

## Some Things to Try If Windows XP Crashes During Boot

This report was written and created by Sharron Field; author and creator of [kkomp.com](http://kkomp.com).

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## Part 1

Windows XP can be a funny old sod at times:



Sometimes and for no apparent reason it'll go wonky even while you boot it up; even if your last session appeared flawless. In a lot of cases this is because it failed to load a driver properly. The result can be a number of things: It could fail to boot with a [BSOD](#) during boot-up, it could give you a mal-formed or scrambled picture on the monitor due to having loaded the graphics driver incorrectly, it might boot but not work properly, – sometimes followed by a BSOD, or numerous other things.

If this happens then shut it down again in the normal manner, if you can, and try booting it up again. In numerous cases it'll boot-up properly the next time, and everything will be fine. – But what if the same problem occurs again when you try to boot it again? Well, if it's happened twice then the probability is that it'll occur a third time; so it's time to take action.

This solution works sometimes; other times it doesn't; but it's the easiest solution of all, so it's worth a try before you try anything else: -

Press your computer's power button to switch it on, and as soon as you do that repeatedly press the F8 key. One of two things should happen after the initial [BIOS](#) screen appears, depending upon the [motherboard](#) you have fitted inside your box:

Either it'll open up a boot-menu screen, or it'll bypass this step and go straight to the next step. If it does open a boot-menu screen, (Primary Hard drive, CD-ROM, Floppy, etc.) we don't need that, so don't change anything there, just hit the Esc key, and as soon as you press the Esc key, repeatedly hit F8 again.

The Windows Advanced Options Menu should appear. This is white text on a dark-grey background. The options open to you

are: -



In this case we want “Last Known Good Configuration (your most recent settings that worked)”, so use the down and up arrow keys to highlight this line. Press enter↵.

Forget the other options for the time being. In this part of this report we’ll deal with that one only.

On the next screen you’ll see “Please select the operating system to start.”

If you’ve only installed a single installation of Windows XP then your choice will already be highlighted and you just press Enter↵ again. If your machine has on a dual-boot and/or you see more than a single operating system; use the up and down arrow keys to select the operating system that you were just trying to boot

into, (Windows XP.) and then press Enter↵.

Windows will start to boot; except this time it looks in the System Volume Information folders on your [hard-drive](#) for a setting it used before when that driver loaded correctly. If it finds it then it'll load it into the boot sequence and proceed with boot. If it doesn't and still encounters the problem then the crash that happened before will probably happen again. – But that behaviour is covered in another part of this report.

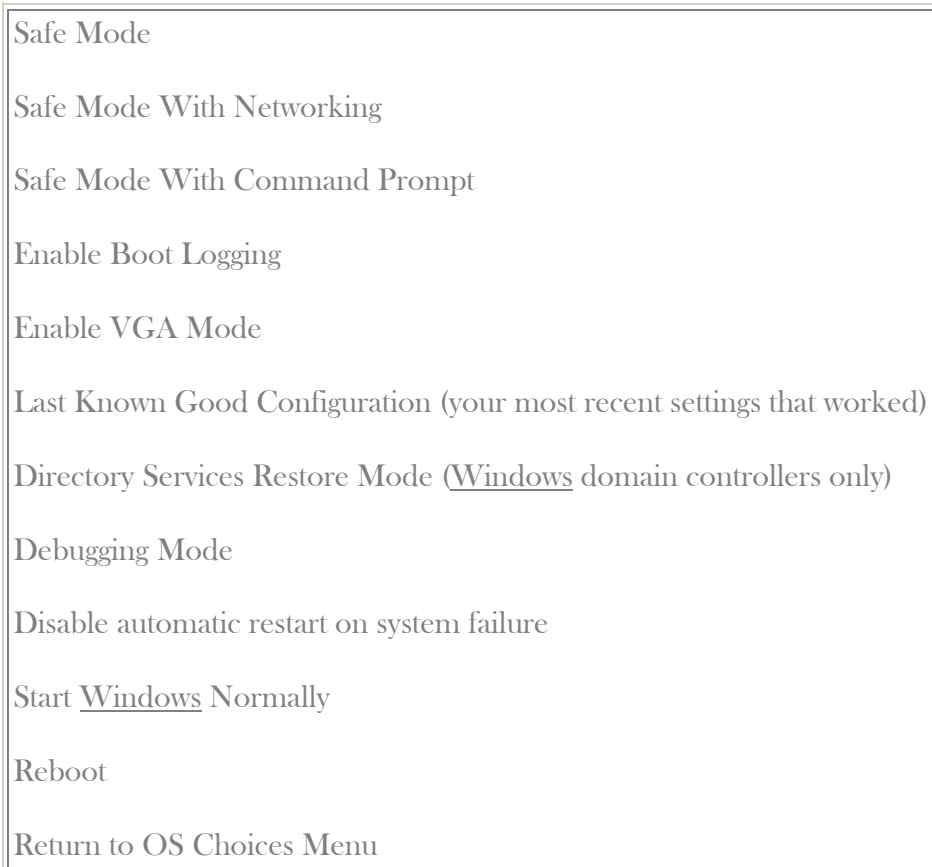
- This operation thus far may solve your problem, and then again it might not.

If it does solve the problem then I suggest that you allow the computer to fully boot, and then restart it again, just so that the new settings that work are written to the registry before you do anything else.

## Part 2

This is part 2 of the series. I'm assuming you've already read Part 1.

In Part 1 we brought up the Windows Advanced Options Menu:



We selected the option “Last Known Good Configuration (your most recent settings that worked)”, but that still hasn't worked and your Windows XP computer still won't boot: Either it's crashing with a [BSOD](#) as it boots up, or it's just not working at all well when it has apparently booted up fully. – The screen is scrambled, there are things missing, whatever.

This time we're going to try something else. Does your computer crash and restart or go to a BSOD? Does your computer automatically restart when it crashes? There's nothing wrong about that in itself, but if it does so then you don't get the chance to read the data presented on the BSOD. The first thing we need to do is to stop the computer from automatically restarting every time it crashes, in order that you can study the BSOD.

If the computer doesn't go to a BSOD or automatically restart, but just doesn't work properly when it's fully booted for whatever reason then see Part Three.

Go to the Windows Advanced Options Menu and use the up and down arrow keys to select "Disable automatic restart on system failure". Press Enter↵. Allow the computer to reboot and to crash again. You should now be able to study the blue screen. (BSOD)

```
A problem has been detected and windows has been shut down to prevent damage
to your computer.

DRIVER_IRQL_NOT_LESS_OR_EQUAL

If this is the first time you've seen this Stop error screen,
restart your computer. If this screen appears again, follow
these steps:

Check to make sure any new hardware or software is properly installed.
If this is a new installation, ask your hardware or software manufacturer
for any windows updates you might need.

If problems continue, disable or remove any newly installed hardware
or software. Disable BIOS memory options such as caching or shadowing.
If you need to use Safe Mode to remove or disable components, restart
your computer, press F8 to select Advanced Startup Options, and then
select Safe Mode.

Technical information:

*** STOP: 0x000000D1 (0xC000000C,0x00000002,0x00000000,0xF86B5A89)

***      gv3.sys - Address F86B5A89 base at F86B5000, dateStamp 3dd991eb

Beginning dump of physical memory
Physical memory dump complete.
Contact your system administrator or technical support group for further
assistance.
```

On the blue screen you'll see the reason why the computer crashed, some tips which might or might not help, and some "Technical Information", aka gibberish. The gibberish is probably the most important part of it all. First, though, try following the stated tips to whatever extent possible. I suggest photographing the blue screen with a digital camera: You might need the information later on, and the screen might not be accessible at the time you need it.

If that particular computer is the only one you have then you'll need to use a neighbour's computer, or an internet cafe', public library computer, whatever, for the next bit: –

Type the stop error code into Google.

You'll find the stop error code in "Technical Information" on the blue screen. In the example above the stop error code is the alphanumeric sequence 0x000000D1 :-

\*\*\* STOP 0x000000D1 (0x000...

Type that code into Google and it'll return reams of information on the error; exactly what it is, what it might be, what causes it, what people think, ...

You might even find a solution there. If it's a driver issue, however, you need to identify which driver it is that's causing the BSOD to occur. When you've done that we need to remove that driver before we can restart the machine and boot into Windows proper. To do this we go into the Windows Advanced Options Menu, and use the up and down arrow keys to select "Safe Mode". Press Enter↵.

Safe Mode is a mode where Windows runs without loading all the drivers. Essentially it loads a minimal set of drivers that are essential for it to operate, and no more. On the basis of that, 'chances are that the driver causing the BSOD won't be loaded, and therefore Windows will boot into Safe Mode.

Whilst in Safe Mode, having identified the driver that's causing the issue; go into Device Manager and remove that driver. Having done so, restart the computer.

Depending upon which driver it is; Windows will either reinstall one that works from the i386 folder on the hard drive and load it at boot, or it'll start without it and let you know. If it starts without it then the piece of hardware that the driver pertained to will be severely limited in function if it works at all. It'll be using any default driver that comes with the OS. You'll need to manually reinstall a driver in this case – But I do suggest that you go to the device manufacturer's website and download/install the latest driver for the device in question.

If the driver was a specialised keyboard or mouse driver then you may have to do a repair reinstallation of Windows before you can load the new driver.

A graphics card should still work in a very limited fashion using the default drivers that come with the OS. To get it working properly again you should install the latest driver from the manufacturer's website.

## Part 3

In Part 1 we went to the Windows Advanced Options Menu...

Safe Mode

Safe Mode With Networking

Safe Mode With Command Prompt

Enable Boot Logging

Enable VGA Mode

Last Known Good Configuration (your most recent settings that worked)

Directory services Restore Mode (Windows domain controllers only)

Debugging Mode

Disable automatic restart on system failure

Start Windows Normally

Reboot

Return to OS Choices Menu

... And we tried using the “Last Known Good Configuration (your most recent settings that worked)” option. This sometimes, (Usually in my experience.) does the trick, but not always.

In Part 2 we looked at something else we could do if that doesn't solve the issue: If it doesn't solve the problem it usually means that one of the drivers is bad/corrupt/dodgy; so we looked at removing that driver by booting into Safe Mode.

What we didn't look at was what to do if your XP computer doesn't crash, but rather just boots and goes tits up; to put not too fine a point on it.

If you get a scrambled picture then 'chances are that your graphics driver is playing up and needs removing and reinstalling, and/or your graphics card is either crap or has developed a fault. Some motherboards just don't like some graphics cards: I have an Asus mobo that just hates a certain Asus nVidia graphics card. There's nothing wrong with [the graphics card](#); it works fine in other computers, but it just won't work properly with this one board.

OK so we've covered a lot so far in parts 1 & 2; but there may be a couple more things that are preventing [XP](#) from starting: –

These are operating system/data corruption and/or file system corruption.

Operating system corruption can result from too much bugging about and trying to be clever; – The usual scenario in my case. – or from a phenomenon (specific to Windows – ?) known as “software rot”. For whatever reason, Windows moves things around, writes, copies, deletes, all in normal operation. Eventually it makes a tiny error; which can go unnoticed. – But when a number of tiny errors build up over months of operation, then a big error happens, and things start to go downhill from there: A cascade of errors causing errors, until eventually the system becomes inoperable.

The above can take years and stay unnoticed until the machine simply stops working, or it can happen suddenly. File system corruption is much the same: The [NTFS](#), or in some cases, the [FAT32](#), file system, is the storage medium's file storage structure on the disc. In short the computer stores tiny bits of data made up of a few bytes in many tiny storage areas on the disk. These are marked out before the data is added to the disk: It's accomplished by process called “[formatting](#)”; which is the first thing that needs to be done if a new [hard-drive](#) is installed, or if the old one needs to be wiped. Also in the file system are indexes of these little areas of data; which can also be prone to error.

Since we're on the subject of the file system; the way to correct a file system error is by using the [chkdsk](#) function built into Windows. In Windows XP this can be activated from the command prompt as well as the GUI. Open a command prompt (Start>Run and type “cmd”.) and type “chkdsk C: /f”. (Assuming that C: is the disc that you want to check for file system errors.) This instructs Windows to run chkdsk on drive C:, and the parameter f instructs the operating system to check specifically for file system errors

and repair them.

Similarly; chkdsk can also check the disc for file system and data errors, and repair them. To instruct Windows to do this, open a command prompt, (Start>Run and type "cmd".) and type "chkdsk C: /r" (Assuming that C: is the disc that you want to check for errors.) Using the parameter r instructs the operating system to repair any errors it finds on the disc: These include file system errors, corrupt data, and bad sectors. As you may imagine; this can be a long process on some occasions.

While chkdsk attends to disc errors, there is another process that checks further for data errors in the essential operating system files. This process is called the system file checker. To run it; first insert your (original) XP CD into the optical drive, then open a command prompt, (Start>Run and type "cmd".) and type "sfc /scannow". This instructs the operating system to run the system file checker, check the crucial system files that Windows needs in order to be able to operate, check their [parity](#), and, if there are any errors; delete the file and replace it from the files on CD. – Short of performing a repair reinstallation, this is the best way to clear operating system corruption.

So that's covered pretty much everything. If you've done everything suggested and it still won't boot, then you have a choice of a [repair reinstall](#) or a disk-format-and-reinstall.

Before you do that, though, try pulling out all the [USB](#) plugs and other peripherals and seeing if the machine boots with no peripherals connected. If it does then you have a faulty peripheral device. Plug things back in one by one and boot after every device you plug in. When your computer fails to boot you'll know that the last peripheral device you plugged in is faulty.

“ – After I've spent hours doing all that, from Part 1, 2 and 3; and now you tell me it's a faulty peripheral device!”

- Don't worry: You've just given your machine a [full software service](#), and it'll work a lot better as a result. 😊

## Part 4

Finally, I feel that the Windows Recovery Console is worth a mention: -

### **First; what exactly is the Windows Recovery Console?**

It's a pre-boot repair tool that allows you to recover from and repair system issues that affect the machine's ability to boot up.

It's very powerful and is certainly not to be sniffed at. I encourage users to only use the Recovery Console as a last resort: In fact in some cases a repair reinstallation may be just as, if not more, effective. It has diagnostic as well as repair uses though; so it might be a useful commodity at times.

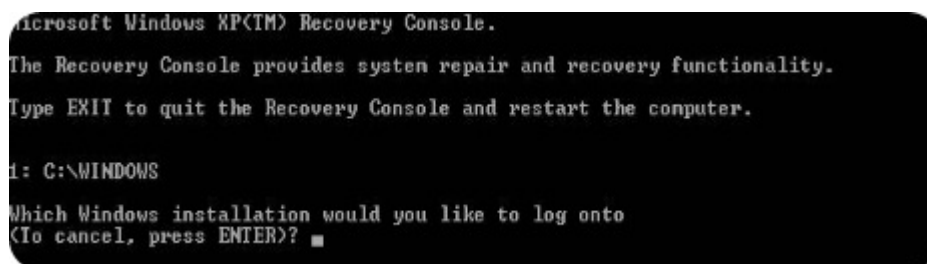
### **So how do I access the Windows Recovery Console?**

To access the Recovery Console you have to boot from the XP CD. Having done so you'll eventually arrive at a screen that looks like this: -



Press “R”, as per the instruction on screen, and the Recovery Console starts.

The Recovery Console will check for Windows installations, and list any that are on the hard-drive. Unless the computer has been set up to multi-boot, there will only be one.



Select the operating system you want to repair and press **Enter**. Windows will then ask you for the administrator password: -

```
Microsoft Windows XP(TM) Recovery Console.  
The Recovery Console provides system repair and recovery functionality.  
Type EXIT to quit the Recovery Console and restart the computer.  
  
d: C:\WINDOWS  
Which Windows installation would you like to log onto  
(To cancel, press ENTER)? 1  
Type the Administrator password: █
```

Enter the administrator password, et voila; you're into the Recovery Console.

```
Microsoft Windows XP(TM) Recovery Console.  
The Recovery Console provides system repair and recovery functionality.  
Type EXIT to quit the Recovery Console and restart the computer.  
  
d: C:\WINDOWS  
Which Windows installation would you like to log onto  
(To cancel, press ENTER)? 1  
Type the Administrator password: *****  
C:\WINDOWS>█
```

It's a glorified Windows Command Prompt which allows access to the root folder (%systemroot%) and the Windows folder + its respective tree. Once you've done the major repair you can boot into Windows, (Safe Mode or normally.) and continue any repair work needed.

Details of how to use fully, and also the commands available for use within the Recovery Console, are available within the following Microsoft Knowledge Base Article: –

**Article ID: 314058 – Last Review: September 22, 2008 –  
Revision: 5.2**

**Description of the Windows XP Recovery Console for  
advanced users**

You can access this article [by clicking here.](#)

I think I've just about touched on everything in this and the other

three parts. If your Windows XP installation ever screws up at boot in future; I hope that these 4 parts of this report will give you some ideas as to what to do and how to resolve the issue.

Enjoy XP; even if you're soon moving on to Windows Seven. (You could actually run Windows XP inside a virtual environment within Windows Seven...That's an idea for another article perhaps?)

**Warning:** The Recovery Console is a powerful tool; and if used incorrectly can further screw up your installation just as much as it can repair it; so use it with extreme care.

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