Provide a specification and comparison of three different computer systems within a given brief, including 'best buy'

To be able to compare three computers equitably, the brief has to be clearly established. In this instance, the three machines are all described as "midrange laptops". There are several different categories into which laptop machines are grouped, from entry/budget level, to desktop replacement machines, with some other interim grouping based around the physical size and weight of the machine. A midrange laptop is defined as "offering performance at a reasonable price", and having "all the main features but tend[ing] to be one step behind the best specified machines on the market" (*What Laptop*, 2001).

The three computers selected for comparison are detailed below:

Model	Apple iBook SE	IBM ThinkPad A21e	Hi-Grade Notino A1300-800
Price (inc VAT)	£1499	£1629	£1526
Weight	3.1kg	2.6kg	3kg
Screen Size	12.1"	14.1"	13.3"
Battery Life	244 minutes	64 minutes	150 minutes
Pointing Device	Touchpad	Pointing Stick	Touchpad
Processor	PowerPC/466	Celeron 700	Pentium III/800
RAM	64Mb	64Mb	128Mb
Hard Disk	10Gb	20Gb	20Gb
Dimensions	294 x 344 x 46 mm	260 x 302 x 32 mm	250 x 308 x 41 mm
Modem (yes/no)	Yes	Yes	Yes
Screen Resolution	800 x 600	1024 x 768	1024 x 768
Display Depth	16 bit	16 bit	24 bit
CD / DVD	DVD	CD	DVD
Type II/III PCMCIA	None	2/1	2/1
PS/2 Port	No	No	Yes
USB Port	Yes	Yes	Yes
Infrared (IR) Port	No	Yes	Yes

(compiled from: *What Laptop*, May 2001)

Before assessing the machines, it is worth considering the reasons that buyers would be looking to purchase these types of machine. A fair assumption is that these would be bought by home users, who want to use a computer for a little more than e-mailing, Internet, and

word processing, but do not have the space for a desktop machine, or prefer the flexibility of a laptop. They would also be appropriate for SMEs (Small to Medium Enterprises) whose users need to be able to work out of the office, or demonstrate the company's product, but do not need a 'top of the range' machine.

An overall look at the machines immediately highlights the fact that one of them is not Windows based. The iBook is Apple Computer's portable equivalent of the radically designed iMac. While it may initially appear out of place in this comparison, if the potential users are considered, its design and simplicity of use could hold great appeal to a home user. It is unlikely to be chosen by a business user (unless they have a history steeped in Apple computers, such as many design bureaux) as it is not Windows based, although there are emulators available allowing them to run Windows applications.

Examining the specification of the iBook, there are several points that are worth mentioning. The most striking feature is the four hour battery life which other laptops, even desktop replacement models, fail to approach. The presence of a DVD drive is also noteworthy, as it opens up many multimedia options to the user, which is very in keeping with Apple's mentality since their first graphical operating system in 1984; however, the 12.1" screen is quite limiting for such multimedia applications. Although Apples do not require such a powerful processor, or as much RAM as their Windows based equivalents due to the design of the OS, both the 466MHz and the 64Mb may turn out to be under powered as more content rich DVDs are published. The lack of PCMCIA (Personal Computer Memory Card International Association) slots and IR port fit in with the design decisions made with the iMac of focusing on the universal serial bus as the method of connectivity for peripherals. The lack of a PS/2 port is expected as Apple have never used PS/2 for connecting either keyboard or mouse, favouring their own ADB (Apple Desktop Bus) introduced in 1984,

although phased out with the iMac, as their new keyboards and mice also connect through the Universal Serial Bus (USB).

The ThinkPad is the most expensive machine in the selection, but apart from the generous 14.1" screen, it could be argued that the price includes an element of paying for the name. While it is the lightest machine (essential for a travelling user) the feeble battery life (also essential for a travelling user) must be its greatest failing. IBM's decision to use a "Pointing Stick" rather than the trackpad found in all other laptops (with the exception of Toshiba) as their pointing device could also been seen as a failing due to its innate lack of controllability for precision tasks. The choice of a Celeron 700 processor betrays IBMs budget design: while a 700MHz processor would be wholly acceptable for the majority of applications that the target market would want to use there could be potential problems with software designed for the infinitely more prevalent Pentium processors. The amount of RAM (with 64Mb being viewed as the minimum specification for many business machines) could also be seen to be part of the cost cutting exercise. While the same is true of the exclusion of a DVD drive, this could also indicate that IBM sees its target market as the business, rather than proficient home user, as DVD is still very much being pushed as a home entertainment medium, rather than a business critical medium.

The ThinkPad is also missing the PS/2 port, but unlike Apple, IBM does not have any excuse for this serious omission. This exclusion means that it is impossible to connect an external keyboard or mouse (unless a serial device is used) which would enable the machine to be used as a pseudo desktop replacement, or for greater control over tasks requiring precise pointer work. The IR port is potentially useful for the mobile user, as it allows the user to print on certain printers without the need for carrying cables, and it also works with various mobile phones to allow e-mail and Internet access, again removing the need to carry several cables and adaptors to use the modem when travelling.

The Hi-Grade Notino, although not manufactured by one of the large corporate names, is made by a company who have regularly won prizes for their laptops and appear to continue from strength to strength. In comparison to other midrange laptops the major disadvantage of the Notino is the screen size. A 14.1" LCD is nearly approaching the viewing area of the standard 17" desktop monitor, but 13.3" could be a little limiting for some potential applications, especially when it is considered that the Notino has a DVD drive, and the greatest colour depth (24 bit, or 'True Colour') of the three laptops. Apart from this (which could be circumvented by using it in conjunction with a 17" monitor for multimedia applications) every other aspect of the machine's specification seems to have maximised the available budget. The battery life is a vast improvement over the ThinkPad, which seems strange when it is considered that it is running a faster processor, and is a generally higher specified machine.

The Pentium III 800MHz processor is very impressive in a midrange machine, as desktop replacement laptops are currently only utilising 1GHz processors. The 128Mb of RAM should be sufficient for nearly any application apart from high-end video editing, for which it is doubtful whether a laptop with a diminutive screen would be used anyway. The hard disk should also be adequate for the average user, indeed many people would have difficulty in filling the iBook's 10Gb hard disk during the computer's useful life. The screen depth, although at odds with the physical screen size, would enable graphic rich applications to run and DVDs to play without problems. The full complement of connectivity also mean that this machine has as nearly as much flexibility as a desktop machine, surely making it a close contender for a desktop replacement, rather than a midrange laptop.

Overall, it can be seen that unless the user has a specific reason to consider Apple's iBook, the "best buy" machine is the Hi-Grade Notino as it offers a very impressive specification for a price not greatly more than would be paid for a similarly specified desktop model.

(1229 words)

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