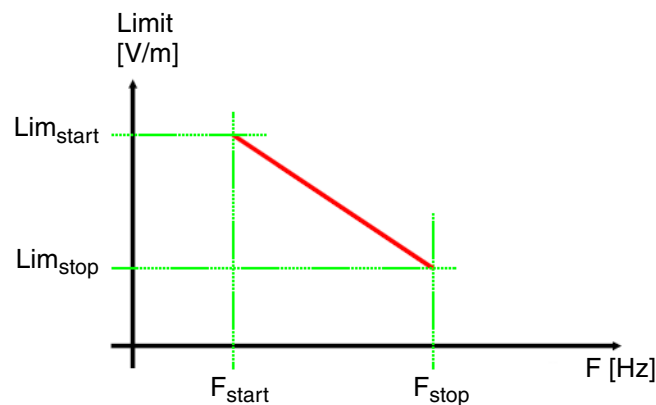
2. Click on .

The selected user standard is transferred to the test set.

Calculating the values for user standards

You must specify the relevant value and steepness for a particular frequency range when you generate or edit user standards.

This data is calculated as follows:



$$\text{Steepness} = \frac{\log\left(\frac{\text{Lim}_{\text{stop}}}{\text{Lim}_{\text{start}}}\right)}{\log\left(\frac{F_{\text{stop}}}{F_{\text{start}}}\right)}$$

$$\text{Value [V/m]} = \frac{\text{Lim}_{\text{start}}}{F_{\text{start}}^{\wedge} \text{Steepness}}$$

1.6.2 Managing safety standards (NBM-550 only)

✓ *Configuración view*, [Estándares de Seguridad](#) tab.

Safety standards

- are pre-set standards that cannot be altered
- can be transferred back to the test set.

Displaying a standard as a graph


⇒ Click on **Gráfica**.

The graph is displayed.

You can move the vertical line across the graph. The parameters corresponding to the position of the line are shown at the top right.

Transferring safety standards to the test set

You can transfer the safety standards to the test set independently from the user standard. You can only transfer all the safety standards together.

⇒ Click on .

All the displayed safety standards will be transferred to the test set.

1.6.3 Generating and managing device configurations (setups)

You can find the description of this function under [Configuraciones](#).

A **Setup** describes the configuration of the NBM test set for a particular measurement. A stored setup therefore contains all the measurement parameter settings. This is not the same as a **data set**, which contains the measurement results and the measurement parameter settings.

You can generate and save setups on the NBM-550 directly using the *MENÚ - Principal/ Configuración de Medida* function. You can use the NBM-TS software to transfer the collected setups to your PC and save them as a file.

You cannot process setups directly on the NBM-520. You must use the NBM-TS software for this.

NBM-TS cannot generate new setups.

Editing setups

You can find the description of this function under [Configuraciones](#).

NBM-TS allows you to edit existing setups for the NBM-520. You cannot use NBM-TS to edit setups for the NBM-550.

✓ *Configuración view*, Configuraciones tab

⇒ Click on the values you want to edit. Select the new value required from the selection list.

Opening a saved setup

✓ *Configuración* view, Configuraciones tab

1. Click on .
2. Select **.nbc** file you want.


You can now perform the following actions:

[Editing setups](#)

[Transferring setups](#)


Saving setups

✓ *Configuración* view, Configuraciones tab

1. Click on .
- The Setup directory is suggested as the storage location by default (see [Specifying directories](#)).
2. Enter a file name.
A test set code number (e.g. “520”) will be added to the start of the file name automatically.

Recalling setups from the test set

✓ *Configuración* view, Configuraciones tab

⇒ Click on .

There may be several setup configurations for the NBM-550. Only the list with the configuration names is displayed. Individual configurations can only be edited using the test set. They cannot be edited using NBM-TS.

There is only one setup configuration for the NBM-520. This cannot be edited using the test set. It can only be edited using NBM-TS.

Transferring setups to the test set

WARNING: The configuration data in the test set will be overwritten by the transfer.


If you want to change the existing configuration data, proceed as follows:

1. First transfer the existing configuration data from the test set to your PC (see [Recalling setups from the test set](#)).
2. Edit the data as necessary (see [Editing setups](#)).

You can now transfer the configuration data back to the test set.

Transferring setups

✓ *Configuración* view, Configuraciones tab

⇒ Click on  to transfer the setup that is open to the test set.

1.7 Configuring NBM-TS


Specifying directories

Customizing the pull-out menus

Automatically adjusting the clock

1.7.1 Specifying directories



You can set the default directories to be used by NBM-TS for storing the various configuration files, export files and database files.

1. Click on  in the *Extras* view.
2. Click on the Directorios tab.
3. Click on the **Examinar...** button to change the directory.

1.7.2 Customizing the pull-out menus


The settings and evaluation functions are accessed using so-called pull-out menus to keep the result display as large and clear as possible. These menus can be opened only when needed or can be left open permanently according to your preference.

When you move the mouse pointer to one of the side buttons, the corresponding pull-out menu opens. You can fix the menu open by clicking on the icon at the right hand edge of the menu title:


Icon	Explanation
	The menu window is opened temporarily and overlaps the display in the Main window. The menu closes again as soon as you click in the Main window.
	The menu window is fixed open permanently. This compresses the display in the Main window. All the information remains visible.

If you click on the header line of a permanently opened menu and hold down the mouse button, you can drag the window to any position on the screen. This may result in some of the information on the screen being hidden.


Arrow symbols pointing in two directions appear when you drag the menu window:

Icon	Explanation
	When you move the mouse pointer in the header line of the pull-out menu so that it corresponds with one of the arrow symbols and then release the button, the menu window “snaps” to the left or right hand edge of the screen. You can close the window at this new position by clicking on the “Fix” icon.

NBM-TS saves the last setting when you close the program.

You can set the pull-out menus back to the default setting at any time by clicking on  in the [Menu bar](#).

1.7.3 Automatically adjusting the clock

You can manually check and synchronize the time clocks of the test set and the PC by clicking on . This can also be done automatically.

✓ *Extras, Preferencias* view, *Fecha/hora* tab

To check the time difference automatically:

- ⇒ Activate the **Comprobar la desviación automáticamente** function.
NBM-TS will compare the test set and PC time clocks continuously. If the time difference between the two clocks exceeds a specified value the test set clock will either be synchronized with the PC time automatically or a window will open requesting you to confirm synchronization, depending on the setting of the **Solicitud de Confirmación** function.

To synchronize clocks without confirmation:

- ⇒ Deactivate the **Solicitud de Confirmación** function.
Synchronization will now take place completely automatically.

1.8 Firmware and options

Updating the firmware

Activating options

Updating NBM-TS

1.8.1 Updating the firmware


WARNING: Loss of data during firmware update

The firmware update process can take up to **5 minutes**. Data may be lost if the process is interrupted, and the test set may no longer function as a result.

- ⇒ Finish all measurements before starting the update.
- ⇒ Ensure that the power supply is not interrupted during the update process.
- ⇒ Always use the latest version of NBM-TS for updating the firmware.
- ⇒ Wait until after the firmware update has completed successfully. Do not make any settings on the test set until then.

To update the firmware:

- ✓ The AC Adapter/Charger is connected to the test set.
- ✓ You have connected the PC and the test set together and started NBM-TS.

1. Connect to the Internet and click on  in the *Extras* view.

You will be redirected to the Narda web site.


2. Select the latest firmware version and save it (download it) to your PC.

Note: NBM firmware files have the file name extension *.nfw.
Downloaded firmware files are usually ZIP files that need to be unzipped before you can install the update.

3. Click on  in the *Extras* view.

The test set is now connected to the PC.

 changes to .

4. Click on .

5. Follow the instructions.

6. When the update has completed successfully, click on **Terminar**.

7. Switch the test set on again.

The test set with the latest firmware is ready for use after the self test finishes successfully.





1.8.2 Activating options

You can expand the range of functions of the NBM-550 by means of options such as the GPS/Voice Recorder/Conditional Logging option.

If you order options later on, you will need a license code (option code) in order to activate the options. This code is found in the **NBM-550 Options Passport** which is included with the sales documentation for the option.

- ✓ The test set is equipped with the latest firmware release (see [Updating the firmware](#)).
- ✓ You have connected the PC and the test set together and started NBM-TS.

To activate an option:

1. Click on  in the *Extras* view.
The test set is now connected to the PC.
 changes to .
2. Click on .
The *Activar Opciones* window opens.
3. Select the option required. Options that have already been activated are indicated by a check mark.
4. Enter the options code in the boxes at the bottom of the window.
5. Click on **Activar**.
The option is now activated, indicated by the check mark.
6. Click on **Cerrar**.

You can now use the functions of the option.

Note: The option activation code is linked to the serial number of a particular test set and will only be accepted by this test set.

1.8.3 Updating NBM-TS

Always use the latest version of NBM-TS. You can download updates from the Internet free of charge.

1. Connect to the Internet and click on  in the *Extras* view.
You will be redirected to the Narda web site.
2. Select the latest NBM-TS version and save it (download it) to your PC.

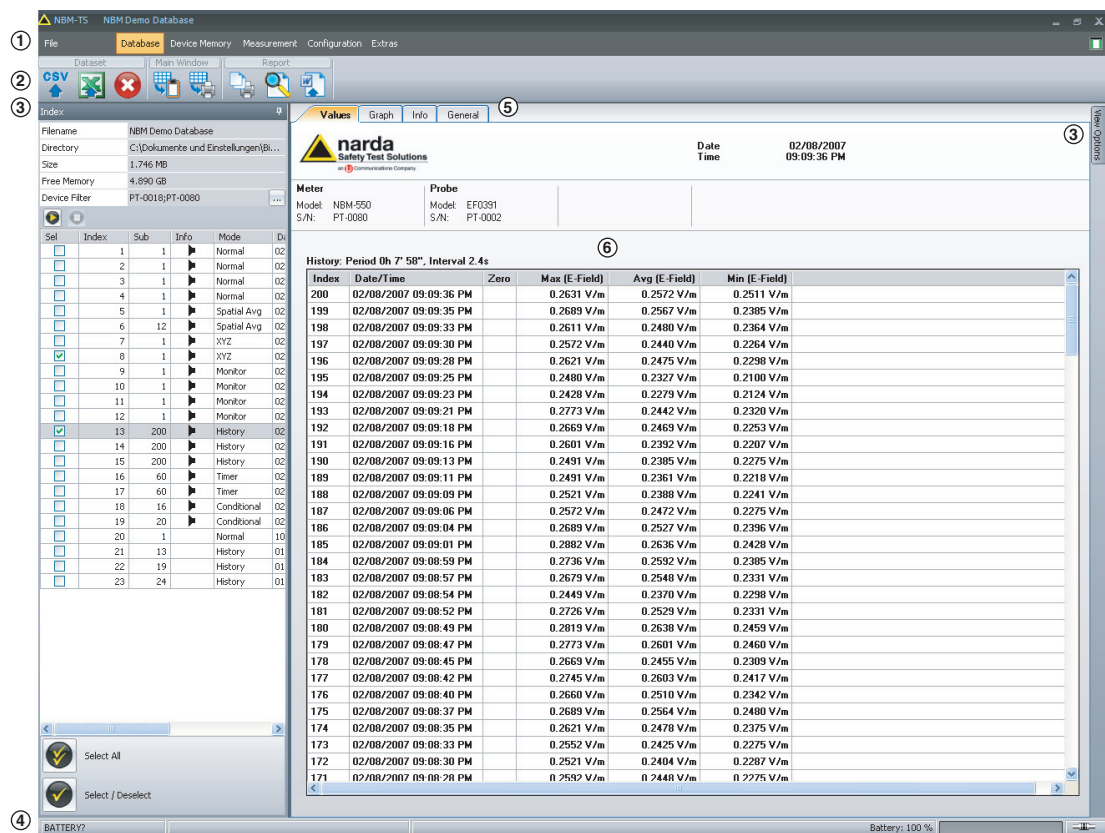
Note: These files are usually ZIP files that need to be unzipped before you can install the update.

3. Close NBM-TS.
4. Start the installer (setup.exe) included in the unzipped files for the NBM-TS version update and follow the instructions.

WARNING: Do not de-install the older version before you install the new version. The NBM-TS installer takes care of all the necessary steps automatically.

2 Function Overview

User interface overview:



No.	Explanation
1	Use the commands in the Menu bar to select the view you want to work with.
2	The Toolbar contains various commands which depend on the view.
3	You can open the Pull-out menus temporarily or permanently according to your needs.
4	The Status bar gives information about the status of the program.
5	Main window display tab selection.
6	The Main window display depends on the selected tab.

2.1 Menu bar

The menu bar contains the following commands:

Archivo

Base de datos



Memoria del dispositivo

Medida

Configuración







Extras

The following functions are found at the right hand edge of the menu bar:

Icon	Icon name	Explanation
	Restaurar posiciones	Restores the default settings for the pull-out windows.
	Ayuda	Opens the help function.

2.1.1 Archivo

The *Archivo* menu contains the following commands:

Icon	Icon name	Explanation
	Nuevo...	Create new database.
	Abrir...	Open an existing database (file name extension .nbd).
	Exportar Base de Datos (zip)	Export individual data sets or the entire database as a zip archive file.
	Importar Base de Datos (zip)	Import individual data sets or a complete database from an existing zip archive file.
	Configuración de Impresora...	Default printer selection for NBM-TS and printer properties settings.
	Salir	Close NBM-TS.

2.1.2 Base de datos

The *Base de datos* view is made up from the following sections:

Toolbar

The Toolbar in the *Base de datos* view contains the following icon groups:

- Conjunto de datos
- Ventana Principal
- Informe

Índice pull-out menu

Ver Opciones pull-out menu

Main window

- Valores
- Gráfica
- Info
- General

2.1.3 Memoria del dispositivo

The *Memoria del dispositivo* view is made up from the following sections:

Toolbar

The Toolbar in the *Memoria del dispositivo* view contains the following icon groups:

- Conjunto de datos
- Ventana Principal
- Comunicación
- Informe

Índice pull-out menu

Ver Opciones pull-out menu

Main window

- Valores
- Gráfica
- Info
- General

2.1.4 Medida

The *Medida* view is made up from the following sections:

Toolbar

The Toolbar in the *Medida* view contains the following icon groups:

- [Conjunto de datos](#)
- [Ventana Principal](#)
- [Comunicación](#)
- [Remote control](#)

Ver Opciones pull-out menu

Parámetros de Medida pull-out menu

Main window

- [History](#)
- [Timer](#)
- [General](#)

2.1.5 Configuración

The *Configuración* view is made up from the following sections:

Toolbar

The Toolbar in the *Configuración* view contains the following icon groups:

- [Datos del Dispositivo](#)
- [Comunicación](#)
- [Reloj](#)

Main window

- [Estándares del Usuario](#)
- [Estándares de Seguridad](#)
- [Información de dispositivos](#)
- [Información de la Sonda](#)
- [Configuraciones](#)

2.1.6 Extras

The *Extras* view contains an icon bar which contains the following icon groups:

[Configuración](#)

[Actualizar](#)

[Comunicación](#)

[Info](#)

2.2 Toolbar

The menu commands corresponding to the icons are displayed in plain text when you move the mouse pointer over an icon.

[Conjunto de datos](#)

[Ventana Principal](#)

[Informe](#)

[Configuración](#)

[Actualizar](#)

[Comunicación](#)

[Remote control](#)

[Datos del Dispositivo](#)

[Reloj](#)

[Info](#)





2.2.1 Conjunto de datos

This group of icons is used in the following views:

[Base de datos](#)

[Memoria del dispositivo](#)

[Medida](#)

Icon	Explanation
	<p>Exportar a CSV</p> <p>Exports the selected data sets in a csv file. The csv files are saved in an automatically generated directory.</p> <p>The data sets are exported as separate files or combined into one file depending on the settings on the Exportar (CSV) tab under <i>Extras/Preferencias</i>.</p> <p>The directory for the CSV files is below the export directory (see <i>Extras/Preferencias</i>, Directorios tab) and is named according to the following convention:</p> <p><Year>_<Month>_<Day>_<Hour>_<Minute>_<Second></p> <p>This button is only shown in the <i>Base de datos</i> and <i>Memoria del dispositivo</i> views.</p>
	<p>Abrir con Excel</p> <p>Opens the selected data sets in Excel. Each data set is shown on a separate page in the table.</p> <p>This button is only shown in the <i>Base de datos</i> and <i>Memoria del dispositivo</i> views.</p>
	<p>Eliminar</p> <p>Deletes the selected data sets or the entire database.</p> <p>This button is only shown in the <i>Base de datos</i> view.</p>
	<p>Guardar en la Base de Datos</p> <p>In <i>Medida</i> view: Saves the display of measurement values (History) as a new data set in the database that is open.</p> <p>In <i>Memoria del dispositivo</i> view: Imports the selected data sets into the database that is open.</p>



2.2.2 Ventana Principal

This group of icons is used in the following views:

[Base de datos](#)

[Memoria del dispositivo](#)

[Medida](#)




Icon	Explanation
	Copiar al Portapapeles Creates a screenshot of the contents of the measurement data window and places it on the clipboard, from where you can paste it into other applications.
	Imprimir Prints out a screenshot of the contents of the measurement data window using the printer specified under <i>Archivo/Configuración de Impresora...</i>

2.2.3 Informe

This group of icons is used in the following views:


[Base de datos](#)

[Memoria del dispositivo](#)

Icon	Explanation
	Imprimir Informe Prints out a report containing all the selected measurement data using the printer selected under <i>Archivo/Configuración de Impresora...</i> You can specify the information contained in the report (e.g. measured values, measurement parameters or test set display screenshots) under <i>Extras/Preferencias</i> on the Informe tab.
	Imprimir Vista Previa Generates a preview of the report containing all the selected measurement data.
	Abrir en Word Opens the report containing all the selected measurement data using Word.




2.2.4 Configuración

This group of icons is only used in the [Extras](#) view.

Icon	Explanation
	Language Selects the language used for the NBM-TS user interface. You must restart the program for any changes to take effect.
	Preferencias Opens the Preferencias dialog used for setting: <ul style="list-style-type: none"> • Data formats • Export options • Default directories • Information in reports • Various measurement options

2.2.5 Actualizar

This group of icons is only used in the [Extras](#) view.

Icon	Explanation
	Comprobar las actualizaciones disponibles Opens the Narda Internet site on your browser where you can find the latest NBM firmware and software versions available for downloading. Your PC must be able to connect to the Internet for this function.
	Actualizar Firmware Installs new firmware in a test set. The command is only available when a test set is connected to the PC.
	Activar Opciones Activates or deactivates various options for a test set. You will need a valid option code to activate options. The command is only available when a test set is connected to the PC.

2.2.6 Comunicación



This group of icons is used in the following views:

[Memoria del dispositivo](#)

[Medida](#)





[Configuración](#)

[Extras](#)

Icon	Explanation
	<p>Conectar/Desconectar</p> <p>Connects / disconnects the software and the test set.</p> <p>You can only connect or disconnect the software and the test set if:</p> <ul style="list-style-type: none"> the test set is connected to your PC by an optical cable or USB cable the appropriate interface has been set on the test set. <p>The test set will be in remote control mode once the connection has been made with the software.</p>
	<p>Interfaz</p> <p>Selects the PC interface to which the test set is connected. The default setting is Auto Scan. This automatically detects the interface that is being used.</p>
	<p>Copiar pantalla de dispositivo</p> <p>Generates and displays a screenshot of the test set display. The image can be saved as a bmp file.</p> <p>This icon is only shown in the <i>Extras</i> view.</p>





2.2.7 Remote control

This group of icons is only used in the [Medida](#) view.

Icon	Explanation
	<p>Parar</p> <p>Stops updating of the graphic display. The measurement continues in the background. Used for evaluating the graphic display during a measurement.</p>
	<p>Continúe</p> <p>Resumes updating the graphic display. The display of the latest measured values for the measurement in progress is updated continuously.</p>
	<p>Eliminar</p> <p>Deletes the data displayed in the diagram. Recording of the measurement results starts again (only in History measurement mode).</p>
	<p>Cero</p> <p>Performs auto-zeroing.</p>


2.2.8 Datos del Dispositivo

This group of icons is only used in the [Configuración](#) view.

Icon	Explanation
	Abrir Fichero Opens setup files (<i>Configuración</i> view, Configuraciones tab).
	Guardar Fichero <i>Configuración</i> view, Estándares del Usuario tab: Saves edited user standards. <i>Configuración</i> view, Configuraciones tab: Saves setup information in a file.
	Sobrescribir Transfers data to the test set (e.g. user standards or setup configurations). The settings of the test set will be overwritten.
	Leer Uploads data from the test set (e.g. user standards or setup configurations).


2.2.9 Reloj

This group of icons is only used in the [Configuración](#) view.

Icon	Explanation
	Configurar el Reloj Displays the test set clock and PC clock. You can synchronize the test set clock with the PC clock.

2.2.10 Info



This group of icons is only used in the [Extras](#) view.

Icon	Explanation
	Info Displays the software version.

2.3 Pull-out menus

The settings and evaluation functions are accessed using so-called pull-out menus to keep the result display as large and clear as possible. These menus can be opened only when needed or can be left open permanently according to your preference.

When you move the mouse pointer to one of the side buttons, the corresponding pull-out menu opens. You can fix the menu open by clicking on the icon at the right hand edge of the menu title:

Icon	Explanation
	The menu window is opened temporarily and overlaps the display in the Main window. The menu closes again as soon as you click in the Main window.
	The menu window is fixed open permanently. This compresses the display in the Main window. All the information remains visible.

You can drag the pull-out menu window to any position in the Main window using the mouse (see [Customizing the pull-out menus](#)).

NBM-TS saves the last setting when you close the program.

You can restore the default setting at any time by clicking on the  icon in the [Menu bar](#).




2.3.1 Índice pull-out menu

Contains information about the database and the connected test set as well as functions for selecting data sets.



The data shown in the header depends on the view setting.

Item	Explanation
In Base de datos view:	
Nombre del Fichero	Name of the database file.
Directorio	Directory where the database file is stored.
Tamaño	Size of the database file.
Memoria libre	Free space remaining on the hard disk.
Filtro dispositivo	Serial numbers of the various NBM test sets used to obtain the measured values recorded in the database. You can restrict the measured values in the database to those from a specific test set by selecting the serial number.
In Memoria del dispositivo view:	
Modelo	Name of the test set that is connected.
Num. Serie:	Serial number of the test set that is connected.
Fecha de Calibración	Date when the connected test set was last calibrated.
Memoria libre	Memory space available in the connected test set.
Números Índice	Number of data sets stored on the connected test set.

The data sets stored at the moment on the connected test set are listed in the box below the header:

Column	Explanation
Sel	Check box for selecting specific data sets. Data sets you select in this way can be exported as a csv file or printed out in a report, for example.
Índice	Number indicating the order in which the data sets were recorded.
Sub	Number of individual measured values in the data set.
Info	<p>Some data sets include a sound recording with comments about the measurement. The  icon is shown in this column if a sound recording is present.</p> <p>If you highlight (gray background) a data set of this type, the buttons for replaying and stopping the sound recording are active:</p> <p> </p>
Modo	Measurement mode used to make the measurement.
Fecha/hora	Date and time when the data were recorded.
Num. Serie:	<p>Serial number of the test set used to record the data.</p> <p>This column is only shown in Base de datos view.</p>
Comentarios	<p>Comment for the selected data set.</p> <p>The first 20 characters of the text entered under Info/Comentarios are shown here. This box is always initially empty after the test set memory index has been read.</p>

Buttons below the list of data sets:

Icon	Explanation
	<p>Seleccionar Todo</p> <p>Selects all the data sets in the database or stored in the test set.</p>
	<p>Seleccionar / Deseleccionar</p> <p>Selects or deselects only the marked (highlighted in gray) data sets. You can also select data sets directly by clicking on the check box in the Sel column.</p>

2.3.2 Ver Opciones pull-out menu

Note: Changes in the view options are temporary and are only applied to the data set being viewed.
All the options except the color settings will be reset when you view the next data set.

The *Ver Opciones* pull-out menu contains the following sections (some of these may be partly hidden depending on the view):

Marcador


This section is only shown when you are viewing the graphical display of stored datasets.

If you click on the **Pico más alto** button, a marker is shown positioned on the highest measured value in the graph. You can drag the marker to the left or right using the mouse. The measured values corresponding to the marker position are shown above the graph area.

The **Pico más alto** button is only active in *Medida* view as long as the measurement is interrupted.

Zoom Gráfica

This section is only shown when you are viewing the graphical display of stored datasets.

If you click on the  button, you can enter the values you want to use to limit the range shown in the graph area.

The original scaling will be restored when you click on the **100%** button.

The zoom functions are only active in *Medida* view as long as the measurement is interrupted.

Unidad

Item	Explanation
Unidad	Selects the units for displaying the measured field strength. The units used when making the measurement are set by default. The units are always % when a shaped probe is used.
Formato de los Resultados	You can switch between fixed and technical notation for the display of decimal values.
Datos GPS	Displays additional columns containing GPS data for the data set. This item is only shown if GPS data is present in a data set.


Evaluación

This section is only shown when you are viewing the graphical display of stored datasets.

Item	Explanation
Pantalla de resultados	Selects the type(s) of result to be displayed for measurement intervals (e.g. Min, Max or Avg).
Tiempo de promedio posterior a la medida	Additional parameters for Promedio posterior a la medida result display. The graph shows the values averaged over the specified time period in this mode. The section at the left hand edge of the graph for which a valid average cannot yet be determined is shown with a dark gray background.

Estilo

This section is only shown when you are viewing the graphical display of stored datasets.

If you click on the  button, you can specify the colors to be used to display the various lines in the graph area.

Item	Explanation
Color de Línea para Traza 1	Color of maximum value graph
Color de Línea para Traza 2	Color of interval average value graph
Color de Línea para Traza 3	Color of minimum value graph
Color del Marcador	Color of marker line

Item	Explanation
Condición de color "IN"	Only applicable to measurements in Conditional mode: Graph area background color for measured values that fulfil the condition.
Condición de color "OUT"	Only applicable to measurements in Conditional mode: Graph area background color for measured values that do not fulfil the condition.
Color del Límite	Only applicable to measurements in Timer and History mode: Color of limit value line.

Línea Límite

This section is only shown when you are viewing the graphical display of stored datasets.

Item	Explanation
Indicación del Valor Límite	Specifies if a limit value line is shown in the graph area and if this line is to be user defined or according to an existing standard.
Valor límite inicial	Specifies the position of the limit value line. This box is only active if you select Configuración de inicio under Indicación del Valor Límite .
Estándar	Selects an existing standard for the position of the limit value line. This box is only active if you select Estándar under Indicación del Valor Límite .
Frecuencia	Specifies the reference frequency for which the limit value is to be determined (depending on the selected standard). This box is only active if you select Estándar under Indicación del Valor Límite .

2.3.3 Parámetros de Medida pull-out menu

The Parámetros de Medida pull-out menu contains the following sections:

History

Selects the default scaling used for the time axis in *Medida/History* view. The shorter the time period selected, the higher the resolution of the displayed measurement results.

Timer

Item	Explanation
Fecha de Inicio	Date when the recording is to begin.
Hora de Inicio	Time when the recording is to begin.
Duración	Duration of recording.
Intervalo	Time resolution of the measurement. All measured values recorded by the test set during the interval time are summarized as minimum, maximum and average values. You can select from a number of pre-set intervals.

If you click on the **Hora de Inicio de Almacenamiento Programado** button, the program switches to Timer mode. The countdown until the actual start of recording is displayed.

Note: You cannot exit the view or close the program as long as the program is in Timer mode or while measured values are being recorded.

If you click on the **Iniciar Almacenamiento Inmediatamente** button, the test set starts measuring immediately. The duration of the measurement and the intervals between measurement results are as selected above.

If you click on the **Parar Almacenamiento** button, the recording in progress stops. The data set saved automatically in the database contains all the values measured up till this time. If the program was in Timer mode, this mode will be closed.

The recording ends automatically as soon as the specified duration has elapsed.

Note: A data set is saved in the database that is open as soon as you start the recording. The data set is updated after each interval.
If you start a recording by mistake, it is a good idea to delete the unwanted data set immediately.

Configuraciones Generales

Item	Explanation
Corrección de Frecuencia	Specifies if a correction frequency is to be used.
Frecuencia	Specifies the value of the correction frequency.
Intervalo de Auto-Cero	Specifies the interval between auto-zeroing. Auto-zeroing compensates for measurement deviations due to temperature variations. The measurement must be interrupted during the auto-zero process which takes about 7 seconds.

2.4 Main window

Various tabs are used in the Main window. The view selected determines which tabs are displayed.

[Valores](#)

[Gráfica](#)

[Info](#)

[General](#)

[History](#)

[Timer](#)

[Estándares del Usuario](#)

[Estándares de Seguridad](#)

[Información de dispositivos](#)

[Información de la Sonda](#)

[Configuraciones](#)

2.4.1 Valores

Tabular display of the highlighted (gray background) data set.

The header shows some general information about the measurement, such as the test set or the probe that was used.

The main part of the table shows the individual measured values. The type and number of values depend on the measurement mode that was used.

You can change the way the measured values are displayed using the options in the [Ver Opciones pull-out menu](#).

2.4.2 Gráfica

Graphical display of the highlighted (gray background) data set. You can only graphically display data sets that represent the variation of the field strength over time (e.g. those obtained using **History**, **Timer** and **Conditional** measurement modes).




The header shows some general information about the measurement, such as the test set or the probe that was used.

You can change the way the measured values are displayed in the graph area using the options in the [Ver Opciones pull-out menu](#).

2.4.3 Info

Display of additional information about the highlighted (gray background) data set.

The header shows some general information about the measurement, such as the test set or the probe that was used.

Section	Explanation
Comentarios	Comment on the measurement. You can edit or add to the comment. Changes are saved in the data set automatically.
Lugar	You can edit or add to the measurement site information. Changes are saved in the data set automatically. Additional function when the data set contains GPS data: If you edit the measurement site name, you can use the Aprender button to add the new measurement site name to the list of known sites. You can use the Editar Lista button to edit the list of known sites. New data sets containing known GPS coordinates will then be completed by adding the automatically recognized measurement location information.
Imágenes	Up to four images can be stored for each data set.  Use this button to insert an image from your hard disk or from the clipboard into the data set.  Use this button to delete an image from the data set.
Webbrowser	Selects an Internet service providing display of geographical data (only available if GPS data is included in the data set).  Click on the icon to open the Internet page of the selected service provider. The GPS data from the data set are entered automatically.

2.4.4 General

Displays all the parameters and test set settings for a measurement.

2.4.5 History

The header shows some general information about the measurement, such as the test set or the probe that was used.

The graph shows the variation over time of the continuously measured field strength (history). The graph is updated continuously so that e.g. the last two minutes of measurements are always displayed.

Older measured values that are outside the display range are overwritten.

The time scale is always divided into exactly 200 measurement intervals.

You can adjust the time period displayed using the [Parámetros de Medida pull-out menu](#). The setting you choose will be saved when you close the program.

You can select the measurand and adjust other options using the [Ver Opciones pull-out menu](#).

The measured values shown in the graph are saved in the database that is open when you click on **Parar** and then on **Guardar**.

2.4.6 Timer

You can record measured values and save them as a new data set in the database that is open using this tab. You can start the recording immediately or at a specified time that you can set (see [Making timer-controlled measurements \(Timer\)](#) for details).

The measurement can contain up to 32000 measurement intervals.



The header shows general information about the test set and the probe being used.

The graph shows the measured values while the recording is in progress. The time axis scaling is set by the settings in the [Parámetros de Medida pull-out menu](#). You can select the measurand and adjust other options for the display in the graph area using the [Ver Opciones pull-out menu](#).


2.4.7 Estándares del Usuario



Lists all the user standards stored in the program together with their specifications for electric and magnetic fields.

You can add new user standards or edit existing ones here.

Click on  to upload the user standard being used by the test set to your PC. Click on  to transfer the selected user standard from your PC to the test set.

More information about creating user standards is found under [Calculating the values for user standards](#).

Click on  to save changes in the list of user standards in the **Standards** directory or the directory specified under Preferencias.

Section	Explanation
Estándar de Usuario - Dispositivo:	<p>Not shown unless a connection to the test set is present.</p> <p>Click on the  button to insert the user standard used by the test set into the list for editing.</p> <p>A separate file named USER*.nbs is generated and saved under \Standards for each user standard.</p>
Estándares:	<p>List of all user standards stored in NBM-TS. The Guardar Fichero  button is activated as soon as you make any changes.</p> <p>The list of user standards is saved in NBM-TS independently from the database that is open.</p> <p>You can open a dialog for creating new user standards by clicking on the Añadir button. You can use the contents of existing standards as the basis for the new standard.</p> <p>You can change the name and the stop frequencies of an existing user standard by clicking on the Editar button.</p> <p>You can delete existing user standards from the list by clicking on the Eliminar button.</p>
Campo-E, Campo-H	<p>Lists the specifications for electric or magnetic field strength for the selected user standard. The corresponding stop frequency is specified when the user standard is created.</p> <p>You can open a dialog for entering the start frequency, value, and steepness for a new section in the selected user standard by clicking on the Añadir button.</p> <p>You can edit the start frequency, value, and steepness of the selected section by clicking on the Editar button.</p> <p>You can delete the selected section from the list of E-field specifications by clicking on the Eliminar button.</p> <p>You can display a graph of the specification just defined for the electric or magnetic field by clicking on the Gráfica button.</p> <p>You can read out the values of points on the curve using the marker. You can also convert to other units here.</p>

2.4.8 Estándares de Seguridad

Lists all the standards stored in the program together with their specifications for electric and magnetic fields.

You cannot alter the specifications of safety standards. Any updates that may be necessary will be included in an update for NBM-TS. You can transfer the complete list of standards to the test set by clicking on the **Sobrescribir** button.

You can display a graph of the specification for the electric or magnetic field of the standard that is selected by clicking on the **Gráfica** button.

You can read out the values of points on the curve using the marker. You can also convert to other units here.

2.4.9 Información de dispositivos

Displays information about the test set you are using. This display only works when the test set is connected to NBM-TS.

2.4.10 Información de la Sonda

Displays information about the probe you are using. This display only works when the test set is connected to NBM-TS.

You can display the correction factors used for the probe by clicking on the **Factores de Corrección** button.

2.4.11 Configuraciones

Displays the setup information present in the test set.

Several setup configurations may be present in the **NBM-550**. In such cases, only a list of the configuration names will be displayed. The individual configurations can only be edited using the test set. They cannot be edited using NBM-TS.

There is only one setup configuration in the **NBM-520**. This cannot be edited using the test set. It can only be edited using NBM-TS.

You can save the setup information in a file, open a setup file, and transfer the information to the test set (see [Using standards and device configurations](#)).

Note: You cannot save the setup information in a file until after you have read the data out from the test set again.

2.5 Preferencias dialog

The dialog contains the following tabs:

[Fecha/hora](#)

[Directorios](#)

[Exportar \(CSV\)](#)

[Mixto](#)

[GPS](#)

[Informe](#)

2.5.1 Fecha/hora

Section	Explanation
Formato de la Fecha	Selects the date format used by NBM-TS: DD : day MM : month YYYY : year
Formato de la Hora	Selects the format used for displaying the time. If you select 12 h , am or pm will be shown with the time.
Sincronización	<ul style="list-style-type: none"> • Comprobar la desviación automáticamente: NBM-TS continuously compares the test set and PC time clocks. If the time difference exceeds a certain value, a window opens which allows you to synchronize the test set time to the PC. • Solicitud de Confirmación: If this is activated, you will be requested to confirm any correction of the time clock when the automatic check determines an excessive time difference. If it is not activated, the correction will be made automatically.

2.5.2 Directorios

Name	Explanation
Base de datos	Directory that is displayed by default when you open an existing database or create a new database.
Exportar a Fichero	Directory in which sub-directories are generated automatically when you export csv files. The individual csv files are saved in the sub-directories. This directory is also suggested as the default directory when you export data sets in a zip file.
Configuraciones del instrumento	Directory that is displayed by default when you open and save setup files.
Estándares del Usuario	Directory that is used for opening and saving user standards (see Estándares del Usuario).

2.5.3 Exportar (CSV)

Section	Explanation
Separador Decimal	Selects the decimal separator to be used in exported csv files.
Separador de Columnas	Selects the character to be used to separate the values in the csv file. Note: Select a different character to the decimal separator.
Contenidos del fichero	Specifies whether the data sets are exported in separate files or as just one file when exported in csv format.

2.5.4 Mixto

Section	Explanation
Inicio del Programa	If this check box is activated, <i>Medida</i> view will be shown when the program starts. The measured values will be shown as a graph as soon as the connection is made to the test set.
Recordar Calibración	Specifies if a calibration due reminder is to be displayed by NBM-TS.

2.5.5 GPS



Section	Explanation
Formato GPS	Selects the format to be used to display the GPS data. The selection you make here is used regardless of the setting of the test set.
Altitud GPS	Selects the units used for height information. Height information is only provided if the satellite constellation is suitable.
Datos de Posición GPS	If this check box is activated, the GPS data for a measurement will be compared automatically with the list of known measurement sites. If a known site is located within the specified search radius, the site information will be saved in the data set automatically. The list is saved as a csv file and is stored in the user data directory by default under <My Documents>/NardaSafety/NBM-TS/Sites.csv You can use any other lists of measurement sites as well. You can edit the list of measurement sites that you are using by clicking on the Editar Lista button.

2.5.6 Informe

Section	Explanation
Elementos a incluir	Selects and determines the order of the information to be included in a report (output to Word or a printer).
Logo	Selects the image file to be used as a logo in reports. Large images are reduced in size automatically.

2.6 Status bar

The Status bar gives information about the status of the program as follows:

- Connection status: Connected  / Disconnected .
- Test set battery charge status.
- Display of the last remote control command executed (left), progress display.

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