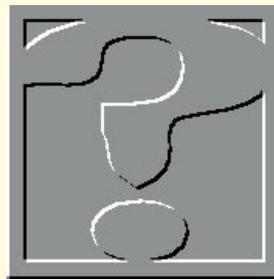


## Any questions?

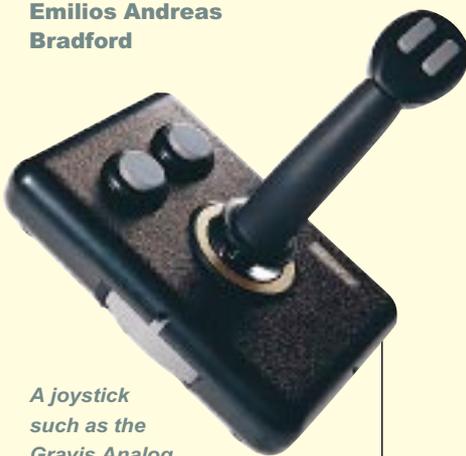


If you have a PC problem or think you could help out other readers, contact **Frank Leonhardt**.

**Q** "I would like to buy a good joystick, for a PC, to use with flight simulators and some arcade-type games.

Reading through PCWI came across three possibilities: the CH Flightstick Pro, the MS Sidewinder Pro with Fury, and the Gravis Professional Analog. I have played around with the Flightstick but know nothing about the latter two. I do not want to spend more than the price of the Flightstick Pro. Please advise me."

**Emilios Andreas Bradford**



A joystick such as the Gravis Analog Pro can be used both for flight simulation and arcade-style games

To make sensible use of a serious flight simulator you need a good analogue joystick, at the very least.

Analogue joysticks are different to the digital type because software is able to read exactly how far the stick has been moved in any direction, rather than simply reading the direction alone.

For proper flight simulation this is critical. You need to be able to make precise and rapid adjustments of the angle of all the virtual aircraft's control surfaces and hold them in place. Using a digital joystick as a substitute would be like dispensing with the steering wheel on a car and replacing it with a pushbutton to turn left and right.

You can switch most flight simulators into easy mode so you can control them from the keyboard or a digital joystick, but where's the fun in that?

While I'm on the subject, you really need rudder pedals to simulate the three-axis control found on most aircraft (pitch, bank and yaw). Without pedals, which

conventionally control the rudder and thus the yaw, you can't perform the more interesting manoeuvres like landing with a cross-wind.

However, analogue characteristics are just what you don't need for arcade games. I have been assured by PCW's resident leap-and-zap merchants that the best joysticks for them are digital; better still are digital game pads such as the Phase 9 Phantom 2 from Euromax.

This explains why I've never got on with arcade games using my Flight Simulator set-up — I had hitherto assumed I was digitally challenged.

This reasoning suggests that you would be far better off with a digital joystick for arcade games and a good-quality analogue one for flight simulators.

There are any number of digital sticks around. The thing to look for is a combination of microswitch construction (meaning durable switches), solid build and a price low enough to make it expendable should you become over-enthusiastic while in battle with the killer rabbits from Hades.

Flight simulator enthusiasts are divided between products from CH and Thrustmaster. The latter has a following in the military simulator camp, where the bias is towards zapping the enemy. Flight simulator fanatics, who look for technical accuracy above all else, prefer the CH product range.

The snag, as ever, is the budget; buying a Flightstick Pro leaves you nothing for a separate arcade stick. However, the Flightstick standard has a more reasonable price tag of around £30. The difference? The Pro version simply has some extra buttons cluttering up the head of the stick to save some use of the keyboard.

### Drive B for CD?

"Having read your answer about CD-ROM and hard-drive letter assignment in the March issue, I wondered whether there was any way of using the commonly redundant drive letter 'B' for the

CD-ROM. As I have only a 3.5in floppy drive, it seems a sensible answer.

I have tried some experiments to see whether it would work but (as expected) it wouldn't, probably due to the drive letters being assigned in hardware or BIOS. I suspect that the manufacturers have already thought of this and that a solution is either possible and coming; possible and not coming; or impossible."

**David Laurie**

Drive letter B has always been a special case, I'm afraid. The original IBM PCs could have a single floppy drive and nothing else, which presented problems copying files from one disk to another, or even keeping your document files on a separate floppy to the word processor.

To make a single-disk machine useful, a little fudge was put low down in the system BIOS. Basically, any application which asked was assured by the system that both drives A: and B: were available for use. Only the BIOS and the user knew the horrible truth — and it was pretty horrible. Whenever the software wanted to use drive B: the user was prompted to swap the current floppy for the one which would have been in drive B: if it had existed. Then, when A: was required, you were asked to swap them back again.

Should you ever want to show your grandchildren how tough life once was you can still activate this feature — just type COPY A:\*.\* B: with a floppy full of files and wait for their arms to start aching and their button-pushing fingers to turn red. (This was even more fun if you had the basic 64Kb machine, of course.)

The BIOS actually stores the true number of floppy drives in bits 6 and 7 of address 40:10 (the equipment list flags). Because this happens at such a low level, whatever drive you are planning to use in place of drive B: had better look very like a floppy disk to the system — and a CD-ROM drive just doesn't.

With clever software it can be done. Iomega managed to map their 1.44/21Mb

## Frank's bargain basement

● Further to discussions about installing several operating systems on one PC, Michael Hohmann wrote to me to sing the praises of System Commander, by V Communications Inc. According to its UK distributor, Ingram Micro Services, it is absolutely wonderful and allows you to keep DOS, Windows 95, Novell, Unix (many flavours), OS/2 and just about anything else, on the same drive.

Considering that some of these systems have different filing formats, this would be quite a feat and some combinations probably aren't as simple in practice. At £59 it's not cheap but nevertheless seems very popular in the US.

● If all you are after is a way to keep Windows NT, Windows 95 and MSDOS on the same disk, then J. David Bryan has helpfully provided instructions on <http://www.bcpl.lib.md.us/~dbryan/directboot.html>. Thanks to James Roberts-Thomson for finding them. Before those without Internet access write in to complain, I'm afraid I can't include the details here because there just isn't room!

*floptical drive as B: and it worked rather well until Windows 95 appeared. Now it doesn't, and Iomega appears unable or unwilling to fix it. In general, however, it is best to leave B: to the BIOS.*

### Best budget buy

"I have £600 to spend on a PC. What is the best I can buy for my money?"

[tmancini@bathhe.ac.uk](mailto:tmancini@bathhe.ac.uk)

*I'm afraid your budget isn't going to get you very much. You should carefully consider what you intend to do with the machine before making your choice.*

*If it is your plan to run the latest PC software, then forget it. You'll need to spend £400 (plus VAT) on 16Mb of RAM alone. You might be able to find a secondhand PC within your price range but don't expect anything that will run more than Windows 3.1 and Word for Windows 2.0.*

*The minimum specification to look for would be: a 386 processor, 120Mb of hard disk, a VGA monitor and 4Mb of RAM. You might be lucky and get slightly better than this — it depends on the mood of the seller.*

*If you work for a large organisation you may find that they are selling off old machines, to staff, at bargain prices. It is often the case that company policy dictates a software upgrade which half its machines are incapable of running. By this stage, the older machines are worthless in part exchange and it is cheaper to flog them to the staff for a nominal sum than attempt to get more for them on the open market. No doubt the possibility of newly-computerised employees taking work home with them plays a part in the reasoning, too!*

*Given that you probably won't find anything to cope with current software, you may be better off considering a non-PC machine for the specific purpose*

*you have in mind. For instance, if your principal interest is in games, then buy a games console instead and keep the change.*

*Many PCs are just used for word processing, which is an expensive way to do it. For the price of a good computer printer you can get a complete word processor. The Amstrad PCW is simple but efficient in this role and can often be found for sale at around the £200 mark. As I write, Morgan Mail Order, a well-established surplus dealer, is advertising "refurbished" PCW 9512 machines at £150 (plus VAT), which includes a daisywheel printer — a very usable word processing system.*

### Dusting down a dead CD

"I have a multimedia PC which I've used for a while with no problems, until recently: my CD decided to die on me. It responds with FAIL ON INT 24 when I type DIR in DOS (and after several 'F' key presses) on the CD 'D:' drive.

There is power to the drive; I can eject the tray, and the busy LED comes on after it has been closed again. But the LED stays on for longer than usual. I can only presume that this means the laser has packed up.

Am I right? I have tried audio CDs using the CD Audio package in DOS and Windows — but again, no response. Can the CD be fixed, or is it worth my upgrading to a quad- or six-speed?

I have one more query: my sound card emits an annoying, high-pitched, continuous tone after about half an hour in Windows. Any ideas?"

**Paul O'Neill**  
[poneill@sleazy.demon.co.uk](mailto:poneill@sleazy.demon.co.uk)

*Like most things, your CD-ROM drive is repairable. But the cost of having it repaired may be more than it's worth. It seems to me like something has caused*

*the laser to misalign sufficiently to stop it reading anything; this could be as simple as dust having built up on the receiver.*

*Before you scrap it, try blowing into it very hard, preferably with compressed air. You could also try one of those audio CD head-cleaning kits that hi-fi shops have been selling since the bottom dropped out of the vinyl and dust-bug market.*

*As for the sound card, it could be picking up stray signals from the rest of the computer and amplifying them, to your annoyance.*

*On your card there will be a mixer which is responsible for adding together the different sound sources before they are amplified and sent to the speakers. These analogue devices have sometimes proven rather sensitive to warming up and it could be that yours is leaking through noise on an unused channel.*

*Most sound boards have an unused mixer input for connection of the PC's internal speaker output. Most of the time this is left disconnected so your machine can still beep without the aid of the sound board and external amplifier.*

*Another common source of noise is an unused microphone input. These are very sensitive inputs and will amplify noise just as well as a microphone.*

*In your case, it might even have been something from your iffy CD-ROM drive's audio output. If you disable and re-enable each of your sound board's channels in turn, using its configuration software, you should be able to isolate the rogue channel. If it was unused, and disabling it in software doesn't work, you can connect a low-noise resistor across the input to shut it up.*

## PCW Contacts

**Frank Leonhardt** is an independent technology consultant who can be contacted on **0181 429 3047** or via email as [frank@dircon.co.uk](mailto:frank@dircon.co.uk) or [leo2@cix.compulink.co.uk](mailto:leo2@cix.compulink.co.uk). There is a web site at <http://www.users.dircon.co.uk/~wombat/answers.htm> which may contain late-breaking news. Letters may be sent to **PCW at VNU House, 32-34 Broadwick Street, London W1A 2HG**. Sorry, but due to the high volume of correspondence, individual replies are not normally possible.

● **Flight simulators** RC Simulations  
**01275 474550**

Strategic Plus Software **0181 977 8088**

● **Joysticks** Simply Computers  
**0181 523 4020**

Ingram Micro Services (System Commander) **0181 905 6969**

● **Used computers** Morgan Mail  
Order 0121 456 5565