



TITLE

MDS USER MANUAL

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REL. B/B



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IMPORTANT NOTICES

Resonance® thanks you for having purchased this software to monage its medical devices!

Resonance® hereby advises that in order to ensure optimized software performance and full customer satisfaction, prior to proceeding with the installation and use you are kindly requested to carefully read and understand all the notices and warnings given in this User's Manual.

Carefully store this manual away in a safe place for each future consultation.

Resonance recomends:

- Store beckup of client data in a safe manner
- Create beckup of patient's data regularly
- To avoid unwanted data transfer from PC to the network, make sure that an appropriate virus and spyware scanner is installed, updated and effective; please contact your local administrator for help and guidance
- All users must have theire own login to the database to ensure traceability and identification of data updated or deleted from the database

COMPATIBILITY NOTES FOR RESONANCE DEVICES

From version 2.1.2.2187 MDS Resonance program is fully compatible with Resonance devices with software release 1.14 o later.Resonance devices models R26M-PT, R36M-PT, R25C-PT and R35C-PTwith software release previous than 1.14, the multifrequency tympanometrytest is not transferred correctly

In case of any doubt, please do not use the software and either contact your Resonance® Dealer, or e-mail the Resonance® Customer Support Service directly at: supportresonance@mrselectronics.com

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The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

GENERAL INFORMATION

minimal requirements for the pc software description compatible equipment delivery mode cables for connection to the pc users' responsibility license key activation

Minimal requirements for the Personal Computer

Operatina system:









Hardware:

Processor: 1Ghz (dual core or superior) Installed memory (RAM): 2 Gb (suggested 4 Gb)

2 Gh

Required space on Hard disk:

Display resolution: 1024 X 768 USB outlets: 1 (2.0) Optical devices: DVD player

Software: Noah® version 4.X.

(necessary only if working in Noah environment)

Adobe Reader® version XI

(suggested for quetionnaire saving only)

Software Description

MDS Resonance Software allows you to transfer to your PC tests carried out with equipment produced by M.R.S. with Resonance® brand and with some equipment previously produced by Amplifon® with Amplaid® brands.

MDS Resonance Software can work both as a stand-alone software and in combination with Noah® software.

MDS Resonance Software allows the creation and the management of a patient database in which data coming from the above mentioned equipment can be stored.

Data in the software can be integrated with other documents coming from other sources that can be imported into the software and associated to patients contained in the database.

Data from the tests contained in the database can be printed in a report together with data from the patient.

A section of the Agenda allows appointment registration and different annotations.

The database can be shared amonast different PCs which have MDS Resonance Software installed; in order to do this the database must be created in a location of the shared server.

In this manual, MDS Resonance Software, has been abbreviated with MDS.

Equipment compatible with MDS

Model		Туре
R25C - R35C	Resonance®	Combined
R26M - R36M	Resonance®	Middle Ear Analyser
R27A - R37A	Resonance®	Audiometer
R17A	Resonance®	Audiometer
A756 - A766	Resonance® / Amplaid®	Middle Ear Analyser

Delivery mode

MDS is free of charge. It is delivered as a DVD together with each appliance device. All the functions are active and the free use of the software is limited to the insertion of 5 patients in the database, after which a license code, provided by M.R.S. and determined by the serial number on the device connected to the PC on which MDS is installed, will have to be inserted. For further details regarding the user's license refer to your distributor or contact the manufacturer directly (www.mrselectronics.it).

Cables for connection anto the the PC

The device can be connected to the PC using an USB cable, or a USB cable + RS232/USB converter depending on the type of device from which you want to transfer data (USB cable for the New Resonance devices, USB cable + converter for Amplaid devices).

Only USB cables and converter supplied by the manufacturer as optionals can be used.

USB cable code: 056001060 RS232/USB Converter code: O1000022

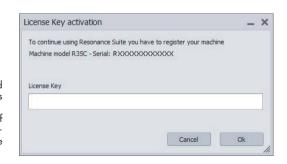
Please contact your local Resonance distributor for more details.

User's responsability

The user is held responsible for the setup of MDS in a PC with the required configuration. A faulty functioning due to incorrect setup, different PC configuration from the advised one. improper use and modifications that alter the general functioning of windows or the MDS, are user's responsability.

License Key activation

When you will try to add the sixth patient, this window will appear. The demo version of MDS is expired; to continue using MDS you have to insert the Licens Key.



NOTE: Audiometer R17A doesn't require license code for transfer data to MDS.

Once buyed the license from your local Resonance distributor, you will receive a form as below where is included the "MDS license key".

Please store carefully this document.

In case of loss, please contact your local Resonance distributor.



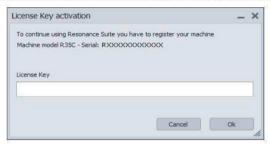
RESONANCE MDS Suite software License

Thank you for buying RESONANCE MDS Suite software after having tested the DEMO version.

At RESONANCE we hope that you had the chance to test all features and capabilities of MDS Suite software through the DEMO version, please read carefully the following notes to get the complete version.

RESONANCE MDS Suite Software DEMO version is integrated in each RESONANCE device, with no operational or feature limits to manage full data, tests and appointments database of five patients, as maximum number.

Trying to add, transfer or register tests or data referred to a sixth patient will activate the following screen wizard:



As for most of all software the retail value you have been asked to pay is for the license to use this product. The license will be activated based on the serial number of your RESONANCE device, always keep the License Key in a safe place. Once you have finalized the bought your License Key, please insert it in the dedicate space to immediately activate RESONANCE MDS Suite software at full potential.

The lost of the License Key will cause no loss for you, please contact providing the serial number of your device in order to receive your License Key, again.

RESONANCE device SERIAL NUMBER R35CXXXXXXXXX MDS License key 7XEB4XX525F7217AE1098B8A289FACXXX33F2197

Buying the MDS license, You are fully entitled to use it and access to full support and eventual product updates. Please contact your local RESONANCE distributor.

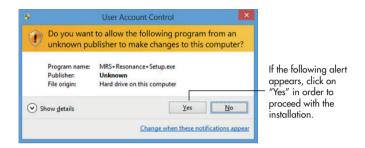
License Key to be entirely inserted.

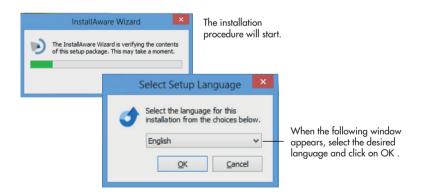
INSTALLATION

program installation (windows 7)

Program installation (Windows 7)

Insert the MDS DVD in the DVD drive unit of the PC and run the file "MRS Resonance Setup.exe" by double clicking it.





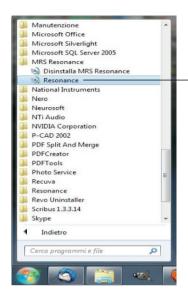




When the following window appears, tick the box and click on Install.



At the end of the procedure, decide if you want to run the program immediately then click on "finish".



The icon of the program will now be present on the PC desktop and also in the program bar as shown in the next figure. Click on the icon to run the program.

NOTE: the procedure for the installation of the software for Windows XP and Windows Vista is similar to that for Windows 7, with the exception of the different graphics of the windows that will appear during the installation.

QUICK START

opening the program creating a new patient transferring data view transferred test data

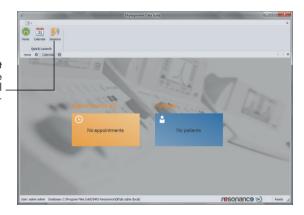
Opening the program

After launching the program a window like the one in the figure below will appear.



Type "a" as password in order to run the program (the password can be changed later if you wish). By ticking on "Remember me", the authentication windows will not appear at the next program launch.

The program will start and the home page of the program will appear. Click on "Sessions".



Creating a new patient

A demo patient and data are already present in the database.

To create a new patient click on "New".



Fill in at least the mandatory fields: "First name", "Surname", "Birth date", "Birth place", choose the gender male or female and tick "Privacy accepted".

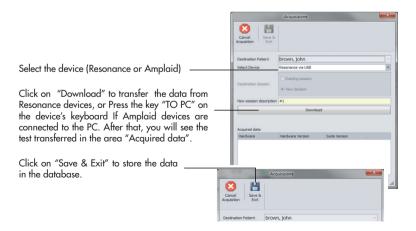
After that, in order to create the patient, click on "Save" an then on "Edit"



Transferring data

After the creation of a new patient, the icon "Acquire data from device" will be active. Run a test on the device from which you want to transfer data (for instance a pure tone audiometry) and connect the device to the PC where MDS is running (see appendix on how to connect the different devices)

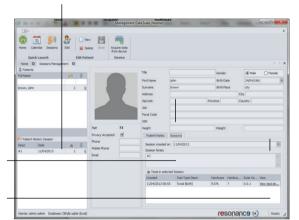
Click on the icon "Acquire data from device"; the following window will appear:



NOTE: In case Resonance device doesn't appear in the list of field "Select device", verify that the driver has been correctly installed and, if needed, install it manually following the instruction in appendix.

View transferred test data

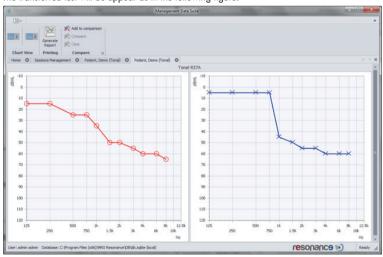
The Test data will now be in the "Patient Historic Session" area.



Click on "Session" to see the transferred test

In order to review the transferred test, click on "View test detail".

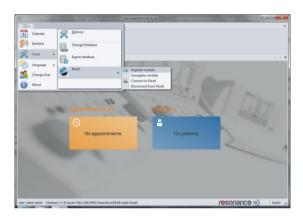
The transferred test will be appear as in the following figure.



QUICK START NOAH®

NOTE: Noah® version 4.X.X must already be present in the PC where MDS has been installed.

After launching the MDS, click on the icon in the left upper corner of the main window and then select Tools>Noah>Register module (this procedure has to be executed just once in order to register the MDS module in Noah).

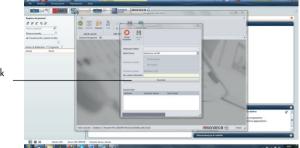


Close the Resonance Software Suite and run the Noah program.

Once Noah has been opened, In the upper side of the Noah window you will see the Resonance button. In order to transfer data, connect a Resonance device to the PC, as shown in the previous paragraph "Transferring data", and select a patient in the Noah database. Then, click on Resonance button in order to run the MDS.



The MDS will start and the following window will appear.



To transfer data click on "Download".



The data will be transferred and stored in the Noah database.

COMMANDS AND WINDOWS

Authentication window
home page
language menu
options menu
agenda window
session management window
test visualisation window

Authentication Window

This window appears upon launching the program.



- Drop down menu where you select the name of the user with which to access the program (admin is the default user)
- Field where the user's (from field 1) password must be inserted (a is the default password associated to user admin)
- By ticking on "Remember me", the authentication windows will not appear at the next program launch which will open with the current user and password.
- Opens the window from which to choose the desired database.

Home Page



Click on the triangle to hide the toolbar.

In the columns Appointments and Patients (1 and 2) patient's names and appointments for the current date are visible

By clicking on tile 1 you can access directly at the appointments in the agenda, by clicking on tile 2 you access directly data from the patient on which you have clicked.



test section



agenda



options menu



Language Menu

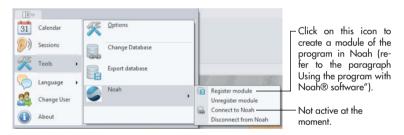


To change language of the program interface click on this icon followed by the desired language. This operation will require to restart the program.



NOTE: click on about to open the window with information relative to the program.

Options Menu





click on this icon to access the window from which you can select a different database previously saved in another position on your hard disk or on an external device.



click on this icon to export the patient's database complete of tests and attachments



click on this icon to access the options window from which it is possible to:

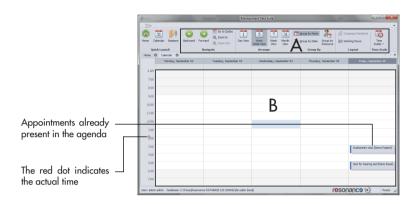
- o Set the databases' automatic backup
- o Insert and enable new users who can open and work on the program.
- o Insert data from the institution or private owner of the program that will appear in the printout of the report
- o Manage the symbols of the audiometric tests

Agenda Window

Access the Agenda by clicking on the icon



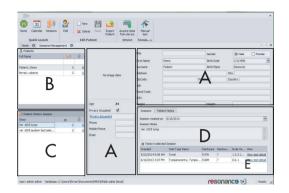
of the home page.



A – area of commands through which it is possible to change the layout of the agenda planning (daily, weekly, monthly, etc...). By placing the mouse on the command's icon a pop-up will appear with the description of the command.

B - Area of the agenda in which the appointments are added; double click to open the window to insert the appointment.

Session management window





click on this icon to access areas **A** to modify/insert data from a selected patient.



click on this icon to open the window to treat data from the equipment connected to the PC.



click on the icon **NEW** to insert data from a new patient. Click on the icon **DELETE** to delete the selected patient and all the corresponding tests.



click on this icon for export the tests of the session selected in xml format.



After selected a session, by Icon "New questionnaire" is possible recall questionnaires, in pdf format, previously saved in a dedicated folder in the system. So customer can save different questionnaires associated to a particular tests or as ananmesis, recall, fill in and then associate them to the session of the patient selected. The questionnaires can be see in a TAB in D area (refer to the picture above). New questionnaire models can be add to the system folder "Documents\MRS\ Templates".

B – area where the patients present in the database are listed, together with the number of tests carried out and any other information regarding each patient.

C – area where the sessions regarding each patient are indicated, together with the transferred tests which compose the different sessions and the number of attachments present for each session.

D – area indicating data from the selected session: data in execution, name given to the session, test present in the session. By clicking on the TAB "Patient Notes" you can access an area with the notes that have been inserted for the selected patient.

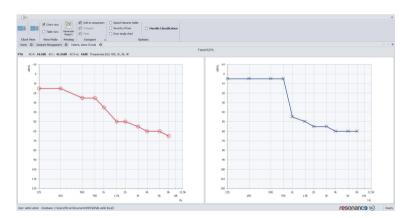
E - clicking on "View test details" opens the window where the selected test is shown.



cliccking this icon to create manually pure tone test, speech audiometry test, tympanometry test and reflexes test. For audiometry tests will be possible draw curves on audiogram; tympanometry and reflexes tests will be created in table form filling in the required fields. By this function will be possible associate to the patients also tests performed by other devices not compatible with MDS Resonance software



Test visualisation window



Add to comparison ₩ Compare W Clear

commands to compare two tests of the same kind and for the same patient: "Add comparision" to select the tests to be compared, "Compare" to visualize both selected tests, "Clear" to stop the comparison procedure.



command to open a print preview of the selected test.



by clicking on the icons it is possible to exclude one or the other of the graphs shown.

☑ Chart view	selection for do "Chart view" sh
☐ Table view	
View Mode	

selection for data visualization mode (only pure tone and speech audiometry).
"Chart view" shows the tests in graphical mode, "Table view" in table mode.

ion

visualization option only for pure tone audiometry. By a tick in the boxes will be possible:

To show on the audiograms the speech area. To show on the audiograms the hearing loss level. To show Right and Left side on single audiogram.

"Marello" option allows to have a numeric value which represent the hearing loss severity based on criteria used in Italy.



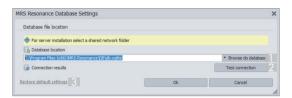
PTA (Pure Tone Avarage). It is available only for pure tone audiometry and give the medium value in dB considering only the frequencies of 500Hz, 1KHz, 2KHz and 4KHz.

DATABASE MANAGEMENT

change database exporting the database automatic database backup.

Change database

Database selection can be done by either clicking on "Change database" in the initial authentication window, or selecting "Change database" from the options menu once the program has been opened.



Pathway where the database is positioned during installation. By clicking on "Browse to database" a window opens from which the database in a different position can be selected (the name which identifies the file containing the database is "db.salite").

NOTE: in the bottom left hand corner of the program it is always possible to see the operator's name and the position in the database on which he/she is working.



- click on "Test connection" to verify if the database is recognized as valid by the program.
- click on "Restore default settings" to select original database.

Exporting the database

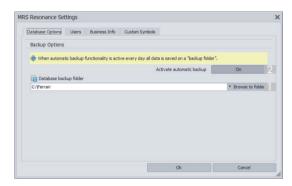
From the options menu click on "Export database" (see chapter 5) to open a window from which the pathway to export the database can be selected. Together with the database, patients, sessions and tests, attached files, and accession credentials for access to the database will be exported.

Export creates a new folder "Resonance DATABASE (date)" where the folder "Attachments"

And the files "db.sglite" and "default.sglite" are present.

Automatic database Backup.

From the options menu, by clicking on "options" you can access the Settings window.



Click on the TAB "Database Options" to access the area from where the automatic backup of the database can be started.

- click on "Browse to folder" to choose the pathway in which to save the backup.
- click on desired key to activate backup (On/ Off).

The backup file will be called "db_data corrente.sqlite" and saved in the specified pathway.

NOTE: if active, automatic backup will be executed daily the first time the software is opened, and once daily in case the software is opened more than once.

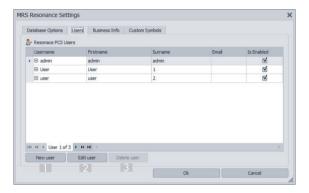
WINDOW MANAGEMENT

users enabling access business info customs symbols

Users

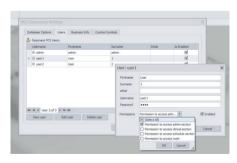
From here, by accessing the program as administrator it is possible to:

- Enable the access to newly added users
- Modify data and/or accessibility of existing users
- Eliminate existing users



In the administrator's case, it will not be possible to modify the user name and the habilitated access, while for the other users it will be possible to modify all associated data (to do this it is necessary to access the program through the administrator).

To modify the data of current users select the user and click on "Edit user".



It will then be possible to modify the different fields as desired and apply resticted accessions to the software.

Enabling access



One or more of the access permissions listed in the above image can be attributed to the user by ticking the selected boxes.



Access to administration: allows access to options menus for operating on the database, Noah module registration, change of language and user. It does not allow access to the agenda or the patient's data.



Access to the clinical section: by enabling access to this area it will be possible to access patient's data and it will be possible to transfer tests from the device to the software.



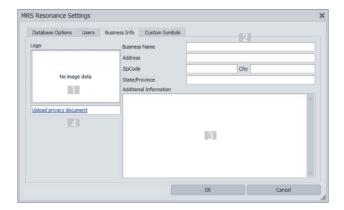
Access to the agenda: by enabling access to this section it will be possible to access appointment management and the agenda



Access to manage the connection to Noah software: if only this access is enabled it will only be possible to manage the Noah module. With the possibility of accessing the administration area it is already possible to access Noah connection management.

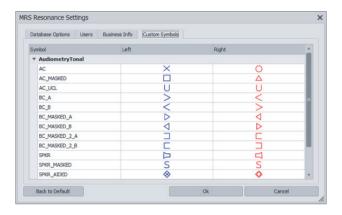
Business Info

From this window you can insert the data of the institution or the private owner of the program that will then appear in the headings of the printout of the report.



- right click the mouse to open the pop-up from which to upload an image file that will appear as a logo in the heading of the report printout. It is possible to remove or change the logo from this same pop-up.
- fields for the insertion of data that will appear in the heading of the printout report.
- insert here any other information that you want to appear in the heading.
- by clicking on the text highlighted in blue, it is possible to upload in the program the document in use for the acceptation of the treatment of personal data (privacy). It will be possible to retrieve the same document from the patient's data section so it can be printed and handed to the patient.

Customs symbols



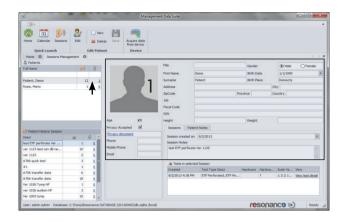
This window shows all the symbols that will appear on the track of the audiometric tests transferred to the program. It is possible to substitute, eliminate or export the symbols by using the command present in the pop-up window that appears by left clicking the mouse to select the symbol and by right-clicking the mouse on the symbol.

It is possible to import new symbols in the most common image formats with 96 dpi resolution, 16 x 16 pixels and 24bit color depth. We advise the use of those image formats that allow the management of a transparent background as in PNG.

Click on "Back to Default" to restore original symbols.

PATIENT'S DATA

how to modify patients' data attachment's management research functions deletion of patients, sessions and tests data transfer



NOTE: refer to chapter 3 and 5 for the insertion of new patients and the description of the different areas of the Session Management window.

How to modify patients' data

to modify data present in the highlighted area of the

Click on the icon Edit to modify data present in the highlighted area of the previous figure. By right clicking the mouse on area 1, it will be possible to import an image to identify the patient (usually the subject's picture).

Once modified, to save the new data, click on the icon Save and again on Edt

Attachment's management

Click on the attachments column , identified by the icon [4] , and the patient's name is (see arrow in previous figure), a window containing all the attachments connected with this patient will appear.

From here it will be possible to add new or remove existing attachments.



To visualize existing attachments double click on the

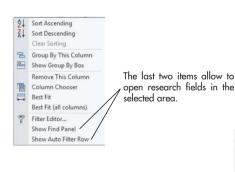
To add new attachments, click on

To remove attachments, select the desired attachment and then click on ______ .

Research functions



Right click on the mouse over the areas highlighted in the image, a pop-up will appear from which it will be possible to carry out operations such as ordering of items in the list, size of columns and also research and filter of the present items.



Once the fields have appeared (you can show one or both), you can look for the desired item by writing either in the upper field of the bottom one. (Both highlighted in the adjacent figure).



Deletion of patients, sessions and tests

To delete a patient together with all the associated sessions and tests, click on the icon the icon the toolbar, or right click the mouse on the patient to be removed then click on delete.

To delete a session and all the associated tests, right click the mouse on the session to be removed then click on delete.

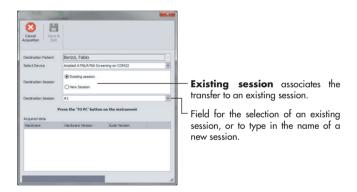
To delete a single test, right click the mouse on the test to be removed then click on delete.

Data transfer

NOTE: to see how to connect the different devices from which to transfer data refer to appendix.

Data transfer can be done following indications in chapter 3.

After clicking on the icon window, like the one in the following figure will appear, from which it will be possible to decide whether to associate the tests you want to transfer to an existing session for the selected patient, or whether to insert them in a new session.



VISUALIZATION TESTS

comparing visualized tests

Transferred tests are visible in the session management page as stated in the chapters: 3 and 5.

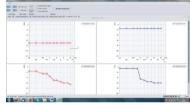
Comparing visualized tests

As mentioned in chapter 5 it is possible to compare transferred tests by clicking on the commands of the zone research present on the test visualization page. Comparison is possible between two tests even from different exam sessions only if they belong to the same patient and if they are of the same kind (two tonal audiometric, two tympanographs, etc...).

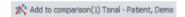
Example:

In the following pictures, two tonal audiometric tests and two tympanometric tests of "Demo" patient are compared.











To execute the comparison, visualize one of the two tests and click on "Add to comparision".

Visualize the second test to compare and click on "Add to comparison (1)....".

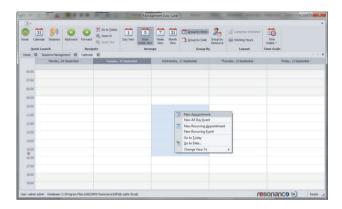
By clicking on "Compare", the two tests will be shown together in a new window.



Refer to chapter 5 for the meaning of the icons of the areas of the Agenda window and for the different visualizations of the areas of the agenda.

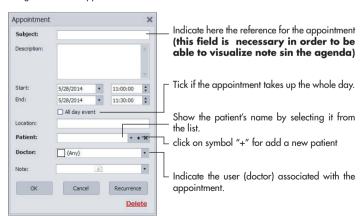
Inserting an appointment

In the agenda it is possible to insert notes and appointments; proceed in the following way:



Click and drag the mouse on the area of the agenda with the dates and times for the appointments or the notes you wish to insert. Right click the mouse and then click on "New Appointment".

The following window will appear:

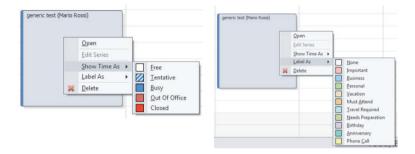


Description field: to add a more exhaustive description relative to the appointment. **Note field:** clicking here will open a new field in which more information can be added.

Click on Recurrence to manage any recurring character of the appointment.

Once inserted, the note will appear in the agenda.

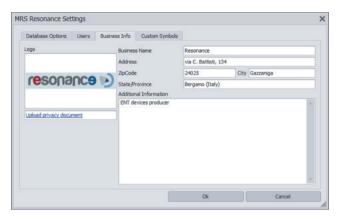
Right click on the mouse on the inserted note to change color according to your color code.



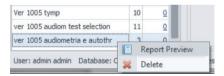
To delete the note, right click with the mouse on the note followed by "Delete"

REPORT PRINTOUT

Once the data have been inserted in "Business Info" (chapter 7), these will appear in the heading of the printout of the report (refer to chapter 7).

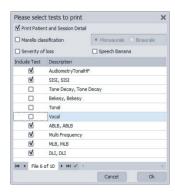


Referring to the figure in chapter 5, select a patient, right click the mouse on one of the exam sessions present in area C, then click on "**Report Preview**".



In alternative, click on the icon "Report Preview" in the menu bar:

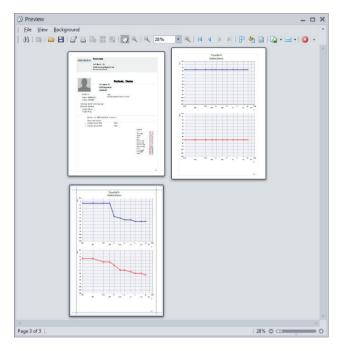




The following window will appear showing the tests that make up the session.

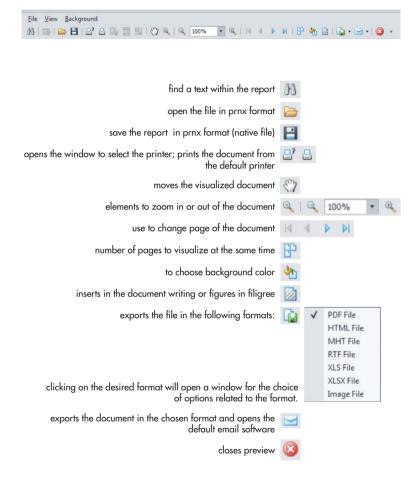
Remove the tick from those tests you do not wish to appear on the report an select **OK**.

The print preview of the report will appear before being printed.



The first page of the report shows the heading, the main data regarding the patient, the tests that make up the report and the legend with the graphic symbols used in the audiometric tests. In the following pages you will find the tests.

Preview Toolbar





To uninstall the program select:

Start-all the programs-MRS Resonance-uninstall MRS Resonance.



Once the uninstall program has been launched, follow the indications that appear on the screen. The removal can be also done through the Windows Control Panel (Control panel>programs and functionality). Right click on the mouse on the name of the program and then on "uninstall".



BEWARE: Removal of the program executed from the control panel will also remove the patients' database and all information contained within.

SOFTWARE UPDATE

Software update to a new version will save the current database and therefore allow to keep all the data relative to the patients, associated tests and attachments.

NOTE: before executing an update we strongly advise, as a safety precaution, to export the database, as indicated in chapter 6; or simply executing a safety copy in the "DB" folder.

Update of versions preceeding 1.3.3.1600

For these versions, if a safety copy is created before the update, the "DB" folder is in **C:\Program files (x86)\MRS Resonance**

After execution of the update, the original database will be maintained and can be found in C:\
Program files (x86)\MRS Resonance\DB

Update of versions 1.3.3.1600 or superior

For these versions, a safety copy can be saved in the folder found in **C:\Users\(name of users)\Documents\MRS.**

After execution of the update, the original database will be maintained and can be found in C:\
Users\(name of users\)\(Documents\\MRS\)

Update

To update proceed in the following way:



A insert the Installation DVD into the DVD unit of the PC and launch the file MRS Resonance Setup.exe

Click Yes





Select Uninstall and click Next.

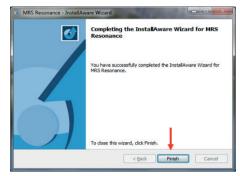


Don't modify the setting and click **Next.**

After that, the uninstall procedure will start.



Click Next.



Click **Next**

|The previous version will be uninstalled and then will start the installation of the new version as already indicated in paragraph 2 of this manual.

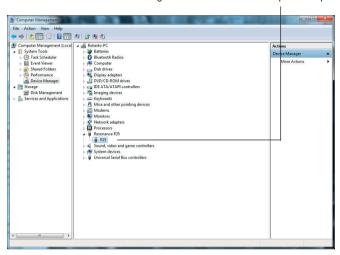
Installation of the new version will be as already indicated in paragraph 2 of this manual.

APPENDIX

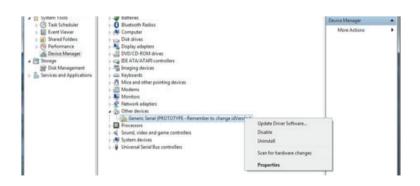
installation driver verify (not necessary for A756 and A766) technical support indications connection scheme for data transfer

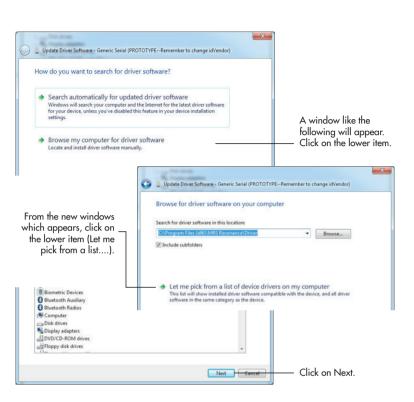
installation driver verify (not necessary for middle ear analyzer A756 and A766)

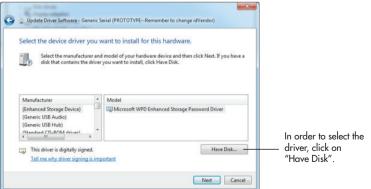
Switch on the Resonance device from which you want to transfer data, and connect it to the computer by means of a USB cable. Usually the driver is automatically installed during the program installation and the Resonance device is recognized when connected to computer USB port.

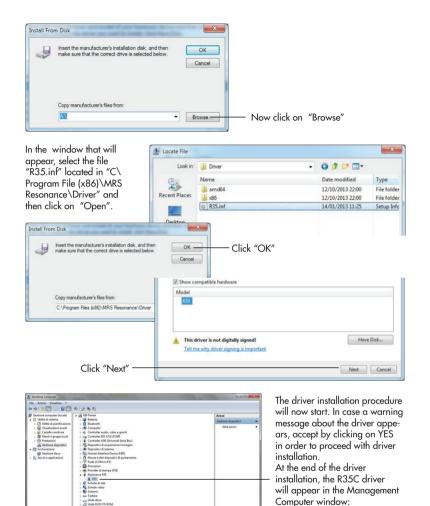


if opening "Computer manager", an icon of "not recognized driver" appears (yellow triangle with exclamation mark inside it), right click on it and select "update software driver".









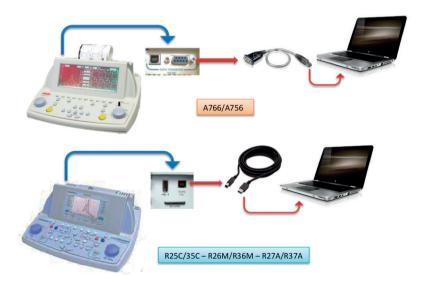
For data transfer restart the connected Resonance device and run the MDS program.

Technical support indications

From any window in the software click on and then on to open a window with product information and references necessary to ask for assistance from the manufacturer.



Connection scheme for data transfer



NOTE

NOTE

