IE-45 FAQ

With the introduction of the new IE-45 Audio Analysis System, many of our friends have asked questions about how the IE-45 relates to the IE-35. What's new? What's different? What's the same?

A number of our existing family of IE-33 and IE-35 owners/users have also asked questions. It is only natural to wonder what the new IE-45 brings to the party. It's also natural to wonder how Ivie will regard IE-33 and IE-35 owners now that the new IE-45 has been introduced.

Here are a few of our thoughts and responses to common questions:

Now that Ivie has introduced the IE-45, what kind of support can an IE-35 or an IE-33 owner expect?
The same legendary tech support you've always had, the same service and updates you've come to expect. IE-35 and IE-33 owners are a part of Ivie's family of instrument owners. We remain fully committed to the IE-35 and IE-33 and their owners. We will continue technical support and service at the level you've come to expect. However, we have to realistically state that as the '35 and '33 become older, as warranties expire, and as software is developed for newer, more powerful platforms, it will not always be possible for us to offer the same software on the older platforms as that being offered for the new ones.

As an IE-35 or IE-33 owner, why might I NOT want to immediately upgrade to the IE-35?
1. The '35 and '33 remain the most portable precision solutions available anywhere.
2. The '35 and '33 will continue to be supported with tech support and with software updates, though most of the software updates will be bug fixes and will not feature completely new applications.
3. I can make most of the basic measurements on my existing IE-35.
4. I have my calendar and other data already in my PDA and I don't want the hassle of having to do a transfer to a new unit.**
5. I want to "keep it simple" and don't need some of the more sophisticated measurements now available on the IE-45.

*** Actually, the IE-35 can sync appointments, notes, and calendar with versions of Windows Outlook. The IE-45 also can use Windows Outlook, so transferring this kind of data is almost automatic.*

I own an IE-35 or IE-33. What is the difference between these and the IE-45? What's new with the IE-45 and why SHOULD I upgrade?
That's the first question we'd ask. And the answer is both short and long.

Very Short Answer: It's a PDA versus a real PC, and the PC is a UMPC (Ultra Mobile PC) so you get all of the advantages of running a real PC notebook, with most of the advantages of smaller size and portability.

Short Answer: In terms of functions and features of the IE-33/35 software applications, you will see very little difference except for the higher resolution and expanded

landscape view that is native to the IE-45. All of the features in the '35 and '33 can be found in the software of the IE-45, but there is a considerable difference in the way they run on the IE-45 in that the OS is now Windows XP Pro (Tablet), the processor is much faster and the memory (a real hard drive) is also much greater. And, because the IE-45 operates on a "real PC", you can run virtually all of the applications on it that you can on your desktop! And there are many new software applications on the IE-45, with more coming at regular and frequent intervals.

Long answer:
1. The IE-45 Audio Analysis System has moved to a new computing model. Previous versions of this now well known audio and acoustic analysis system were based on a single hardware platform, the most recent of which was the Dell Axim. The new computing model gives the user unprecedented flexibility and power by moving to the Windows XP operating system.

     a) The IE-45 has moved to a UMPC (Ultra Mobile PC) platform. While continuing to offer great portability and hand held operation, the IE-45 now offers performance and options that could not have been achieved on a PDA.

     b) The IE-45 graphics have changed to a native landscape display. The landscape display is just "more natural" and imparts more information through vivid color and higher visual resolution. Seeing is believing!

     c) The IE-45 now runs on a "real PC". UMPC's are available with processing power of about 1 GHz, lots of RAM, and a hard drive with capacities up to 80 MB (standard is 40 MB). Because it runs Windows XP Pro (Tablet), you can run virtually any application you would run on your notebook or desktop PC. Note: Be sure to check with Ivie if you're buying your own UMPC . . . make sure the one you are getting has compatibility with the IE-45 software requirements.

     d) With the high capacity battery (BP-5500) that Ivie strongly suggests be used, the IE-45 has 5,500 mAh of power that can provide a very bright, vivid color display, operate the main processor a full speed as needed, and can double the operating time provided by the smaller battery that comes with the UMPC.

     e) For the ultimate in flexibility, we've made sure that the IE-45 software operates on most computers running Windows XP. And the IE-45IM (input module) interfaces to the computing platform via USB. Therefore, most PC' (with a 1 GHz CPU or better) with a USB port and running XP can be used as a platform to which you can connect the IE-45IM (read about the 'IM below) and run the software. So now you have options . . . lot of options!

2. The IE-45IM input module is all new! Finally, a universal solution! No matter where computing technology moves, whichever new platforms come along, how the "state of the art" evolves, the IE-45IM is a digital input module that will keep up with the times.

     a) The IE-45IM is fully Type I capable (this can depend on the microphone you plug into it).

     b) It has a sort of "form follows function" design that is at the same time functional and attractive.

     c) It can attach to a UMPC, a notebook top lid, be mounted on a camera tri-pod, or even be independently hand held.

     d) Offering a microphone input (for Class I and other microphones), two RCA line inputs, and an SMA input, the IE-45IM is set up for today's and tomorrow's input needs.

     e) As we've mentioned, the IE-45 IM interfaces to the computer via USB. Just plug it in and you're ready to go. It's a fully transportable solution!

f) Software registration is maintained inside the IE-45IM, so once you have registered software on one computer, the Input Module "knows" it's registered and you can move to a different computer without having to register again.

3. One of the areas of increased performance in the IE-45 is in the RTA filters. The IE-45 uses discreet digital filters for it's 1/1, 1/3, 1/6, and 1/12 octave measurements, whereas the IE-33 and IE-35 use filters derived from an FFT binning algorithm. The net result is that the IE-45 RTA filters meet all Class 0 filter standards, including at the lowest frequencies.

4. The Frequency Detect function of the IE-45 continues to use a high resolution FFT, with frequency detect resolution of 0.1 Hz.

I have an IE-35 (or IE-33) and I want to upgrade to the IE-45. What should I do?
Good question. Feel free to contact Ivie and we can advise you on the best combinations of hardware and software for your application, and how they relate to what you may already be used to using in your IE-33 or IE-35.

What's included in the IE-45 package?
The IE-45 comes as a complete package. It currently includes a Samsung Q1 UMPC (Ultra Mobile PC) with all of it's standard accessories such as charger, standard 2200 mAh battery, instructions, CD, warranty, etc, the IE-45IM input module with Type I performance, high quality, low noise preamplifier, analog/digital converter, microphone input, two line inputs, SMA input, and custom USB connecting cable. Also included is the IE-45M Class II 8 mm prepolarized microphone with mini QG connector.

A version of the package without the Samsung Q1 UMPC is also available. See comments on requirements and limitations and compatibility in this document.

Can I use my own UMPC if I already have one?
Certainly! You can connect the IE-45IM to most PC's running Windows XP (or Vista Business) with a USB connector. It's just that simple. There are a number of UMPC's out there that have been "tuned" to the lowest cost possible, and some of them do not have sufficient processing power and/or screen display power for the Ivie RTA application. Ivie recommends the Samsung Q1 (NOT the Q1b) and some others. Contact Ivie for details to find out what the options are, or whether your present UMPC will be compatible with our software/processing requirements.

Why do I need an external "input module" at all? Why not just a preamp card, or some external microphone plugged into the microphone input of my UMPC, or even the internal microphone?
Good question. The IE-45IM input module provides a number of advantages, without which one could not make precision measurements.
** The microphone: Most important is the microphone. Microphones in computers are designed for voice quality recording. They are fine for what it was intended - voice. Even input circuits on PC's have limited audio quality, and trying to correct for input circuit frequency response issues, or dynamic range problems can lead to other even more complicated problems. Ivie supplies, standard with the IE-45, a high quality Type II instrumentation microphone. And you can order optional Type I prepolarized condenser instrumentation microphones for use with the IE-45. Visit Ivie's web site ([www.ivie.com)](www.ivie.com) for more information about microphone and preamplifier choices.

** Superior signal-to-noise and dynamic range: Housed in the IE-45IM is a high quality pre-amplifier which provides the signal to noise and dynamic range necessary for precision measurements. You won't find an instrumentation grade preamp inside a UMPC, so we provide it in the input module.

** Superior A/D: The jacket also contains a high quality A/D converter which is absolutely necessary. The IE-45 has a 24 bit A/D.

Can I use the UMPC that comes with the IE-45 jacket as a regular computer?

Yes! Absolutely! The UMPC is a high performance PC; it's just smaller than your notebook and much more portable. You can use it for your standard "hand office". With its WiFi, Bluetooth, EtherNet, and USB connections, as well as speedy processor and large hard drive, you can use the UMPC for virtually all of your standard office needs while in the field or on the road.

Am I limited at all by the size of the memory, RAM, etc., for my measurement applications? How many files can I store?

On PDA platforms, the size of the application file and of the data files was something to at least think about. But with the 40, 60, or 80 MG hard drives available, at least 512 MB RAM, and the speedy processing power of the UMPC, these are just not concerns. You can store many thousands of data files in the hard drive of the UMPC if you wish, and still have room for your office software, other industry specific analyzation software, etc., as well as room for your favorite games and a video or two.

Can I transfer files from the IE-45 to my PC? Then what?

Your IE-45 is a computer, but yes you can. There are lots of ways to transfer files to other PC's. Here are a few:

- USB (that versatile USB "memory stick")
- Bluetooth
- WIFI network connection
- Standard network transfer via Ethernet hard wire connection

The IE-45 comes with a basic yet powerful software application, "Ivie XLS" (you can download it free of charge from Ivie's website at www.ivie.com/software. It is a template for Microsoft Excel® and allows you to manipulate data for printing in an Excel spread sheet. You can display one or several data sets (curves), present them in multi-color bar graph or line graph format, average them, subtract one from another (differencing), select a "reference curve" and move the other curves up and down for curve fitting, and even show NC contours and do NIC **.

Another free application, RT-60XLS **, allows you to view and print your RT-60 measurements. And LEQ-PC lets you view and print your LEQ results.

** *Note: You must have Microsoft Excel installed on your PC in order to use this application.*

Software updates?

Of course! Ivie issues regular software updates that contain bug fixes, enhancements, and even new functionalities, most of which are free of charge for given versions of software.. We will continue that policy for both the IE-33 and the IE-35, though most of those updates now consist of bug fixes and enhancements. The IE-45 updates will add some additional functionality, fix the inevitable bug or two, and enhance some of the existing features. Check the download area on Ivie's web site (www.ivie.com) for the latest version(s).

Ivie also makes available for purchase some additional software applications. Check out the list below.

What software packages are currently available for the IE-45?
The software list will continue to grow over time. All software for the IE-45 can be purchased, registered, and enabled via software downloads and communication with the factory. The current list includes:

RTA analyzer software: This is the award winning software that all Ivie users have come to enjoy. Visit the web for a list of the functions, features, and options included with the software. We think you'll be impressed. Or read the IE-45 Quick Start for information about the IE-45 RTA software.

RT-60 software: For measuring reverberation time. Very user friendly and intuitive.

Record: A simple program for recording .wav files. Record, append to recordings, play back, name files, store files.

STI-PA: Interest in and requirements for the intelligibility measurement software, STI-PA continue to expand. Numerous government entities require life safety and emergency announcement systems to meet specified standards that are measured by STI-PA. Other users measure intelligibility with STI-PA for standard sound system applications.

LEQ: As with all of Ivie's software applications, LEQ survey software is very user friendly, intuitive, and accurate. The software, hardware platform, input module and microphone meet all applicable U.S. and European standards.

Delay: This software application is free. You'll need a little "Y" cable and you can measure delay in milliseconds, feet or meters. Useful is setting up or measuring digital delays.

Z-meter: The Z-Meter application is meant for measuring speaker line or speaker impedances. It actually plots the impedance curve of the line, and allows you to select up to three frequencies at which digital readouts of the impedance can be viewed simultaneously. If you deal with "constant voltage" speakers or speaker lines, this is an effective trouble shooting and verification tool.

Note: Keep an eye on Ivie's web site. New software applications that offer solutions to measurement problems are regularly introduced.

Can I run the IE-45 software without the IE-45IM input module?
Yes, with limitations. Without the IE-45IM, all recall and display functions are available. The UMPC without the IE-45IM will allow you to open the IE-45 software, but only "viewing functions" are available. These would include being able to review data that you have already taken, load data from memory into the IE-45, transfer data from the UMPC to another PC, etc. Any functions that require collection of data with the microphone or line inputs will not be available.

How long will the batteries last?
That's a good question, and a hard one to answer! Of course, all this depends on how "continuous" the use, and how bright the screen. Using the optional, high capacity, 5500 MAH battery, you can expect about 3 to 4 hours continuous, full-brightness use between charges..

Of course, battery life varies with individual use patterns.

If I don't charge the UMPC and the batteries go "flat," will I lose any data?
We can understand why you might ask that. Some who have used the IE-33 have had unfortunate experiences. Any PDA platform makes it necessary to take special care about battery life and what happens if the batteries fail for any reason. But the IE-45 software operates on a "real PC"! Your application software and data are stored on a hard drive. Period. (Of course, any particular measurement you are making at the time of a power loss could be lost, just as with any PC)

Will the included UMPC accept "standard" PC accessories?
Of course! Network cables, USB cables, computer monitors, PC speakers, USB keyboards, USB mice (mouses?), and so on. No problem.

Can I use a different mic of my choice?
Yes. The IE-45IM input module has a standard lo-Z balanced input. A Switchcraft "Tiny QG" TA4F connector is required to mate with the IE-45IM. These can be purchased from Ivie and are readily available elsewhere.

Will the IE-45 "Phantom Power" a microphone?
No. The IE-45IM does not provide "Phantom Power™" for microphones. Pin 4 of the QG connector provides 36 VDC power, but is not in the Phantom Power format. The 36 volt power is designed for the included IE-45M microphone, or the Ivie IE-5P or IE-6P preamplifier for Ivie and other prepolarized or polarized Class I measurement microphone capsules.

Special Note: *Microphones from the IE-33 and IE-35 are NOT COMPATIBLE with the IE-45IM. The 36 VDC power from the IE-45IM can damage incompatible microphones or preamplifiers.*

Where can I get more information about the IE-45?
Take a look at our downloads page (start with www.ivie.com), email us at info@ivie.com or call 801-766-7600.

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