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Geospatial Extension Program

Periodic Report

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The HP iPAQ 210 Enterprise Handheld

New High-End iPAQ

It's been nearly five years since HP has announced a high-end non-phone iPAQ. The iPAQ 4700 was announced in early 2004 and since then it has held the top place in high-end PDAs. But that title has now fallen to the iPAQ 210.

The PDA market has changed a lot in the past five years. All but a handful of PDA manufacturers have left the business. Dell, Toshiba, Fujitsu, and HTC have all either completely left the market or focus almost entirely on phones now. That has left HP, Palm, and ASUS as the only big non-phone PDA makers. This void in the market has meant little competition and little choice when it came time to buy or upgrade a PDA. Those who've wanted a high resolution screen and faster processor have just had to wait...and wait...

The iPAQ 210 has been worth the wait! It comes with a bright VGA 640-by-480-pixel screen (that's 4x the pixels of the much more common QVGA screens), built-in Wi-Fi and Bluetooth, and both a CompactFlash (CF) and SD card slot.



From left to right, previous VGA PocketPc Toshiba e800, HP iPAQ 4700, and the current HP iPAQ 210

The Best iPAQ ever?

Speed

This iPAQ is by far the fastest PDA ever made... by anyone. It has the next-generation X-Scale processor from Marvel (the company who purchased the X-Scale line from Intel). The processor has the same speed as the previous generation top-end chip, 624 MHz, but is a new efficient design that blows past the old chip in terms of performance. A few simple tests were run in HGIS and the iPAQ 210 was between 28-42% faster in every test when compared with the iPAQ 5910.



Battery

The 2200 mAh battery is the largest stock battery on any device today. There is even a 4400 mAh battery available from 3rd parties to make it even easier to leave all the chargers behind. Reviews show battery life anywhere from 3-10 hours run-time depending on use. That is unheard of battery life in the PDA field today.

Display

A bright-outdoor readable VGA resolution display is what sets it apart from all other PDAs out there today. The transreflective screen is very readable outdoors, and the anti-glare glass makes it even easier to read in direct sunlight. Unfortunately, transreflective screens are not as good as reflective screens for outdoor readability.



ity. The older generation 3600-3900 iPAQs had the reflective screens and made them the best outdoor models ever made. But it is better than many other QVGA screens found on phones and other devices.



Indoor with maximum backlight. From left to right: iPAQ 4700, iPAQ 210, iPAQ 3800



Outdoors with maximum backlight. From left to right: iPAQ 4700, iPAQ 210, iPAQ 3800

As the above shots show, it doesn't work as well outside as the older units, but it is usable. In a cab or pickup, the anti-glare screen makes a big difference and is easy to read. The indoor screen is just beautiful.

Expandability

The ability to expand and add peripherals to the iPAQ has long been one of its strong points. The past several generations of iPAQ (from the 3700 onward) have all had the same identical connector on the bottom. The 210 changes that with a new connector that looks very similar, but they are not compatible. The loss of the connector is one of the biggest disappointments with this new model.

What it adds, however, is very nice. A mini-USB port that can act as a USB host device. That means it will not only connect to the computer through the USB port, but printers and keyboards and other USB devices could be connected directly to the iPAQ. This is the first iPAQ that has had this capability.



Conclusion:

This iPAQ is the best they make right now. It is the fastest PDA ever, and has many very useful features for the Geospatial Tool Kit (GTK).

It lacks the brightest outdoor screen, but it is still readable. It also lacks the standard cable that previous iPAQs have had for years. Either a CF or Bluetooth GPS will be needed to use it with HGIS in the field, and that means lower battery life and extra cost.

But if the need for speed is on the wish list, this iPAQ is the one to buy.

HP iPAQ 210 Specifications:

- 4" VGA TFT LCD— extra bright display
- Marvell® PXA310 624MHz Processor
- Long-Life Battery (up to 10 hours of use)
- Microsoft® Windows® Mobile™ 6.0 Classic
- Integrated Wi-Fi 802.11b/g and Bluetooth 2.0/EDR
- 128 MB RAM for running applications
- 256 MB Flash ROM
- SC slot supporting SDHC for high capacity cards over 2 GB in capacity
- 1 CF slot for flash memory or peripherals that fit in a CF slot (GPS, RS-232 Serial adapter, barcode scanner, etc)
- Both a 24-pin HP connector and a mini-USB port (acts as USB host for printer and keyboards as well as connecting to a PC)
- PRICE (as of 10/1/08 at www.hp.com) \$449



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