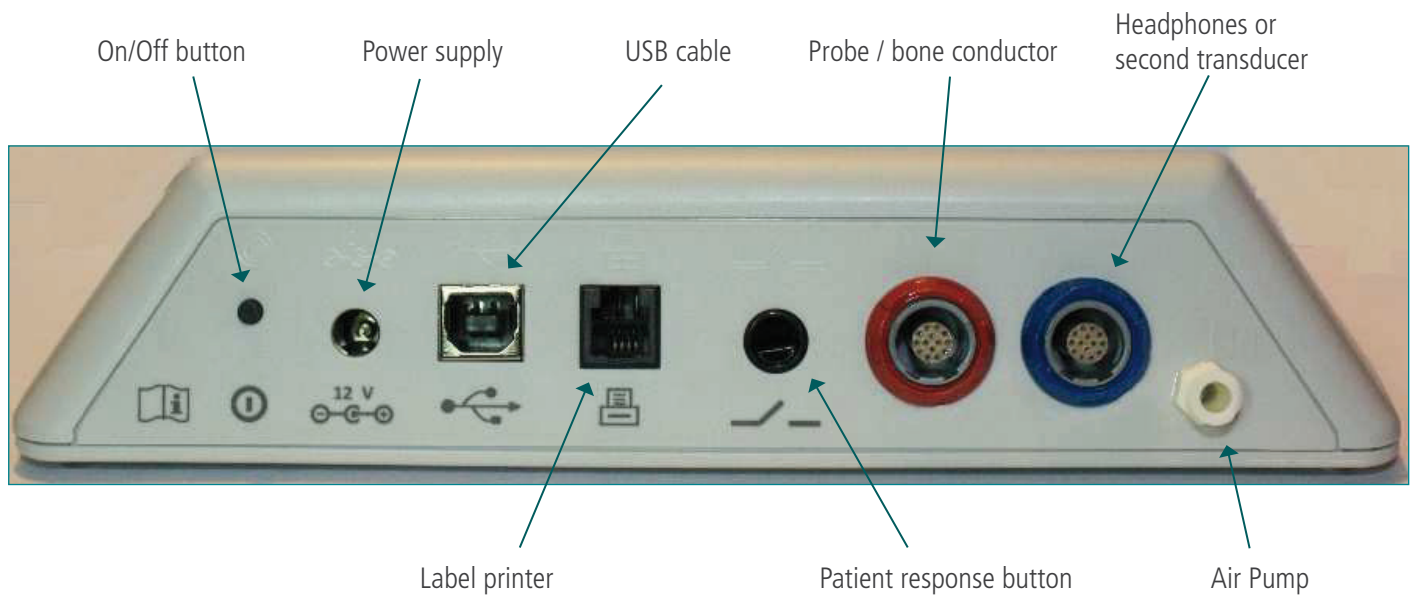


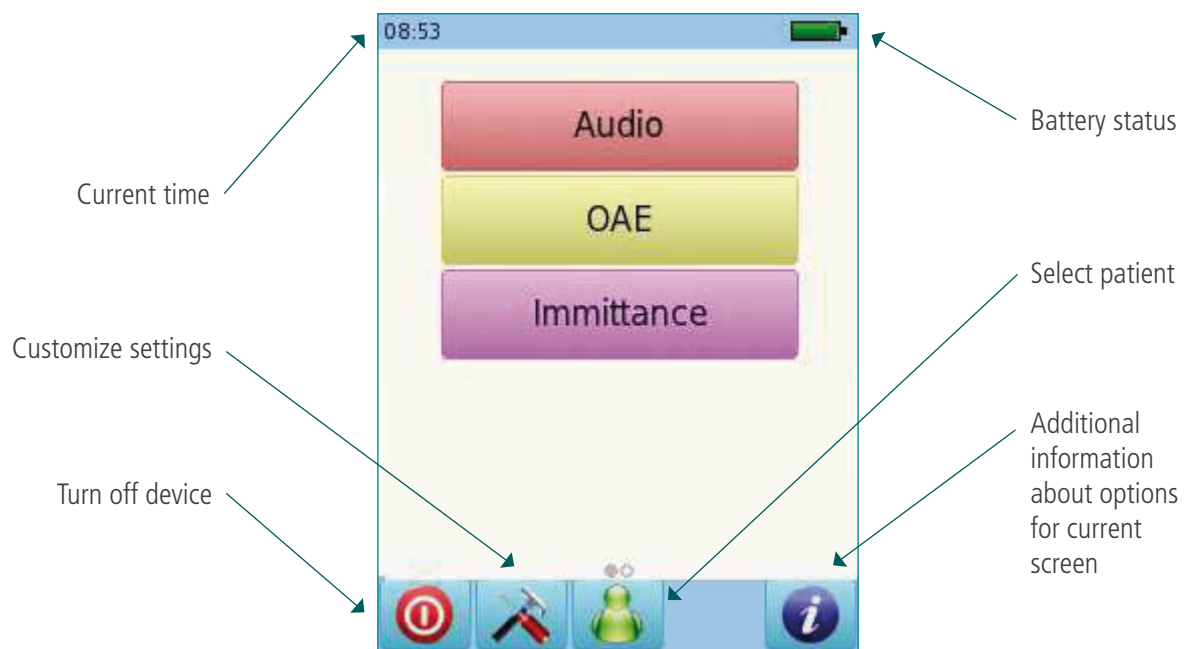
Quick start

► Device connectors



► Start menu

Note: not all Start Menu options will be available depending on the configuration of your device



► Testing: Tympanometry

Connect the probe to the red connector and the air cable to the pump connector. From the start menu, select the **Immittance** button, then select **Tymp**, and select **Clinical**. Select the test ear by pressing either the Right or Left button. Cartoon mode will show an airplane on the screen during the tympanometry test. Connect a second transducer to the blue connector for Contralateral Reflex testing.



Headphones or
second transducer

Second transducer

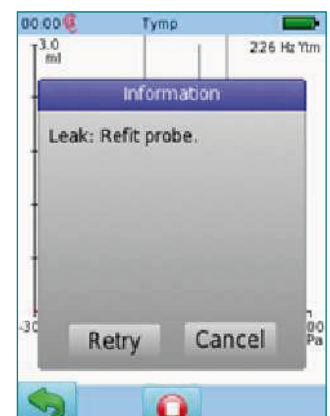
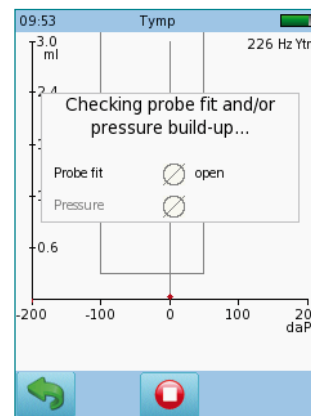
Air Pump

Select the appropriate ear tip size and place it on the probe tip.
Insert the probe in the ear making sure that the eartip fits tightly into the ear canal.

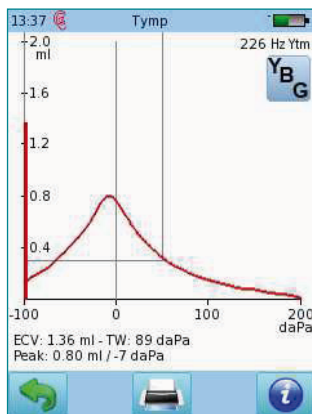
► Tympanometry test screen

The system will first check the probe fit and wait for the pressure build up.

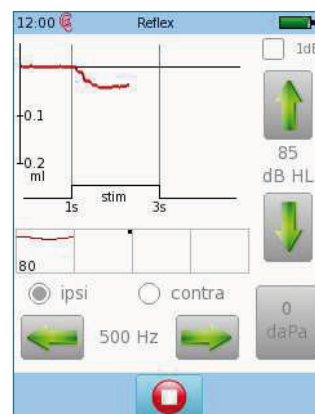
Note: The LED light on the probe will pulse at a steady pace to indicate a correct fit. During the test, if the probe tip fit is not correct, the LED light will blink at a fast pace and an error message prompting you to retry or cancel the test will appear on the screen.



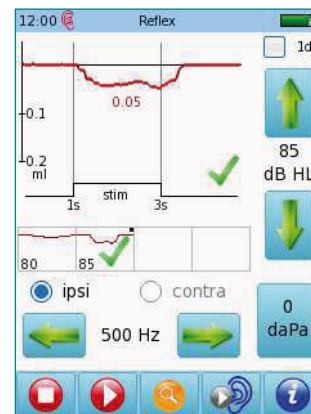
Once a proper seal has been obtained, the test will proceed. A tympanometry test will be performed, followed by a reflex measurement (when TIC is chosen)



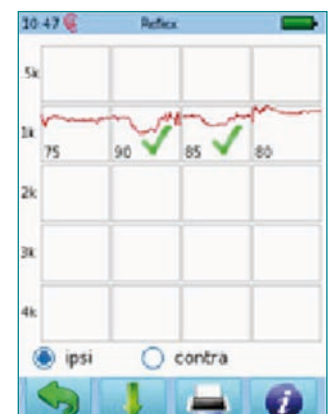
Tympanometry result



Reflex test in progress



Reflex threshold found

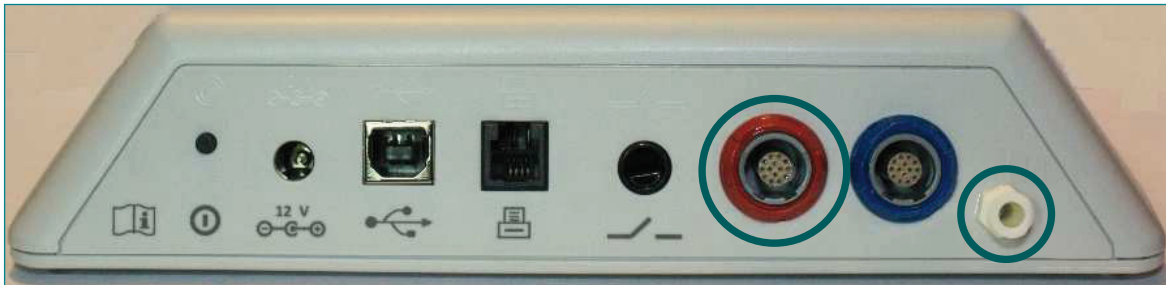


Overall Reflex test result

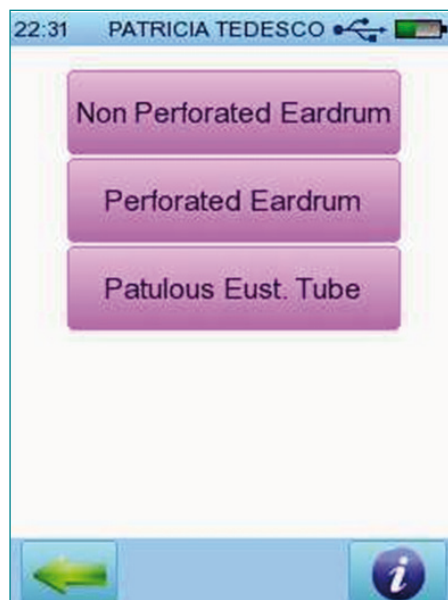
► Eustachian Tube Function (ETF) testing

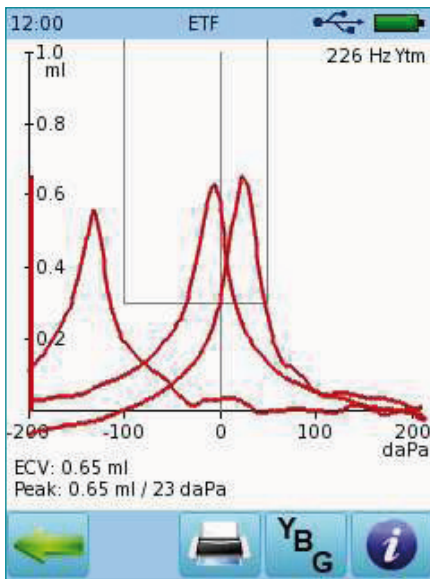
Connect the probe to the red connector and the air cable to the pump connector and select the ETF button from the start menu. Select the test ear by pressing either the Right or Left button.

Select the appropriate ear tip size and place it on the probe tip.
Insert the probe in the ear making sure that the ear tip fits tightly into the ear canal.

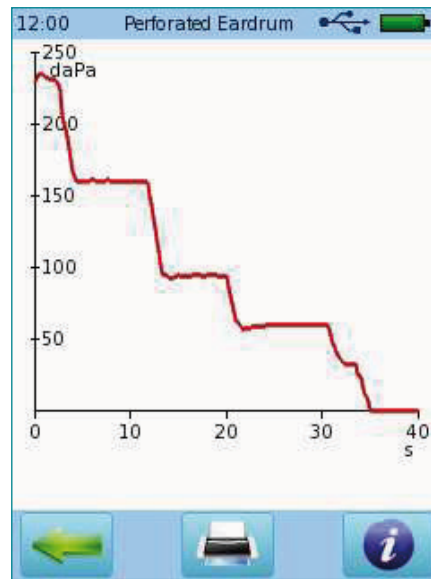


Select the type of test you would like to perform: Non Perforated Eardrum, Perforated Eardrum or Patulous Eustachian Tube



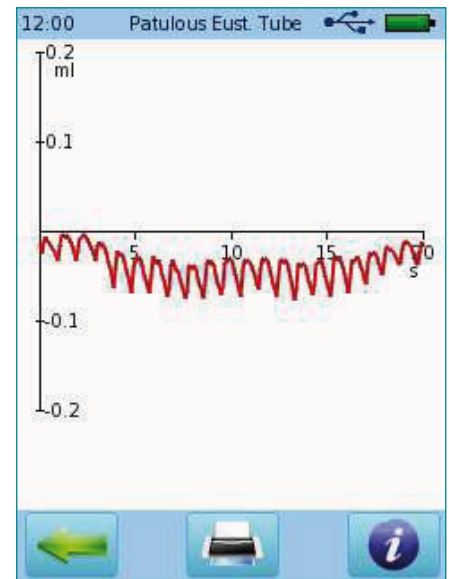


Non Perforated Eardrum: This test records three tympanograms, with the patient performing the Toynbee and then Valsalva's maneuver between the tests. This changes the middle ear pressure, causing the tympanogram peaks to shift between the recordings.



Perforated Eardrum: This test pressurizes the ear canal (and middle ear when the eardrum is perforated). To test the Eustachian tube function, the patient should be instructed to swallow multiple times during the test. If the Eustachian tube opens, pressure will drop.

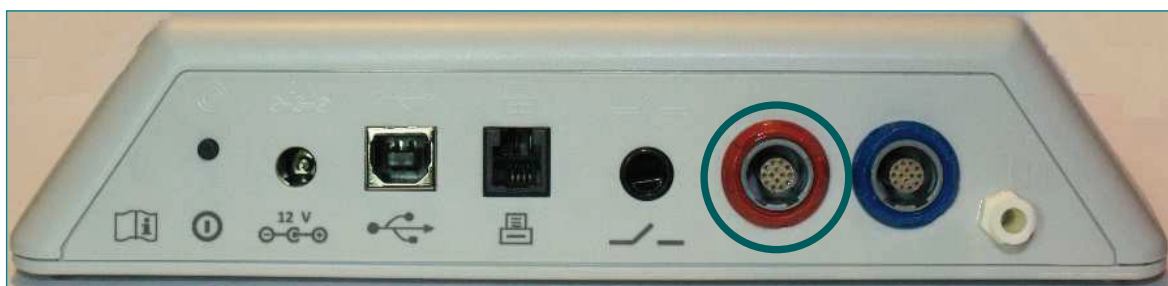
Special care must be taken to ensure an airtight fit of the probe during testing, to make sure the observed pressure drop is through the Eustachian tube and not caused by leakage.



Patulous Eustachian Tube: This test is performed without stimulus. If the Eustachian tube is permanently open, the resulting higher fluctuation of admittance may mean that the rhythms of heartbeat or breathing can be identified in the admittance curve. An airtight fit of the probe during testing is essential.

► Distortion Product Otoacoustic Emissions (DPOAE) screening

Connect the probe to the red connector or use the tympanometry probe and select the DPOAE Quick button from the start menu.

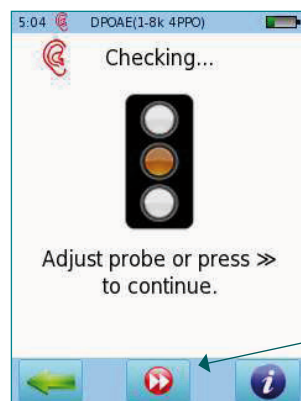
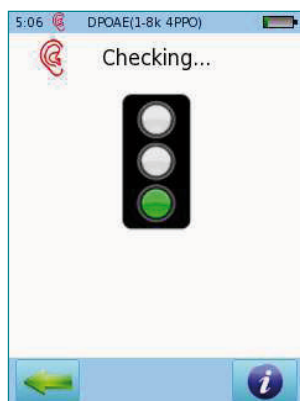


Select the appropriate ear tip size and place it on the probe tip. Insert the probe in the ear making sure that the ear tip fits tightly into the ear canal.

Select one of the available Presets. Then select the test ear by pressing either the Right or Left button. Cartoon mode will start the test showing a cartoon instead of the progress bar.



A calibration will be performed prior to measurement. A green light indicates successful calibration (see below left). After successful ear probe calibration, the test will start automatically.

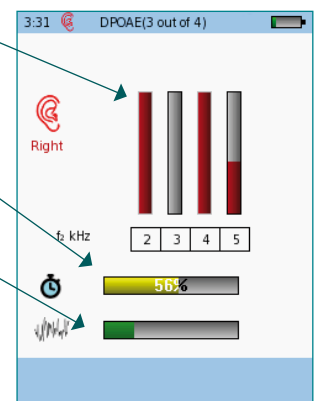


Progress for each tested frequency

Overall test progress

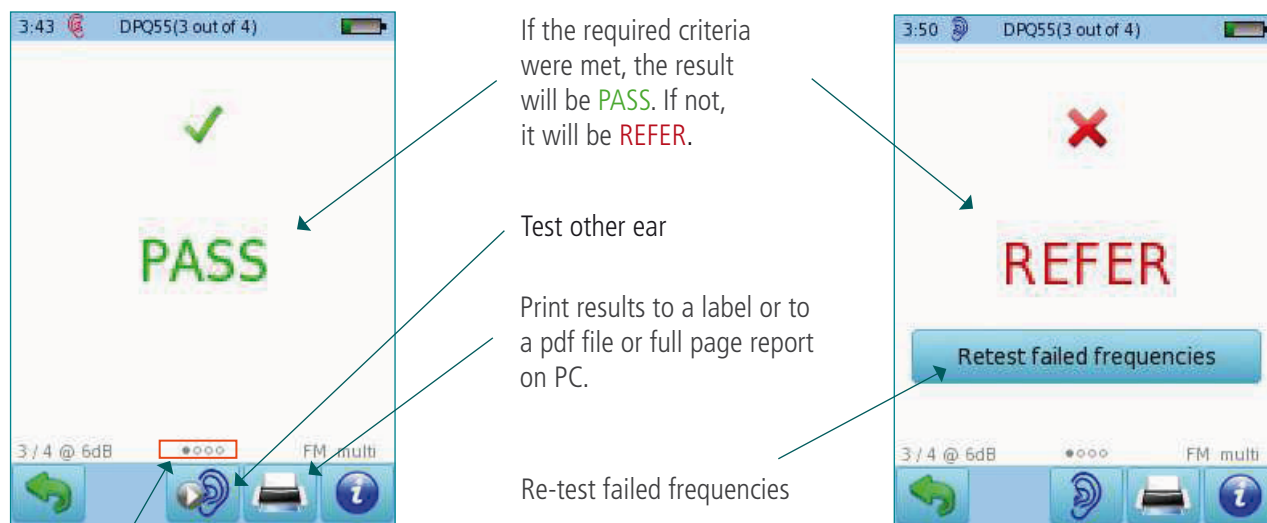
Noise floor level

Probe fit override for patients with PE tubes or tympanic membrane perforation



► DPOAE screening test results Basic results view

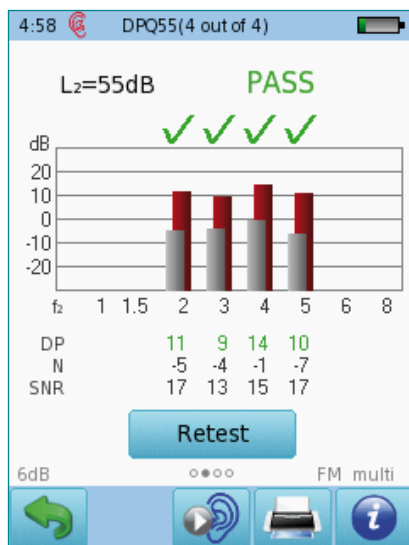
Please note that the initial result screen depends on the module settings in "DPOAE Preferences"



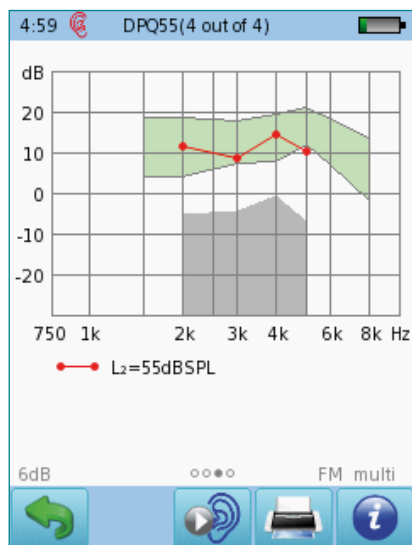
Note: These circles indicate that other screens are available to view. Swipe your finger right or left to get other views

Switch to results of the other ear after both ears have been tested

► Detailed results view



Red or blue bars indicate response, grey bars indicate noise



Outcome for each test sorted by f₂ and L2

Numeric values shown in table format

L ₂	f ₂	DPOAE	N	SNR
55	2000	11.4	-5.2	16.7
55	3000	8.6	-4.5	13.0
55	4000	14.2	-0.7	14.9
55	5000	10.3	-6.7	16.9

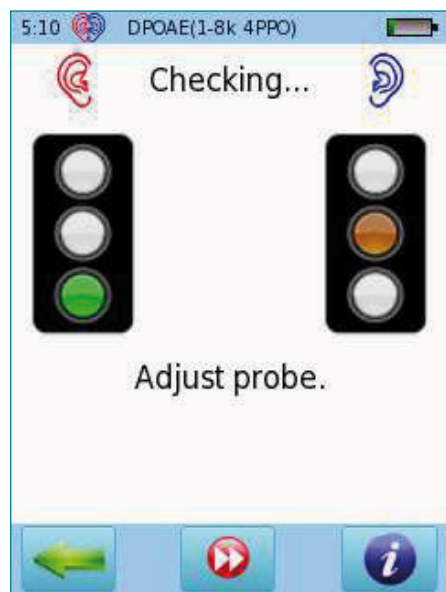
Numeric values shown in table format

► DPOAE diagnostic / high resolution

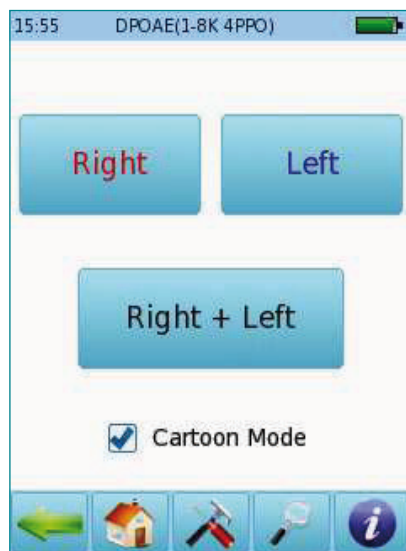
Select one of the Presets for DPOAE Diagnostic and connect the red probe to the red connector. To perform binaural testing, also connect the blue probe to the blue connector.



A calibration will be performed prior to measurement. A green light indicates successful calibration. After successful ear probe calibration, the test will start automatically.



Probe fit override for patients with PE tubes or middle ear perforations



Select the appropriate ear tip size and place it on the probe tip. Insert the probe in the ear making sure that the ear tip fits tightly into the ear canal.

Select the test ear by pressing either the **Right** or **Left** button, or the **Right + Left** button for binaural testing.

Cartoon mode will start the test showing a cartoon instead of the progress bar, this can be changed during the test by tapping on the plane icon at the bottom of the device screen.

Binaural, multifrequency testing

Progress for each tested frequency in each ear

Overall test progress

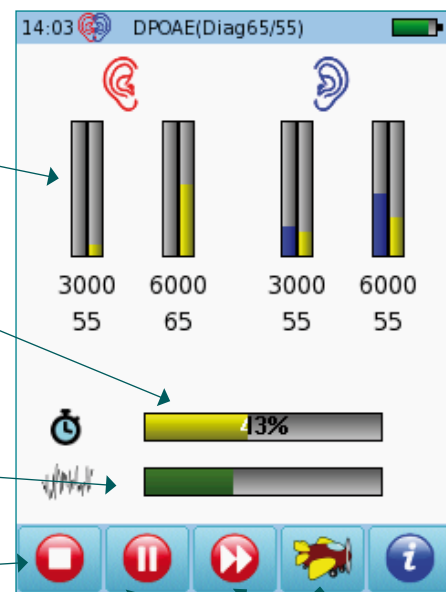
Noise floor level

Stop test

Pause/resume test

Skip a frequency

Switch to cartoon mode



► DPOAE diagnostic / high resolution test results

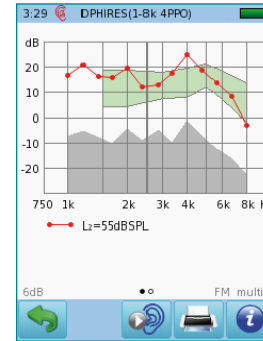
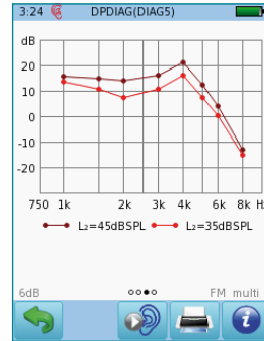
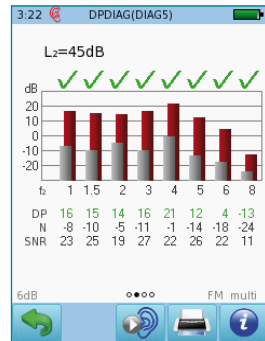
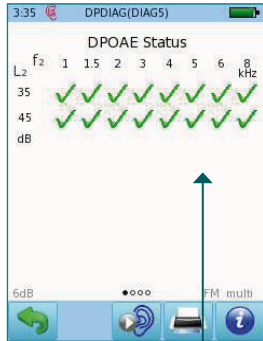
Note: These circles indicate that other screens are available to view. Swipe your finger right or left to get other

Red or blue bars indicate response, grey bars indicate noise

Outcome for each test sorted by f2 and L2

High resolution test results (4 PPO)

Numeric values shown in table format



L2	f2	DPOAE	N	SNR
45	1000	15.7	-7.7	23.5
45	1500	14.9	-10.0	25.0
45	2000	13.8	-5.2	19.0
45	3000	15.9	-10.6	26.6
45	4000	20.9	-1.4	22.3
45	5000	12.1	-13.9	26.0
45	6000	4.1	-18.1	22.2
45	8000	-13.3	-24.5	11.2
35	1000	13.5	-9.3	22.8
35	1500	10.5	-14.2	24.7
35	2000	7.5	-6.2	13.7
35	3000	10.6	-13.5	24.2
35	4000	16.0	-4.0	20.0
35	5000	7.4	-17.7	25.1
35	6000	0.1	-20.5	20.6
35	8000	-15.4	-24.2	8.8

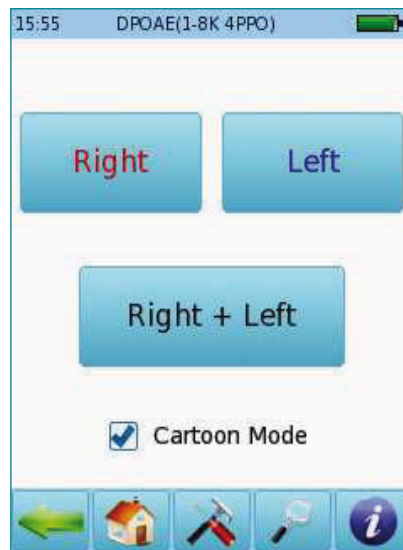
Green check marks indicate valid response

Print results to a label or to a pdf file

Test other ear

► DPOAE threshold

Select one of the Presets for DPOAE Threshold and connect the red probe to the red connector. To perform binaural testing, also connect the blue probe to the blue connector.

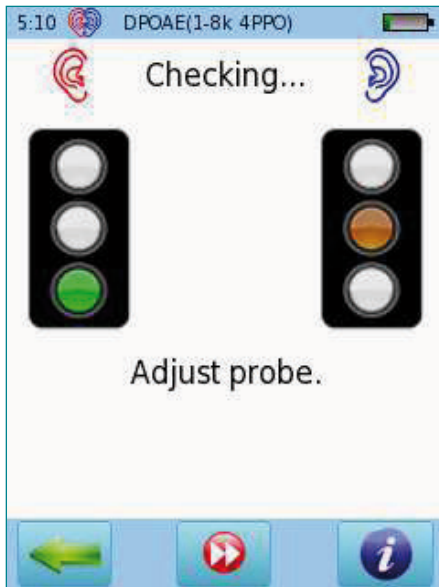


Select the appropriate ear tip size and place it on the probe tip. Insert the probe in the ear making sure that the ear tip fits tightly into the ear canal.

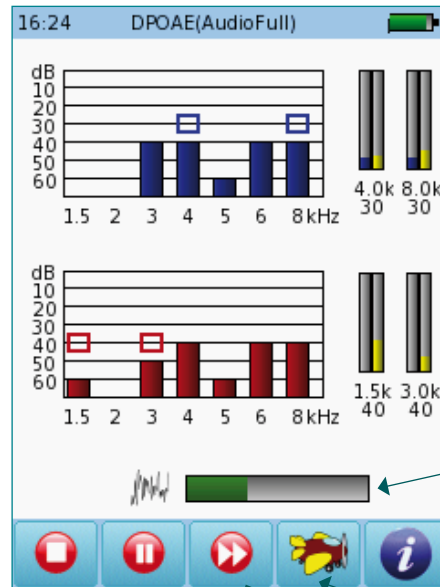
Select the test ear by pressing either the **Right** or **Left** button, or the **Right + Left** button for binaural testing.

Cartoon mode will start the test showing a cartoon instead of the progress bar, this can be changed during the test by tapping on the plane icon at the bottom of the device screen.

► DPOAE diagnostic / high resolution test results



Probe fit override for patients with PE tubes or middle ear perforations



Progress for each tested frequency in each ear

Noise floor level

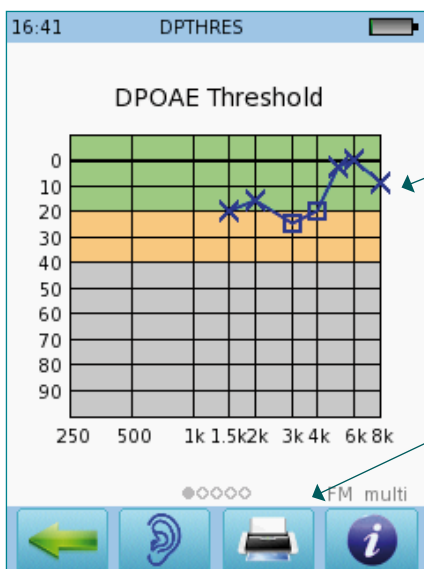
Stop test

Pause/resume test

Skip a frequency

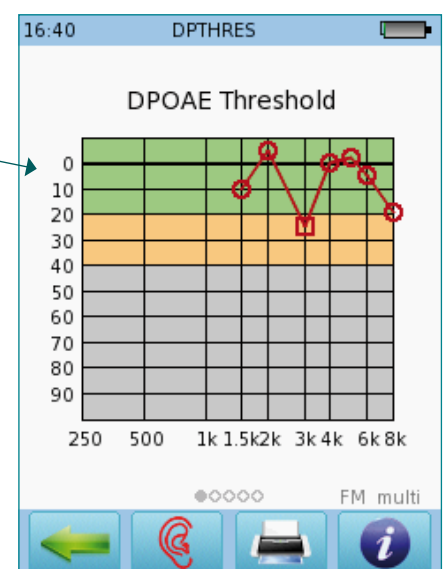
cartoon mode for children

► DPOAE threshold test results



Green background indicates range of normal hearing

Print results to a label or to a pdf file



► Audiometry diagnostics

Connect the headphones to the blue connector and select an Audiometry Preset from the start menu.



Select the ear on which you want to start the test. The test screen will be displayed.

► Test screen

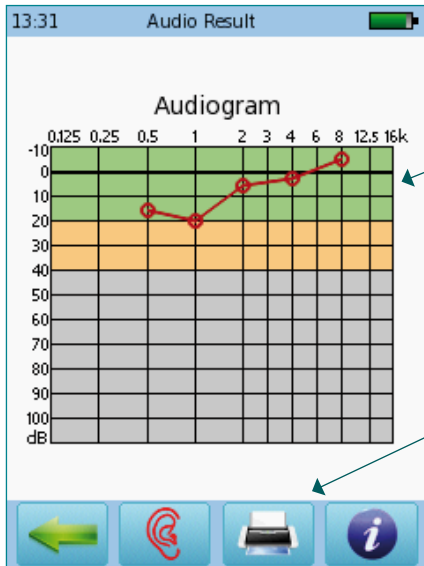
The screenshot shows the Audiometry Test screen with the following elements and labels:

- Stimulus on indicator:** A green bar at the top left of the screen.
- Patient response indicator:** A green bar at the top right of the screen.
- Select the frequency:** A label pointing to the frequency selection buttons (125, 250, 500, 1k, 2k, 4k, 8k) at the top of the graph.
- Select the ear to test:** A label pointing to the 'AC Right' button at the top of the graph.
- Select the stimulus levels:** A label pointing to the '50 dB HL' button on the right side of the screen.
- Stimulus presentation button:** A label pointing to the green arrow button on the right side of the screen.
- Additional information about options for current screen:** A label pointing to the '1 kHz' button at the bottom of the screen.
- Stop test:** A label pointing to the red square button at the bottom left of the screen.
- Select the type of stimulus:** A label pointing to the stimulus selection buttons (pure tone, pulsed tone, or warble) at the bottom of the screen.

Below the screenshot, the stimulus selection options are listed:

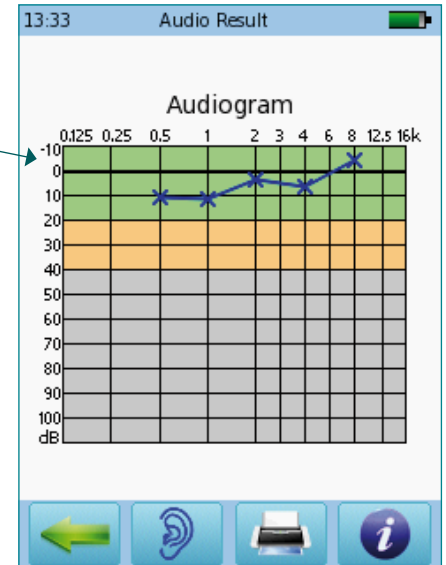
- pure tone —
- pulsed tone ...
- or warble FM

▶ Audiometry test results



Green background indicates range of normal hearing

Print results to a label or to a pdf file

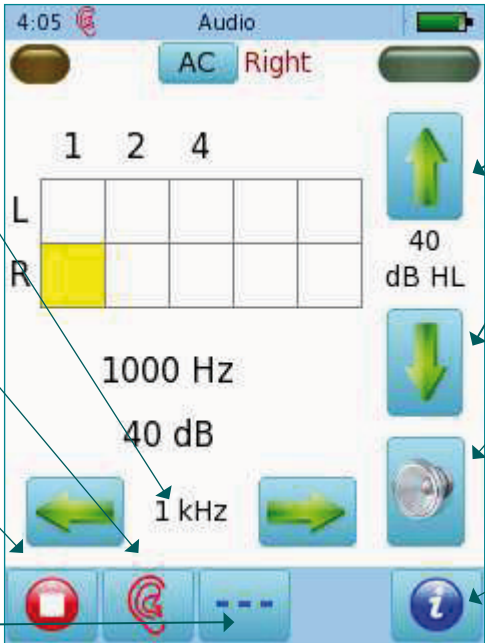


▶ Audiometry screening

Connect the headphones to the blue connector and select the Audiometry: Screening button from the start menu. Select the ear on which you want to start the test.



▶ Audiometry screening: Test screen



Select the frequency

Select the ear to test

Stop test

Select the type of stimulus:
 pure tone —
 pulsed tone ...
 or warble FM

Select the stimulus levels

Press to present the stimulus

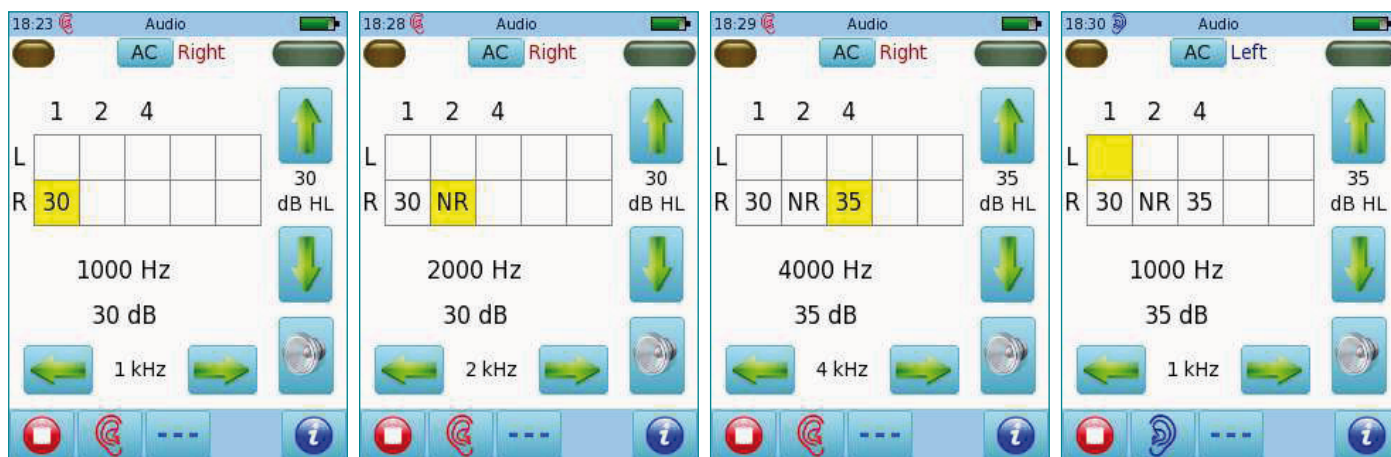
Additional information about options for current screen

As you present the stimulus, the current level will be displayed on the corresponding (yellow) square. Once the hearing status for a frequency has been identified, move on to the next frequency.

Tapping twice on a square will display NR (no response).

Tap three times to get back to a blank square.

Once all frequencies have been tested for one ear, you can test the other ear.



The sequence shows the test progression for the Right ear (AC Right) and then the Left ear (AC Left). The frequency increases from 1000 Hz to 2000 Hz, 4000 Hz, and then returns to 1000 Hz. The stimulus level is 30 dB HL for the first three screens and 35 dB HL for the last one. The hearing status is indicated by the color of the squares: yellow for a response, and NR (No Response) for no response.

- Screen 1 (18:23):** 1000 Hz, 30 dB. Right ear (AC Right). The 1000 Hz square is yellow.
- Screen 2 (18:28):** 2000 Hz, 30 dB. Right ear (AC Right). The 2000 Hz square is yellow.
- Screen 3 (18:29):** 4000 Hz, 35 dB. Right ear (AC Right). The 4000 Hz square is yellow.
- Screen 4 (18:30):** 1000 Hz, 35 dB. Left ear (AC Left). The 1000 Hz square is yellow.

When the test is finished, press the Stop button. You can add the patient's personal data, and save on the device, print to a label (a label printer is required) or print to a pdf file or full page report on PC.

4:28
Audio

Audiogram

	1	2	4		
L	40	40	NR		
R	40	40	40		

Quick Guide Information

Release date: 2019-04

Revision: 03

Valid from: Firmware Rev. 2.5, Bio-link PC Software Rev. 2.0

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Please contact your local Bio-logic distributor for further information.

Errors and omissions excepted.

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