EXTREME GUIDES

BUILD YOUR OWN CARPC

The latest BMW 7 series has an onboard computer system. All very nice if you've got 45 grand to spend, but what if you haven't?

A CarPC (or Carputer) is a custom PC system designed by an amateur for use in their car or truck. Its most common functions are MP3 and movie playback, plus GPS navigation, but the possibilities are limited only by your imagination.

At the hear of a CarPC you'll find a normal PC equipped with a GPS receiver, coupled to an LCD screen. If this isn't a touch-screen, there will also be a remote control. The CarPC can output audio through the existing in-car entertainment (ICE) system. Small PC systems based on the mini-ITX or mini-ATX form factors are ideal for CarPCs, but there's no reason why you can't mount a larger system as long as you ensure it's secure and well ventilated.

Possible locations include:
Dashboard: Casetronic's Travla C134 and C136 mini-ITX cases can be installed within the DIN slot of the dash board. This looks good, but could be a security risk.
Glove box: There's not much space here, but an even bigger problem is ventilation, as you may find your system overheating. Some newer cars feature AC ventilation of the glove box, but even this isn't ideal.
Under a seat: The main downside here is that you may need to remove the seat to securely fix the PC in place. This is OK if you intend to leave it there, but should you need to do any work on it, prepare to be frustrated!
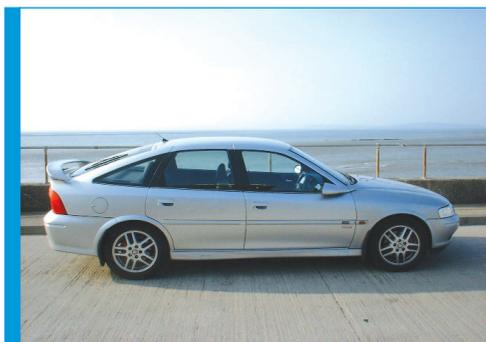**Boot (trunk):** This is the ideal mounting place from a security point of view, because

nobody will be able to see it. Most modern cars have nooks and crannies in which you can install the unit without taking up valuable boot space. You may have to do a lot of work to install the cables, though.

We recommend an Opus power supply, which is intelligent enough to control the startup and shutdown of your machine at the same time as your car. It also monitors the car battery to ensure it is never drained. The 90W version is even small enough to fit in a mini-ITX case. It's only available from one company in the United States, and it's not cheap (around £130, plus £20 in import taxes if you're ordering from the UK), but it's well worth it – visit **www.opussolutions.com** to find out more.

There are two types of screen available.

The first is a composite type, which has the same signal quality as video recorders and TVs. These screens are cheap and easy to install, as they only need one cable to feed the signal. However, the best screens are those that accept the higher-quality VGA signal. Xenarc produces some very expensive units, but the best unit in terms of value for money is the 7in Lilliput clone unit from CarTFT. This simply connects to the VGA port and a spare USB port on your CarPC. Very simple drivers are needed to activate and calibrate the touch-screen functions. We recommend using a widescreen resolution of 848x480; if your card's drivers don't support custom resolutions, download either TVTool or PowerStrip as they can fill this gap.
Terran "Ayce" Brown

1 Before you start your installation, make sure you know your way around your car's electrical systems and panels. There are a lot of Web forums dedicated to different makes, such as www.vvoc.co.uk for the Vectra we're using. Time spent on research now will pay off later.

2 You don't have to think small, as all installations are different, but it helps. We're using a Cubid 2688R case with a VIA mini-ITX board. This case doesn't leave much room inside, but by using smaller components, such as a laptop hard drive, you can pack quite a bit more in.

3 This is the easy part of the installation. Much of the install is the same as building a new PC. It's worth running ScanDisk and Disk Defragmenter a few times once your Windows installation has been completed, to ensure the disk is optimised for smooth performance.

4 There are many CarPC applications now available from home developers, so try a few and decide which you prefer. Most are skinnable, so you can change the way they look. Again, use Web forums to find out other users' experiences with each of the applications.

5 It may be that a suitable skin has already been created. If not, you'll need to create one. It's not hard, but it helps if you're artistic! The principal is basic animation with layers, but with time and some talent you could create a unique look.

6 With the system setup complete, copy your media files to your system. If you want to connect your CarPC to your home PC using a direct Ethernet cable connection and without using a network hub in between them, you'll need a crossover cable.