

VERIPRO FIT-TESTING SYSTEM



Frequently Asked Questions

CONTACT INFORMATION

1. Who should I contact for help with VeriPRO?

Please contact Honeywell Technical Support by phone, email or the self-service web portal:

☎ +1 800 873-5242

✉ DL-SPS-ISTechnicalSupportPPENA@Honeywell.com

2. Who should I contact to schedule a calibration and functional check?

Please contact the Honeywell Safety Products Services Department by phone or email:

☎ +1 800 873-5242, Option 5

✉ hsrepairs@honeywell.com

AGREEMENT

1. Can data from several VeriPRO units be pooled into one central computer?

In the basic VeriPRO system, a user cannot view VeriPRO results administered on a different computer. However, users can pool the test results into an Excel or other file that can be shared between different computers:

1. In the Administrator Toolbox, select Export Data
2. Define the date range and format of the file to be exported. Then click Export.

2. Can a user with multiple locations have multiple installations of the software on more than one computer?

No. Like most commercial software, it is against the End-User Licensing Agreement [EULA] to install VeriPRO on multiple computers. The EULA allows the purchaser to install and use one copy of VeriPRO software on a single computer only [back-up copies and re-installations on a replacement computer are permitted]. Users who wish to run VeriPRO at multiple sites or on multiple computers should contact Honeywell Technical Support.

PREFERENCES + SETTINGS

1. Can I use VeriPRO to estimate protection for a 12-hour workshift?

The exposure which is entered into the User Profile assumes an 8-hour Time-Weighted Average [TWA] or 8-hour Equivalent Noise Level [L_{eq}] exposure. However, this does not affect the calculation of the Personal Attenuation Rating [PAR]; it only affects the Safe Exposure Level calculation. If your workers are routinely exposed to 10- or 12-hour exposures, the Safe Noise Criterion should be adjusted to a lower setting [82 or 80 dB, respectively, instead of 85 dB] to accommodate the longer exposure duration. This can be done in the Preferences screen of the Toolbox.

2. Can I use VeriPRO in regions where a 3 dB exchange rate is used?

Exchange rates are not used anywhere in VeriPRO software. We are testing *real-ear attenuation* only, so no attempt at exposure assessment is included. In the worker's profile [entered under "Manage Users"], the administrator can enter the noise exposure of the worker using whatever exchange rate and criterion level is relevant to them.

3. In Preferences, I'm asked to select the Output File Directory. Is this where the Individual Attenuation Reports are stored?

The screenshot shows the VeriPro Preferences dialog box with the following settings:

- Please select your preferred language: English - US
- Please select your rating method: SLC80
- Safe Noise Criterion: 85
- Reference Ear Level:
 - Both Ears Unoccluded: 80 dB(A)
 - Right Ear Occluded: 100 dB(A)
 - Both Ears Occluded: 90 dB(A)
- Test Ear Level Range:
 - 40 To: 70 dB(A)
 - 60 To: 90 dB(A)
 - 74 To: 104 dB(A)
- Rove Test Ear Level By: 10 dB
- Rove Step Size By: 5 dB
- Duration of Reference Stimulus: 250 msec.
- Delay After Reference Stimulus: 250 msec.
- Duration of Reference Stimulus: 250 msec.
- Delay After Test Stimulus: 250 msec.
- Output File Directory: C:\program files\sperian protection\veripro\test results

No. This is where the raw data output [.TXT] files are stored. The Individual Attenuation Reports are not automatically stored on a VeriPRO administrator's hard drive. Instead, you must "Export

to PDF” or “Export to JPEG” whenever an Individual Report is generated. You will name the file, select the “Save” option and identify the location whenever that process occurs.

VeriPRO stores all test results, and they can be viewed at any time. For administrators who wish to save a PDF copy of each test, we recommend that you set up a VeriPRO reports folder on your computer, in an easy-to-locate place, and that you save each Individual Attenuation Report immediately following each test.

4. Which fields are required to enter in a User Profile?

All fields marked with an asterisk [*] are required:

- Last Name
- User ID (must be unique for each worker)
- Exposure Level [entered in dBA or dBC, but not both]

The screenshot shows a dialog box titled "Add User...". It contains the following fields and controls:

- First Name: [Text Input Field]
- Middle Name: [Text Input Field]
- Last Name*: [Text Input Field]
- User ID*: [Text Input Field]
- Department: [Text Input Field]
- Exposure Level*: [Text Input Field] dB(A) [Text Input Field] dB(C)
- OK [Button]
- Cancel [Button]

TEST METHOD + LOUDNESS BALANCE

1. Is VeriPRO a “subjective” test?

VeriPRO uses a subjective test method called Alternating Binaural Loudness Balance (ABLB). It is a psychophysical technique that has been in use since the early 1900s. All attenuation-rating methods used in regulations throughout the world – NRR, SNR, SLC and NRRsf –use subjective test methods. In fact, regulatory agencies such as OSHA do not allow a manufacturer to rate their earplugs using objective measures [in place of the NRR] on their packaging.

2. How reliable is the VeriPRO test?

Some users will find the Loudness Balance task easier than other users. To measure reliability, VeriPRO has a reliability measurement built into every Complete Check. Users adjust the slider bar to match a tone at 500 Hz. The same tone is then repeated, but the slider bar is shifted in scale to avoid any visual cues, and the user repeats the test. The difference in the user’s results

between this first test at 500 Hz and the retest at 500 Hz is called Retest Reliability, and it is reported as a footnote in the Individual Attenuation Report of each user's test.

Users with lower values of Retest Reliability have more reliable VeriPRO results. There is inherent variability in all attenuation measures. For example, the typical variability published on a box of hearing protectors [see the reported Standard Deviation] is often in the range of 3-5 dB.

3. How comparable is the VeriPRO test to standardized laboratory test protocols, like the NRR, SNR, or SLC ratings?

In methodology, both the VeriPRO test and laboratory attenuation tests are Real-Ear Attenuation tests performed on human subjects. The biggest difference is that the laboratory tests are performed in a quiet test booth *at hearing threshold levels*, while VeriPRO overcomes that requirement by using a loudness balance procedure utilizing sound levels which are *above threshold* (for most users).

The laboratory calculations also have several corrections and cushions built into their formulae [including subtracting standard deviations based on 10 or more test subjects], while the VeriPRO test does not require those kinds of statistical corrections [since we are just measuring one individual's protection].

The Personal Attenuation Rating (PAR) can be compared directly to the NRR, SNR and SLC. The goal, however, is appropriate protection for the employee's noise exposure, rather than matching a laboratory calculation.

4. How does VeriPRO handle workers with existing hearing loss?

The VeriPRO test consists of three parts:

- Part 1 is administered without earplugs --- in this part, VeriPRO measures the relative asymmetry between the two ears and establishes the relative level of existing hearing loss.
- The software then takes that correction and applies it to Parts 2 & 3 of the test [earplug in right ear and earplug in both ears].
- In this manner, a worker with mild or even moderate hearing loss can still be tested with VeriPRO with no effect on the results.

5. Can VeriPRO be used by workers who have more than 'moderate' hearing loss?

Yes, though it depends upon the severity of the loss. For workers with existing hearing loss, we recommend using Quick Check mode [500 Hz only] to measure attenuation at a single frequency.

6. Are results for one ear consistently better than results for the opposite ear?

Statistically, we don't see any inherent bias for one ear or the other when testing large groups of users. However, many individual users may achieve better results one ear compared to the other due to different ear canal anatomy, or slightly different fitting technique between ears [perhaps affected by their dominant hand].

7. What is the Rove feature in VeriPRO?

To avoid having users judge loudness from visual cues on the slider bar, VeriPRO employs a "roving" slider bar. In terms of tone loudness, this means that the middle of the slider bar on one

screen may be quite different from the middle of the slider bar on the next screen. Users are required to judge the loudness by what they hear, not what they see on the slider bar. Most of the Rove options are pre-programmed into VeriPRO software, but two Rove options can be selected by the VeriPRO administrator in Preferences in the Toolbox:

- “Rove Test Ear Level By ...” – This sets the initial Rove of the slider bar from the Test Ear Level Range.
- “Rove Step Size By ...” – VeriPRO randomly adjusts the range of each slider bar when switching from one frequency to the next. The smallest increment of that Rove between frequencies is determined by this setting which is adjustable by the Administrator.

Changing the Rove settings may affect how long it takes to administer a VeriPRO test. We recommend the default Rove settings of 10 dB / 10 dB.

8. Some users report that the pitch of the tone sounds different in one ear compared to the other. Are the tones supposed to be the same pitch?

Tones are generated digitally by the computer, so the tone in the left ear is the same frequency as the tone in the right ear. The human ear may distinguish pitches differently at varying loudness, and some people with existing hearing loss may suffer from a condition called *dipacusis* (hearing different pitches in the two ears regardless of loudness). This means a user might detect one tone to be a slightly different pitch than the tone in the opposite ear. This is normal, and should not affect the test results. Users should be reminded of the on-screen instructions to compare the *loudness* only and try to ignore differences in quality or pitch of the tones.

TEST PROTOCOL

1. Can a user go back over one or two previous screens during a Complete or Quick Check test to repeat them?

No. As the VeriPRO test sequence builds upon itself, a test frame cannot be repeated. If a user makes a mistake and needs to go back, the best solution is to start a new test.

2. Does the slider bar change scale with each screen?

Yes. As a reliability measure, the slider bar arbitrarily changes scale with each new screen. This helps prevent users from judging the loudness balance *visually*, rather than *audibly*.

3. If there is a lot of background noise, can I still perform a VeriPRO test?

VeriPRO is designed to withstand some amount of background noise. If the test tones cannot be heard clearly over background noise, one option is to open the “Toolbox > Preferences,” and change the presentation level of the open-ear tones from 65 dB to 70 dB or 75 dB. However, the higher this initial reference level is set, the more likely it will be that users will max out the slider bar without achieving loudness balance in their occluded tests.

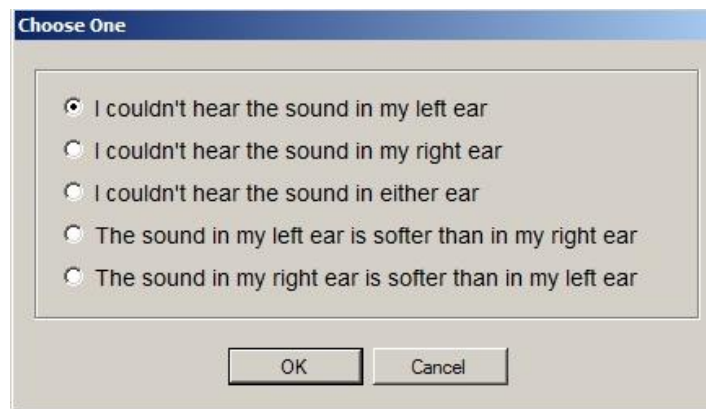
4. Why is it necessary to choose an earplug? Can't VeriPRO just test with any earplug?

Yes, VeriPRO can test with any earplug, but the attenuation rating of the earplug must be known. VeriPRO has stored the official attenuation values for each of the Howard Leight® earplugs shown, or you can add another earplug and its attenuation rating using the “Other” option. There are two reasons for this requirement:

1. Low Attenuation Check –During the test, VeriPRO checks the attenuation being achieved by the user against the official attenuation levels for the chosen earplug. If a user is not within a reasonable tolerance level, the user is warned that attenuation is too low, and the test at 500 Hz is repeated. After two warnings/repeats, the loudness balance test continues [Complete Check only].
2. Stored Record – By selecting an earplug, the record is stored in the reports showing attenuation results for that particular earplug. By having the selected earplug stored in reports, users can determine patterns of better protection among certain models of earplugs.

5. What happens in each of the “Cannot Match” scenarios?

It may be necessary for a user to raise or lower the slider bar beyond the upper and lower limits shown on the screen. When this happens, the user should click on “Cannot Match,” which brings up a dialogue box with five choices:



For each response choice, the software will make an adjustment, as described below:

CANNOT MATCH	DESCRIPTION
<i>I couldn't hear the sound in my left ear.</i>	Clicking on this choice adjusts the slider bar range 10 dB higher in the left ear.
<i>I couldn't hear the sound in my right ear.</i>	Clicking on this choice aborts the test, since the subject cannot hear even the reference tone. To correct this, the system operator would need to adjust the 'Reference Ear Level' in the <i>Both Ears Unoccluded</i> section of parameter set-up.
<i>I couldn't hear the sound in either ear.</i>	Test aborts, similar to “ <i>I couldn't hear the sound in my right ear.</i> ”
<i>Sound in left ear is softer than my right ear.</i>	Re-adjusts scale on slider bar 10 dB higher. Clicking the double arrows at top of slider bar has the same effect.
<i>Sound in left ear is louder than my right ear.</i>	Re-adjusts scale on slider bar 10 dB lower. Clicking the double arrows at bottom of slider bar has the same effect.

6. Why would a user click “Stop Tones”?

There are four scenarios in which a user would click this button:

1. The user has the headphones backwards [red earcup should be on right ear]
2. The user is not wearing earplugs when instructed.

3. The user has fit the earplugs so poorly that they offer little attenuation.
4. The system operator has not disabled computer-generated sounds in the Control Panel

7. In the list of User Names in the Main Menu, should I search for First Name or Last Name?

Either! User names are listed alphabetically by last name. To search for a First Name or a Last Name, simply enter the first few letters of your search term, and the name list immediately shows the names matching your search term. To return to the full user list, simply erase the search term.

TEST MODE – QUICK CHECK

1. Why is 500 Hz tested for the Quick Check?

For hearing protector performance, 250 Hz and 500 Hz are the key indicators. It is quite easy to generate "false positive" results at 1000 Hz or higher – that is, a poorly-fit hearing protector still provides decent protection at 1000 Hz, but 500 Hz has been shown in several studies to be the best single frequency to indicate proper HPD fit.

2. Are there disadvantages if I only use Quick Check to test my workers?

On the contrary, Quick Check is the preferred method for most VeriPRO tests. It is a fast procedure for trying several different earplugs, or measuring the difference in protection pre-training versus post-training.

TEST MODE – COMPLETE CHECK

1. What is the allowed variability in Test/Retest?

The maximum allowed variability in VeriPRO is 6 dB. This is the same allowable variability used in laboratory hearing protector testing [ANSI S12.6].

2. What are the differences between Quick Check and Complete Check?

	QUICK CHECK	COMPLETE CHECK
# Frequencies	1 frequency [500 Hz]	5 frequencies [250, 500, 1000, 2000, 4000 Hz]
Test Time	2-3 minutes	8-10 minutes
Test Results	Attenuation at 500 Hz only	Personal Attenuation Rating [PAR] (integrated from five frequencies)
Reliability Recheck	None	Re-test at 500 Hz
Warnings	None	"Low Attenuation" warning whenever user is achieving less than half of the earplug's rated attenuation

3. When I fail the reliability retest, or get a low attenuation warning, there is an extremely loud warning sound through the headphones. Is this normal?

No. When this happens, Windows is generating warning signals that are being amplified by the high-output VeriPRO headphones. The user should disable the computer-generated sounds, as described in the Quick Reference Guide [section 2.4].

CALIBRATION

1. Is calibration of the VeriPRO system required?

There are no regulatory requirements for calibration of the VeriPRO system. However, as manufacturers, we recommend an annual Calibration and Functional Check of the system. The VeriPRO headphones and audio processors are shipped from the factory with calibration stickers showing the Due Date of the next Calibration and Functional Check. VeriPRO users can contact the Honeywell Safety Products Service Center (see contact info above) to schedule a calibration and functional check.

RESULTS + REPORTING

1. After a Complete Check, is it possible to get attenuation results by frequency?

Yes. Select “Attenuation Chart by Frequency” prior to viewing or saving your results. The second page of the report shows attenuation at each test frequency for each ear.

2. What is Protected Exposure Level, and how is it calculated?

If a worker's estimated noise exposure is entered into the VeriPRO data, then the software will calculate the Protected Exposure Level at the conclusion of the VeriPRO test.

Protected Exposure Level simply means: *how much noise is reaching the eardrum of the user when he/she is in noise and wearing earplugs just the way they are now fit.* It is calculated by taking the entered noise exposure for that worker, and subtracting the worst-ear attenuation of the earplugs.

Example:	Entered Exposure Level	92 dB
	<u>Lower PAR</u>	<u>- 20 dB</u>
	Protected Exposure Level	= 72 dB

The employee's Protected Exposure Level with that fit of that earplug is 72 dB.

This example shows that even if the published attenuation on the package of that earplug is 30 dB, this user is achieving adequate attenuation at 20 dB since the user is protected to the safe level of 72 dB.

3. I like the Individual Attenuation Reports for training and recordkeeping. Are Group Reports available in VeriPRO?

No, VeriPRO includes only individual reports, not group reports. However, you can export VeriPRO results into Excel and create custom reports.

4. Can I pull up the “Results Thermometer” page for previous VeriPRO tests?

Yes, you can view, save, and/or print the report from any previous VeriPRO test:

1. In the Main Menu, select the name of the user you would like to view.
2. Click on ‘Reports’, and select the test you would like to view
3. Select “Attenuation Chart” and/or “Test History” if you would like to view Page 2 or Page 3 of the report.
4. Under ‘Display Options’, select “PDF File” or “JPEG File” if you would like to save a copy of the report. Select “Print Version” to view the report immediately on-screen. The report may be printed immediately from the screen.

5. If a user obtains a PAR of 40 dB, does this mean that his Safe Exposure Level [SEL] will be 120 dB?

The Safe Exposure Level is capped at 115 dB. This is in accordance with exposure regulations in many regions. VeriPRO does not display a Safe Exposure Level above 115 dB, even though the measured attenuation may justify a higher SEL.

6. There was a large difference in PAR results between my left ear and right ear. Is this normal?

Yes, it is quite common to obtain different attenuation values in each ear. This may be due to different ear canal anatomy, or slightly different fitting technique between ears [deeper insertion in one ear, smaller roll-down of a foam earplug, opening one ear canal more than the other during insertion, etc.].

VeriPRO always uses the “worst ear” attenuation in its measurements of protection [Protected Exposure Level and Safe Exposure Level]. Users should practice insertions that bring both ears up to safe levels of protection. Some users even find their best protection comes from using different sizes or types of earplugs in each ear.

7. How do I export VeriPRO data?

- In the Toolbox menu, select Export Data.
- Designate the date range of tests you would like to export [range includes the Start Date and End Date].
- Do not type in dates, rather use the pull down menus to select month and date.
- Click on Export.

8. How do I import data into VeriPRO?

In the Toolbox menu, select “Manage Entries,” then click on Upload Users. Browse to find the file of users information. The file must be a tab-delimited text file (.txt) with the following columns:

- Column 1: First Name
- Column 2: Middle Name
- Column 3: Last Name
- Column 4: User ID
- Column 5: Department
- Column 6: Exposure dBA
- Column 7: Exposure dBC

IMPLEMENTATION

1. Most of our workers are exposed to intermittent noise, with average noise levels in the low 80s dBA. Would VeriPRO be appropriate for them?

Yes, any employee who wears hearing protection for any period of time can benefit from fit-testing with VeriPRO. Fit-testing is the only way to ensure that employees have adequate hearing protection when they are exposed to hazardous noise. If it is not feasible to fit-test all employees, safety managers may prioritize fit-testing for workers who are high-risk, have known threshold changes, have difficulty fitting their hearing protection, work in extreme noise environments or who have other challenges relating to hearing protection.

TROUBLESHOOTING

1. As new features are added to VeriPRO, will existing clients get free updates?

Most updates will be made available to VeriPRO clients at no cost. For more information and to find the latest software, go to www.safety.honeywell.com/veripro.

2. Test tones are difficult to discern or are not alternating from ear to ear.

Go to your computer's 'Sound' settings. Under 'Playback Devices', set "USB Audio CODEC" as your playback device. Check to confirm you are set to Stereo (as opposed to Mono), and that the volume is at 100%. If you need help, please contact tech support.