



Introduction to QIK Test & EEG Expert

Introduction and Manual

Language: English

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EEGInfo 

EEG Expert

1 Introduction to EEG Expert QIK Test

Neurofeedback Performance Tracking and Report Generating test unit allows unmatched CPT and session-by-session monitoring.

On-line analysis and reports prepared by EEG Expert.

Features:

- ❑ Battery-powered ultra-flexible stand-alone unit for administering performance tests with unprecedented accuracy.
- ❑ Input: two high endurance precision buttons, ergonomically positioned for simultaneous right and left hand input.
- ❑ Visual stimulus: high-brightness 3x3 LED array.
- ❑ Auditory stimulus: three-channel sound generator driven internal speaker. Also supports headphones (not included).
- ❑ Time measurement resolution 0.1msec.
- ❑ Memory holds up to 1791 stimulus responses.
- ❑ Professional Neurofeedback-specific analysis done at EEG Expert (www.eegexpert.com).*
- ❑ Rechargeable batteries, one charge good for more than 50 tests.
- ❑ Synchronization signal output for advanced applications and synchronization with brainwave monitoring devices.
- ❑ Developed and manufactured in Switzerland.

* CPT tests with EEG Expert reports purchased individually.

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3 Purpose

The QIK Test CPT is intended for performing Continuous Performance Tests (CPT) and mind-refreshers (session starters).

This device is not intended for diagnostic purposes.

Notice

US Federal Law restricts this device to sale by, or on order of, a physician or any other practitioner licensed by the law of the state in which he or she practices to use or order the use of this device.



4 Safety Instructions

4.1 Guidelines for Use


Please take the time to read this manual carefully before using the QIK Test CPT for the first time in order to familiarize yourself with its operation. This manual is part of the product and must be available anytime. Use the device only for the intended purpose

The QIK Test CPT may only be used under the supervision of a professional who can ensure sound handling practices.

The following table explains the warning symbols used in this manual:

 WARNING	Denotes a probably dangerous situation that may lead to severe injury or death
 CAUTION	Denotes a probably dangerous situation that may lead to injury
CAUTION	Denotes a situation that could lead to damage of the product
NOTICE	Warning symbol for situations that do not lead to death, injury or damage of property

Meaning of the symbols on the back label of the QIKtest CPT:

	Conformity symbol
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4.2 Indications for Use

The **intended use** of the QIK Test CPT is a device to perform

- continuous performance tests (CPT) as well as
- mind-refreshers (session starter).

The QIK Test CPT is intended to be used only under supervision by trained professionals who can ensure sound handling practices.

The QIK Test CPT is **not to be used**

- for critical patient monitoring or
- for diagnostic purposes.

4.3 Basic Regulations

Make sure that you follow the national and local regulations with regard to the use of small electronic devices and testing systems.

4.4 Personnel and Qualification

The QIK Test CPT may only be used under the supervision of a professional who can ensure sound handling practices.

The client must be supervised at all times during the CPT session and must never be unattended.

4.5 Personal Safety Information

ADVERSE EFFECTS

No adverse effects are known for the device itself. However, the stimuli such as the flashing lights may cause unwanted effects, such as drowsiness, sleep disorders or seizures. The therapist is responsible

- to decide if the use of the device should be avoided or
- to detect any adverse effects early
- to apply appropriate measures.

Therefore, QIK Test CPT may be used only under supervision by a trained professional who is able to detect possible adverse effects and apply appropriate countermeasures.

The manufacturer of the QIK Test CPT does not assume liability for any adverse effects whatsoever caused by the application of the QIK Test CPT.

CONTRAINDICATIONS

There are no known contraindications for the QIK Test CPT.

4.6 Device-related Safety Information



WARNING

Wrong test results possible if batteries empty

Although the unit will operate for some time if the low battery signal is present, accuracy of the measurement is not guaranteed beyond that point. Test data may be incorrect.

- Check for the battery status every time you turn the unit on
 - as soon as the LoBatt indicator is blinking, recharge the batteries.
-

CAUTION

Corrosion damage by dead batteries

- Recharge dead batteries promptly
-

CAUTION

Damage when not in use for an extended period of time

- Recharge batteries at least monthly, total discharge can lead to damage.
-

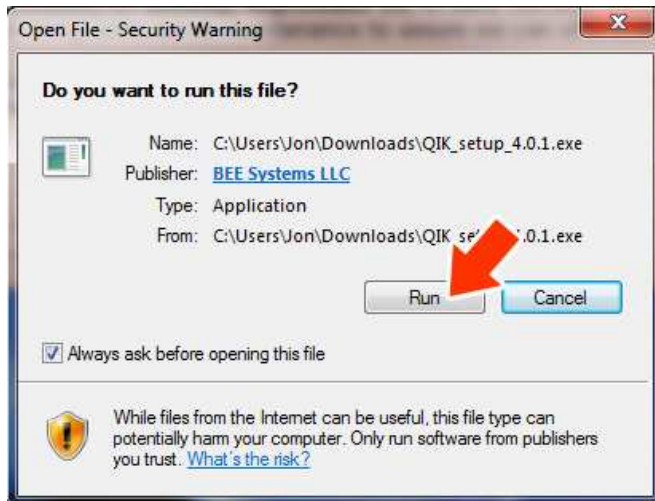
Dispose device according to local regulations.

4.7 Installing QIK Test Software

Insert QIK Test DVD-Rom into your computers DVD-Rom drive. The software can be installed on multiple PCs. If you do not have your installation CD, the software may be downloaded from www.eeginfo.ch -> **Downloads-> Software -> QIK**. These instructions assume you are using a USB QIK Test device.

Run the QIK install file.

Choose **Run** to begin installation.



Select language. Click **OK**.



Click **Next**.

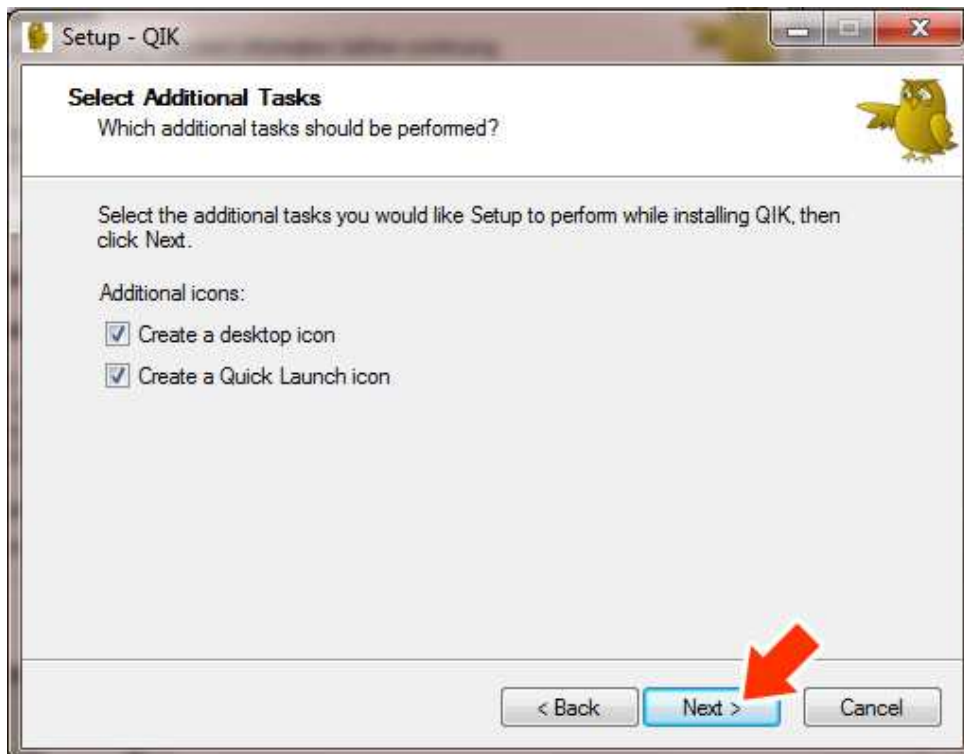


Click on ***I accept the agreement.***

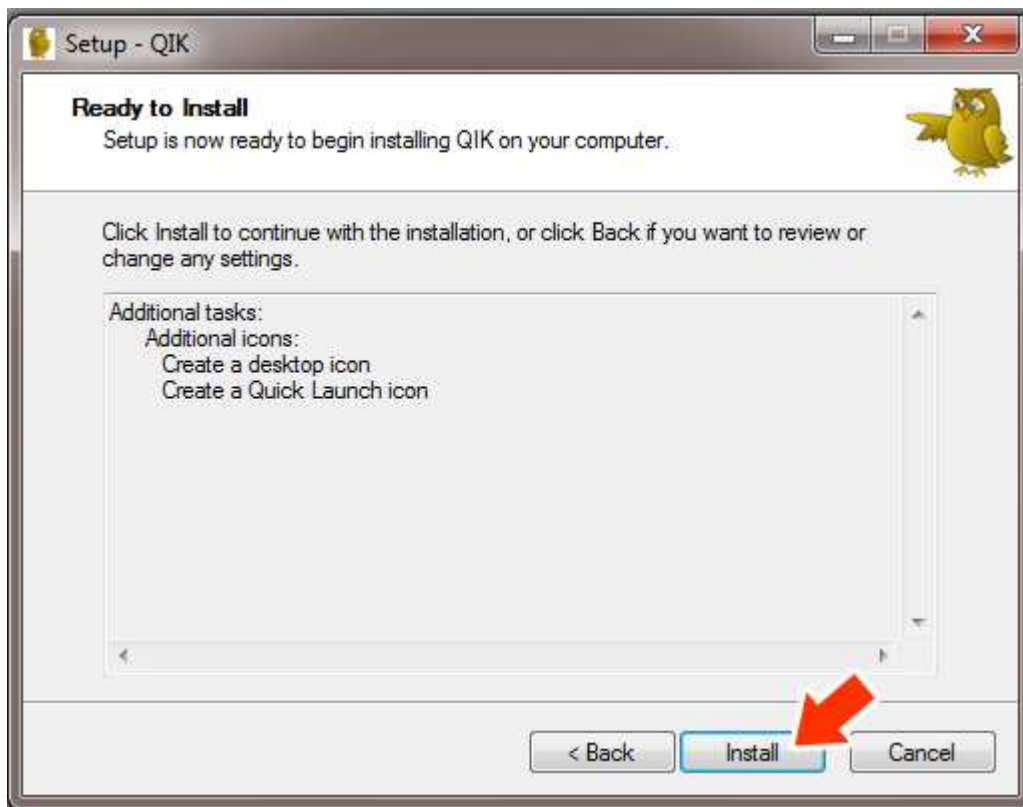
Click on ***Next.***



Click on ***Next.***



Click **Install**.



Click **Finish**.



4.8 Connecting your QIK hardware

Remove the QIK hardware from the packaging. Use the included USB cable to connect the QIK unit to an available USB port on your PC.

Notice: The following instructions assume that you have already installed the QIK installation software.

Installation Instructions for USB QIK Drivers

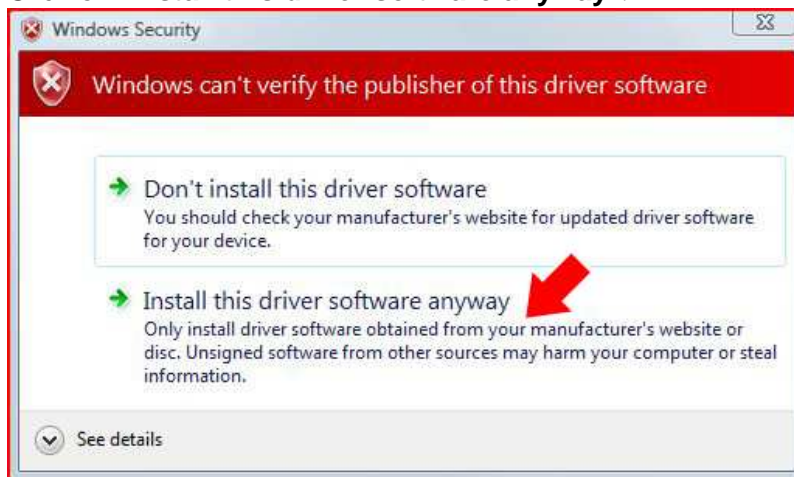
1. QIK Software versions 4.0.1 and newer will automatically install the QIK driver on the system.
2. After you have installed the QIK software, plug-in the USB cable to the QIK Test and to your computer on the other end.
3. The driver will be installed automatically. You will receive a corresponding message after installation is complete.
4. Alternatively, if you did not install the QIK software beforehand, the driver is downloaded from the internet via Windows Update after connecting the QIK device to a USB port. For this option you need internet access.
5. In case the pre-installation does not work, please install the driver as shown in the chapters below. After installation of the QIK software the driver can be located in the folder: "C:\Program Files\QIK\drivers" and "C:\QIK\drivers".

Installation Instructions for USB QIK Drivers - Windows Vista and Windows 7

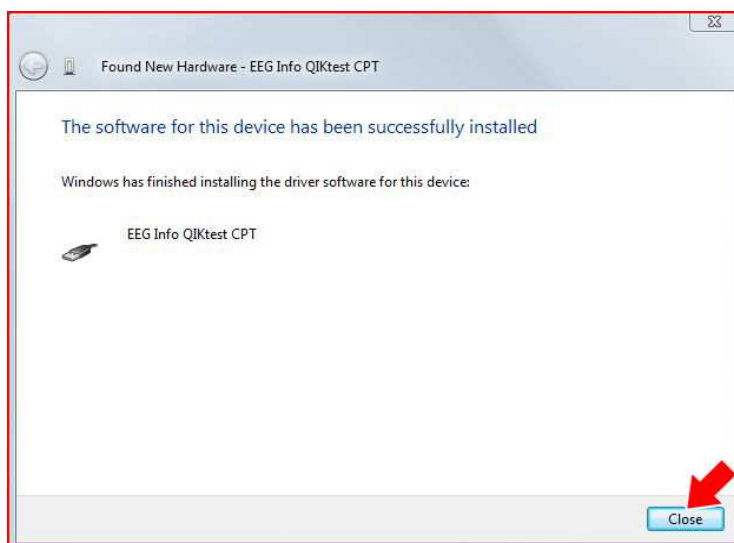
1. Plug-in the USB cable to the QIK Test and to your computer on the other end. If the "Found New Hardware Wizard" does not appear, please go to "Control Panel/Device Manager/Ports/QIKtest CPT" and perform the driver installation manually.
2. Insert your QIK Test installation disc. The driver is located in the folder "QIK_USB_Driver". Note: If you do not have the installation disc you will have to browse your computer for the driver during the installation process. In this case go to "C:\QIK\drivers".
3. Click on "**Locate and install driver software**"



4. The "Windows can't verify the publisher" dialogue will appear. Click on **"Install this driver software anyway"**.



5. You will receive a success page. Click on **"Close"**



Installation Instructions for USB QIK Drivers - Windows XP

1. Plug-in the USB cable to the QIK Test and to your computer on the other end. If the "Found New Hardware Wizard" does not appear, please go to "Control Panel/Device Manager/Ports/QIKtest CPT" and perform the driver installation manually.
2. Click on "No, not this time".
Click "Next"



3. Insert your QIK CD-Rom for windows to search automatically.
4. Click on "**Install the software automatically (Recommended)**"
Click **Next**



5. Click **Continue Anyway**



6. You will receive a success page.
Click on "Finish"



4.9 Checking the battery level and charging the QIK unit

To check the battery level on the QIK test to see if you have enough charge to run a test, turn the unit off by holding down one of the buttons for a full 2 second period.

The unit will play the standard triple beep and then a single beep. At this point the unit is off and you can release your finger from the QIK button. After that, you will hear two beeps, one high and one low.

Now, to check the power, touch a button on the front of the QIK unit while watching the lights on the top of the unit.

You will hear three beeps as the unit turns on.

For the first few seconds immediately after the unit turns on, the string of lights on the top of the unit will show the charge level.

All the lights lit up means a full or nearly full battery. Only one or no lights or a flashing light means a very low battery and the unit should be charged before running a test.

If you press a button on the unit and you hear no beep and see no lights, then most likely the unit needs to be charged.

To charge the unit, connect the USB cable to the QIK and plug the other end of the cable into a computer that is turned on or a USB wall charger. Make sure that the computer you are using to charge the QIK is NOT in Sleep or Hibernate mode, as the device will not receive a charge.

You will see lights scroll continuously on the top of the unit indicating that the QIK unit is charging. When the unit is fully charged, the lights will only scroll for 10 seconds out of every minute.

5 Running a QIK Test

The QIK unit supports both a 20 minute Continuous Performance Test and various one-minute performance tests.

5.1 Running the 20 minute CPT

Practice Test:

Prepare QIK Test:

1. Attach QIK Test device to computer via USB cable and turn the QIK on by pressing a button.
2. Start the QIK software. Please note the "greyed out" boxes indicate that a USB QIK test is not detected and/or connected.



3. When a USB QIK Test is connected properly, all buttons will show normally and NOT greyed out as in the above picture.



4. Click on **Settings** and then on **Test QIK**. The QIK device should beep once.

This step is simply to test that the QIK device is connected properly and responding. This step only needs to be performed the first time you connect your QIK Test to your computer.

Click "**Close window**" once test is complete.

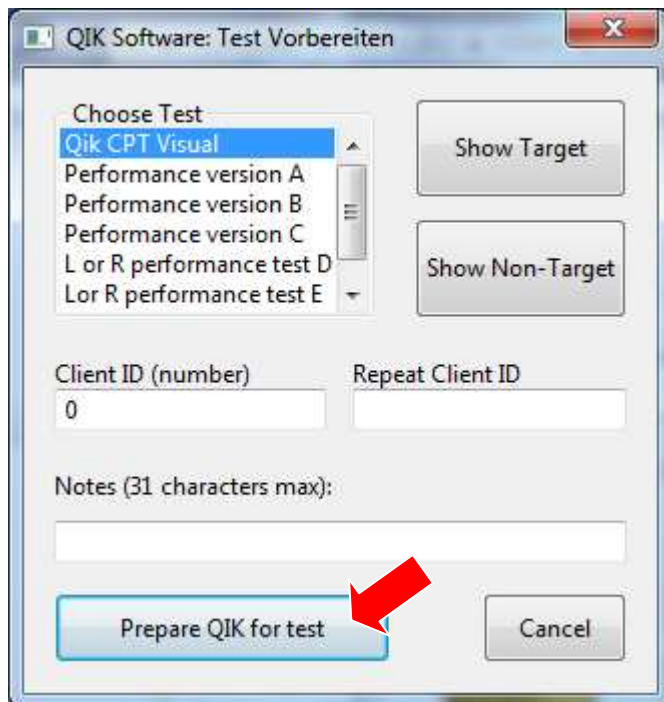


5. Click on **Prepare Test**.

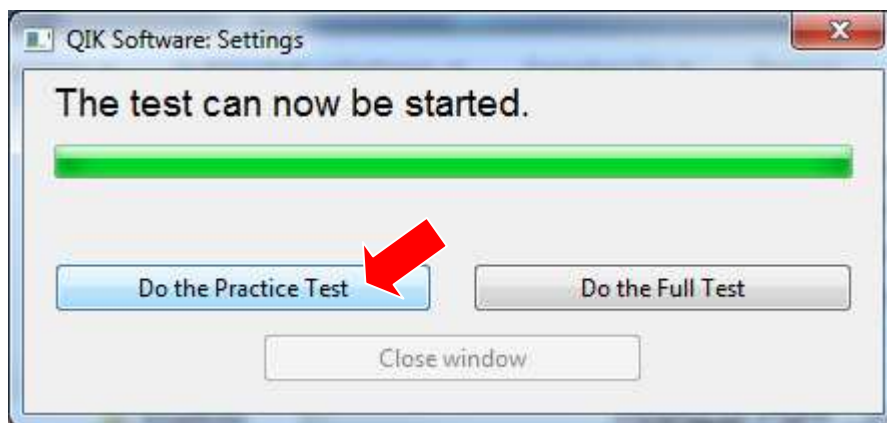


6. Choose the appropriate QIK Test. QIK CPT Visual is the main test that you will use and is the default selection.
To use more tests see please refer to the following chapter for a detailed description.
Fill out the Client ID with any number no greater than 9999 and repeat (Must be a number. Do not use letters or any other characters other than numbers). Assign a different number to each client.

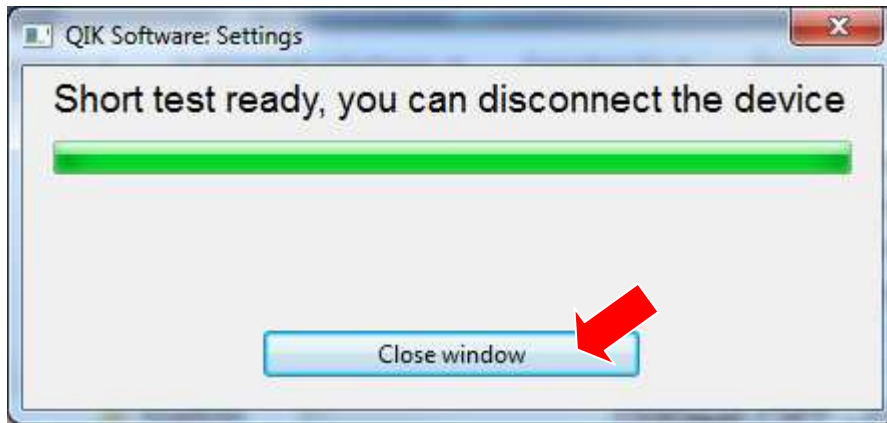
You may also leave an optional note, such as the client's initials.



7. Click on ***Prepare QIK for test***
8. Click on ***Do the Practice Test.***



9. You will receive the prompt pictured below, indicating that you can disconnect the device at this point to hand to your client. You do not have to disconnect, but it is now your option to do so. Click ***Close Window.***



Practice Test:

A two-minute practice test is administered before the full CPT to assure that the client understands the test and how it is scored. The complete practice test should be used before testing a client for the first time.

Sample Instructions to share with client:

This is a test of attention. Two different patterns will flash on the QIK device. Either all the lights will flash on like this (click on show non-target), or just a circle of lights with a hole in the center like this (click on show target). When the circle of lights flashes on like this (show target), I want you to press either one of these buttons as fast as you can. Press only one button and press it down just once for each target. When all the lights flash on like this (show non-target), then you don't press either button.

Target



Non - Target



Press **Prepare Test** Box for test. Wait for test to upload, then press **Do the Practice Test**. Now disconnect QIK Test box from computer and give to client.

Now hold the QIK Test in your hands with your thumbs resting lightly on the buttons. The lights are going to flash and your job is to press either button as fast as you can each time you see the circle with the hole in the center. But remember you don't press the button when all the lights flash on. You want to be as fast as you can, but also as careful as you can.

First you are going to do a practice test for a couple minutes to warm up. Press either button to start the test. Then press both buttons and hold down for one second. Three center lights will count down to the start of the test. Remember; be as fast and accurate as you can.

10. Turn on QIK by pressing either button. After pressing both buttons simultaneously for about a second, you will see a 3-2-1 countdown as pictured below before the test begins.



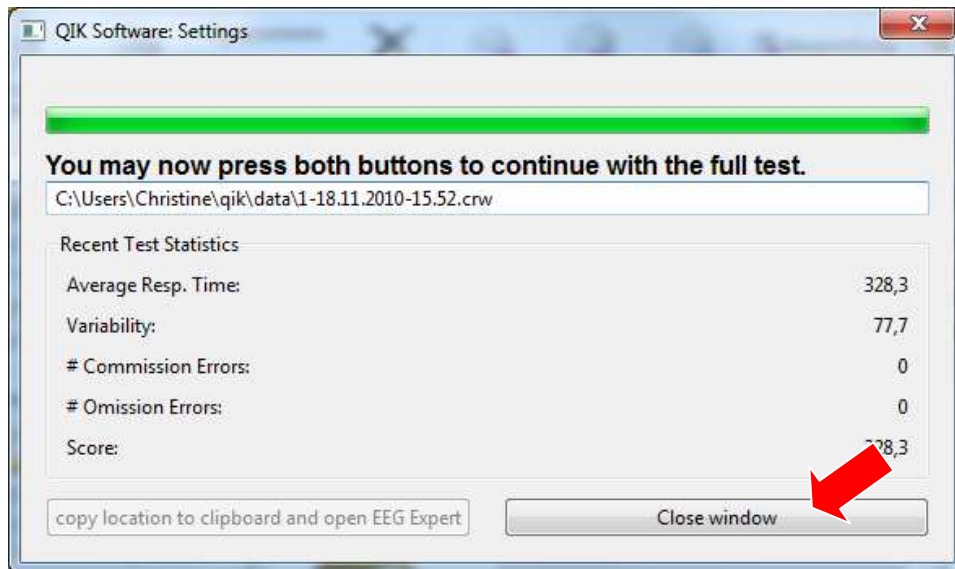
During the Practice Test:

Observe the client to be sure instructions are understood and followed. Give further instructions as needed during practice test. Repeat practice test if necessary until client understands test.

11. Once the client has completed the 2 minute test, reconnect the QIK Test to your computer via the USB cable.
12. Click on **Get Test Results**.



13. You will now see the results window for the brief 2 minute practice test. Use this opportunity to observe and correct the client to make sure they are conducting the test properly. The average response time, variability of response time, number of commission errors and number of omission errors will be displayed. Discuss practice test results so the client understands that speed, accuracy and consistency are all being measured, and will be compared to norms after the full test.



Click on **Close window**.

14. Continue with Full Test:

You may now detach your QIK Test again and give it back to the client so they may take the full 20 minute CPT test. Make sure that the client is in a comfortable place without distraction, as he or she will be there for 20 minutes.

What to tell the client:

Now you are going to do the full test for about 20 minutes. Just like the practice test, you should press either button once when you see the circle of lights, but not press when you see all the lights flash on. Just do the best you can. Do you have any questions?

Note: You do NOT need to click on "Prepare Test" again as both the short 2 minute test and the 20 minute test are loaded at the same time.

15. Press either button to wake up the QIK Test device. Press both buttons at the same time and hold down for one second to begin the full 20 minute CPT. You will see the 3,2,1 countdown and then the test will begin.

During the Test:

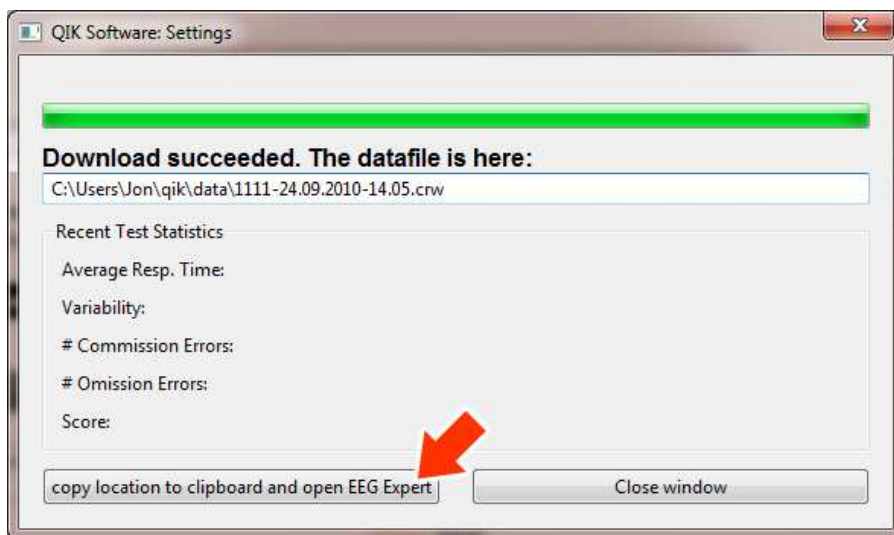
Stay in the room with the client and observe test behavior. Avoid talking during the test, but prompt as necessary to keep the client awake and engaged in order to complete the test.

16. After the client has completed the test, reattach the device to computer via USB cable.
17. Click on **Get Test Results**



18. Click on **copy location to clipboard and open EEG Expert**.

This will automatically copy the disk location of the test data file and open the EEG Expert website. You will later paste that disk location to the EEG Expert website in the next step.



19. You may now exit the QIK Test Software.
Click **Close window**.

Congratulations! You have completed the administration of the QIK Test. Please be aware that you are not done yet. Please proceed to [Connecting to EEG Expert](#) for instructions on transferring your data to the EEG Expert website for scoring (instructions in chapter 6.)

5.2 Running a One-Minute QIK Performance Test

In addition to the QIK CPT, clinicians can run short tests designed to measure a client's performance either before and after a Neurofeedback session, or from session to session.

Like the longer CPT, the one-minute performance tests calculate omission and commission errors as well as speed and variability of response. Anticipatory responses, multiple responses, commission and post commission response times are also quantified.

Set Up QIK Test Unit before Test:

Attach QIK Test Unit to computer and open the QIK Control Software. Press either button on the unit to activate it.

Select *Prepare Test*, then *Choose Test*.

Select one of the performance tests (i.e. perfA.qik).

If the client is unfamiliar with the QIK, press the buttons labeled *Show Target*, and *Show Non Target*.

When you are satisfied that the client understands how to take the test, enter a Client I.D. number. Repeat the I.D. number in the given space.

Uncheck the box labeled Allow test stop by holding down both buttons (optional - checking it would allow to interrupt a session starter or practice test).

If desired, you may also add a short note.

Then, with the QIK still attached to the computer, click on *Prepare test box for test*.

The performance test will upload to the QIK unit.

When the data upload is complete, press *Do the Session Starter*.

You may now disconnect the QIK unit from the computer.

Reactivate the QIK by pressing either button once.

To begin the test, press both buttons simultaneously.

Three center lights will count down to the start of the test.

Sample Instructions to Client:

This is a test of attention. When the three lights on the right side are displayed, press the button on the right. When the three lights on the left side are displayed, press the button on the left. When both the right side and left side lights are displayed, do not press either of the buttons. Respond as quickly and as accurately as you can.

Score the Performance Test:

Reconnect the QIK unit to the computer.

Press either button to activate the unit.

Press *Get Test Results*.

When the test data is downloaded a Test Results Screen will appear.

Press the box labeled Show Statistics.

Test statistics as well as a score will be displayed.

Follow the instructions for connecting to the www.eegexpert.com website.

If the client has not already taken the CPT, you must follow the steps to add a new client.

When you have completed that process, follow the steps to *Upload a completed QIK test*.

The performance test data consists of the measures noted in paragraph one of this section and a graph detailing the points at which errors occurred.

When a client has taken more than one performance test, press the *Summary* button to display the summarized data.

Unlike the CPT, the performance tests do not include a report.

6 Test Descriptions

Long Visual Test:

Name "Qik CPT Visual"

- has short practice pre-test
- target is circle of lights
- non-target is all lights
- 3 sections
- 5 periods: low, low, high, high, low (demand)
- duration 21 minutes
- 3-2-1 starter countdown with lights
- full analysis on EEG Expert www.eegexpert.net

"Performance" Tests:

- no short pre-test
- starts with 2 second beat between signals
- ends with 0.7 second beat, gradually speeding up
- has central dim light as focus point
- duration 1 minute 10 seconds
- 3-2-1 starter countdown with lights
- basic analysis on EEG Expert www.eegexpert.net
- the three tests in each group differ by the sequence of the targets and non-targets, while they share the same difficulty in frequency and distribution to avoid memorization effects.
- there are two groups of performance tests:
 - A, B and C have a vertical target light pattern
 - D, E and F are horizontal.
- It is not important which button on the QIK Test device is used to respond.

Performance version A, Performance version B, Performance version C

- target is 3 lights in one vertical row, either on the left or on the right side of the 3x3 field, left or right side is pseudorandom.
- non-target is **both** of the two vertical rows of lights, e.g. on the 3x3 field the three left-hand lights and the three right-hand lights

L or R performance test D, L or R performance test E, L or R performance test F

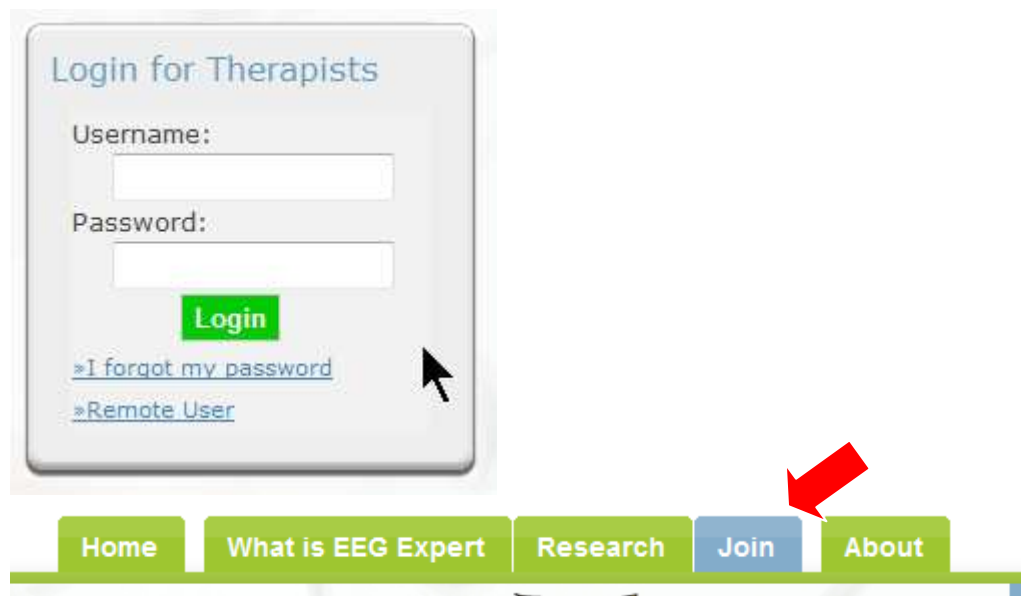
- target is one horizontal row of lights, appearing either at the top or at the bottom of the 3x3 light field.
- non-target shows **both** of the two horizontal rows of lights lit, again, one at the top and one at the bottom of the 3x3 light field.

7 Connecting to EEG Expert

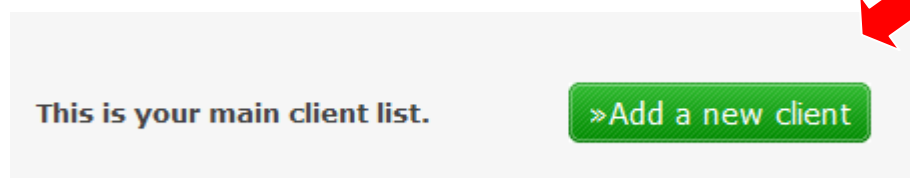
To proceed with these instructions make sure that you have already completed the steps in chapter 5.1 **Running a QIK Test**. The following instructions will guide you through using the EEG Expert website, also uploading and scoring test data.

1. Visit the EEG Expert website (www.eegexpert.net)
2. Login.

If you are new to EEG Expert, click **Join** to create an account.
Login after your account is created.



3. In order to create a new client click on **Add a new client**.



- Fill in the client information.

* Client Initials

* Client ID
(only numbers in this field, no letters, 1-999999 range)

* Gender

* Day of Birth

* Month of Birth

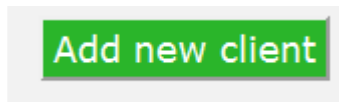
* Year of Birth (enter a number e.g. 1989)

Optional Note

I accept the Terms and Conditions of EEG Expert [»Link.](#) Yes

Add new client

Click **Add new client**.



- Click **Continue**.



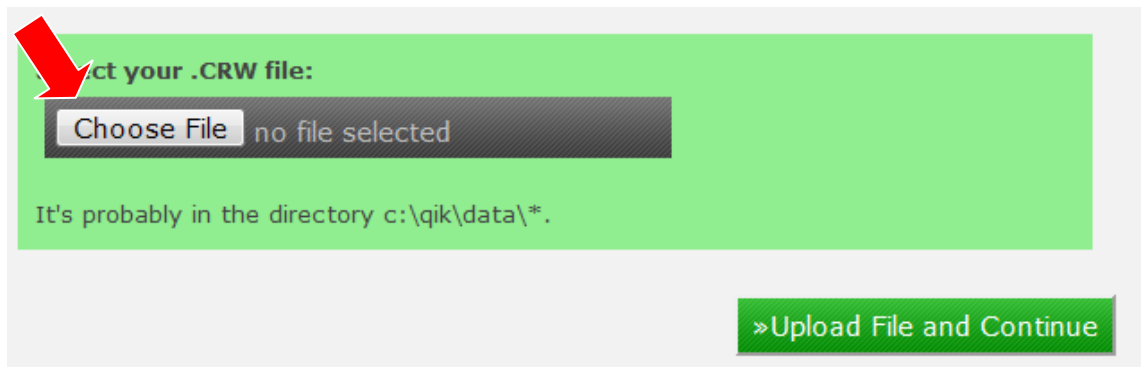
- Click on the **Retrieve Report** button in the row of the client you created in order to upload a test.

»Retrieve Report

CLIENT			QIK TEST	SYMPTOM TRACKING				
ID#	Abbreviation	Age today	# of tests, last test	# of entries, green=reminder on yellow=expired	Edit Client	Start date	Delete client	
1007	AB	31	»Retrieve Report		»Setup client	Sep-29 2011		

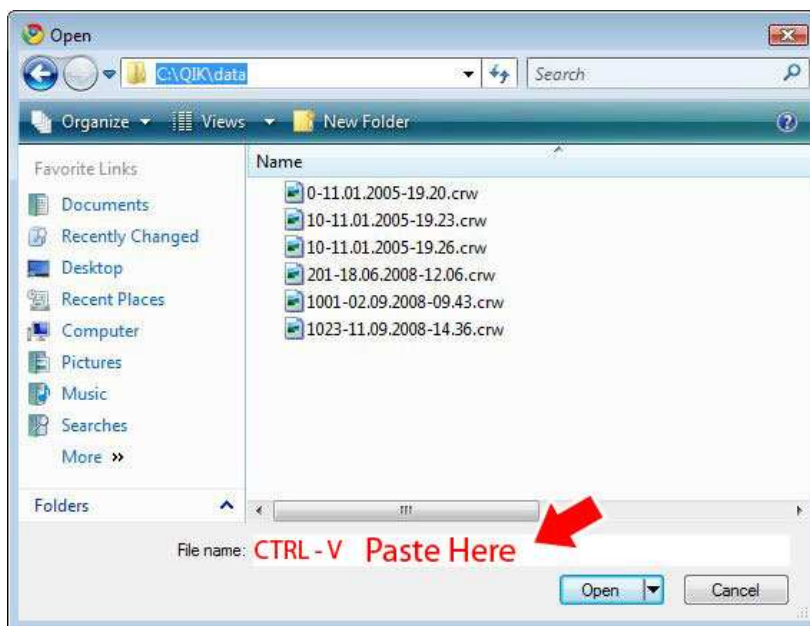
1 test

7. Click on **Choose File**.



8. Browse to **C:\QIK\data** (or C:\user\"username"\QIK\data)
Choose a QIK Test data file to upload (.crw)
Click **Open**.

9. An alternative method:
Paste (Ctrl - V) the file location you copied in Step 18 of Running a CPT Test
Click **Open**.

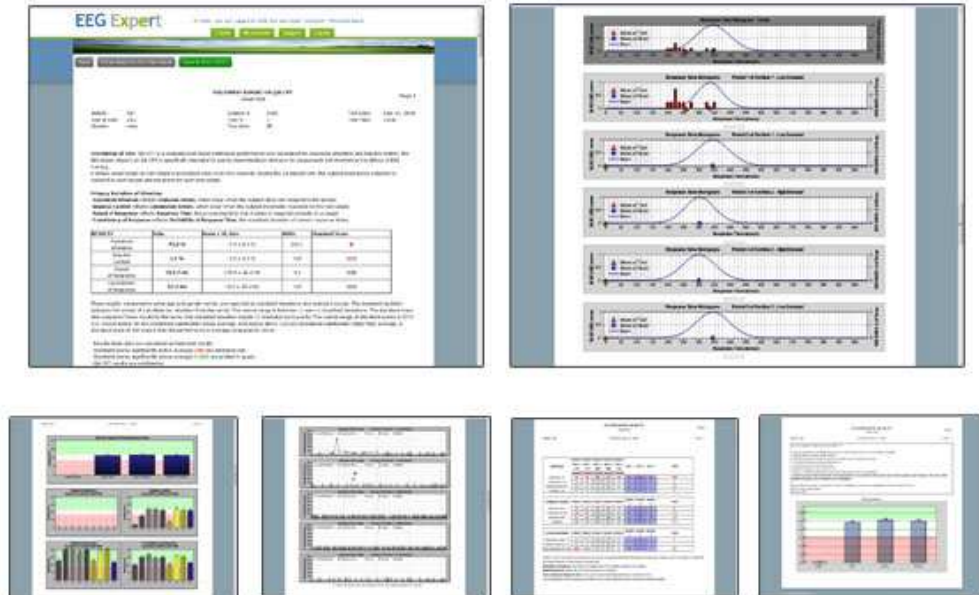


10. Click **Upload File and Continue**.



11. QIK Test report is displayed

Note: Do **NOT** print the report directly from this page using your browsers *Print* button as the formatting will be incorrect.



12. Click on **Save and Print in PDF.**



13. You will then see the following:

...your PDF file is being generated now, please wait a couple of seconds...

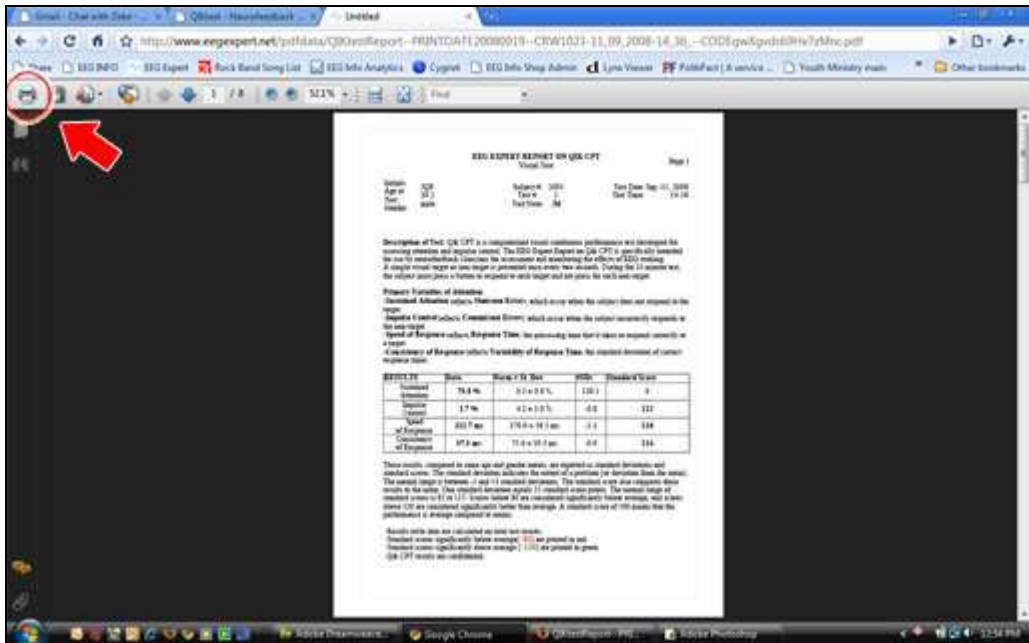
[View report as PDF](#) Opens a new window. Pdf is good for printing a copy in your office.

To view PDF files, download and install the free Adobe PDF-Reader

[Download Free Adobe Acrobat Reader](#) 

Click on **View report as PDF.**

14. Click on the *print* Icon to print report.



Note: Your report will be archived on the EEG Expert website for later retrieval.

8 Internet Ressources: Weblinks

The QIKtest website

www.eeginfo.com/qiktest

Contains documentation about the QIK Test including tutorial videos, software updates and support articles.

EEG Expert website

www.eegexpert.net

This is an online expert knowledge center for the display of results from the tests done with the QIKtest unit. The website further contains symptom tracking and patient management.

EEG Info

www.eeginfo.ch

Neurofeedback Information, find a provider, supplies, training courses.

9 Technical Data

9.1 General

- Battery-powered ultra-flexible stand-alone unit for administering performance tests with unprecedented accuracy.
- Visual and auditory stimuli:
 - Visual stimulus: high-brightness 3x3 LED array.
 - Auditory stimulus: three-channel sound generator driven internal speaker. Also supports headphones (not included).
- High-precision two-channel reaction measurements
 - Two high-endurance precision buttons, ergonomically positioned for simultaneous right and left hand input
 - Time measurement accuracy and resolution 0.1msec.
 - Independent two-channel measurement
 - Memory holds up to 1791 stimulus responses.
- General
 - Professional Neurofeedback-specific analysis done at EEG Expert (www.eegexpert.com).*
 - Rechargeable batteries, one charge good for more than 50 tests.
 - Synchronization signal output for advanced applications and synchronization with brainwave monitoring devices.
 - Developed and manufactured in Switzerland.

9.2 Details

Purpose:

Perform psychological tests independently from PC with high timing accuracy

Appearance:

Oval plastic box, 124x66x23 (4.9"x2.6"x0.9")

Stimulus LED area behind semi-transparent plastic front panel

Two buttons, left – right

Status LEDs at the side

Connectors for headphones, stimulus signals and USB computer interface

Operation:

Except for the test itself, the device is operated by a client PC software via a serial interface. This includes choice of test, test preparation, setting of test parameters, test data download from device, setting of device operation parameters

Stimulus - optical:

- Array of nine LED blocks 10x10mm, centered on the front

Stimulus - acoustic:

- Three sound generators. One for internal loudspeaker, two connected to headphones jack (left-right channel)
volume fixed; frequency and sound duration defined by test parameters

Buttons:

- Two buttons for performing test (left – right)
- Reset button (accessible via audio jack – button is placed behind audio jack, can be operated with little screw driver)

Status LED:

- Power on LED
- LED row for test progress: Yellow (Train) – Red (Q1) – Red (Q2) – Red (Q3) – Red (Q4) – Green (Test completed)

Interfaces:

- Audio out (stereo) – 3.5mm stereo jack
- USB interface to PC
- Stimulus output (two digital signals for target and non-target)

Power Supply:

- Internal NiMH rechargeable batteries, 800mAh. Charging via USB interface or USB compatible charger; 5V / 100mA. No fast charging mode (safest approach).
Time required for one complete charge: 18h

10 Warranty

The manufacturer of the QIK Test unit guarantees the product for two years from the date of purchase, as stated on your invoice. The warranty covers the product within its stated usages and that it is free of defects.

Proof of purchase, such as an invoice, is a requirement for fulfillment of any guarantee claims. Seller and date of sale must be clearly evident in your proof of purchase.

The manufacturer will not grant guarantee in these cases

- Non observance of the instructions
- Incorrect usage
- Incorrect handling
- Failure to use original parts
- Third-party opening and repair of the unit by non-authorized personnel
- Higher order, such as lightning or water intrusion
- Damage by transport due to improper packaging of return packages
- Usual operational wear and tear

The manufacturer shall in no case be liable for consequential damages and losses, except if by intent or gross negligence.

The manufacturer retains the right to choose the means of correction of the flaw, to replace or to reduce the price.

In case of denial of the warranty, claim costs for transport in either direction will not be covered.

Warranty claims as defined by current law are not affected.

11 Intellectual Property

The QIK Test has been created and developed with high diligence to quality.

All of the elements such as the electrical circuitry, the layout of the printed circuit board, the external design, the internal software called firmware, all documentation and instructions are intellectual property of BEE Systems LLC.

Especially, but not limited to, reverse engineering of the software and hardware are strictly prohibited.

Even though extreme care has been taken, the manufacturer does not guarantee for the correctness of this documentation.

12 Service / Disposal

QIK Test units may only be serviced by authorized service personnel. These personnel must have completed an authorized education.

If the unit is opened by anyone else the guarantee ceases.

Recharge batteries at least monthly, total discharge can lead to damage.

The QIK Test may only be disposed of in accordance with current regulations for the disposal of electronic equipment.

13 Contact

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