



Operating & Installation Instructions MedRx OtoWizard System



Table of Contents

<i>MedRx OtoWizard System</i>	<i>1</i>
<i>Table of Contents</i>	<i>2</i>
<i>Item Classification</i>	<i>4</i>
Introduction to the MedRx OtoWizard System	4
<i>OtoWizard Components</i>	<i>5</i>
<i>Description and Checklist</i>	<i>5</i>
Patient Hand Switch	5
Y-cord	5
Real Ear Measurements	5
Probe Microphone Assembly	5
Light source and control box assembly	5
Camera/Probe assembly	6
Fiber optic and twin lead cable	6
Coupler Microphone	6
Reference Microphone	6
Coupler and Adaptors	6
Optional extras:	7
<i>OtoWizard Assembly and Installation</i>	<i>8</i>
Connecting and disconnecting the fiber optic cable to the camera probe	10
To Connect	10
To Disconnect	10
Insuring proper picture quality	10
<i>OtoWizard Connection Diagrams</i>	<i>11</i>
Figure 1: System Front Panel	11
Figure 2: System Left Side Panel	11
Figure 3: System Back Panel	12
Figure 3a: System Back Panel. Alternative patch cable connection	12
Figure 4: Testbox Back Panel	13
Figure 4a: Testbox Back Panel Alternative patch cable connection	13
Figure 5: Inside Testbox	13
Using the deluxe hand held camera probe	14
<i>Care, Maintenance, and Storage</i>	<i>15</i>
Cleaning	15
Transportation and Storage	15

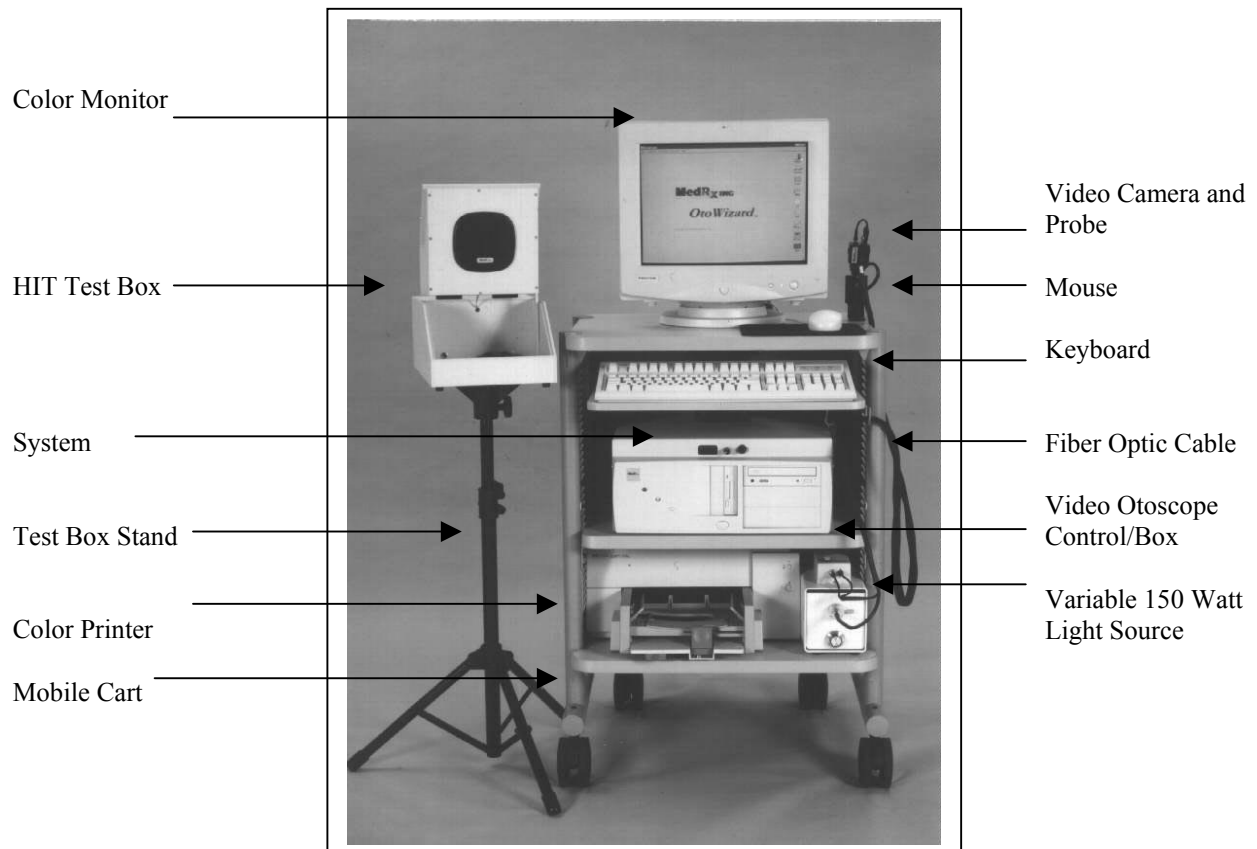
<i>Trouble Shooting Guide</i>	16
<i>Limited Warranty</i>	17
<i>Components Registration</i>	17
<i>Technical Specifications</i>	18
OtoWizard Technical Specifications	18
OtoWizard Technical Specifications Continued	19
Technical Specifications for the Video Otoscope	20

Item Classification

Introduction to the MedRx OtoWizard System

MedRx OtoWizard includes:

- Intel Pentium II 266 MHZ computer or higher
- High resolution color monitor
- Color printer
- Monitor headset
- Insert earphones
- Coupler microphone
- Reference microphone
- Battery pill simulators
- Telecoil
- Probe microphone
- Bone conductor
- MedRx color video camera
- MedRx deluxe 3mm Probe
- MedRx Video Otoscope control box
- Fiber optic variable 150 watt light source
- 3mm specula
- Fiber optic cable
- Wide angle lens
- Mobile cart
- Complete set of cables and necessary attachments



OtoWizard Components

Description and Checklist

System

DSS designated board; Intel Pentium II MMX 6.4 GB Hard Drive CD ROM 1.44MB or LS120 Floppy disc drive; Input/Output peripheral connections

Monitor

Multimedia monitor

Keyboard

PS2 connection external keyboard

Mouse

PS2 connection external mouse

Mouse Pad

Printer

Color printer and serial printer cable

Power cords

Power cords (x 4) for AC connection to the power strip for the system (x2), monitor and printer.

Power Strip

120V surge protected six or eight plug power strip

Audiometry

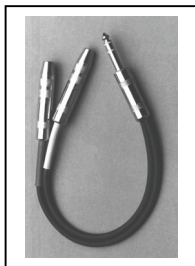
Insert earphones

Serialized and calibrated insert earphones package with replacement tips and attachment clips

Bone Conductor

Patient Hand Switch

Y-cord



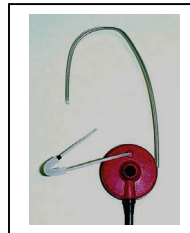
Split Y-cord with 1/4" jack connector to connect the bone conductor and patient hand switch to the system. Y-cord has a red collar on one end of the Y, and a blue collar on the other end.

Speakers

Two external speakers with adjustable volume control and cable with 1/4" jack connection to the system.

Real Ear Measurements

Probe Microphone Assembly



The probe microphone assembly contains the probe microphone port and the free field microphone and connects to the system by an 8 pin connector

Ear Hook

Three adjustable ear hooks. Clip one to the probe microphone assembly case to hang over the patient's ear for real ear measurements. Store the remainder for future use.

Silicon probe tubes

Package of 50 replacement probe tubes with black collar rings.

Elbows

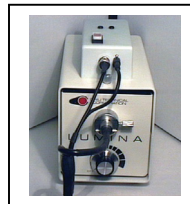
Package of three plastic elbows used to assist in positioning the probe tube in the patient's ear canal.

Monitoring Headset

Proluxe headset with 1/4" jack connector for monitoring real ear measurements.

Video Otoscope

Light source and control box assembly

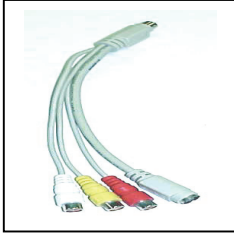


Light source with EJA 150 lamp bulb and adjustable intensity control with mounted control box. The light source connects to the system using the jumper cable.

Jumper cable

12" long jumper cable connects the video control box to the pigtail video input cable

Pigtail video input cable



AV in video connector.

Control box power supply

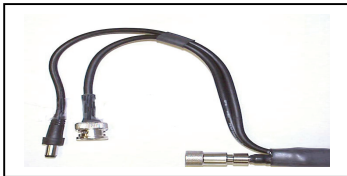
2" x 1.5" x 2.25" black cube supplying 120 V AC to the back of the control box from the power strip

Camera/Probe assembly



Serialized camera and probe are pre-assembled and located in a black foam packed case. The camera and probe are connected to the light source and control box assembly using the fiber optic and twin lead cable set.

Fiber optic and twin lead cable



The fiber optic and twin lead cable bundle is used to connect the camera and probe to the front of the control box and light source.

Speculum, currettes and alcohol swabs

Package of reusable 3mm specula covers

Camera stand

Black camera stand and two screws to secure the stand to the top shelf of the cart. The camera stand stores the camera and probe assembly when it is not in use.

Hearing Instrument Test Box

Test Box

Acoustic treated test box with loud speaker in the hinged lid. The loud speaker is used as the stimulus source for real ear measurements when the lid is open and for test box measurements when the lid is closed. The collar on the base of the test box allows the test box to be mounted to the tripod stand. The test box has internal connections for the coupler and reference microphones and battery pill.

Tripod stand

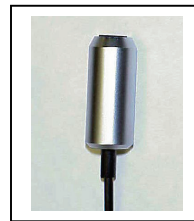
Adjustable height tripod test box stand.

Coupler Microphone



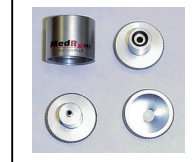
Calibrated microphone to ensure precise stimulus levels. The coupler microphone is connected to a 1/4" jack inside the test box.

Reference Microphone



The reference microphone is used as the live speech input microphone and to ensure a precise input stimulus level in test box measurements. The reference microphone connects to the test box using a 1/4" jack.

Coupler and Adaptors



2cc coupler and adaptors for Body Aid, ITE, ITC and BTE hearing aids.

Battery Pills

Package of battery pills: 635, 312, 13, 10 and 5. These are used to determine the hearing instrument battery drain in the test box measurement task.

Fun tac

The fun tac is used to create an air tight seal when attaching an ITE, ITC or CIC hearing instrument to the coupler for test box measurements.

Additional components

Test box patch cable set

A six foot cable bundle with five color-coded ¼” jacks on each end. The patch cable connects the test box to the system or alternative 14-pin single patch cable.

Mobile Cart

A mobile cart with three shelves and adjustable height keyboard shelf. Pull out storage drawer beneath the lower shelf.

Hooks

Two cart hooks are provided to secure to the cart below the keyboard shelf. The hooks are used to hang the Audiometry and Real Ear Measurement peripheral components when they are not in use. A set of screws and anthro tool are provided to secure the hooks to the cart.

Sounds of Life CD

Auditec speech CD

Loudness Scaling panel

Rainbow passage panel

Accessory hooks

Multi-media cables for the monitor

User’s Manual

Operating and Installation instructions

Software package

Calibration certificate

Optional extras:

Portrait options: Two options are available for taking a photo of the patient.

Full-face camera lens is used in place of the probe on the Video Otolaryngoscope camera. This requires the removal of the probe and placement of the Full-face lens onto the camera.

Quick-cam pro is a portrait camera that is placed on the top of the monitor and is available at all times to take a portrait of the patient.

Backup options: Three options are available for the backup of your database.

Floppy disk 3.5 /1.44MB internal drive. You may use this floppy to backup your database however it may require many disks depending on the size of your database.

Hard disk 6.3G external drive can be attached to your system via the parallel port and will allow you to backup your database to the new disk drive.

These optional extras are available from your MedRx representative. Call 1-888-392-1234 for ordering and installation information.

OtoWizard Assembly and Installation

The assembly instructions below provide a trouble free guide to installing the OtoWizard. Follow each step in sequence and refer to the connection diagrams on the following pages for assistance in assembling and installing the OtoWizard.

- Unpack all of the boxes. Locate and identify each component as it is listed in the preceding component list.
 - Locate the mobile cart and attach the four wheels to the base of the cart. Two of the wheels have lock devices on them. These wheels should be located on the front of the cart. Simply push the stem of the wheels firmly into the sockets on the base of the cart and the wheels will lock into place.
 - Locate the anthro tool. This is used for the screws on the cart, hooks and camera stand.
 - Remove the four- (4) screws from the rear panel of the cart and remove the rear panel.
 - Place the keyboard on the keyboard shelf.
 - Adjust the keyboard shelf to its highest position while still being able to slide the shelf easily.
 - Locate the package of two (2) hooks and four (4) screws. Using the anthro tool, attach a hook to each side of the cart just below the keyboard shelf.
 - Attach the camera stand to the pre-drilled holes on the top shelf of the cart. Use the anthro tool and the two- (2) screws provided.
 - Place the OtoWizard system on the middle shelf with the front of the system facing forward.
 - Place the monitor on the top shelf.
 - Feed the multimedia cable through the hole in the top shelf after connecting the red and white pins to their corresponding inputs on the back of the monitor.
 - Place the light source/control box on the right side of the bottom shelf as it appears in the photo in this document.
 - After removing the tape from the paper trays on the printer and inserting the print cartridges in the printer, place the printer on the left side of the bottom shelf.
 - Working from the back of the cart, connect a power cord to the back panel of the system and feed the plug down through the hole in the middle shelf to the power strip.
 - Connect a power cord to the monitor and feed it through the shelf holes in the top and middle shelf and plug it into the power strip.
- *Refer to the connection diagrams for the following directions:
- Feed the monitor serial cable through the top shelf hole and connect it to the monitor port on the rear panel of the system as indicated.
 - Connect the mouse to the rear panel after first feeding the connector through the top shelf to the cart. Locate the mouse pad and mouse on the top shelf to the right side of the monitor.
 - Connect the keyboard to the system.
 - Connect the AV pigtail cable to the video IN jack.
 - Connect the 12” jumper cable from the camera control box to the yellow connection on the pigtail cable. Make sure you feed the cable through the hole in the middle shelf before connecting it to the pigtail.
 - Plug the power cable from the back of the light source into the power strip.
 - Connect the control box power supply to the back of the control box and plug it into the e power strip.
 - Connect the printer power supply to the back of the printer and plug it into the power strip.
 - Connect the insert earphones to the left side of the system. Make sure the right (red) insert is connected to the red jack and the left (blue) insert is connected to the blue jack. It is an option to run the inserts through the back panel of the cart. (see instructions for using sound booth patch cables)
 - Connect the Y-cord to the left side of the OtoWizard Computer. Connect the bone conductor to the red connector and the patient hand switch to the blue connector.

- Hang the inserts, bone conductor, and patient hand switch over the hook on the left side of the cart or use the provided accessory hooks.
- Connect the speakers to the ¼" jack connection marked HLS on the left side of the system. Position the speakers on the top shelf of the cart on either side of the monitor.
- Plug the probe microphone into left 8-pin connection on the front of the OtoWizard Computer.
- Connect an ear hook onto the probe microphone assembly by sliding it into the groove circling the probe microphone assembly. Mold the hook into a U shape ready to hang over the patient's ear.
- Connect a silicon probe tube to the probe microphone port. Slide an elbow onto the silicon tube and hang the assembly on the cart hook on the right side of the cart.
- Locate the video camera and probe assembly. Use the fiber optic and twin lead cable to connect the camera and probe to the front of the light source and control box, as indicated in the connection diagram. Make sure the BNC connector is turned 1/8 of a turn to secure it to the control box. Place the camera in the stand on the top shelf of the cart.
- Insert the fiber optic into the light source and secure it in place by adjusting the screw set.
- Extend the legs of the tripod test box stand and tighten the adjustment knob. Raise the test box stand to a desired height and mount the test box on the tripod. Make sure all the adjustment knobs are tightened. Locate the test box stand to the left of the cart.
- Connect the coupler microphone and reference microphones to the inside of the test box, as indicated in the connection diagram in this manual for the test box. The remaining jack connects the desired battery pill.
- Plug the printer cable into the printer. The printer cable will feed out the lower hole in the back panel of the cart and re-enter through the top hole in the back panel before being connected to the system.
- Plug the patch cable into the rear panel on the system matching the colors on the jacks to the cables, or inserting the 9-pin connection in to the jack. The patch cable will run through the hole on the back panel of the cart.
- Before replacing the back panel on the cart, check to make sure all connections listed above have been made. Make sure the power button on the system is in the on position (-) and the power strip is turned on. Reattach the back panel. Remember to feed the patch cable through the top hole.
- Connect the patch cable to the test box matching the colors on the jacks to the cables.

**** NOTE:** Systems using NOAH will require the connection of the HIPPO Box to the "COM1" Serial Port on the back of the computer.

Connecting to a Sound Booth

When using the patch cables to couple the system to a two way sound booth, connect the appropriate right and left ear phone cables to the system. With the Y-cord connected to the system, plug in the respective bone conductor and patient hand switch patch cables into the Y-cord. Connect the patch cables to the booth and the inserts, bone conductor and patient hand switch to the patch cable panel on the inside of the booth.

Follow the Operating Instructions on the following pages to start using the OtoWizard.

Special Instructions

Connecting and disconnecting the fiber optic cable to the camera probe

To Connect

Probe Light Source

Push the connector end into the probe as shown on the right.

Video Cable

Align coupler, push in and turn to the right

Power Cable

Push in until cable stops

To Disconnect

Probe Light Source

With thumb and forefinger, pull down on the connector shell then gently pull the connector away from the probe.

Video Cable

To disconnect push in turn left gently pull the connector away from the camera.

Power Cable

With thumb and forefinger, pull out on the connector and remove the camera.

Insuring proper picture quality

To insure proper picture quality, use an alcohol wipe on the lens tip before and after each use.

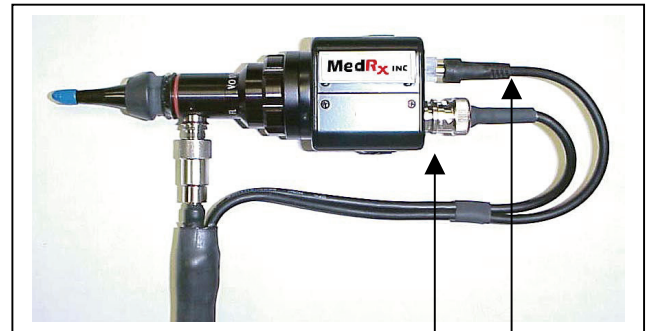
Fuzzy Video Images

Cerumen and/or fog on the lens tip most often cause fuzzy video images. You can correct or prevent either condition by vigorously using an alcohol wipe on the lens tip before and after use.

Attaching the Full Face Lens

Turn the light source off, disconnect the fiber optic cable from the camera, unscrew the probe from the camera and place the probe in the camera stand. Screw in the full face lens. Do not tighten unnecessarily.

NOTE: always face the camera away from any light source when removing the probe or full face lens.



Fiber optic light source

Video Cable

Power Cable

HINT: Turn the light source on at least 5 minutes before you use the camera to prevent the lens from fogging when entering the warm environment of the ear canal.

OtoWizard Connection Diagrams

Figure 1: System Front Panel

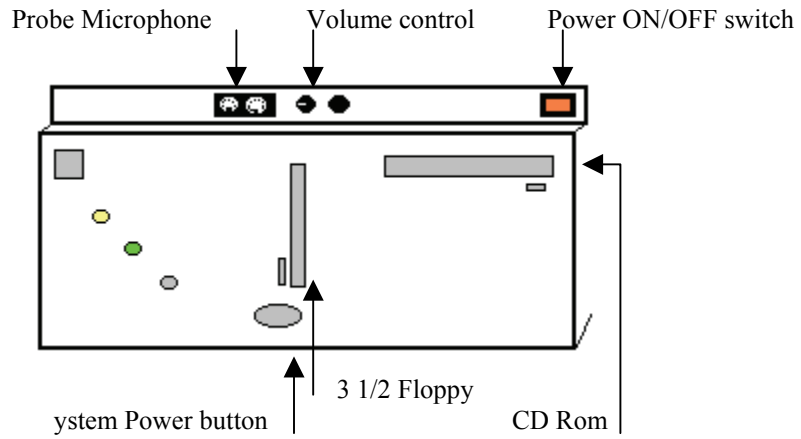


Figure 2: System Left Side Panel

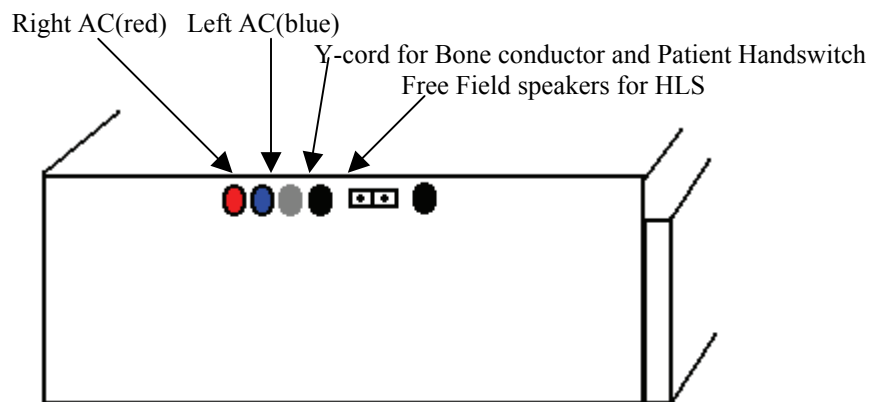


Figure 3: System Back Panel

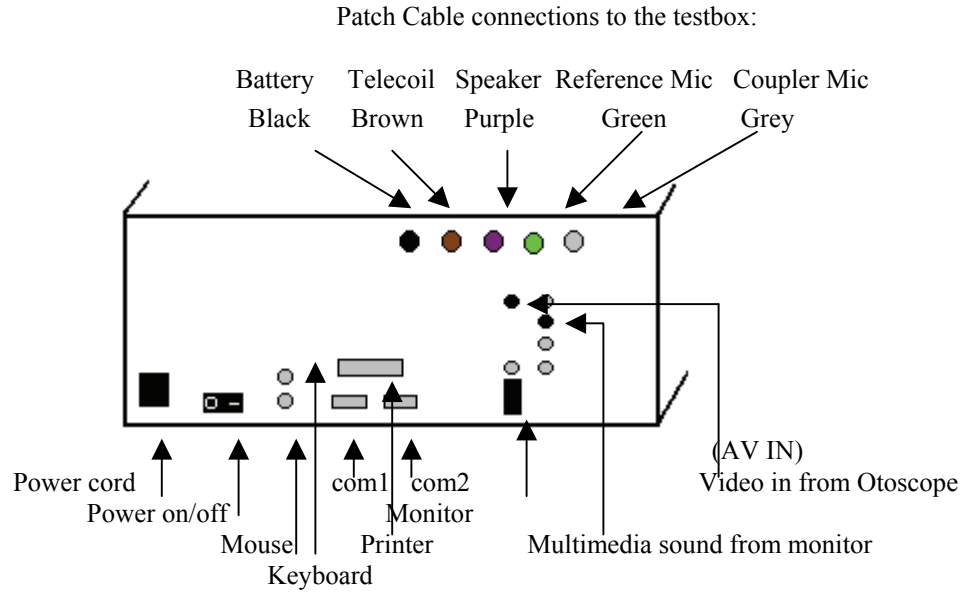
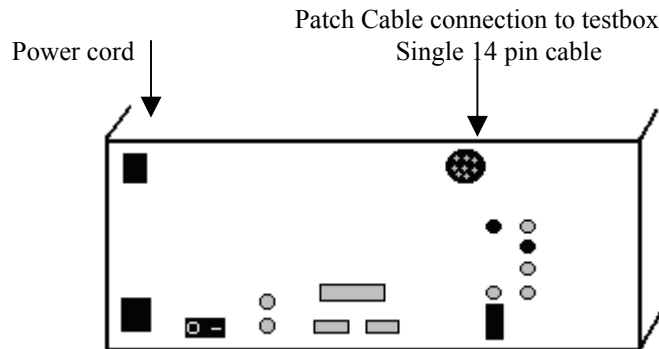


Figure 3a: System Back Panel. Alternative patch cable connection



All other connections are the same as in Figure 3.

Figure 4: Testbox Back Panel

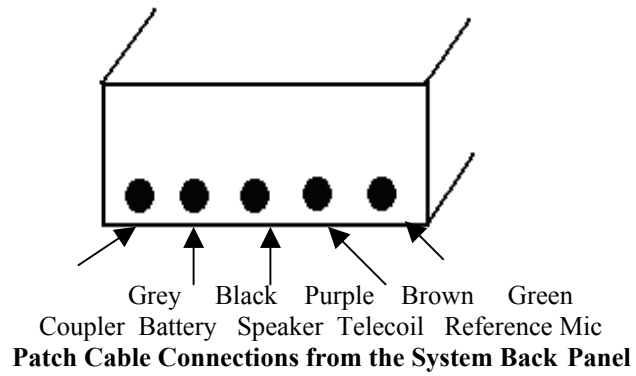


Figure 4a: Testbox Back Panel Alternative patch cable connection

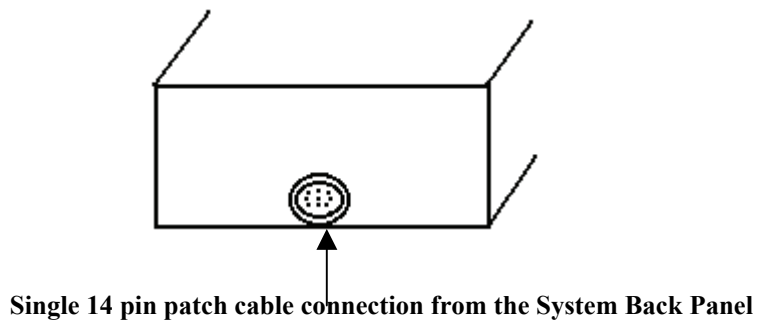
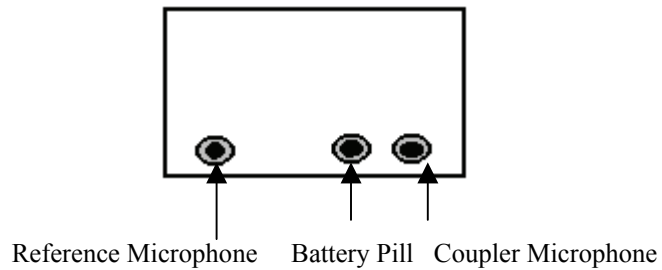


Figure 5: Inside Testbox



Operating Instructions for the MedRx OtoWizard System

Power Up

Ensure the power switch on the power strip and the master power switch on the back of the system are in the "on" position.

OtoWizard System

The switch on the front of the computer turns the system and monitor on at the same time. A green light on the system and monitor are indicators the power is on. A red light on the monitor indicates it is in the standby mode.

If your system has a separate power supply to the digital board, turn the power switch on for the board. An orange illuminated switch indicates this power is on.

Printer

The printer power switch is located on the front of the printer, lower left side. An indicator light turns green when the power is on and the printer is ready to print.

Light Source

Rotating the knob located on the front of the light box controls the light source intensity. The light source should be turned to 3/4 intensity. Once the probe is in the patient's ear, you may need to adjust the intensity control to achieve an optimum picture. When in the standby mode, leave the light on but turn the intensity down.

Using the deluxe hand held camera probe

CAUTION: The deluxe hand held camera probe/assembly is only to be used by a person qualified in the use of an Otoscope. Misuse can cause a patient pain and possible ear damage. The speculum cover is always to be used with the system. The speculum cover must be cleaned or replaced between usage per accepted medical practice procedures.

Prior to inserting the probe in the ear canal, hold the probe within 1/4" of a known object, such as your finger, to check the quality of the image.

Camera

The camera power switch is located on the top of the camera control box. An indicator light turns red when the power is on.

Suggested operating procedure for the video Otoscope.

Leave the camera on when it will be used within the next 10 to 15-minute period. Otherwise turn the camera on and off as needed. The camera becomes warm to touch after being left on for several minutes. This won't shorten its life even if left on continuously. However turning the camera off when it is not in use will conserve power. The light source can be left on for long periods of time, but the lamp intensity should be turned down except when being used for pictures. Following this guideline will greatly extend the bulb life, which is estimated to be about 2500 hours. We suggest you keep a spare bulb (EJA 150) on hand.

Sometimes the lens is smeared with cerumen and will need to be properly cleaned with an alcohol wipe in order to provide a clear image.

When inserting the probe in the ear canal, watch the positioning, as you would a regular Otoscope, by looking directly at the patient's ear canal as you pull back the pinna. Once you have the probe in the viewing position, then look at the monitor.

Care, Maintenance, and Storage

Your MedRx OtoWizard has been designed to provide years of trouble-free service. Do not remove or open the cabinets of the equipment, 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 in the components. Use an alcohol wipe to clean the lens on the end of the Otoscope probe.

Transportation and Storage

When transporting or storing your video Otoscope, it is best to use the original hard side travel cases, otherwise 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.

For proper care of the video monitor and printer, please refer to their respective operator's manual (included in the original packaging)

Trouble Shooting Guide

Problem	Main Cause	Solution
Fuzzy or out of focus picture	Dirty probe tip (dried) cerumen	Vigorously clean tip with an alcohol wipe
Blue video screen	Camera not turned on	Check all connections on camera control box and power switch is illuminated red
No light from probe tip	Light source not on Bulb burnt out	Turn on light source Replace Bulb
Indicator light switch on control box not on	Power supply not plugged in or Short in twin cable	Plug in power supply or Unplug twin cable from control box. See if light comes on, if so replace twin cable
No Display on Monitor	Monitor not turned on or not plugged in	Check plug and on/off switch on front of monitor
Insert Ear Phones have no sound	Not plugged in	Check all jacks for secure plug in
No Sound from HLS speakers	Not plugged in or turned off Volume set to low	Check all plugs Check volume setting
OtoWizard will not turn on	Not plugged in or Surge protector not set	Plug computer in Reset surge protector
WrongDspKey	Separate power switch on DSS board is not turned on	Close OtoWizard program, turn DSS power switch on and re-open Otowizard
Rem Run Error 255	Peripherals are not plugged in properly	Check all plugs on the side and front of the computer

Quick calibration check

To check the system calibration, arrange the probe microphone as you would to calibrate a probe tube (the probe tube is up against the free field reference microphone), select the REAR test in the REM menu, hold the probe assembly 12 inches from the speaker and select START. You should see a reasonably flat line at the input stimulus level.

* Where else to get HELP

- Technical support at MedRx
- Online support at MedRx Webster "Medrx@Medrx-USA.com"

Limited Warranty

MedRx, Inc warrants the OtoWizard System 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. 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

MedRx will repair or replace any defective parts, fully test and calibrate the system and/or components and ship the system promptly back to the owner. There is no cost for this warranty service, 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 100°F 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 components 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 the OtoWizard which is not pre-approved by MedRx, Inc. Approved software includes NOAH and HIMSA approved hearing aid manufacture programming modules for fitting hearing aids. Installation of HIPRO box is approved.

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 with the OtoWizard functions, MedRx will service the problem for a fee to be determined at the time of service.

MedRx has supplied with every system Microsoft Backup. MedRx strongly recommends that you backup your database daily to insure no loss of data. Consult your MedRx Technical support member for other alternatives for back up.

Components Registration For Customer Information

OtoWizard Serial Number _____

Probe Serial Number _____

Camera Serial Number _____

Date Purchased _____

Light Serial Number _____

Insert Ear Phone Left _____

Insert Ear Phone Right _____

Technical Specifications

OtoWizard Technical Specifications

Computer

Intel Pentium II 266 (or above)
 64MB 8x64 Memory
 Western Digital HD 6.4GB
 Toshiba CD-ROM 24x IDE
 1.44MB Floppy Disk or
 LS120 Floppy Disk
 USR 56k INT. Fax Modem
 ATI Video card 4MB (or above)
 External Keyboard PS2 connector
 External Mouse PS2 connector
 Weight 15lbs.
 17.5" (l) x 17.5" (w) x 6" (h)

Power supply Universal

Input 100-120/220-240v 50/60HZ
 Output 250W +/-15V

Color Printer

HP DeskJet 697c Color printer (or Above)
 Printer speed
 Black & White
 Best mode 1 minute per page 600x600 DPI
 Normal mode 3 minutes per page 600x300 DPI
 Econo mode 5 minutes per page 300x300 DPI
 Color
 Best mode .3 minute per page 600x600 DPI
 Normal mode .8 minutes per page 600x300 DPI
 Econo mode 1.7 minutes per page 300x300 DPI
 Large selection of Fonts
 Max Operating Temperature 41°F-104°F
 Humidity 10-80% RH non-condensing
 Recommended operating conditions
 Temperature 59°F-95°F
 Humidity 20-80% RH non-condensing
 Storage Temperature
 Temperature 40°F-140°F

Proton Color Video Monitor

17" tube 15.9 Diagonal
 Dot Pitch 0.28mm
 Dual video inputs
 VESA 1280 x 1024 60Hz
 AC 110-240V, 50/60Hz
 Video signal 30-70 KHz
 39.2 lbs. (Approx.) weight
 Speaker Output 2 Watts (RMS) / CH

Mobile Cart

Sturdy construction, 300 lb. + capacity
 Three shelf standard + Keyboard Shelf
 115lbs. (Approx.) weight
 Six outlet power strip installed
 Color matched to printer/monitor Rolling/lockable castors
 25" (w) x 37" (h) x 21.5" (d)
 Six or eight outlet power strip

HIT Box

14" (L) x 8" (w) x 10" (h)
 Weight 3lbs.
 Damping Treatment Acoustic Damping
 Microphones Electret

External Speakers

Output Power 2.5 watts RMS per speaker
 Frequency Response 100 to 18,000Hz
 Dimensions 7' x 3 3/8" x 4 5/8"
 Power Supply 9 Volts DC output

Insert Earphones

E-A-RTONE 3A™ Specifications:
 1kHz Sensitivity 102.5 dB SPL
 HA2cc coupler type BTE-2
 @0.1 Volt RMS (10 Ohms)
 Limits +/-3 dB
 Impedance 1 Ohms
 Max Output Meets or exceeds 110dB HL at
 Standard audiometric frequencies
 Between 250-6000 Hz
 Safe Operating Limits Max continuous sine wave drive:
 2.5 Volt RMS (10 Ohms)
 Maximum Peak voltage
 For 1% duty cycle 10 Volt
 Accessories 50 disposable E-A-RINK™ 3A eartips
 50 disposable E-A-RINK™ 3B eartips
 213 cm cord
 Left and right ¼" mono color coded
 phono-plugs
 Date Supplied 2cc-coupler frequency response on
 individual Units
 Meets IEC type 4 and ANSI S3.6-1989
 standards

OtoWizard Technical Specifications

Continued

Battery Simulator

Voltage supply 0-3.5V in 20mV steps
Impedance 0.1-25 Ohms in 0.1 Ohm steps
Measuring Range 100uA-50mA
Resolution maximum 5uA
Accuracy +/-15V
Battery Pills Type 13,312,675,A10, A5

Reference Micophone

TM 12REF

Probe Microphone

PM 12

Bone conductor

B-71 bone conductor

Additional System Features Include

High quality glass fiber optic cable
Custom control box with handset holder
Printer foot switch
Six reusable specula
Camera power/signal cable
Instructions/MedRx wiring diagram
Alcohol wipe
Printer/monitor bridge cable

Monitor Headset

Impedance	320 Ohms
Sensitivity	102 dB/mV (at 1 kHz)
Frequency Response	20-20000 Hz
Connector	3.5mm jack socket

DSS Board

Weight 2lbs.
17" (L) x 17" (w) x 3.5" (h)
Probe Channel A and B Measurements:
Frequency Range 42-15600Hz
Frequency Resolution 1/24 Octave
Dynamic Range 130dB
Dynamic Resolution 0.25 dB
Accuracy +/-0.2dB
Noise Floor 10dB SPL

Probe Channel A and B output circuit:

Frequency Range 50-15000Hz
Dynamic Range 120dB
Loudspeaker Output min 6W in 4 Ohms
Loop Control (A only) mim 1A in 2 Ohms
TDH electrical <-80dB (0.01%)
Signal to Noise Ratio 82dB re:50mW

Channel C and D Output Circuit:

Power Output min 200mW in 8Ohms
TDH electrical <-80dB (0.01%)
Signal to Noise Ratio 90dB re:200mW
Dynamic Range 96dB
Frequency Range 50-15000Hz

Maximum non-destructive Voltage at input and output Sockets:

Left AC connector	+/-5V
Right AC Connector	+/-5V
BC connector/Patient	+/-5V
Hand Switch	
Probe Microphone	+/-20V
Coupler Microphone	+/-20V
Reference Microphone	+/-20V
Auxiliary Input Conductor	+/-20V
Battery Pill Connector	+/-5V
Monitoring Headset	+/-5V

Supply Voltage	100-264 V
Frequency Range:	50-60 Hz

Current Consumption:

At 220 V AC	Max 250mA
At 100 V AC	Max 500mA

Technical Specifications for the Video Otoscope

Video Camera

- 1/3 inch pick-up element
- 420K pixels
- Horizontal resolution 420 TV lines
- 5 lux minimum illumination
- CS lens mount
- Total weight 153 grams
- Adjustable white balance
- -10° to +40°C operating temperature
- 42 (W) x 42 (H) x 53 (L) mm
- BNC video output socket
- 12V DC +/- 10% voltage requirement

Fiber Optic Light Source

- 150 watt
- Infinitely variable
- Thermal overload protected
- Fan cooled
- 3 amp circuit breaker
- EJA reflector lamp
- 115 VAC or 220 VAC (optional)
- 4 3/4" (w) 6 1/4" (h) 9 1/2" (d)
- On/off switch incorporated in intensity control

Deluxe Probe

- Field of view 60°
- Focal plane from tip .25" (+/- .125")
- 360° glass fiber light at tip
- Conventional optical elements, color corrected
- Minimum intensity 750 FC at 1"
- Working length 1.125" from shoulder
- Tip diameter .120"
- Tapered tip to .235" diameter
- Aluminum body
- Serialized
- Integral glare reduction filter
- Total weight 50 grams
- Normal erect image orientation
- Overall length 3.22"
- Body diameter .7"
- Maximum diameter 1.225" dia.
- Accepts Welsh Allyn 24303 series reusable specula 3, 4, or 5mm
- Stainless steel probe tip
- Swivel mount
- LEMO FFA.OS fiber optic socket
- CS mount
- Can be cleaned with alcohol

Note: The camera and probe are sold as a matched system with MedRx proprietary coupling and focusing techniques. Should either the camera or probe become defective either part can be replaced; however, the process must be accomplished at the MedRx USA manufacturing facility. Neither the probe nor the camera can be sold separately. The camera and probe are a matched set and are not sold separately.