

Tablet Analysis – Apple iPad2, HP TouchPad, RIM Playbook, Samsung Galaxy Tab 10.1, Sony Tablet S

Editor in Chief Comments – We are pleased to welcome a new contributor to FOX GROUP Media. We recently had the opportunity to work with Robert Knight on a technology integration project and was impressed with his perspective, depth and warped British sense of humour. We thought you would enjoy his perspective on these new tablet products.

>Excerpt from full article written by Robert Knight, Guest Contributor, Used with Permission

In 2008, if you were out and about and decided you wanted to surf the web or find a restaurant, look up some sports results or compare the price of something you found in a shop, you pretty much only had two ways to do it.

First was on your mobile phone, squinting away at a 3" display trying to view the information you wanted. The second was to carry around a laptop with a 3G card for connectivity, or more likely hope to find a wireless hotspot somewhere in a nearby Starbucks. Both worked but neither was ideal. Then along came the 'Tablet', a device that we never knew we needed. Larger form factor than the phone and easy to use, weighing less than most laptops and with more apps than you know what to do with, they filled a void in the consumer electronics marketplace.

Three years on and with over 70 million sold worldwide, tablets are now very much a part of our everyday lives. If you find yourself in a coffee shop, airport lounge, on the train or in a business meeting, have a look around and you'll see someone using one of these devices. Whether for business or leisure, tablets have created and then occupied a niche that sees no sign of disappearing. With the latest predictions estimating over 200 million of them being sold by 2014 they are definitely a product that is here to stay.

So let's say you've decided to buy one these "fondleslabs" as they've been called, but which one to get? Shopping around you'll find there are dozens to choose from and a bewildering array of specifications. Screen sizes ranging between 7" and 11" with a variety of processors and memory options. An array of operating systems (naturally none of which talk to each other), a lot with 3G and GPS, and just as many missing these features too. Some have standard connectors and others go down the proprietary route, and with prices varying from £200 to over £700 how do you make your mind as to what's right for you ?

With all this in mind and based on what's out there I've reviewed 5 of the tablets currently on the market (although the availability of one of them is limited). Whilst not a comprehensive list by any means, this list covers 5 different manufacturers running 4 different operating systems on 4 different processor types with 4 different screen formats. What they all have in common, however, is that each of them showcases a different positive aspect of modern Tablet design and functionality, meaning one of them may be right for you. Hopefully I'll be able to shed some light on what's out there, showing the pros and cons of different makes, models & manufacturers

and perhaps make that buying decision a little bit easier.

Below is a table showing the 5 tablets I've chosen with a brief overview of the main specs of each. All have similar battery life (around 8-10 hours) meaning you should get a day's worth of use out of all of them before needing to recharge. Some specs I've excluded as all of the devices have it. Examples include Multi-point touch screens, multimedia playback, built-in bluetooth and the ability to connect to a PC (or similar) for data backup/restore or software installation. Also note that the operating systems and versions listed are current as of October 2011. These can and do change quite regularly as manufacturers upgrade the devices.

Tablet Specs

	Apple	HP	RIM	Samsung	Sony
Device	iPad 2	Touchpad	PlayBook	Galaxy Tab 10.1	Tablet S
Operating System	iOS 4	webOS 3.0	QNX 1.0	Android 3.1	Android 3.1
List Price (#1)	\$499	\$250 (#2)	\$499	\$499	\$499
Storage options	16Gb, 32Gb, 64Gb	16Gb, 32Gb	16Gb, 32Gb, 64Gb	16Gb, 32Gb, 64Gb	16Gb, 32Gb
Processor (#3)	ARM A5, 1.0Ghz	Snapdragon 1.2Ghz	OMAP 4430 1.0Ghz	Tegra 2 1.0Ghz	Tegra 2 1.0Ghz
RAM	512 Mb	1024 Mb	1024 Mb	1024 Mb	1024 Mb
Size (#4)	241.2 x 185.7 x 8.8	240 x 189 x 14	194 x 130 x 10	256.2 x 172.9 x 8.6	241.2 x 174.3 x 20.2 (#5)
Weight	601g	740g	425g	565g	598g
Screen size	9.7"	9.7"	7" (#6)	10.1"	9.4"
Resolution	1024 x 768	1024 x 768	1024 x 600	1280 x 800	1280 x 800
Pixel Density (#7)	131.9	131.9	169.5	149.4	160.6
SD slot	N	N	N	N	Y
WiFi	a/b/g/n	b/g/n	a/b/g/n	a/b/g/n	b/g/n
Built in 3G	Y (option)	N	Y (future release)	Y (option)	N
GPS	Y (#8)	N (#9)	Y (#10)	Y (#8)	Y (#10)
HDMI	Y	N	Y	Y	N

Notes (#)

- 1) All prices are in USD, and are quoted for the smallest capacity base model available, minus 3G (if appropriate)
- 2) List price at launch was \$499, however the tablet is now being sold off at a discount. Prices vary depending on retailer, and this is a guide price.
- 3) All Processors are Dual Core
- 4) Dimensions (W x H x D) are in mm
- 5) This is the maximum thickness of the tablet at the top, which reduces to 7.6mm at the other end
- 6) The PlayBook also makes use of the area surrounding the screen for gestures
- 7) Calculated in PPI (Pixels Per Inch) - Higher is better
- 8) Available on both WiFi and 3G models
- 9) Can perform location tracking using wireless, or through an external GPS or tethered 3G device.
- 10) Available on all models, using autonomous GPS, with A-GPS available on 3G models.

Conclusion

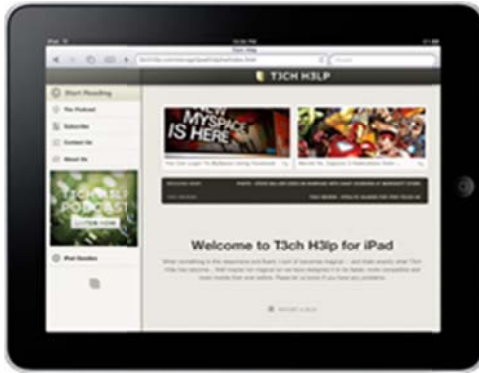
So what conclusion can be drawn from all this? From everything I looked at, it becomes very obvious that each tablet has its own strengths and weaknesses and there is by no means a one-size-fits-all solution when it comes to choosing a device. None of the devices are perfect and at the end of the day the tablet of choice will be determined by the person’s needs, budget, and in some instances technical know-how.

All the tablets are good, but for different reasons.

	Pro's	Con's	Best for
Apple iPad 2	It's sexy. Incredibly easy to use. The size of the App market.	Closed wall design, and premium price for a below spec device. Expensive additions due to proprietary design. Expect to also be accused of being a sheep :)	Existing Apple product owners, and people who like their technology to "just work".
HP Touchpad	The bargain price. Ease of modifying and availability of quality Homebrew software.	End of life product and availability is limited.	People looking to get into the "higher end" tablet market without breaking the bank.
RIM PlayBook	It's ridiculously fast. Portability. Seamless Business integration for those using BES/BIS.	Requires a BlackBerry phone to get the best out of it. Screen size will be an issue for some.	Business users, and power/speed junkies who want to impress their mates.
Samsung Galaxy Tab	Build quality. Best example of Android Honeycomb currently on the market.	It's tied up in court cases, and hard to get hold of. Proprietary connectors.	Android fans, who want the best of breed product on the market.
Sony Tablet S	Interfaces to everything except the kitchen sink. Cool (but quirky) design.	The design won't be to everyone's taste. Lacks some of the features of other Android tablets.	Technophiles, Gadget lovers and people with a lot of electronics around the house.

Footnote: For those curious as to why there isn't a Windows tablet in the mix, I did initially intend to review one. However, the more I looked at the ones out there, the more I came to the conclusion that for anyone for whom Windows is a requirement in a small form factor device, at this point in time you're better off getting a mini notebook instead. The portability and convenience of a tablet is unfortunately more than out-weighted by the performance and ease of use you get from in a regular notebook type device. Until Microsoft releases a tablet specific version of windows, I doubt this will change either.

Detailed Product Comparison Notes



Apple - iPad 2 - What can you say about the industry leader in the tablet market that hasn't already been said? Despite not inventing the device (Microsoft did that back in 2002) Apple were the first company to make it saleable to the public in 2010 with the original iPad. By the time the launch of the iPad 2 came around in 2011, Apple had sold over 15 million of those first generation devices. Combined with the iPad2 this currently gives Apple a dominating share of about 64% of the Tablet market and they're not there without good reason. Sleek, easy to use and with an almost obsessive fan base, Apple have single handedly created the desire for Tablets today in a way that Microsoft never could 9 years previously.

The second generation iPad 2 improves on the already ground-breaking iPad with some modifications to core specifications, largely leaving the operational side alone. The UI/UE is almost flawless being not only very well designed but incredibly easy to use. I've known people in their 70's just pick up an iPad and be able to use it immediately which is a testament to how intuitive the interface is.

As you would expect the iPad integrates perfectly with all other Apple devices and there is an enormous marketplace (350,000 apps as of Feb 2011) providing end users with access to pretty much every type of App they could require. Quality varies but with that wide a choice chances are you can find the software you're looking for somewhere. One thing to note there is these Apps do have an alarming habit of accessing your personal information, with 34% of them capable of accessing your location and 11% your user contacts (and that's just the free ones)...something to bear in mind next time you surf the store.

Despite updating the architecture in the iPad 2 from the original iPad, the actual specifications on the tablet are unfortunately only so-so. Whilst visually very appealing, when it comes to doing stuff, the tablet lacks 'oomph' compared to its rivals. Its memory and processing power is small, and the screen resolution is poor compared to most of the others in the market with similar sized displays. Multi-tasking isn't its strong point either, with iOS often putting applications to sleep or reducing their processing capability if not full screen.

Another weakness is its poor showing when it comes to work related duties. With no "Office" suite you're reduced to reading documents as PDF's, and lack of built-in Office editing capabilities can be annoying for business users. There are paid for Office apps but at \$10 per program it seems an expensive way to get work done when compared to the competition. Lack of Flash support can also be an issue, although with HTML5 round the corner and a lot of websites developing iPad friendly front ends, this is becoming less of a problem than it once was.

Apple have adopted (some would say invented) the "closed walled" design and end user experience. Depending on your viewpoint this can be seen as either good or bad. Essentially Apple controls everything, from development, manufacturing and hardware distribution, to pricing, software approval and release. This obviously makes for a more seamless and integrated user friendly experience but without doubt at the expense of freedom of choice.

If you buy an iPad be prepared to have to convert your other day-to-day devices to the same company if you want them to all talk to each other with the same ease that you use your tablet. This proprietary design philosophy continues throughout the device with Apple specific chargers and cables required for connectivity, none of which are cheap in comparison to the equivalent industry standard ones.



Despite these negatives though, overall the iPad2 is a well-designed, slick and easy to use tablet that is perfect for the regular user who wants their technology to “just work”. If nothing else, Apple has done that part perfectly, making this the de-facto tablet of choice for most casual tablet users.

HP - Touchpad HP is one of the world’s largest information technology manufacturers so it came as no surprise when they decided to release their own tablet device in August this year. However, their foray into the market lasted precisely one week. With struggling sales, complaints about poor performance and HP unsure as to whether they wanted to be in the tablet market anyway, they decided to kill the product. Shortly thereafter HP conducted a “fire sale” dropping the \$499 list price tag to \$99 and promptly shipped nearly a million of the devices in 2 weeks proving that there was a market for it, just not perhaps at the Apple price point. Prices now have stabilized and, assuming you can find one, the Touchpad can be picked up for around \$250-\$300 (for 16Gb & 32Gb models respectively). Some retailers that still have stock are trying to hold the original price, so your best bet for sourcing one is most likely somewhere such as Amazon marketplace.

Out of the box the HP developed webOS UI is reasonable but slow, which was one of the initial complaints about it. However, unlike a large portion of the other tablets on the market, it can be user modified and once done so the Touchpad runs very well indeed. The tweaking process takes about an hour from start to finish and is a straightforward enough procedure, with numerous online guides and reference documents showing you what to do. Once modified this also opens up the thriving homebrew market which currently has around 600 apps available for download from enthusiastic developers. Being webOS, a lot of these apps are ports from the Palm Pre & HP Veer mobile phones but they work equally well on the larger Touchpad, with a number of developers already in the process of redesigning their apps to suit the Touchpad's larger screen.

The official webOS App market is small in comparison to Apple / Android with just under 7,000 Apps, but the Apps are invariably high quality with little or no 'silly' apps that plague the other two big markets. Again, not too many are designed purely for the Touchpad but this is changing over time and more apps are released on a daily basis, proving this isn't quite the dead product it first appears. There is also rumoured to be an Android port on the way and with an emulator under development already this would then also give users access to the 200,000 or so Android apps out there as well (figure quoted by Google from May 2011).

What software there currently is for the device is well written and there is a good "Office" clone built-in (I wrote the first draft of this review on it).

As the device has been discontinued, Touchpad specific accessories can be a bit hard to come by, although the tablet itself uses industry standard connectors and interfaces making charging and connectivity easy.

The device itself is very well made but you'd expect that from such a large hardware manufacturer as HP. Quality components with a nice design, it could almost be an Apple clone. Similar dimension specs to the iPad with the same 'one button' access on the bottom of the tablet means you may be accused of being an Apple user by less knowledgeable people (yes, it's happened to me already) Solidly built, easy to operate and stylish (in an Apple kind of way) makes the Touchpad a great device for people looking to gain entry into the tablet market whilst not having to sacrifice build quality or performance.

There is a limited choice of models (16 & 32Gb Wi-Fi only), but like most other tablets it can be tethered to certain mobiles making the lack of 3G a moot point. Overall, despite its shortcomings, this is a good quality tablet at a bargain price and for those looking for an entry level tablet with higher level specs and solid build quality it's definitely one to consider.



Research In Motion - BlackBerry PlayBook RIM's first venture into the tablet market is very much designed for the business user and whilst it can be used by non-Blackberry devotees, it works best when paired up with one of their phones. Seamless integration to any Blackberry running OS6 or higher combined with a useful set of business applications including an mini Office suite (with Excel, Word and PowerPoint), FTP, Telnet, RDP & VPN utilities along with Citrix and other remote applications makes this tablet almost good enough to replace the standard laptop / phone combination.

The smaller form factor can be seen as both a pro & con however, and whilst the portability of the PlayBook will appeal to some, others may not like the reduced size of the screen and the lack of visual real estate. That said, given that Amazon are using the base design for their upcoming Kindle Fire, someone somewhere thinks it's the right size to be using for these devices. It should also be noted that the PlayBook is the only device where the black glass area surrounding the main display is also touch sensitive allowing for more of the device to be used in day-to-day operation.

RIM has a small but solid app market and with Android emulation and marketplace connectivity due early in 2012, this could bode well for the devices long term future. Aside from the obvious business focus there are still leisure apps to be found however. The BlackBerry App World includes such staples as Facebook, Twitter and Youtube along with a wide variety of good quality games and other entertainment. The "Need For Speed : Undercover" game shipped with the device is a showcase demonstration of the the type of HD HDMI output that the PlayBook can deliver. Playing on a 40" TV screen, you'd be hard pressed to tell the difference between that and a console version of the same game.

One of the areas where the PlayBook does stand out is the sheer speed of the device. It is blisteringly fast compared to most of the other tablets on the market due to both the processor and operating systems being used. The PlayBook is the first device I've used that truly does have seamless multi-tasking with absolutely no lag between applications or when running multiple apps in both fore and background. The QNX OS is also incredibly stable and in the 6 months I've owned the device, I've only once had it crash on me, which is more than I can say for some of the other devices I've used.

Similar to the Touchpad, the PlayBook uses industry standard connectors throughout and comes with a high capacity charger to speed up charging times.

Looking around, it is currently being heavily discounted in some places due to the upcoming 3/4G version release. For someone with a Blackberry already the tethering capability of the PlayBook really makes this a moot point. For those without a Blackberry however, the speed and portability of the PlayBook coupled with 3/4G connectivity will make this a device well worth considering.



Samsung - Galaxy Tab 10.1 The Galaxy Tab 10.1 is the largest of Samsung's range of Android tablets, running Honeycomb 3.1 on the same hardware specification as Sony's Tablet S product.

Like Sony, Samsung have tweaked the stock Android interface, adding their own Touchwiz UX overlay on top. Unlike Sony however, most of these additions are cosmetic, resulting in layout changes but with little impact on the performance of the device. The device runs very smoothly with little or no lag between application changes or system operation. Performance overall is

excellent and although the Galaxy Tab has a larger screen than the iPad, the increased pixel resolution results in a much clearer and sharper image than the industry leading Apple device can deliver. This was most evident when watching movies and videos when the Galaxy outshone the iPad 2 by some margin.

I have to say, without wishing to sound too gushing or enthusiastic and not wishing to take anything away from the competition, I think the Galaxy Tab is currently probably the best example of what an Android tablet should be like. Any tweaks Samsung have made have been to improve the user experience without any detrimental effect on performance. Well designed and manufactured, responsive with a solid UI, the Tab 10.1 is a showcase for the Google Android experience. The tablet feels solid and well made, and is a pleasure to use. Whilst not quite up there with the slick UI that Apple delivers, it certainly comes a close second.

Unfortunately it's design is probably one of the reasons why Samsung is currently locked in so many patent disputes and court cases with Apple at the moment. Apple is accusing Samsung of violating a number of Apple patents in their product and the design similarities between the two can't be ignored. Whilst this appreciation for the Apple design has resulted in a great looking device, as a consequence it has also resulted in limited availability of the tablet to a number of markets until these court cases are resolved. To date I've been unable to source any of the 64Gb devices, with limited availability on some of the lower end machines as well.

Aside from the difficulty in actually getting hold of one of these devices, one other less favourable result of Samsung's attention to the Apple design is that the Galaxy, like the iPad, uses proprietary connectors. With the rest of the industry promoting compatibility and interconnectivity it's a shame to see Samsung herding people down the route of "it's our way or nothing".

Overall, if you want an Android Tablet and are willing to wait out the legal issues Samsung has, then the Galaxy Tab is almost certainly the best of the bunch. Good design, great O/S and priced competitively to the competition, it's a perfect example of what Android can do. That said, if Samsung lose their series of court cases to the Cupertino

lawyers, you may want to consider other options.



Sony - Tablet S I can probably describe the Sony Tablet S (previously codenamed the S1) in one word. Marmite. Whilst personally I am not a fan of the quirky (read “stylish and unusual”) design, from chatting with friends who either own or have used it, they all agree it is incredibly well made and the design is something to be admired and not ignored.

Naturally, with Sony being a media orientated company, it comes as no surprise to see that the Tablet S is fully integrated with a wide variety of content delivery and receiving devices. These range from TV’s, DVD’s and BluRay players all the way through to media players, speakers and even the PS3. If it has DLNA capability or can be connected to via Bluetooth, USB or Infra-red, then chances are the Sony tablet can likely as not connect to or control it.

This seamless integration to a wide variety of media devices, including those from other manufacturers, plus the PlayStation connectivity and gaming built-in makes this the ideal device to act as a media centre and games controller. I was lucky enough to attend a Sony VIP preview evening a while back and saw just how well Sony have thought this integration through. Media streaming to a DLNA compliant Sony TV was impressive with little or no lag visible during playback, whilst control of other devices was intuitive and smooth as well. There is a stand designed specifically for the device which both allows the unit to sit at a comfortable viewing angle for use with a wireless keyboard, and also acts as a nice display piece for the tablet when sat next to the TV or audio system.

I did idly joke why someone would pay \$500 for an oversized remote control, albeit with other capabilities, but the Sony reps didn’t seem to think that was particularly funny. Ironic given that Sony’s own website advertises the device as “The ultimate remote”.

Returning to the design for a moment, I was a little bit disappointed in the button layout on the tablet as I’d sometimes hit the wrong button by mistake when trying to change something (volume vs on/off for example). I’m sure after a while I’d get used to it but it’s not nearly as intuitive as other tablets. I suspect some of this may be down to the IR port on the top part of the tablet taking the place of what is traditionally the on/off area for most other devices With button layout and standardisation being commonplace amongst other vendors, it does mean this isn’t a pick up and play device the way most others are.

Performance wise, the Tablet seemed slightly slower compared to other Android tabs (the Galaxy for example), but the Sony rep at the VIP event assured me they are working on an update. With virtually identical hardware specs as the Galaxy I can only assume it is the Sony UI that is the cause of the issues. Given that this is integral to Sony’s “command and control” capability, I’m also assuming this will require tweaking to bring the tablet in line with the performance of its competitors.

Lacking some of the features of other Android tablets, the Sony offering isn't the best on the market. However, for anyone with a lot of toys & gadgets around the house, this is the must have device for controlling them. It's easy to use and with Sony and its competitors updating the list of compatible device on a regular basis, it becomes an increasingly attractive option to the technophiles amongst us.

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