

# How to Create a Bootable Live Windows CD Using UBCD4WIN Dedoimedo

December 2008, update: I have a new review of the Ultimate Boot CD for Windows (UBCD4WIN), which follows and details the changes introduced in the latest version (3.22); the below article reviews the version 3.1.1. The changes are pleasant, including usability, functionality and many new great, exciting applications. Worth reading.

Sounds like a wicked idea. But is it possible? The answer is yes.

A nice chap named Bart Lagerweij has made this possible. He has created a tool called PE Builder, which allows anyone to create their own (licensed) copy of Bart's Preinstalled Environment bootable live Windows CD, or shortly BartPE. BartPE is a highly useful tool for rescue, recovery and maintenance of PCs.

Still not convinced? Here's a list of reasons why you should seriously consider having a live CD handy:

- If your operating system fails for some reason, you will still be able to access your hard drives and salvage the data.
- If your operating system gets hit by a nasty infection, you will be able to remove it easily.
- If you suspect a hidden rootkit, there's no better method to inspect your drives.
- If you want to browse the Internet safely, this is one good way of doing it.

Satisfied?

Before you start, I suggest you read about legal issues concerning BartPE, on Bart's site. This article assumes that you have a licensed copy of Windows XP (or 2003).

In this article, I will try to cover some of the major points concerned with building BartPE, namely:

- How to use PE Builder.
- How to enhance your basic BartPE with additional plugins and drivers and turn it into Ultimate Boot CD for Windows.
- How to slipstream Windows XP service packs with older versions.
- How to build a bootable USB stick with BartPE.

## **Bart's PE Builder**

First, download and install the PE Builder.

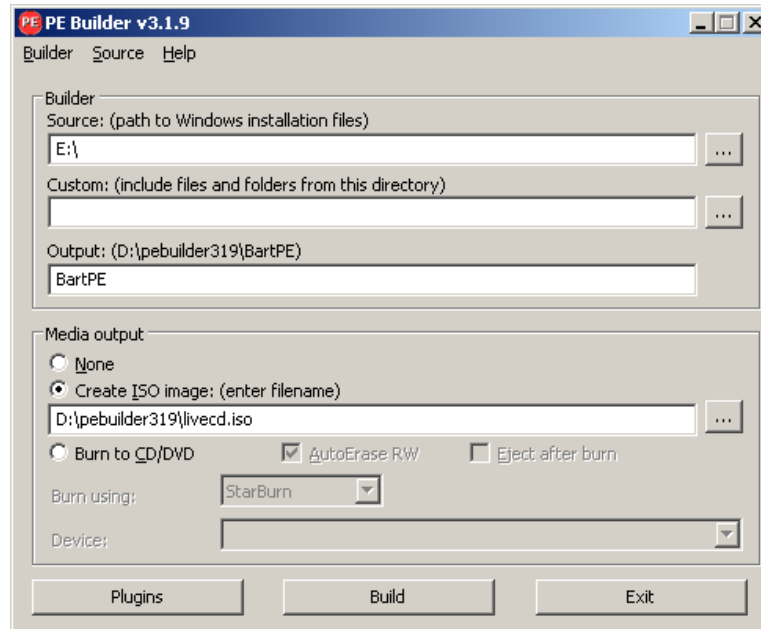
I want to bring your attention to a subfolder that is automatically created when you install the PE Builder:

```
..\pebuilder folder\plugin
```

Replace `..\pebuilder folder\` with your installation path. Remember the plugin folder. Now, let's move on.

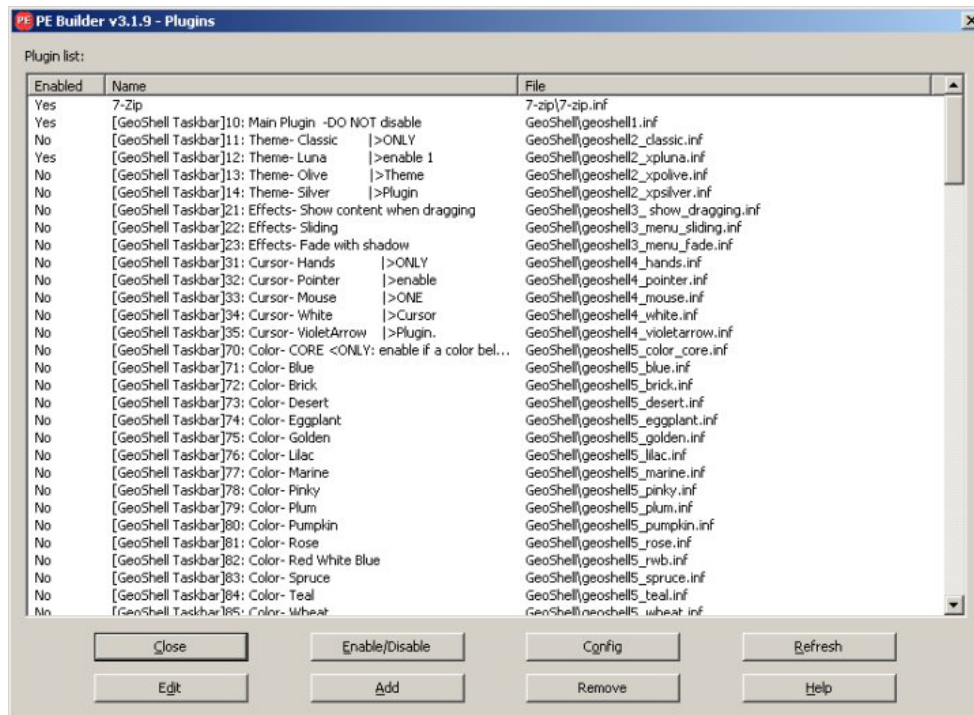
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Now, start the program. The interface looks like this:



You should specify the source of Windows installation files (most likely your Windows CD), custom folders and files that you might like to include, the location of the created output, and the location and the name of the .iso image. So far so good.

But we are also very much interested in Plugins. Clicking Plugins will open a new sub-menu:



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By clicking Plugins in the main-menu, you will reach the list of all plugins that can be found in the plugin folder. Some of these folders will be Enabled (that is, they will be included in the created output) and some will be Disabled (that is, they will not be included in the output). All of the listed plugins are free software programs that, if Enabled, you will be able to run once you successfully create the bootable CD and actually boot with it. You can go through the list and set Enable / Disable for all the available plugins to your liking.

After you are satisfied with you selection, click Close to return to the main menu. If you possess custom plugins that you would like to include with your bootable CD, create folders inside the plugin folder and copy your plugins. Then, make sure they are Enabled, so they will be included in the CD.

When ready, click Build to create your bootable live CD .iso (which you can burn to an actual CD using PE Builder or any CD burning software you like).

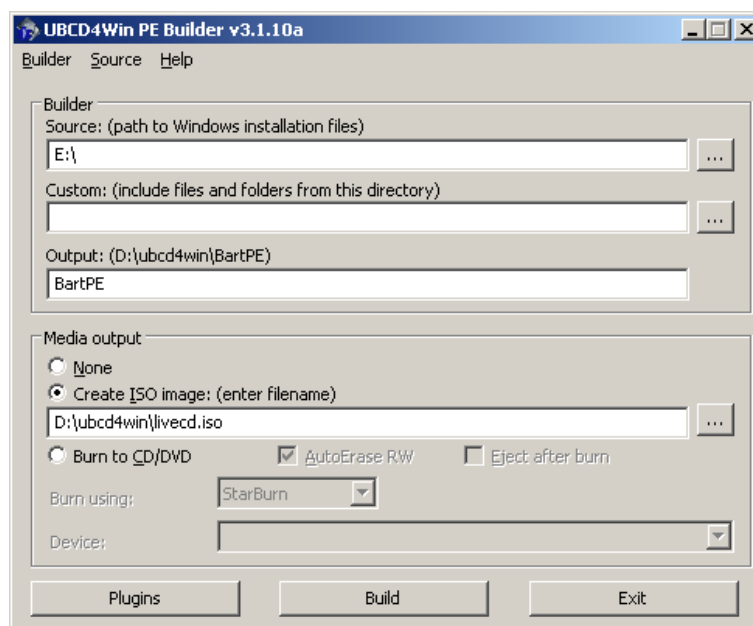
The basic BartPE .iso file takes about 150MB and contains a certain, limited number of useful applications that you may use when booted. It is possible to include a large number of other plugins, provided they are written in the proper format that PE Builder will be able to read and build from.

## Ultimate Boot CD for Windows PE Builder

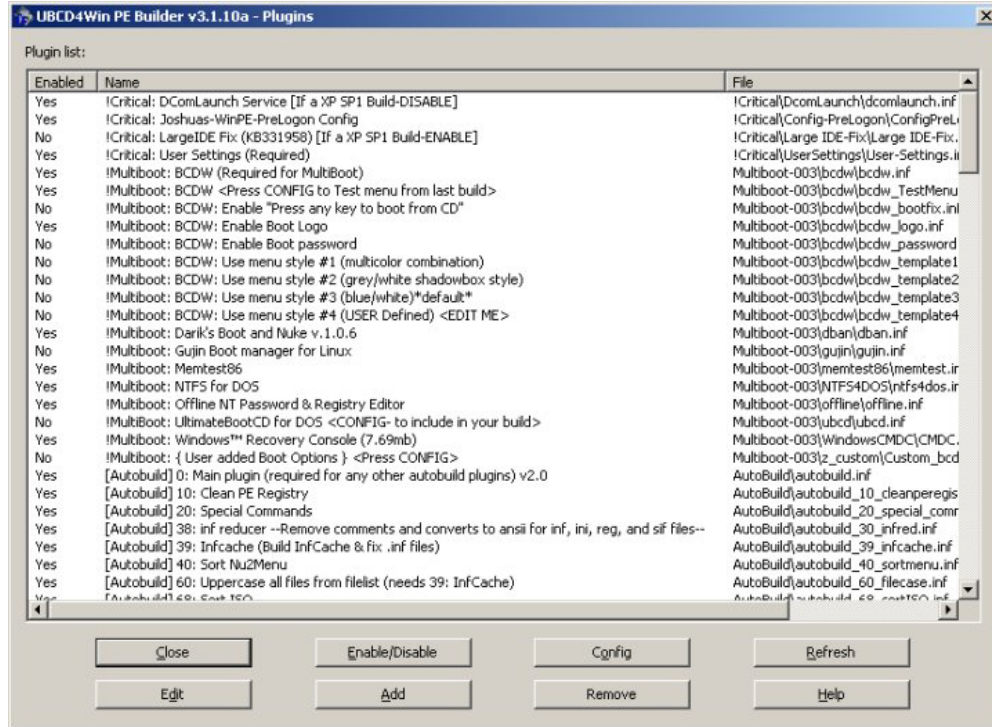
Creating your own custom plugins is not a first-starter's task. Luckily, we have the Ultimate Boot CD for Windows guys to help us.

In the past, I used to use BartPE along with drivers and plugin I downloaded off Ultimate Boot CD for Windows (UBCD4WIN) site. I would then replace the existing, default drivers and plugin folders, make sure all of the software plugins I was interested in were checked (Enabled), and then I would make the .iso file and burn it.

Today, it's much simpler. UBCD4WIN comes as a single download. Much like PE Builder, you need to install it. And then, follow the exact same routine. In fact, UBCD4WIN PE Builder is based on Bart's PE Builder.



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## Slipstreaming Service Packs

Slipstreaming a service pack can be very useful. Windows XP has improved in many aspect since its first incarnation. Although this claim is definitely arguable, having the latest and fully patched version of the operating system can have its benefits. Furthermore, it does not limit you. You can retain both your original Windows XP and the slipstreamed version, although I believe you can use only one at one time (contact Microsoft guys for details).

Both Bart's PE builder and UBCD4WIN PE builder can automatically slipstream service packs. But it's the best to learn how to do it yourself.

## Bootable USB Sticks

The last item that remains is creating bootable USB sticks (keys, drivers, call them whatever you like). Having an operating system in a small shiny thing the size of a pinky is very convenient. Much like the bootable live CD, bootable live USB can be a great recovery or maintenance tool. You might even prefer to use the USB drive, because it is smaller and less prone to damage. You should be aware, though, that while most PCs can boot from CD easily, not all PCs will be able to boot from a USB drive.

Finally, if you want to create a bootable USB stick, you will need:

- 256MB USB stick.
- PC capable of booting off a USB device.
- Bart's PE builder.
- Windows 2003 Server SP1.

First, download Windows 2003 Server SP1 from Microsoft's site. I suggest you place it in a convenient

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folder (.e.g C:\W2003SP1) and rename the service pack to w2003sp1.exe. This will make it easier to write down a series of command line commands that we need.

Second, we need to extract the service pack:

```
Start > Run > Cmd
```

```
C:\W2003SP1>w2004sp1.exe -x
```

Upon successful extraction, you will find a folder i386 created (in your desired location).

From within the i386 folder, copy the file setupldr.bin to \..\pebuilder folder\srsp1. srsp1 is a folder that the PE Builder uses as the default location in the bootable USB drive creation script. If the folder does not exist, create it.

Uncompress the file ramdisk.sy\_ to \..\pebuilder folder\srsp1 by running the following command on the command line:

```
expand -r ramdisk.sy_ E:\pebuilder313\srsp1
```

Again, on the command line, change the path to PE Builder folder and run the command: pe2usb -f [Letter]. Replace the generic [Letter] with the USB drive letter (it can be D:, M:, W: etc.). The command will run a script that will first format the USB drive and then copy all if the necessary files to make the USB stick bootable. Just follow the on-screen instructions.

With luck, you will now have a bootable USB key at your disposal.

OK, after lots of preparations, it's time to see how a BartPE or UBCD4WIN actually look like. You can test them by booting from CD, or use VMware Player as your test bench. Read my article VMware Player - a good friend as a start for using this excellent utility.

Here are some screenshots I made by running UBCD4WIN live CD 3.0 in VMware Player.

After booting from CD, you will be presented with a multi-boot menu. The other tools you can use are:

- Darik's Boot and Nuke v.1.0.6 - a powerful tool for completely erasing hard disks
- Memtest86 - a useful tool for testing the memory for errors
- NTFS for DOS - a tool that gives NTFS file system support in DOS environment
- Offline NT Password & Registry Editor - this tool will allow you to change or nullify (blank) passwords of existing NT users and unlock disabled accounts
- Windows(tm) Recovery Console - the actual Recovery Console

