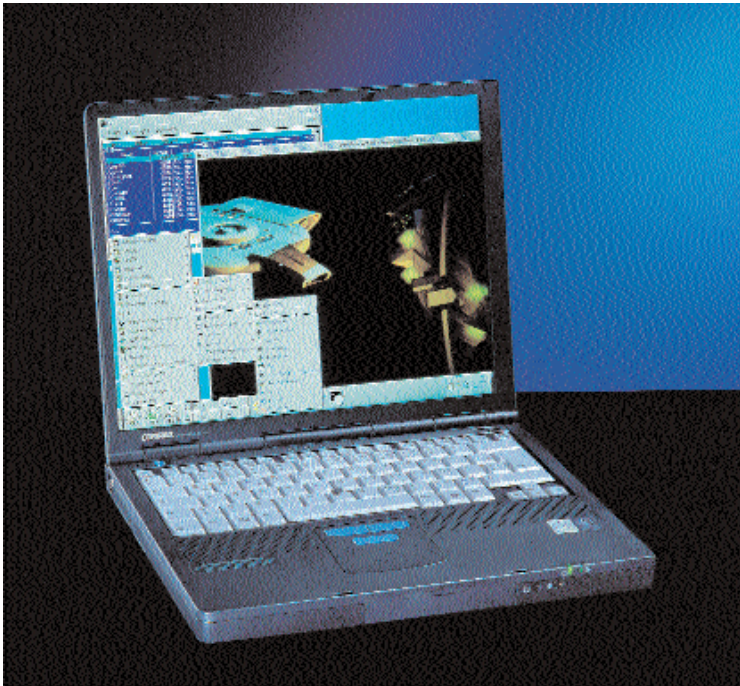


COMPAQ ARMADA M700/7700



The Compaq Armada M700/7700 belongs to the category of ultraportable notebooks. At first glance the M700 is worth the asking price for its robustness alone since aside from a few bits and pieces here and there its housing is made completely of magnesium alloy. The design also stands out from the rest because of the generously-curved edge at the left front side which is an eye-catcher in itself. When closed, the Armada looks very much like a book, which is due to the straight right-angled sides and the Compaq logo which is turned to look like the title of a book. Overall the device is very handy and its simple elegance is inspired.

The keyboard is, like the case, fairly non-standard. The trackpoint, a sort of mouse-cum-joystick, sits as usual between the keys [G], [H] and [B]. When using most trackpoints it's not hard to slightly touch the [B] key with the index finger and this may be bad depending on the program being

used. For this reason, Compaq has tilted the [B] away from the trackpoint so there is more room for the index finger, something which doesn't noticeably affect the typing feel or ability. Under the space bar are three mouse keys which can be operated with no problem using the PS/2 protocol.

Due to the compact dimensions – the lid is only a few millimeters larger than the 14.1-inch TFT display – the centre of the image is slightly offset to the left with respect to the keyboard. The result of this is that you have to look at the display a bit askew. This is not really a big problem but takes some getting used to – you tend to sit centred to the display but then type one row of keys to the left and keep producing gibberish.

First Start

The notebook was supplied pre-installed with Windows 98 although you don't get the CDs. A standalone disk drive is supplied together with a set of cables consisting of a parallel port adapter, modem and Ethernet attachments. The power pack has the new triangular power socket which is incompatible with common power leads. If at all possible, you should try not to lose this because replacements could be costly. But Compaq is not alone when it comes to this new standard – Acer and IBM made the same choice.

Before you delete Windows when installing Linux, you should change the TV output of the ATI Rage Mobility graphics chipset from NTSC to PAL as there is no option for this to be found in BIOS. This changeover under Windows is necessary only once and remains permanently active.

While we're talking about TV, it's worth nothing that the Compaq Armada is the only device here to simultaneously output to display and TV over the entire range of resolutions – there is no need to set lower resolutions for

presentations. Switching between simultaneous and purely external operation, by the way, is done by means of a little knob on the left next to the standby switch which worked under Linux without problems.

Loading Linux ...

Installation of SuSE Linux 7.0 Professional went smoothly – YaST2 configured the XF86_SVGA-Server and then included the integrated Ether Express Pro 100 from Intel. But the installation of the sound card, an ESS 1978 Maestro 2E, was something the SuSE-Tool found too hard a nut to crack – the kernel module refused to co-operate. But with *modprobe maestro* the sound card was installed by hand with no further problems.

During the entire installation the display flickered noticeably. After changing to text mode it was hard to recognise anything at all, in fact. This probably stems from the mode lines in YaST2 not being quite correct. After a reboot, though, the phenomenon disappeared and was never encountered again.

The Irda chip was not recognised by *findchip* using *irda-utils* but could be used as */dev/ttyS1*. What matters more is that in the kernel under *Character devices* the option *CONFIG_SERIAL_DETECT* has been selected and in the start script of the *irmanager* the second serial port is assigned to IRQ 3 via *setserial*.

CardBus problems

A further surprise was waiting for us. In the manual Compaq states with regard to PCMCIA and CardBus that, at least under Windows 2000, one can only exchange cards with the device switched off. Funnily enough, this also seemed to relate to Linux because after every insertion or removal of a card (with *cardmgr* running), the kernel promptly died.

The solution is to manually enter the *irq-lines* of the card services – we used IRQs 7, 9, 10 and 15 for PCMCIA and IRQ 11 for CardBus. After these entries the cards could be changed at will.

The CardBus controller from Texas Instruments PCI 1450 needed for the initialisation of our Type-III-PCMCIA hard disk a good 20 seconds to get going. During this period the whole system was paralysed. The positioning of the two Type-II CardBus slots at front right of the device may be something of a nuisance with some cards that have lots of external cable connectors, but on the other hand they remain astonishingly cool at just 30 degrees. The overheating which occurs with other notebooks will not happen to this one.

The only thing we found irksome was the dummy inserts used to cover the CardBus slots – in practice they're bound to get lost or damaged. Spring shutters which close automatically after the cards are removed are better. Compaq also supplies



By slanting the [B]-key on the upper side, there is more finger room when using the mouse.

as an accessory a shutter for the drive slot so that for example on an aeroplane where built-in CD-ROM- and DVD-drives are not allowed you don't have to sit around with a hole in the side of your notebook.

Big Brother X11

Last of all we have a piece for the Cabinet of Curiosity. As already known from the world of desktop PCs, it's frequently the case that when restarting the X-server, you can see the old screen content for a fraction of a second. The reason is that the graphics RAM is not completely flushed at every X start or X shutdown and is only wiped when power is lost. However, this isn't the case with the Compaq Armada – hours later the desktop from the last session is clearly visible for just under half a second.

This is perhaps not enough to spy out complex management structures, but may convict the son of his "immoral" internet activities on daddy's laptop. So it is worthwhile restarting the X-server again before shutting down the computer or at least to close any traitorous windows.

Conclusion

The Compaq Armada M700/7700 is one of the best notebooks in our test. All the integrated hardware could be installed with minor tweaks to the standard installation. The only niggle was that the sleep mode under X11 always ended with a crash, while no report of this problem was seen on the console. It was also a bit difficult to keep the Armada on one's lap. The main air vent lies over the left knee and warms it to just under 60 degrees. – it might help cure rheumatism but isn't ideal for constant use. As you'd expect, the only thing left to say is that it's a pity that Compaq does not offer this device pre-installed with Linux. ■

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(+)	robust, handy case
(+)	Hardware is completely supported
(+)	TV-output supports high resolutions
(-)	Sleep mode under X leads to a crash
(-)	high price