M

STUDIO

Software

OTOWAVE TYMPS
FAST, ACCURATE
MIDDLE EAR MEASUREMENTS

MedRx

Studio Software Impedance Module Training Manual

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MedRx's Archived manuals are available at www.medrx-usa.com/manuals-archived/

This manual explains the IMP Studio Software Module.

Refer to the manual that came bundled with your TYMPANOMETER for instructions on use and safety requirements.

Contents

This manual will familiarize you with the features and software for the Otowave Tympanometers 102/202/202H. Tympanometry has multiple purposes in a hearing assessment.

- Measuring the compliance of the tympanic membrane and middle ear at a fixed frequency over a range of pressures
- Measuring stapedial and ipsilateral reflexes
- Detecting abnormalities to the tympanic membrane and middle ear

Always perform a tymp exam of the ear prior to testing to determine if there are any abnormalities with the TM/middle ear that will interfere with testing. If there is a problem, the patient should be referred to an appropriate resource for further medical evaluation. It is recommended that the patient be cleared from the medical referral before you can proceed with the hearing evaluation.

Always use ear tips with the system. The ear tips must be cleaned or replaced between patients per accepted medical practice procedures. (Reference section: "Cleaning and Disinfecting" for more information)

Getting to Know Your Otowave Tymps

Intended Use Statement:

The Otowave Tympanometers 102/202/202H are used to measure the compliance of the tympanic membrane and middle ear at a fixed frequency over a range of pressures. They are also used to measure stapedial reflexes. The Tymps measures ipsilateral reflexes and when selected, reflex measurement is automatically carried out after a tympanogram is taken. These devices are to be operated by professionals with education and/or training in the field of audiometry. The device consists of a Tympanometer connected to a computer via USB cable or IR Link that can send the Tympanometer data to the computer.

Indication for Use Statement:

The Otowave Tympanometers 102/202/202H is for use by professionals with education and/or training in the field of audiometry to provide detailed examinations of the middle ear and tympanic membrane. The Tymps are designed to perform middle ear measurements.

⚠ CAUTION: The Otowave Tympanometers are to be used by a person qualified in the use of a Tympanometer. Misuse can cause a patient pain and possible injury.
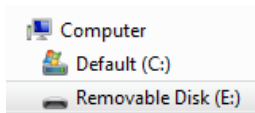
This manual explains the IMP Studio Software Module. Refer to the manual that came bundled with your TYMPANOMETER for instructions on use and safety requirements.

INSTALLATION
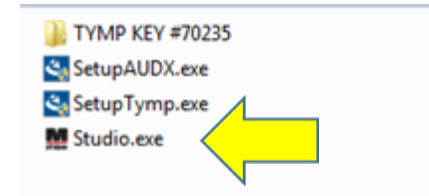# Drivers & TYMP Software Key

1. Insert the MedRx USB Flash Drive into a USB port:
   - Launch **My Computer**
   - Locate USB Drive

(E:) may vary depending on the USB port selected.
Consult your computer's documentation.

2. Double click on **Studio.exe** to download MedRx Studio Software. Full Instructions to download Studio software can be found in the MedRx Studio Installation Manual.
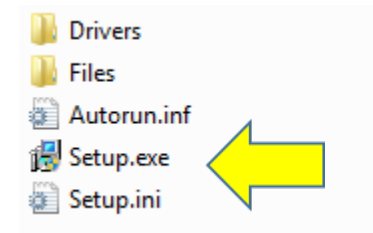

NOTE: If requested, *Accept Permission to Install Software*.

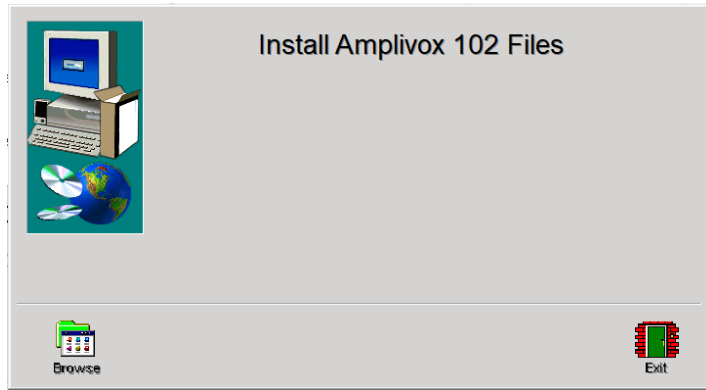3. Once you are finished installing the MedRx Studio Software
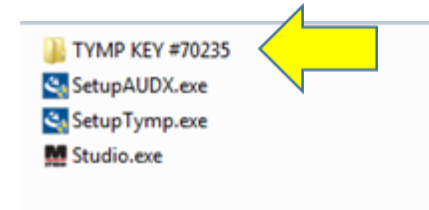
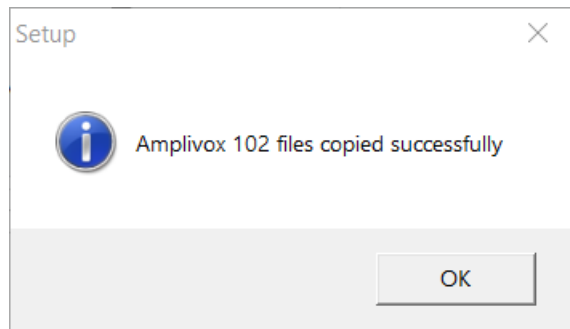4. Click on TYMP Key

5. Click on Setup.exe

Otowave 102

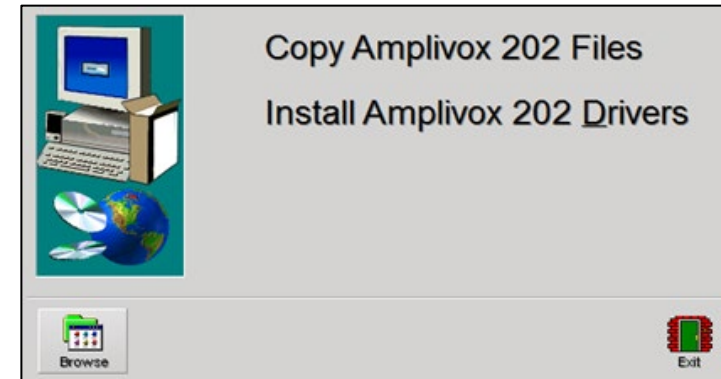To Install Otowave 102 Files:

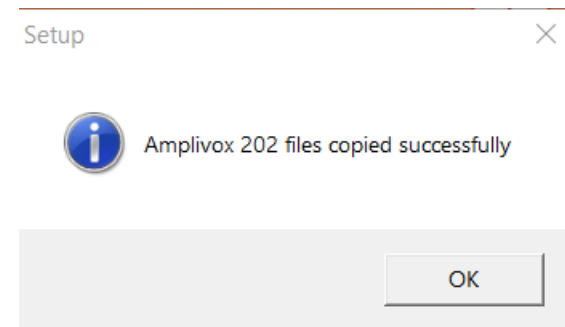1. Click Install Amplivox 102 Files.

2. A pop-up will appear if the files were copied successfully. Click OK.

Otowave 202 and 202H

To Install Otowave 202 or 202H Files and Drivers:

1. Click Copy Amplivox 202 Files.

2. A pop-up will appear if the files were copied successfully. Click OK.
3. Click Install Amplivox 202 Drivers and follow the prompts.
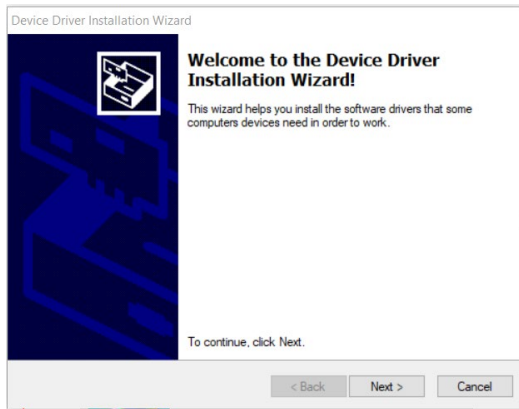
4. This is the Welcome Screen
   - To continue, click **Next**
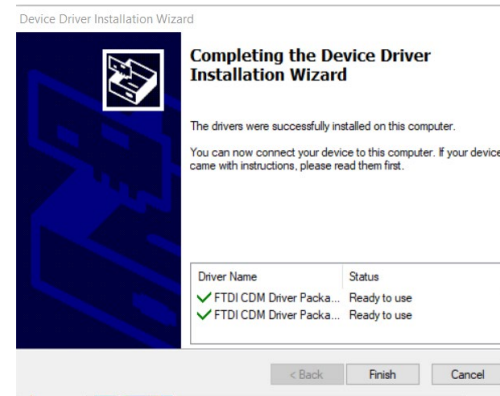
6. When the installation is complete.
   - Click **Finish**.
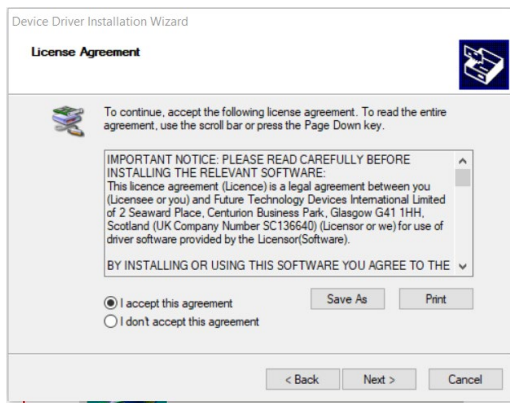
5. Read the Software License Agreement. This important document defines the acceptable usage of the Tymp Software.

- After reading the agreement, select **I accept this agreement**.
- Click **Next**.

IMP MODULE
Studio Software Overview

The MedRx Studio software can run stand-alone or from NOAH™ System or the TIMS® NOAH-Compatible Office System.

Launching the MedRx Studio Software
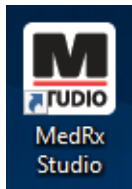
Stand Alone

- Double click the MedRx Studio shortcut on your Windows desktop.

NOAH

- Launch NOAH.
- Select a patient.
- Launch MedRx Studio module following NOAH procedures.

This manual explains the IMP Studio Software Module. Refer to the manual that came bundled with your TYMPANOMETER for instructions on use and safety requirements.

Basic Software Options

Several options are available which allow the user to customize the MedRx Studio software to meet their needs.

 Access these options by clicking the settings wheel in the top right menu bar.
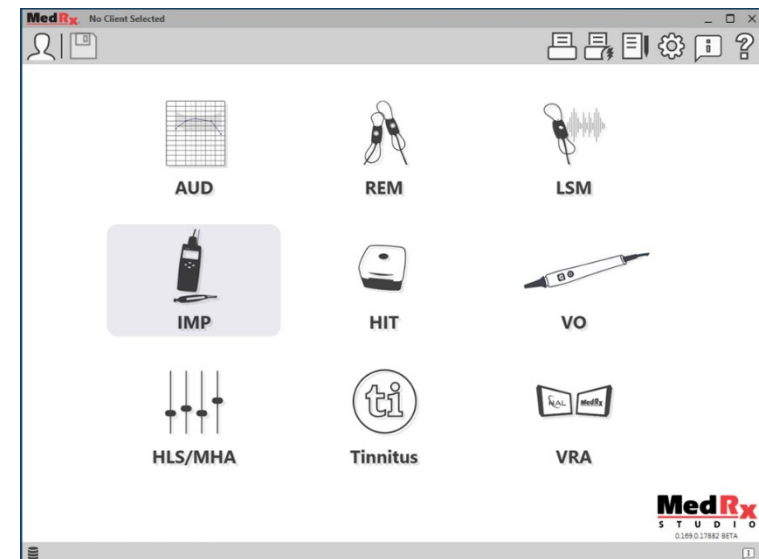
The MedRx Studio software main screen.

Icons are selectable depending on your equipment.

The Main Screen settings allow you to set the default modules, database, print templates defaults and more.
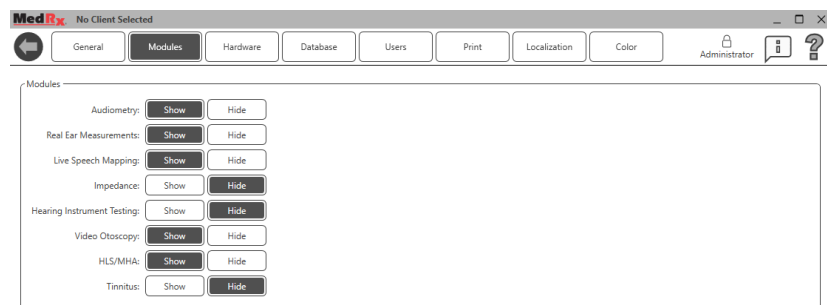
If you have more than one MedRx product you can show/hide modules in the Main Screen settings.

NOTE: Remember, more information is always available in the Interactive Help System by clicking the "?" Icon in the top right corner of the software or pressing the F1 key.

Tympanometry

Select IMP from the main menu.

Top Tool Bar

The **Tool Bar** icons have the following functions:

1. Save Session and Exit
2. Save Session
3. Print
5. Show Journal
6. Show Settings
7. Show Help
8. More Options

The **More Options** icons have the following functions:

1. Save the current session to a file
2. Open session from a file
3. Clear Data from Current Test

Configuring the Tympanometer Software

It is important to note that each module will have different settings available for customization.

Once you have installed the Files and Drivers select the IMP module from the main screen.
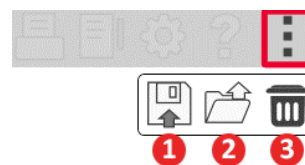
Click the settings wheel in the top right corner to customize.
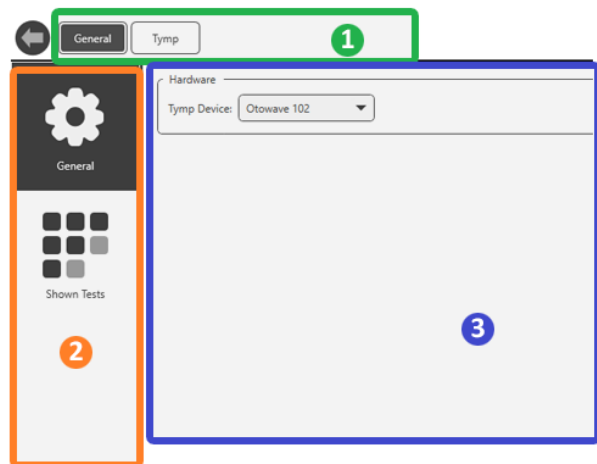
The Tympanometry module has unique settings for the module. To navigate the settings you will:

- Select the group of settings from the header (1).
- Then choose the setting options from the left sidebar (2). The customization options will change based on the group and settings chosen in the main body (3).

Choosing your Tympanometer

Click the settings wheel in the top right corner of the Tymp main screen

Click the General Button in the top Left Corner

Click the General Settings wheel in the top Left Corner
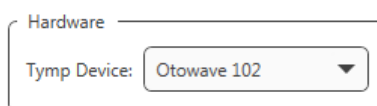
Select the model of your Tympanometer from the drop-down menu.
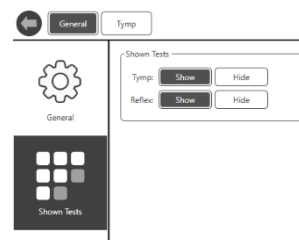
Select which tests are visible within the Tymp module.

Go back to the Tympanometer main screen by clicking the back arrow on the menu bar top left.

Tymp Menu Controls on the Tympanometer:

- Press the up ▲ and down ▼ navigation keys to scroll through the menus or set values.

- Press the right navigation key ► to accept a menu choice or go to the next step.

- Press the left navigation key ◄ to cancel an operation or go back to the previous step.

Performing Tymps & Reflexes
Always use a clean ear tip for each new patient.

- Make sure your Tymp is turned on by using the power button in the bottom left hand side of the device.

- Click the IMP Icon on the MedRx Studio software main screen.
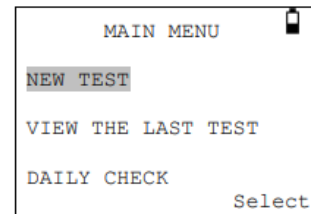
- At the MAIN MENU select NEW TEST.
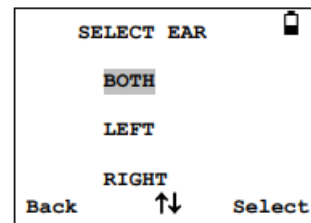
- Select the ear(s) you are want to test.

A message will appear that says "Deleting last test" then you will be asked to insert the probe. Be sure to insert both the ipsi and contra probes if applicable.

```
TESTING LEFT EAR        🔋

INSERT PROBE


Cancel
```
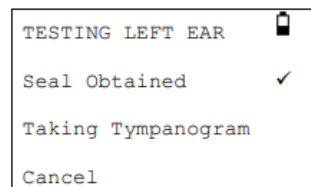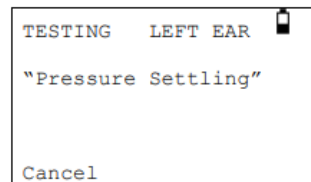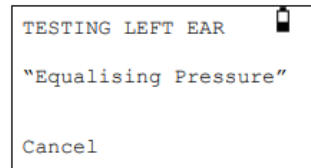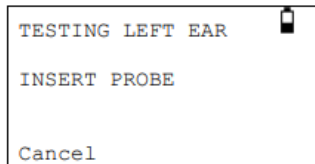
- As long as you have a good seal on the probe in the ear you will see:

1. "Equalizing Pressure"
2. "Pressure Settling"
3. "Seal Obtained"

```
TESTING LEFT EAR        🔋

"Equalising Pressure"


Cancel
```

```
TESTING    LEFT EAR     🔋

"Pressure Settling"



Cancel
```

```
TESTING LEFT EAR        🔋

Seal Obtained        ✓

Taking Tympanogram

Cancel
```

The device will perform the tympanogram portion of the examination first. The Tymp will then perform reflex measurements if selected in the configuration menu. The Tymp 102 can perform Ipsi reflex measurements and the Tymp 202/202H can perform Ipsi and Contra reflex measurements.

```
TESTING LEFT EAR        🔋

   ___/\___

Seeking Ipsi Reflex
    1000 Hz   80 dB
Cancel
```

```
TESTING LEFT EAR        🔋

   ___/\___

Seeking Contra Reflex
    2000 Hz   100 dB
Cancel
```

Saving Results

```
PATIENT INITIALS        🔋


  _____

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
-01233456789
Hold to enter / cancel
```
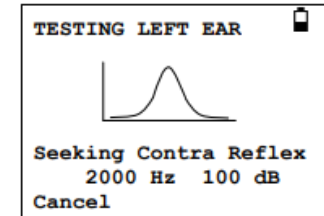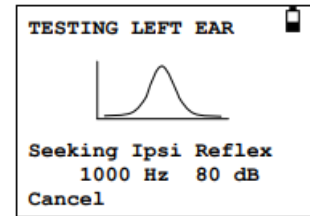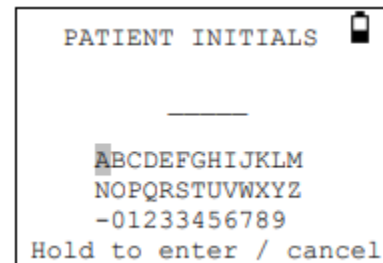
- Once the PROCESS RESULTS window comes up you will select SAVE RESULTS. You will enter the patient's initials and hold the right arrow to save.

- After you have entered the patient's initials you will be able to transfer the data to the PC.

Transferring Data to Studio

Otowave 102

- Position your MedRx 102 Tymp within range of the IR Link (as shown). The IR Link should be within a few inches of the Tymp's IR port.

- On the MedRx 102 Tymp you will click on Send to Computer and then click the ► navigation key to transfer. You will see the tracing on the screen in Studio.

Otowave 202

- Plug the MedRx 202/202H Tymp into the Computer via a USB cable.

- Select Transfer in the top right corner of Studio. It will transfer the data for you right to the screen.

- In the top left of the Tymp Software you can toggle between your Tymps and Reflexes.

The screenshots below are examples of Tymp and Reflex results

Saving Session Data

Click on the save session icon located in the top right menu bar. It will prompt you to save the current session to your patient file.

Turn-off your tympanometer when you exit the IMP module by pressing the on/off button located on the bottom left hand side of the device

Printing

Printing within the MedRx Studio software. You can use the templates provided at installation or create your own templates to suit your needs.

Icons in the Print Window
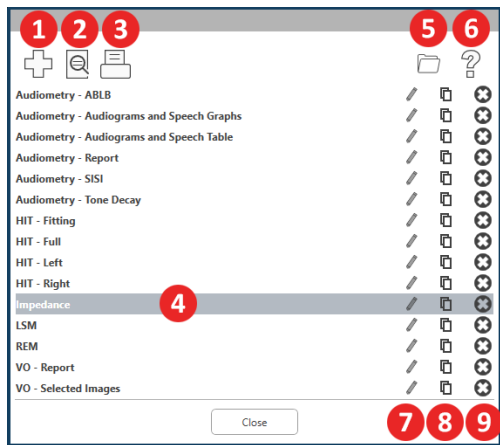
1. Create a new template.
2. Preview template icon.
3. Print template icon.
4. Select the template you would like to use.
5. Shortcut to templates folder on your desktop.
6. Studio Help icon.
7. Edit the template with the pencil icon. Editing a template will open the print editor and allow you to adjust print elements.
8. Duplicate existing templates icon.
9. Delete template icon

To Use an Existing Print Template

1. Click the print icon in the top tool bar or hold down the Ctrl key and click the P key on your keyboard.
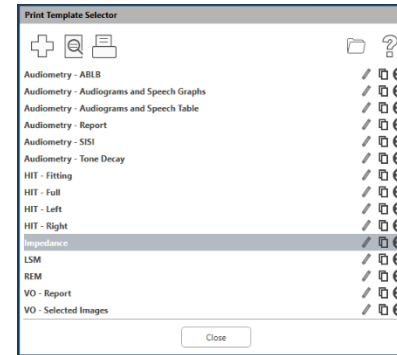
2. Select the template you would like to use.

3. Click the print preview icon to see the patient's data & images on the template before printing.

4. Click the print icon.
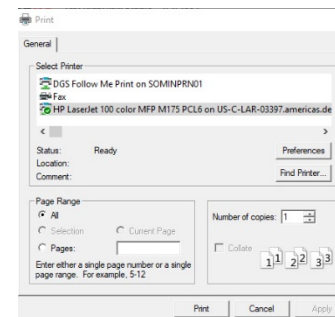
5. The printer options box will pop-up.

6. Click print.

Create New Print Templates

1. Select the printer icon.

2. Select the + icon to create a new template.

New Template

3. Name the template you are creating.

4. Choose page orientation.
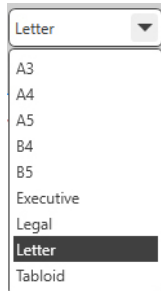
5. Use the drop-down menu to choose the size of paper you will be using.

Letter
A3
A4
A5
B4
B5
Executive
Legal
Letter
Tabloid
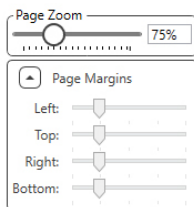
6. In the bottom left, Page Zoom will allow you to zoom in/out of the template for easier editing.

Page Zoom
75%
Page Margins
Left:
Top:
Right:
Bottom:

7. In the bottom left, the Page Margin is set by default to the ideal level. Adjusting this will determine how far items will print from the edges.

Picture
Text
Journal

AUD
Audiogram
Audiogram Legend
Audiogram Table
Speech Graph
Speech Legend
Speech Results
QuickSIN
Stenger
ABLB

IMP
Tymp Graph
Tymp Table
Reflex

REM
Rem Graph
Lsm Graph

HIT
Hit Graph
Battery Current Graph
Input/Output Graph
Attack Release Graph

VO
VO Image
All Selected VO Images
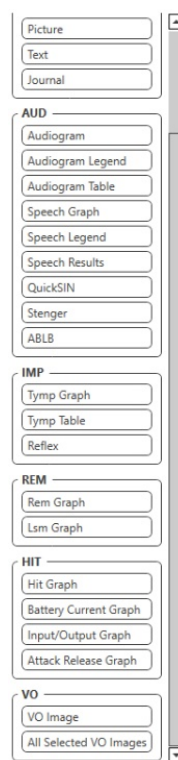
1. Drag and drop elements onto the page to create your template.

   a. You can combine data from multiple modules into a single template.
   b. Elements may overlap and will stack/cover previously added elements.
   c. Certain elements will have settings that can be adjusted after dropping onto the page.
   d. You can resize all elements. The contents of each element will resize within the box depending on the amount of data in the element.

2. Use the + button to add additional pages if needed.

3. After template completion, use the Save, Save As, Preview and Print Icons for your template.
   a. Saved templates will be available for future sessions.
   b. Print a template to ensure that all elements print as expected.

Cleaning & Disinfecting

Your MedRx Tympanometer has been designed to provide years of trouble-free service. Do not remove or open the Tympanometer housing, as there are no user serviceable components inside.

Cleaning

To keep your system looking new, wipe the exterior of the components with a soft cloth. Stubborn stains may be removed using a cloth moistened with water and mild detergent. Do not allow debris or fluid to enter into the components. Use an alcohol wipe to clean the probe on the end of the tympanometer/probe pencil, or a common disinfectant.

Tympanometer Disinfecting

The Tympanometer is sealed so that it may be wiped between patients with the following surface cleaners to disinfect; 70% Alcohol, Chlorhexiderm, Cidex, Nolvasan, Parvocide, Parvoso, Roccal or Synphenol. Follow instructions provided with the disinfectant.

The scope should NEVER be heat sterilized, gas sterilized or soaked in liquid because damage may result.

Ear Tip Replacement

The ear tip is always to be replaced between patients.

Transportation & Storage

When transporting or storing your Tympanometer, it is best to use the original packing case or similar packaging. Store the system in a cool, dry location and do not place your system in direct sunlight. Care must be taken to protect the system from shock, moisture damage and mishandling. Do not place heavy objects on any of the system's components. To assure proper operation and warranty protection, use manufacturer's replacement components only.

Technical Specifications

Tymp 102-4

Analysis Performed: Compliance peak level (in ml), Ear canal volume (ECV) at 200 daPa, Ipsilateral reflex

Probe Tone Levels: 226 Hz ± 2%, 85 dB SPL ± 2 dB. Over range 0.2 ml to 5 ml

Pressure Levels: +200 daPa to – 400 daPa. ± 10 daPa

Ear Volume Measurement Range: 0.2 ml to 5 ml ± 0.1 ml or ± 10% (whichever is larger) over entire range

Reflex Tone Levels: 500 Hz, 1 kHz, 2 kHz, 4 kHz Frequency ± 0.1%, Configurable over range 85 dB to 100 dB HL (programmable in 5 – 10 dB steps)

Reflex Measurement Range: 0.01 ml to 0.5 ml ± 0.01 ml configurable in 0.01 ml steps

Power: Battery specification: 4 Alkaline AA cells or 4 NiMH rechargeable

Dimensions: Approx. 21 x 8 x 4 cm (L x W x H) Weight: 380 g / < 1 lbs

Tymp 202 – 202H

Analysis Performed: Compliance peak level (in ml), Ear canal volume (ECV) at 200 daPa, Ipsilateral reflex or ± 10 daPa or ± 10% (whichever is larger) over range 0,1 ml to 5 ml

Probe Tone Levels: 226 Hz ± 2%, 85 dB SPL ± 2 dB 1000Hz ± 2%; 79 dB SPL ± 2 dB (202-H only) over ear canal volume range

Pressure Levels: +200 daPa to – 400 daps. ± 10 daPa or ± 10% (whichever is larger) over range 0,1 ml 5 ml

Ear Volume Measurement Range: 226 Hz: 0.2 ml to 5 ml; 1000 Hz: 0.1 ml to 5 ml ± 0,1 ml or ± 5% (whichever is larger)

Reflex Tone Levels: 500 Hz, 1 kHz, 2 kHz, 4 kHz Frequency ± 2%, Configurable over range 70 dB to 100 dB HL (4 kHz restricted to 95 dB HL) ± 2 dB, referenced to 2 ml calibration volume; compensates for measured ear volume

Reflex Measurement Range: 0.01 ml to 0.5 ml ± 0.01 ml configurable in 0.01 ml steps

Power: Mains: 100-240 V AC; 50/60 Hz via mains adapter (approved in medical safety standards); Batteries: 4 x AA (either Alkaline or NiMH, the latter recharged external to the instrument

Dimensions: Base unit: Approx. 19 x 8,5 x 4 cm (L x W x H) Probe: 13 x 2.5 cm (max.) diameter

Weight: Base unit: 330 g (without batteries, using mains power), 430 g (with batteries) Probe: 110 g (incl. connecting cable)

Limited Warranty

MedRx, Inc warrants this product to be free from defects in material and workmanship for one year from the time of purchase. If this system fails to perform as specified during this period, the purchaser is responsible for calling MedRx at (888) 392-1234 or (727) 584-9600. The company's representative will advise the owner to either return specific components or the entire system to:

MedRx, Inc.
1200 Starkey Road #105
Largo, FL 33771 USA

MedRx will repair or replace any defective devices, fully test the system and/or components and ship the system promptly back to the owner. There is no cost for the repair or return shipping, provided the system is one year old or less and has not been misused, abused or damaged. Such damage includes, but is not limited to, dropping, exposure to excessive heat greater than 100ºF and water/liquid damage.

Repair or replacement of the system as provided under this warranty is the sole and exclusive remedy of the purchaser. MedRx shall not be liable for any consequential or incidental damages or for breach of any express or implied warranty. Except to the extent of applicable law, any implied warranty, merchantability or fitness of this product is limited to the duration of this warranty.

MedRx will, at its discretion, service and repair out of warranty products at the purchaser's request, charging for parts and labor as necessary.

The limited warranty is deemed void if software or hardware is installed on this product which is not pre-approved by MedRx, Inc. Approved software includes NOAH™ and HIMSA approved hearing aid manufacturer programming modules for fitting hearing aids.

MedRx, Inc. is not responsible for problems resulting from installation of unapproved software or hardware. In the event of unapproved software or hardware installed on the system causing a conflict, MedRx will service the product for a fee to be determined at the time of service.

Any extension of this warranty past the initial one-year warranty is subject to the following (where applicable).

1. A $300 deductible per repair.
2. Extended warranty does not include cables, connectors or peripherals.
3. Extended warranty of the Video Otoscope covers optics only.