

Disaster Recovery with AISBackup

Using the Restore Media

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Windows Disaster Recovery With AISBackup.

Introduction

The AISBackup Restore environment is bootable media that starts AISBackup in restore mode. AISBackup supports making bootable media on CD, DVD, USB External drive and USB Flash drive, however making the USB Flash drive version is only supported on Windows operating systems' since and including Windows Vista.

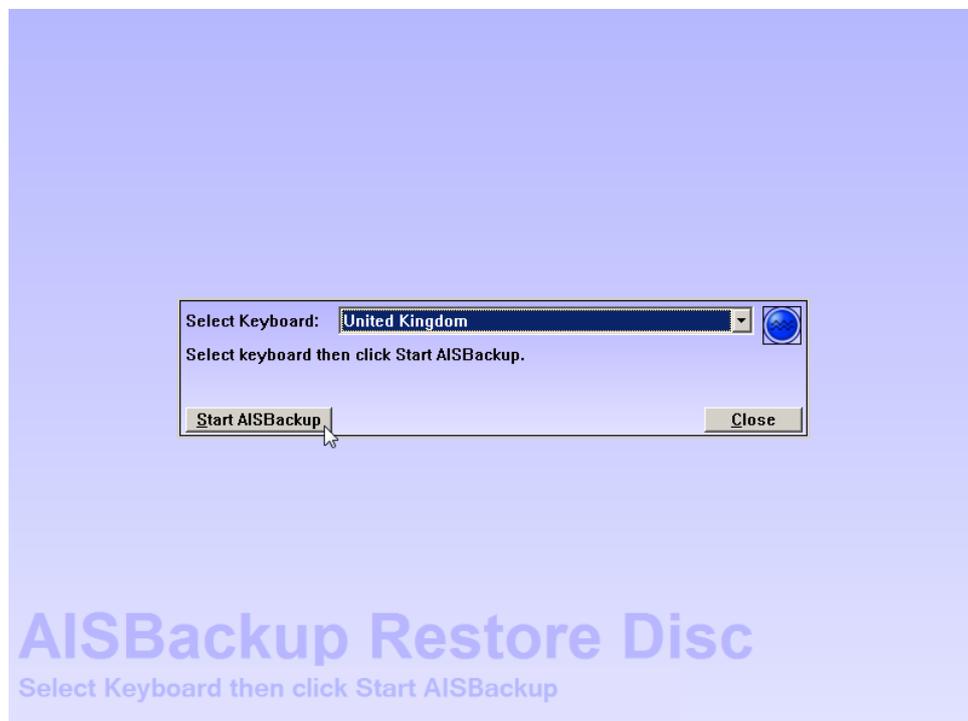
Having the boot media and a recent full backup of the PC is equivalent to doing a factory reset of your PC, however instead of the PC been put backup possibly several years (minus all your own documents, pictures, music etc) your PC will be put back to the date of the last backup you made, which with luck is only yesterday.

This guide shows how to restore your PC to a new hard drive in the PC following failure of the original hard drive. The same procedure should also be used if the current PC will not start correctly owing to a variety of reasons.

This procedure is suitable for all versions of Windows.

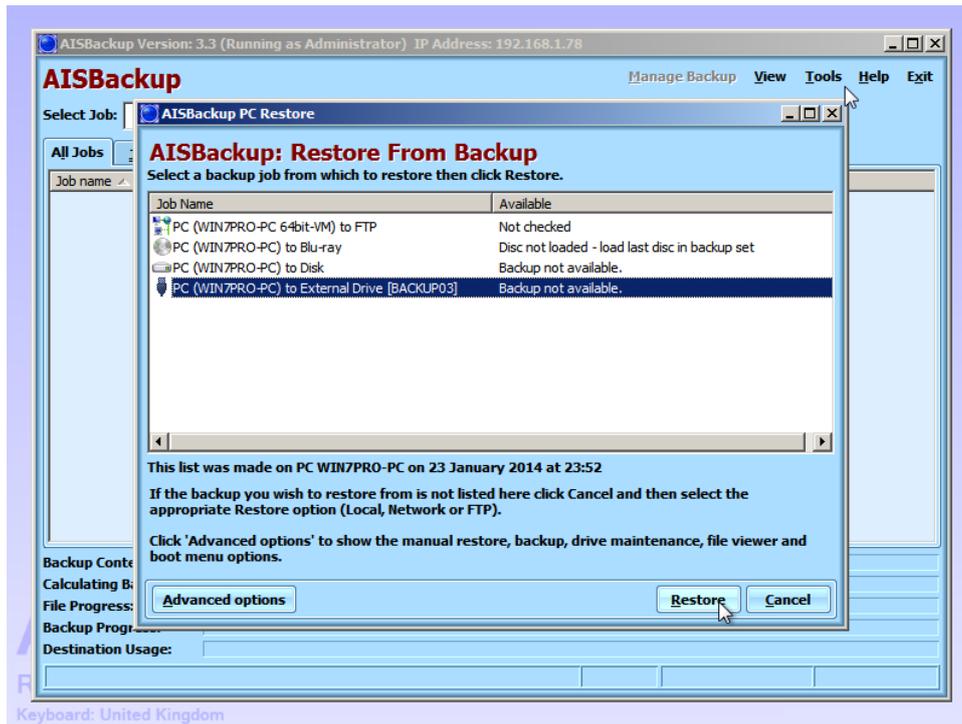
This procedure is based on the backup of Windows 7 made in the PDF guide *PC backup to disk, external disk, network disk or DVD and Bootable Restore CD Set-up*.

In this example we will be restoring to a brand new unformatted 2TB disk drive, AISBackup will format the drive during the restore process.

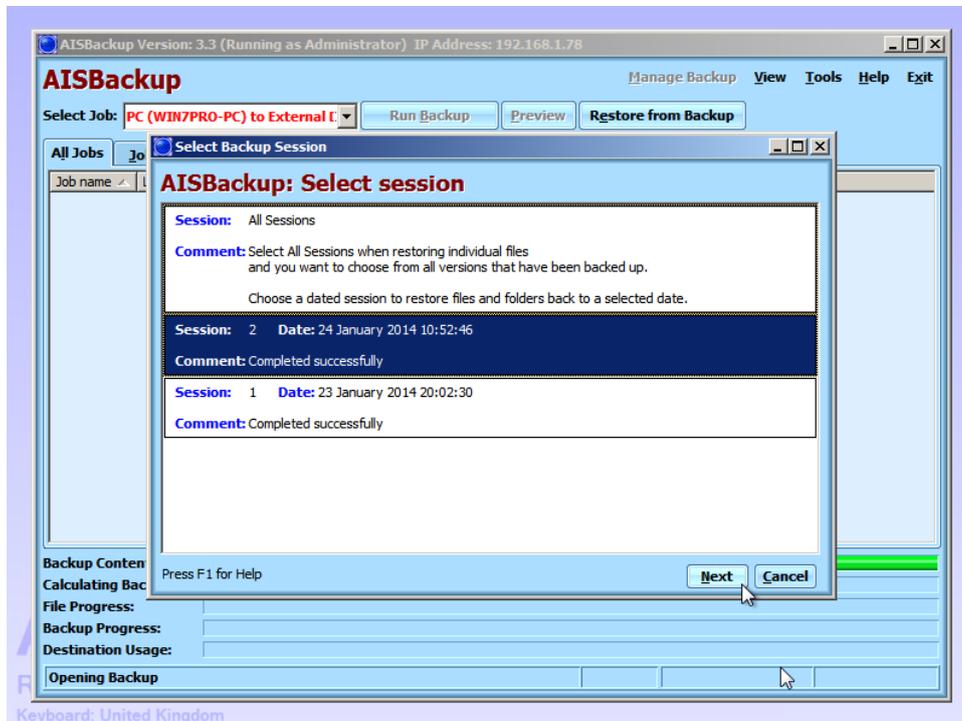


Start AISBackup using the AISBackup Restore CD, AISBackup bootable external drive or AISBackup bootable flash drive. Select your keyboard and then click **Start AISBackup**.

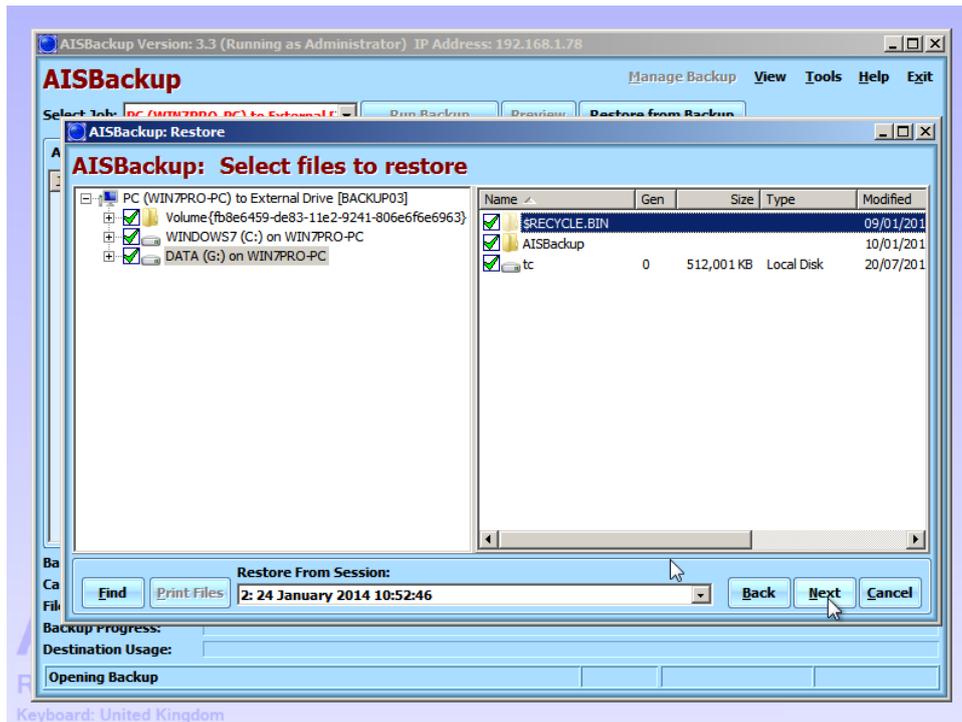
Restoring from the list of backup jobs menu.



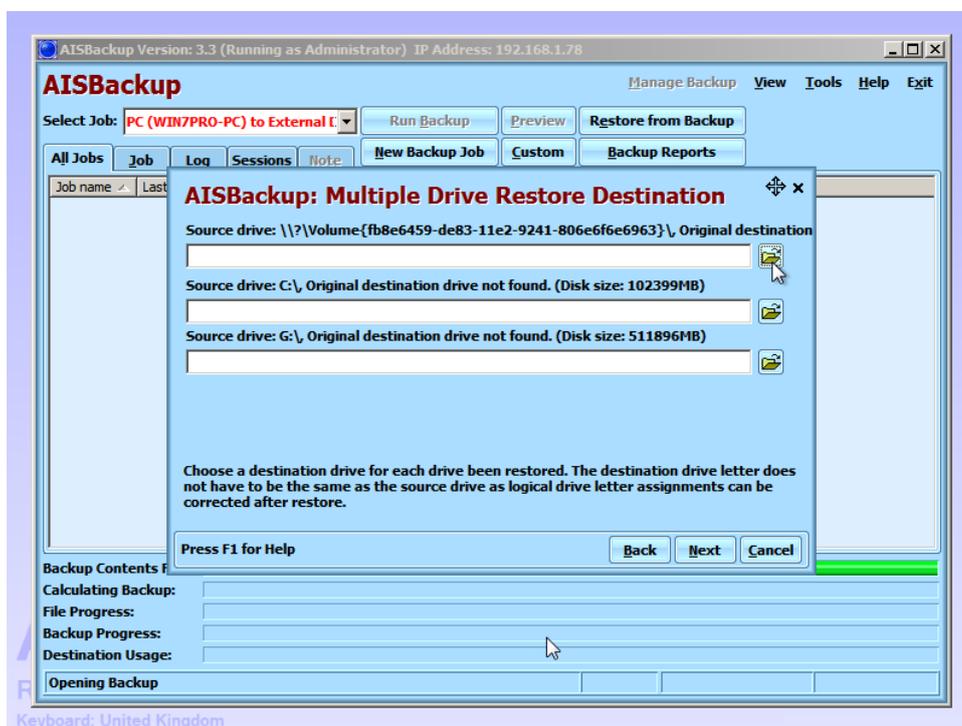
If the backup was created using version 2.9 build 400 or higher select the backup job to restore then click **Restore**. If the backup you wish to restore from is not listed or the AISBackup Restore media was created prior to version 2.9 build 400 see the Advanced instructions on page 15.



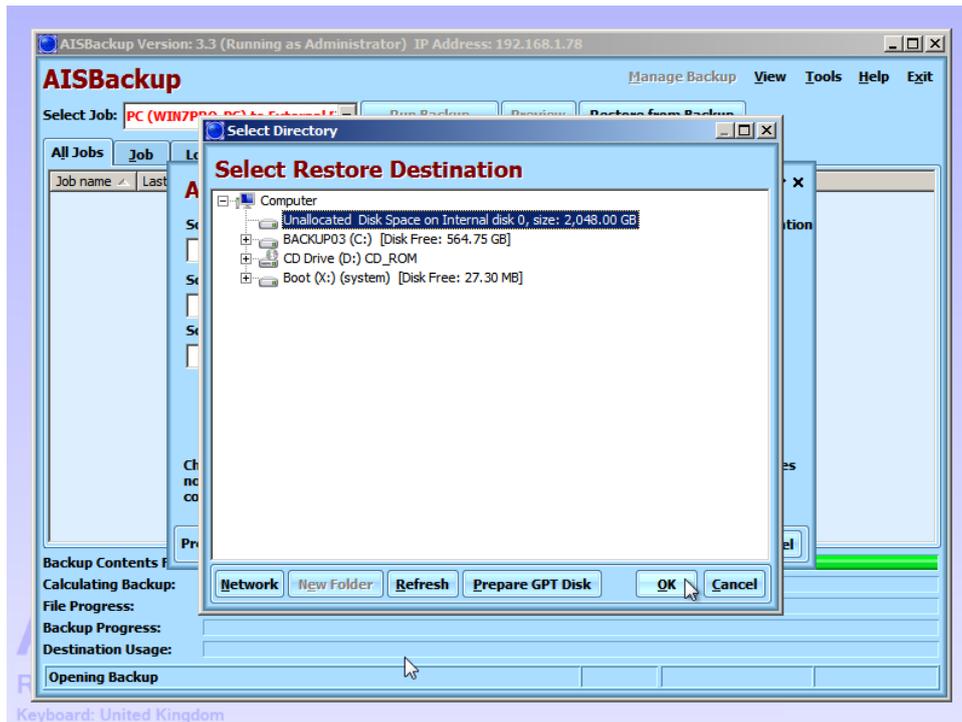
Select the dated backup session from which to restore then click **Next**. For disaster recovery the *All Sessions* option is not suitable.



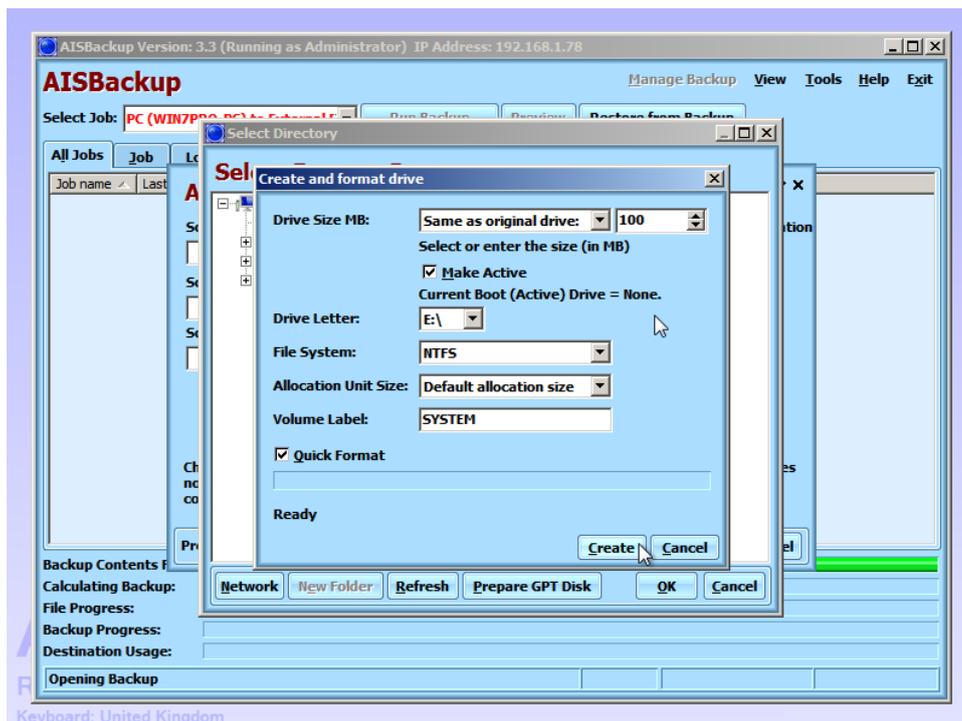
Note that Windows 7 usually contains 2 partitions, the main partition contains Windows and all of your files. The other, normally hidden, partition is very important as this contains the boot files that are necessary to start the PC. Select both partitions for restore by clicking so that it becomes .



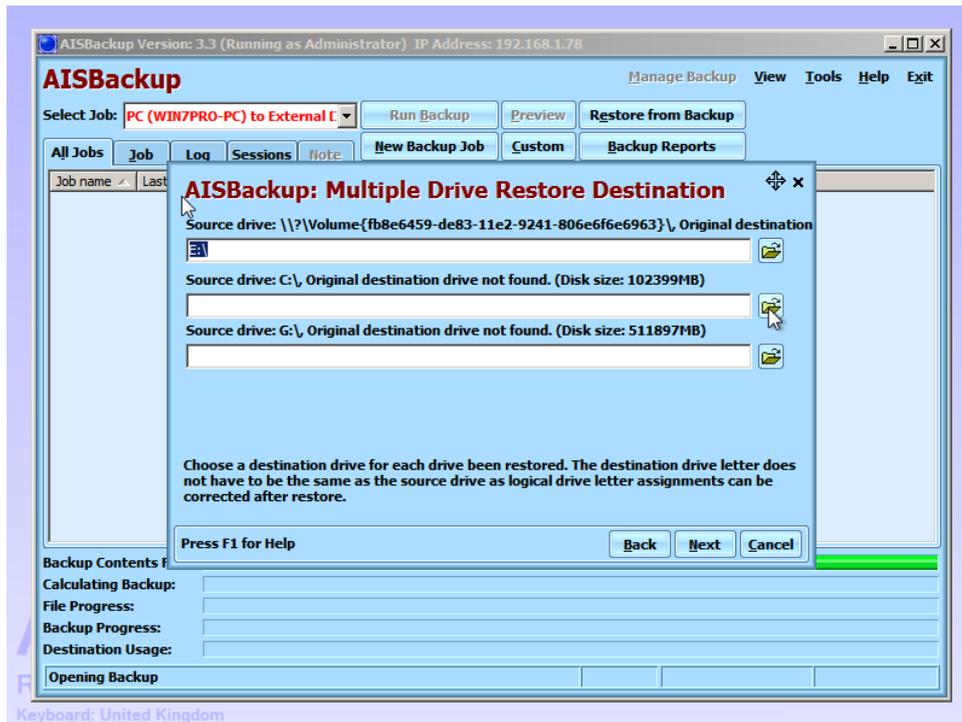
As there are two partitions to be restored a different destination must be supplied for both, for the normally hidden partition `\\?\Volume{....}` entry click .



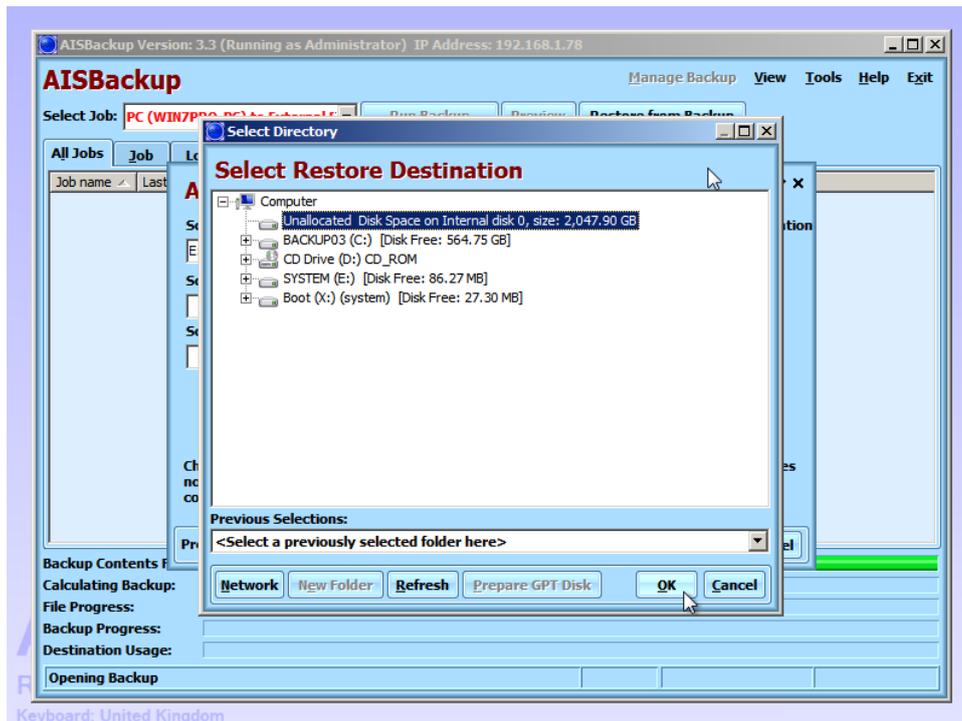
As we are restoring to a new unformatted disk select Unallocated Disk Space, then click **OK**.



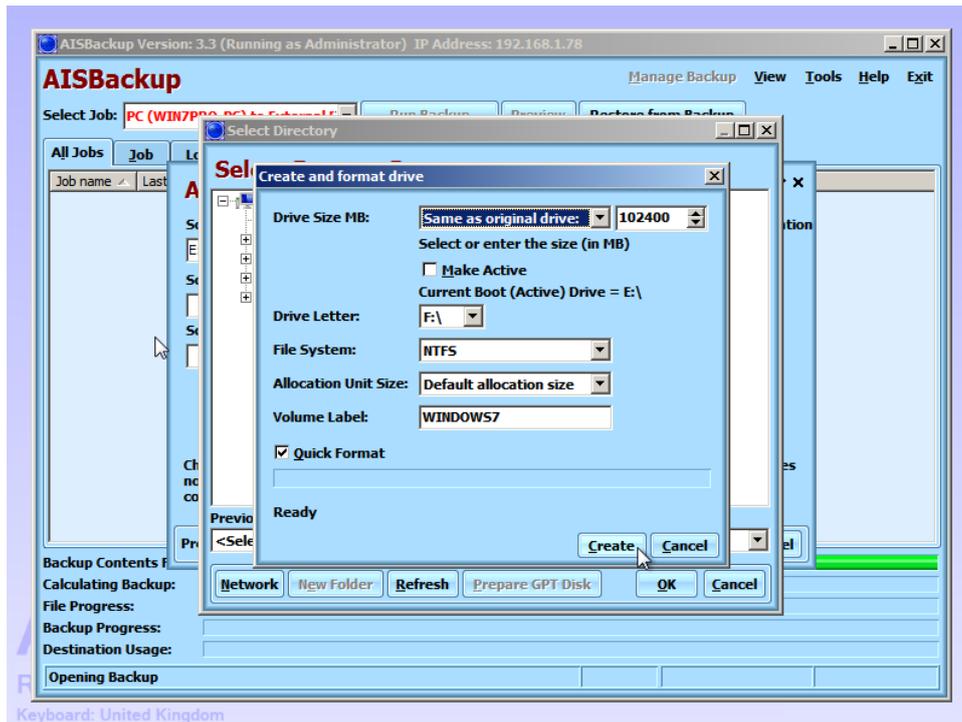
The disk partition will then be allocated and formatted, for the normally hidden boot drive optionally enter a volume label (e.g. SYSTEM) then click **Create**. Not then *Make Active* has automatically been selected as this is the boot partition.



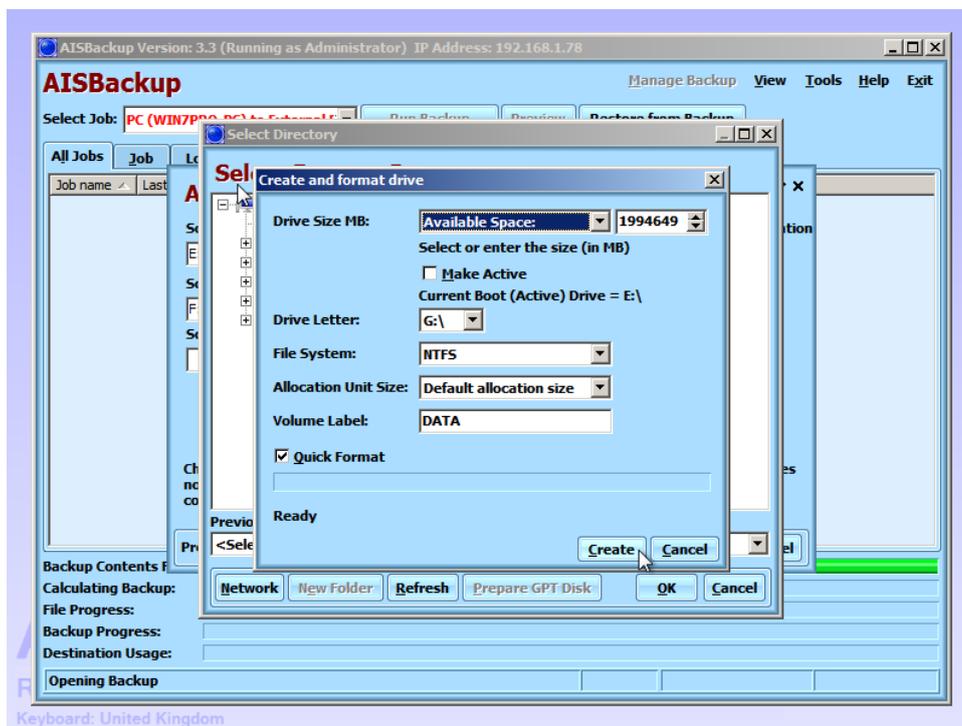
Now the partition for Windows and data should be selected by clicking .



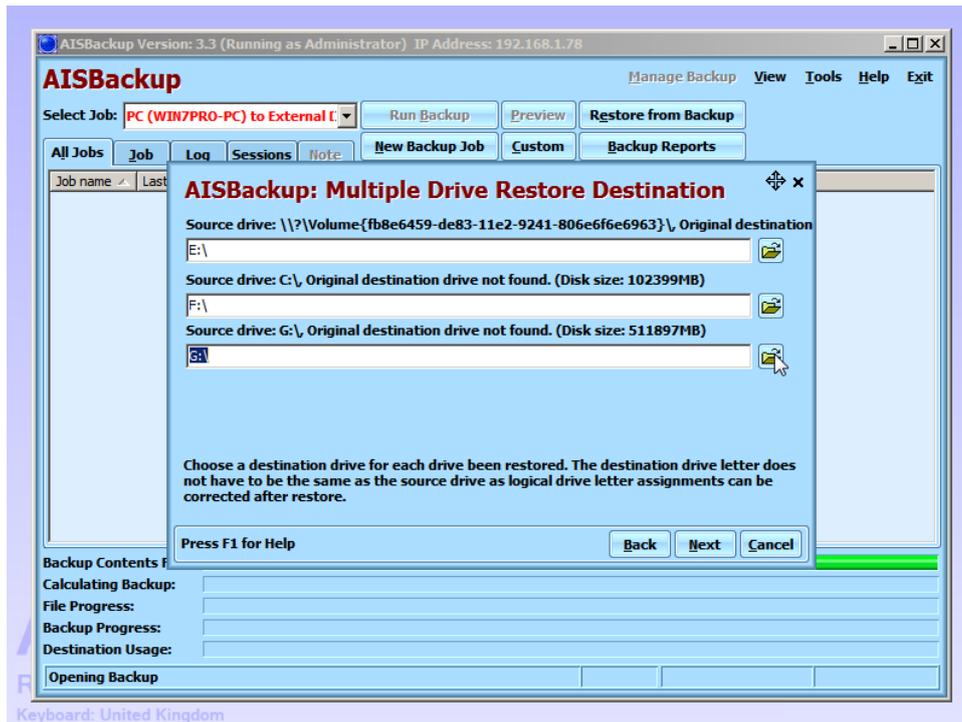
Once again select the *Unallocated Disk Space* option then click **OK**.



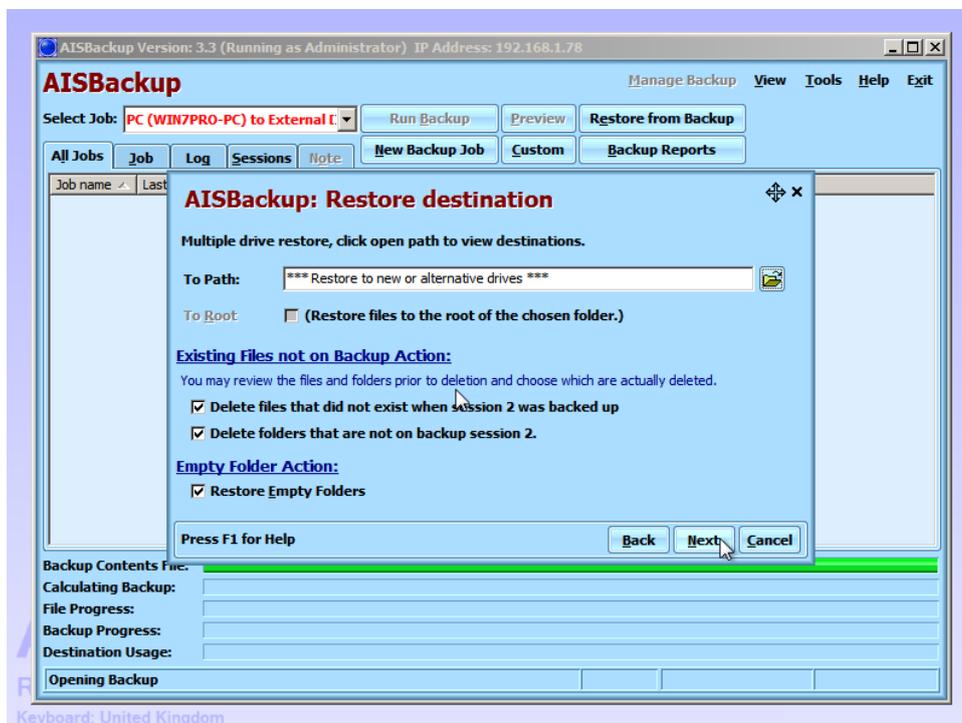
In this example the new disk is 2TB, however the Windows partition was large enough therefore the extra space will be used for the data volume. Click **Create** to continue.



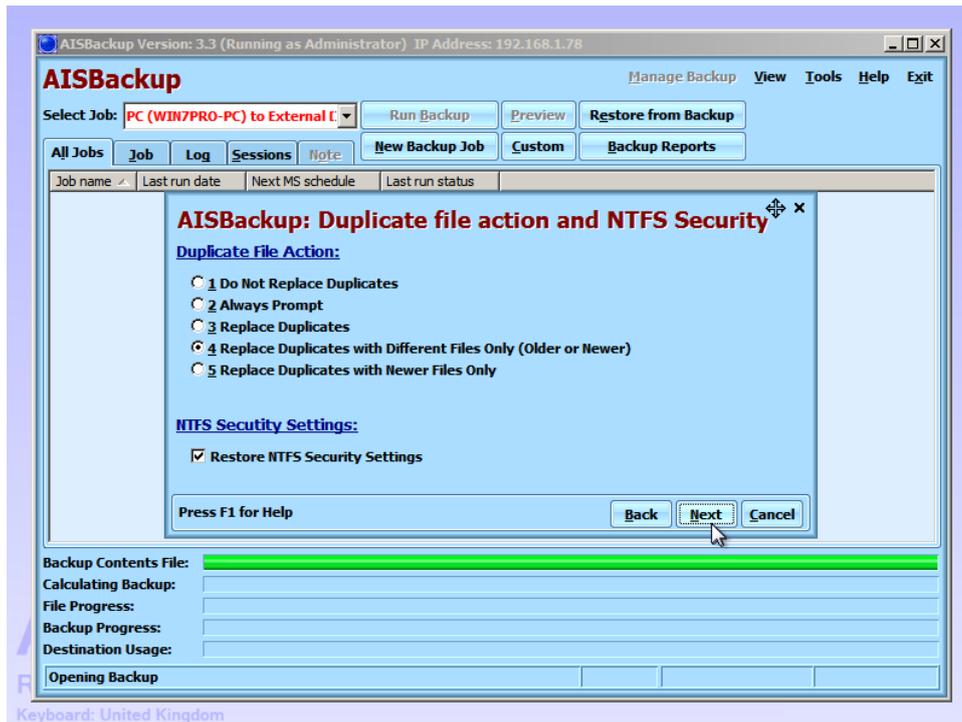
On the data volume select **Available Space** to make a disk partition using the rest of the unallocated space on the disk. Click **Create** to continue.



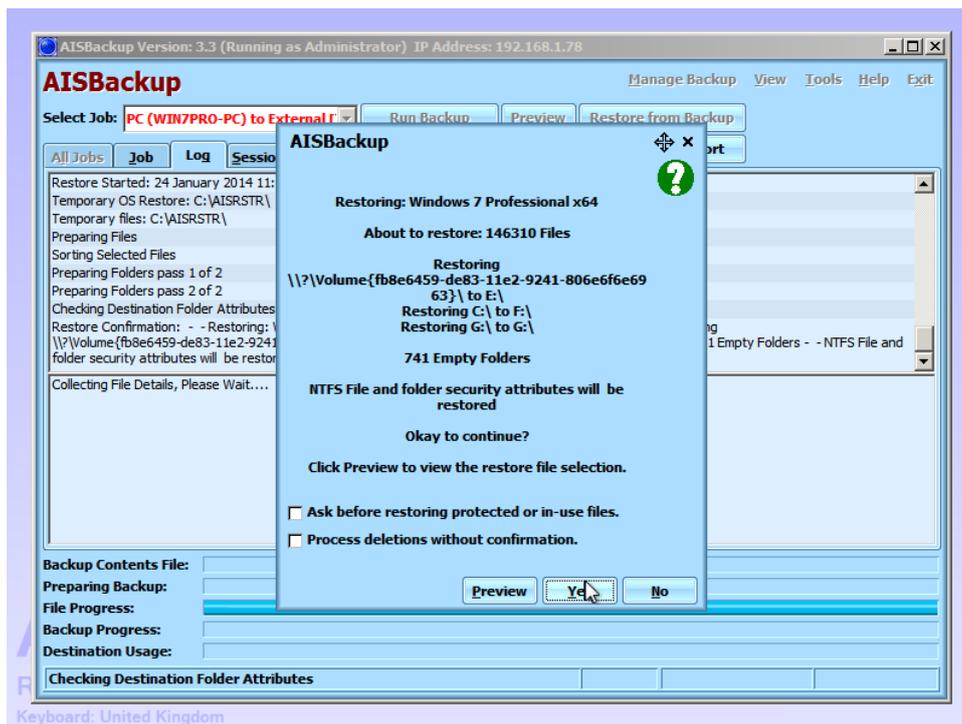
Note that the original drive letters are not likely to be the same as those used on the original Windows, this does not matter as the correct drive letters will be reinstated when the restore is complete and the PC booted, click **Next** to proceed.



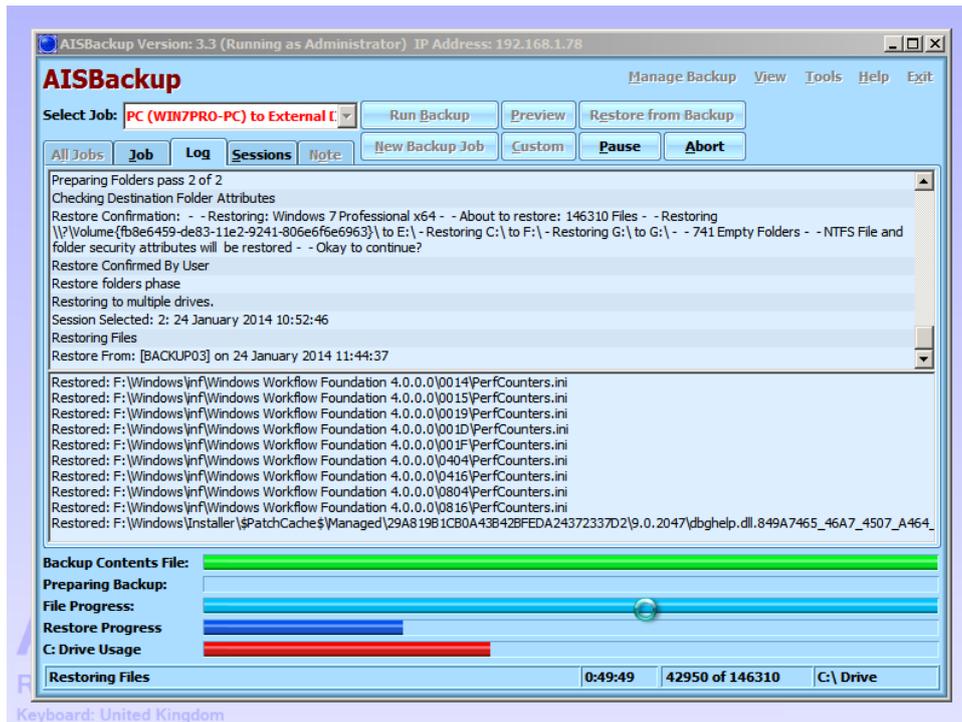
Click **Next** on the *Restore destination* form.



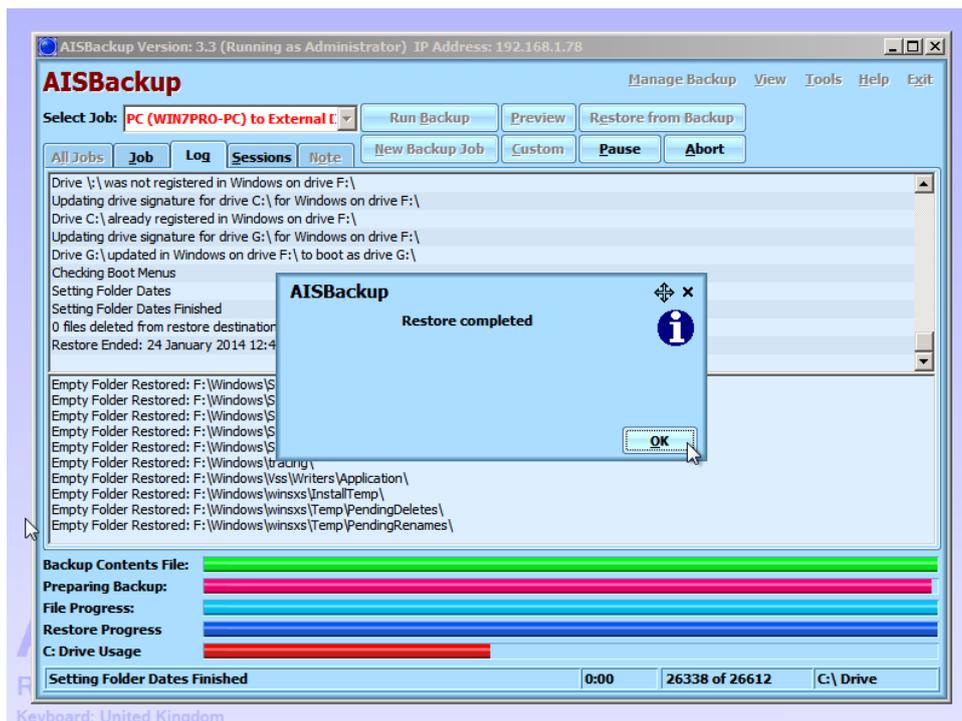
Leave the *Duplicate file action and NTFS Security* with the default settings and click **Next**.



Confirm the restore by clicking **Yes**.

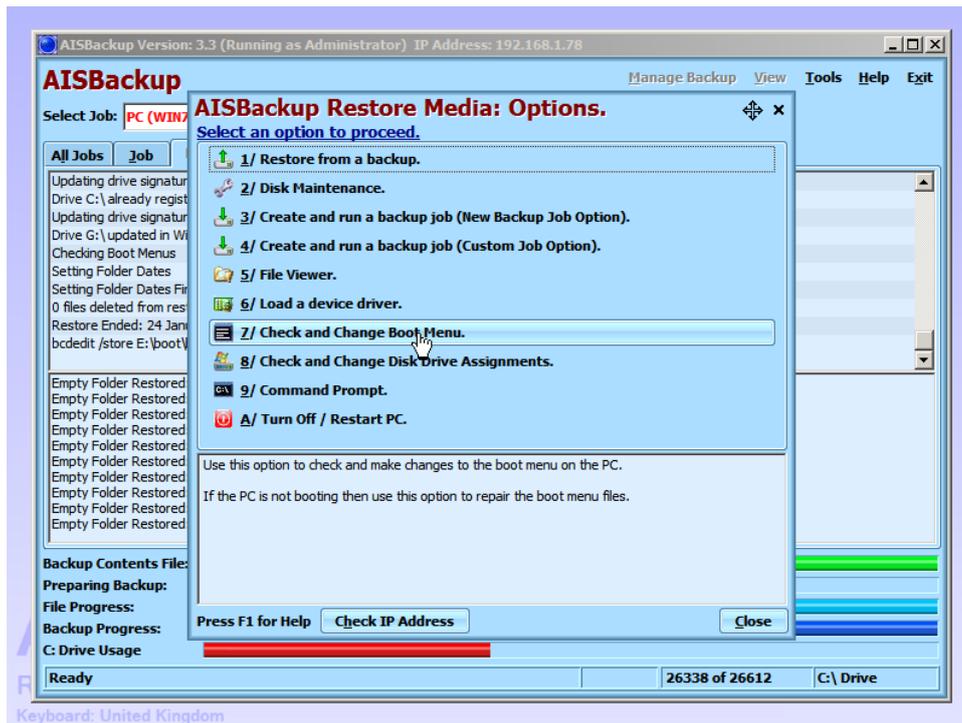


Here is a screen shot of the restore progressing.

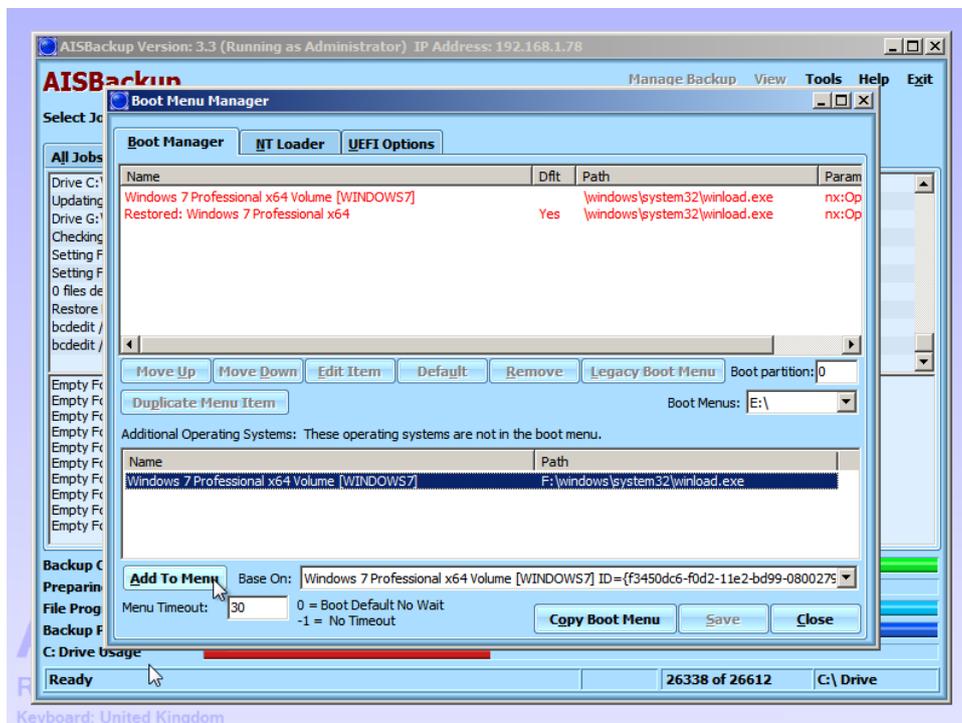


This screen shot shows that the restore is complete, close this form by clicking **OK**.

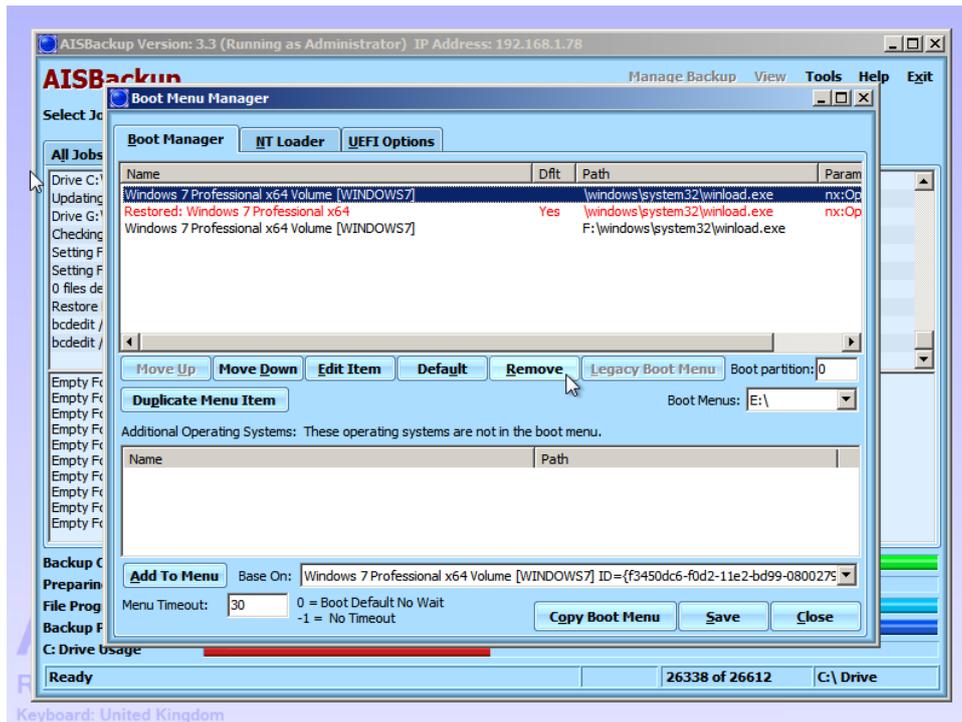
Updating the boot menu.



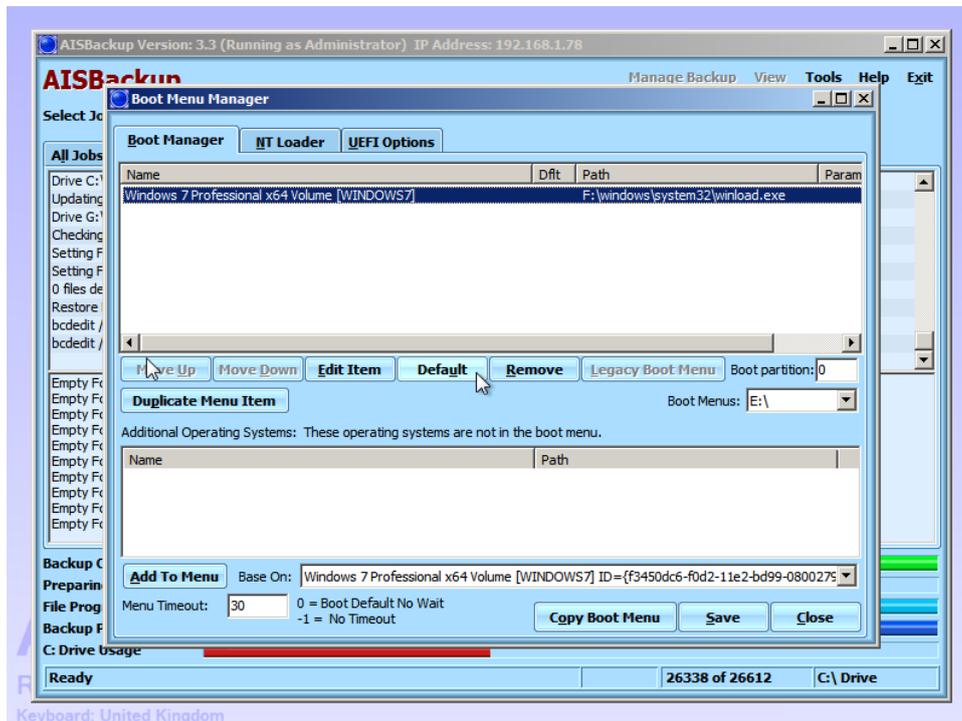
After restoring to a new disk the boot menu should be checked by using the menu option **Check and Change Boot Menu**.



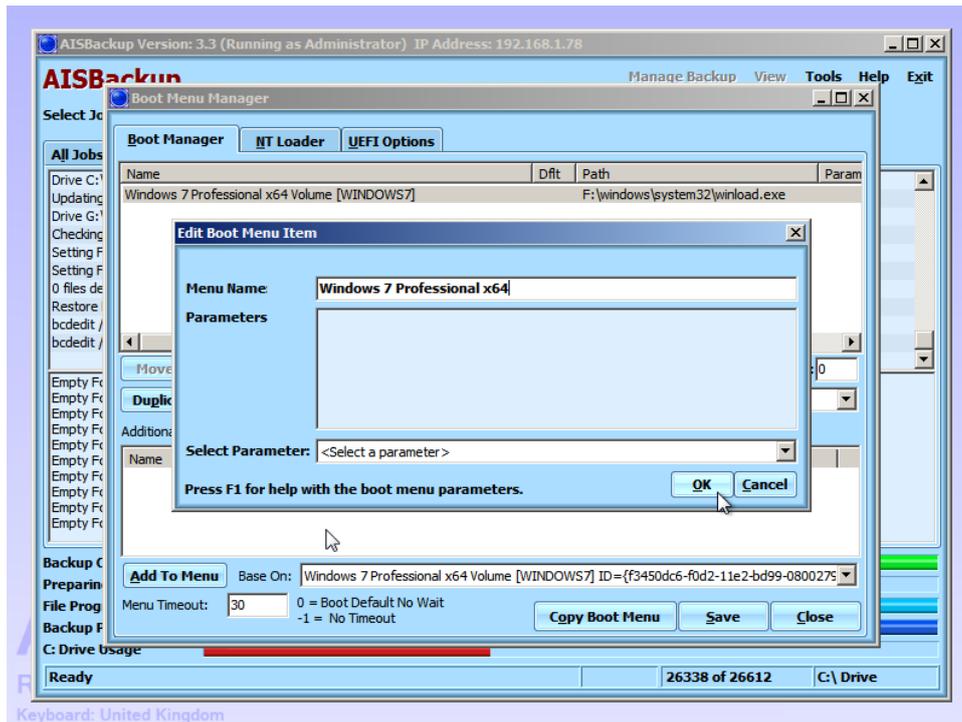
Select the newly restored Windows from the lower *Additional Operating Systems* pane then click **Add To Menu**.



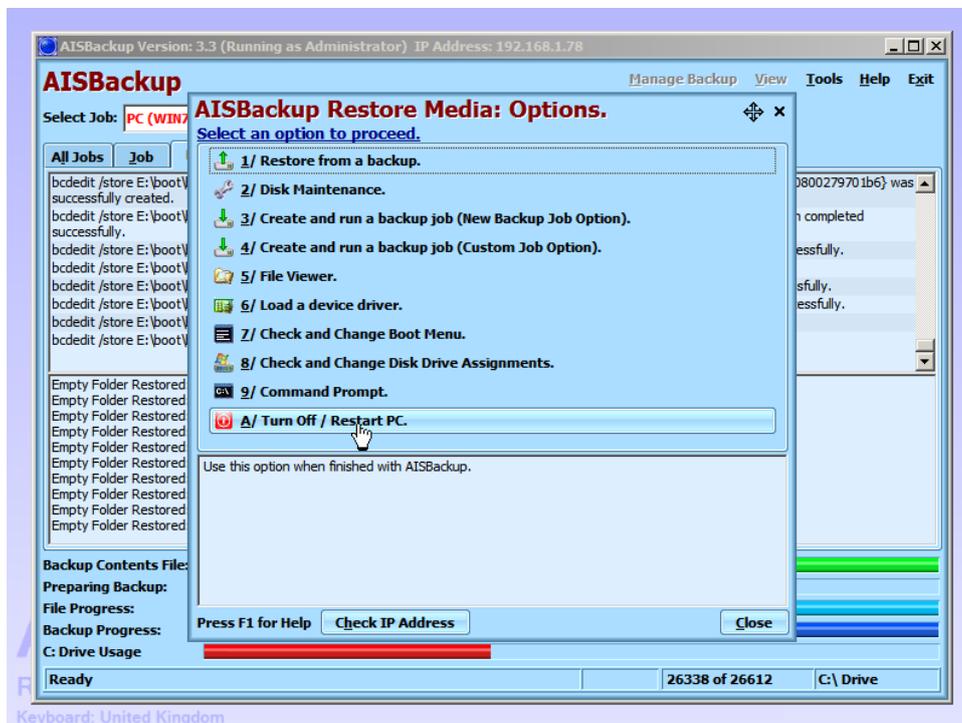
In this example the previous versions of Windows are coloured red, select each entry and click the **Remove** button, then confirm the removal by clicking **Yes**.



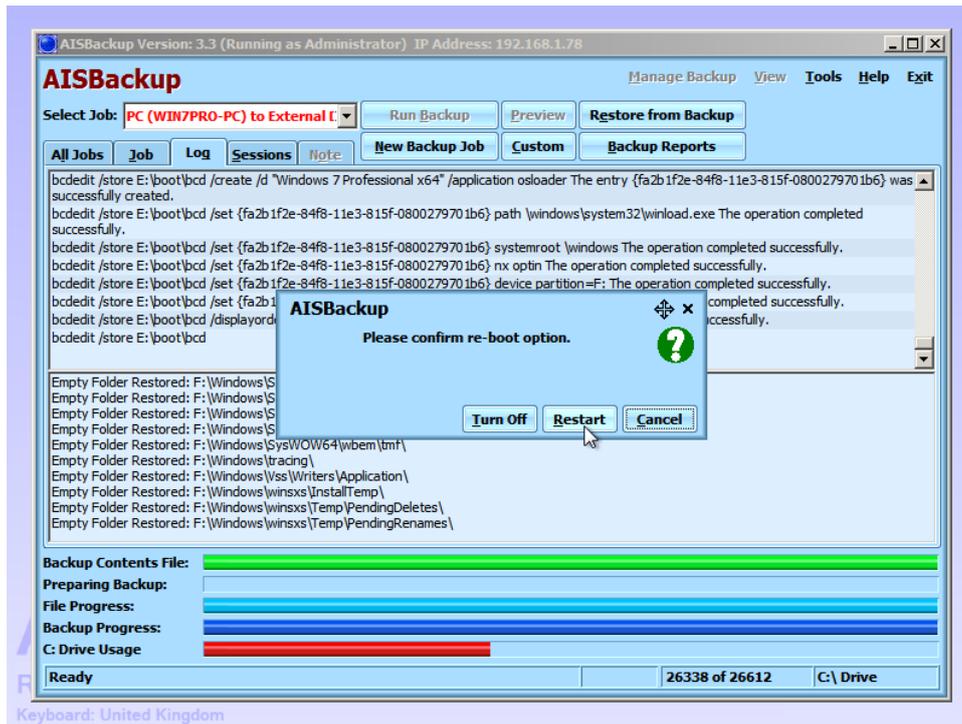
The new entry for Windows should be made the default by selecting and clicking the **Default** button.



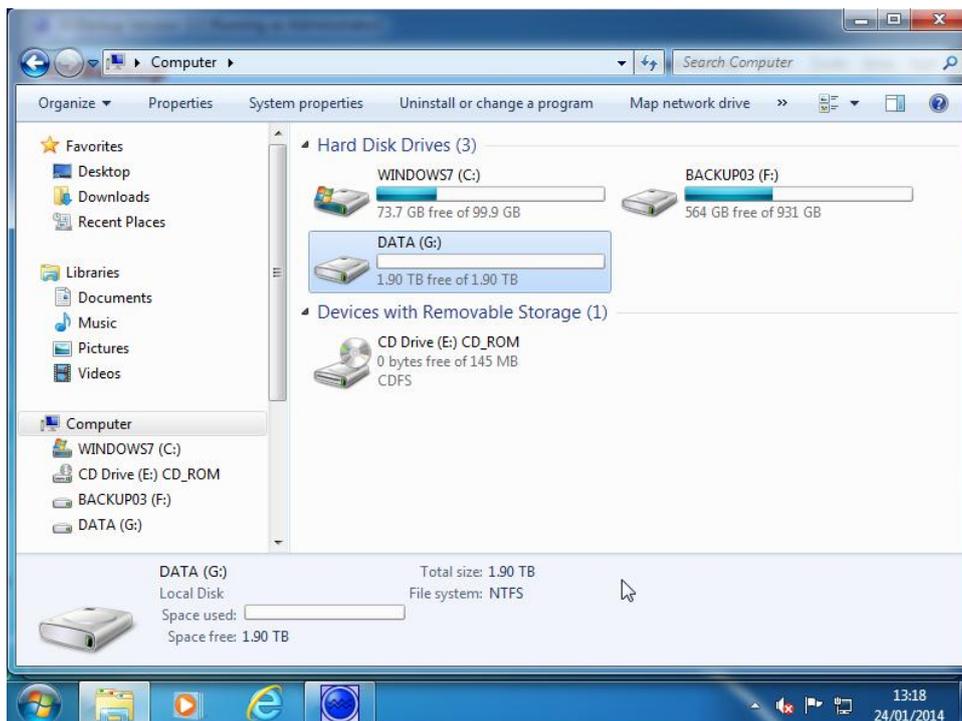
The name of the menu entry may be changed by double clicking the entry. Additional boot parameters may be added by using the **Select Parameters** drop-down list. This option is only likely to be used by computer professionals or if you already know about special requirements. Click **OK** to proceed then click **Save**. To finish the boot menu update click **Close**.



Once the restore has completed click **Turn off / Restart PC**.



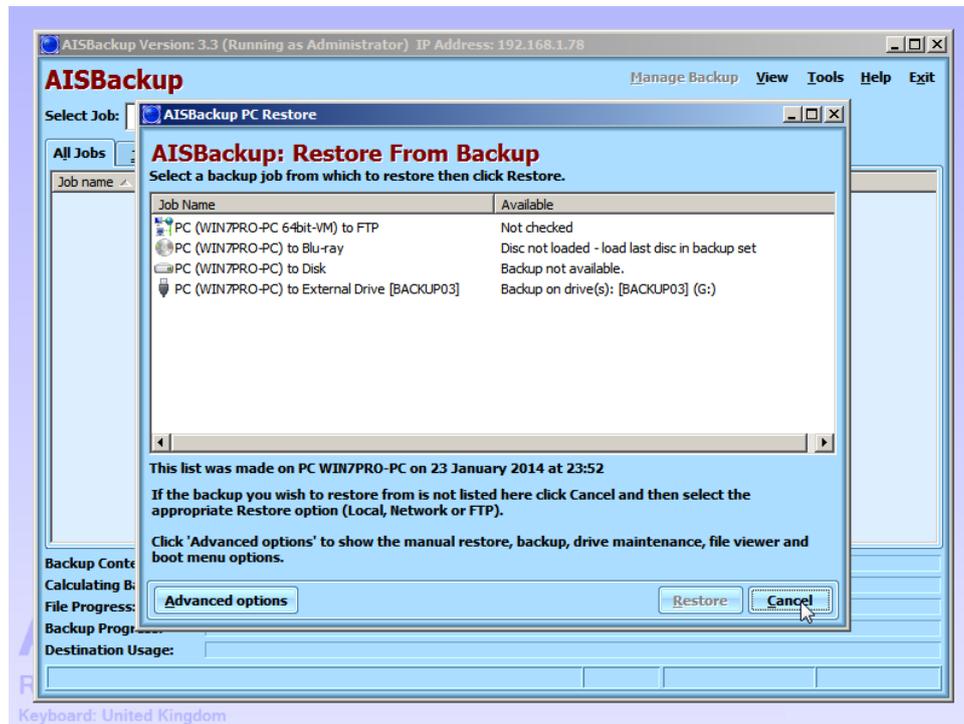
Then click **Restart**. Select Start Windows Normally when asked.



This screenshot shows the PC after rebooting the restored PC. The Data drive (G:) looks as though nothing was restored, however the 702MB of data was not enough to register any disk usage in Windows. The boot drive we called SYSTEM is hidden.

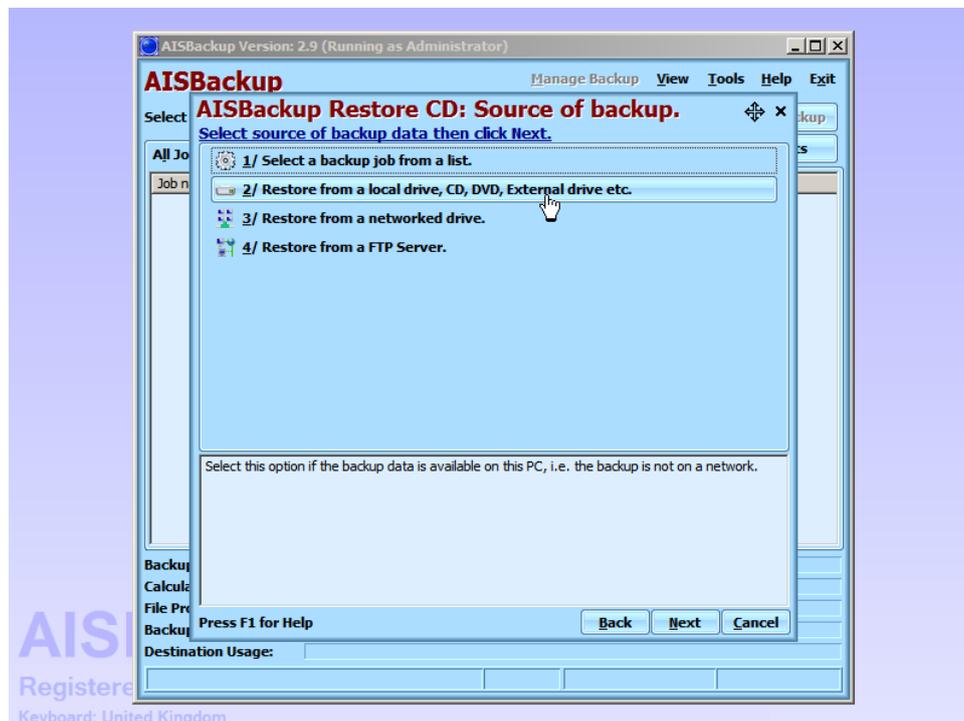
Opening a backup that is not In the list of backup jobs.

If the backup you are restoring is not in the list of backups click **Cancel** on the list of jobs form.

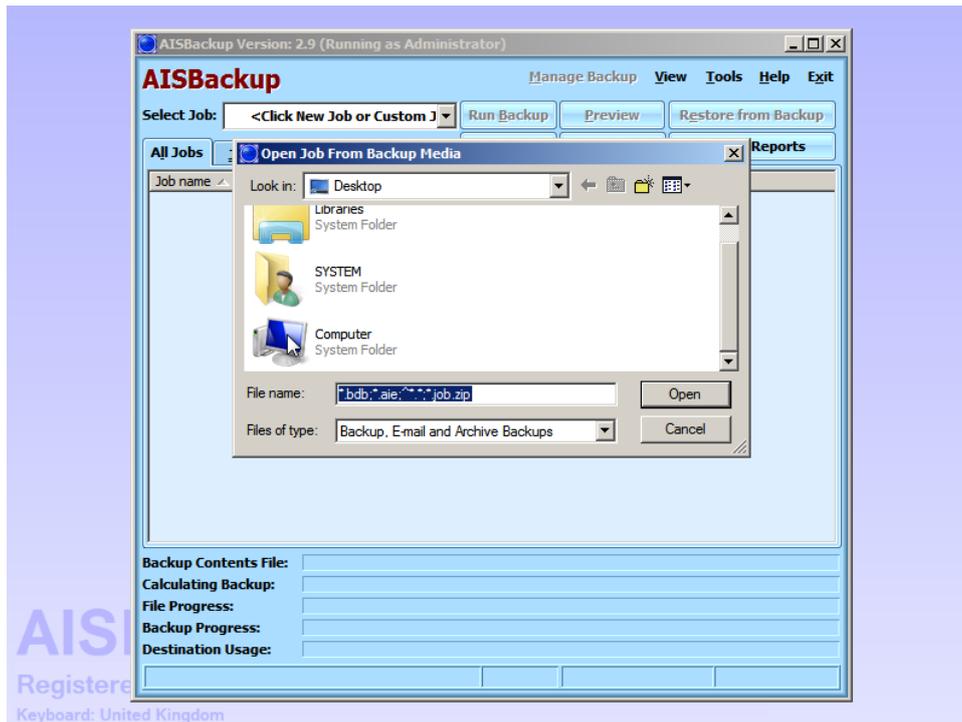


After clicking **Cancel** the manual restore options are shown, to return to the list of jobs select the menu option *Select a backup job from a list*.

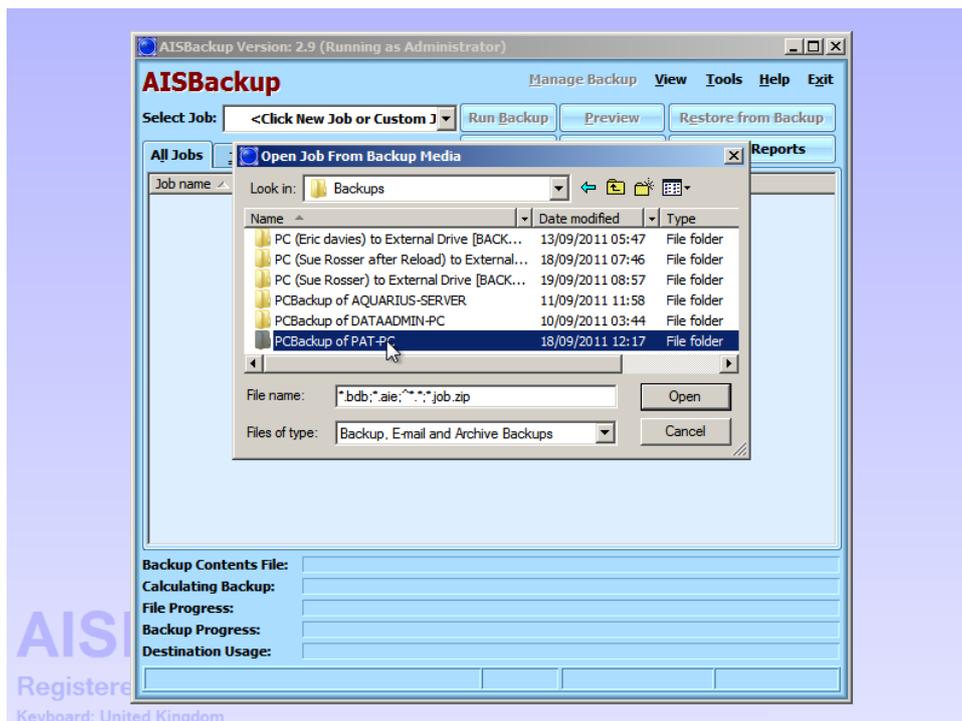
Restore from local drive, CD, DVD, Blu-ray or External drive.



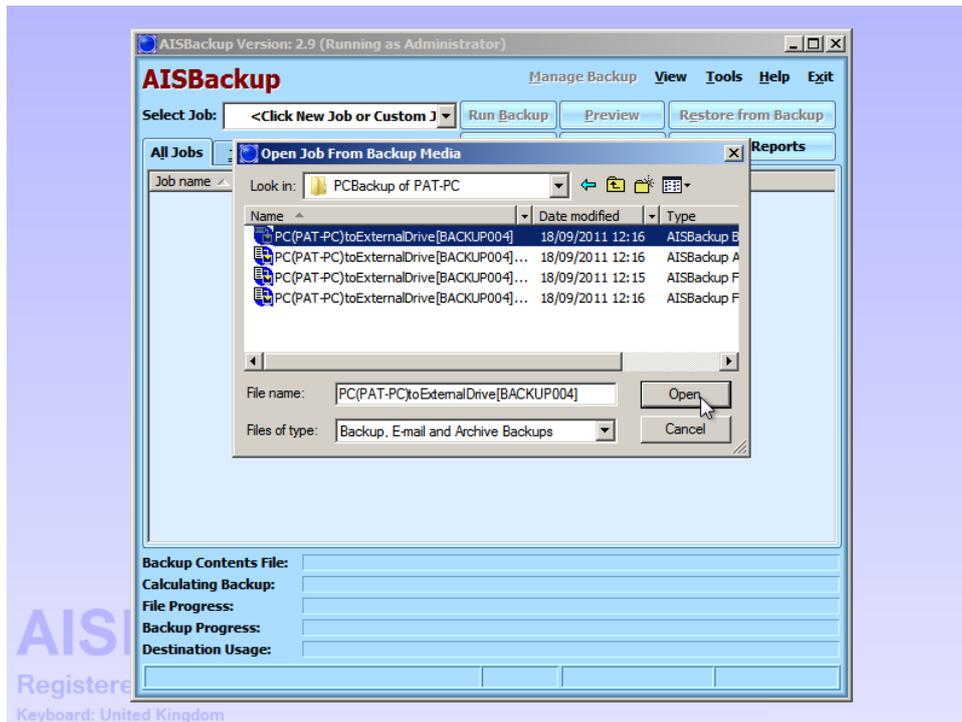
To restore from a local backup choose *Restore from a local drive, CD, DVD, External drive etc.*



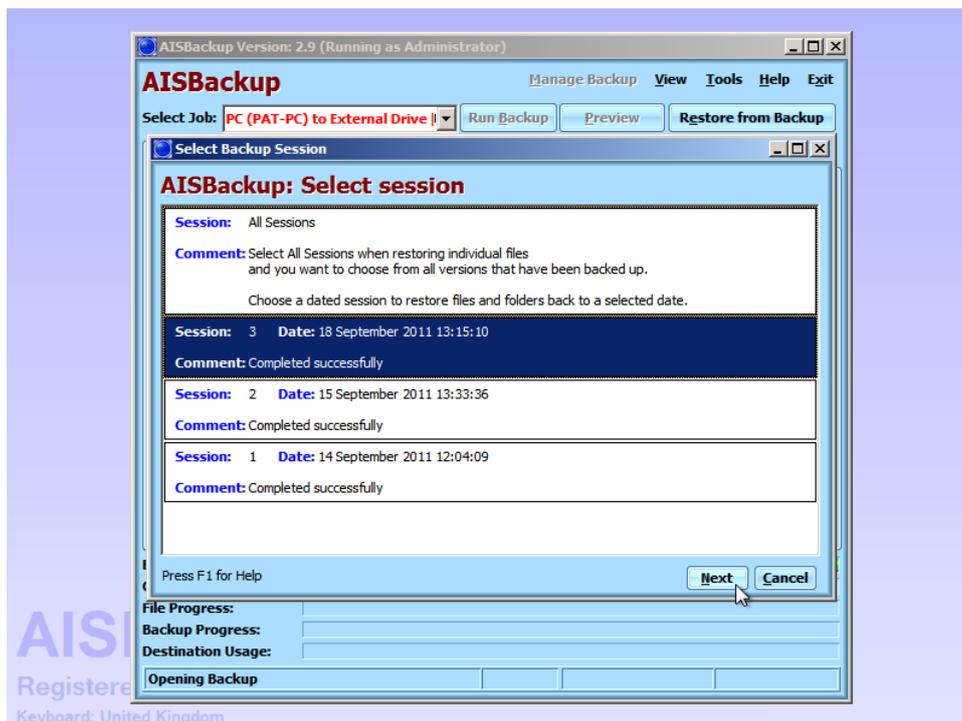
From the *Open Job From Backup Media* option double click *Computer*.



Navigate to the backup folder. Note that pre-load the last CD, DVD or Blu-ray disc used if the backup is on this kind of media as the last disc used contains the latest version of the backup database.

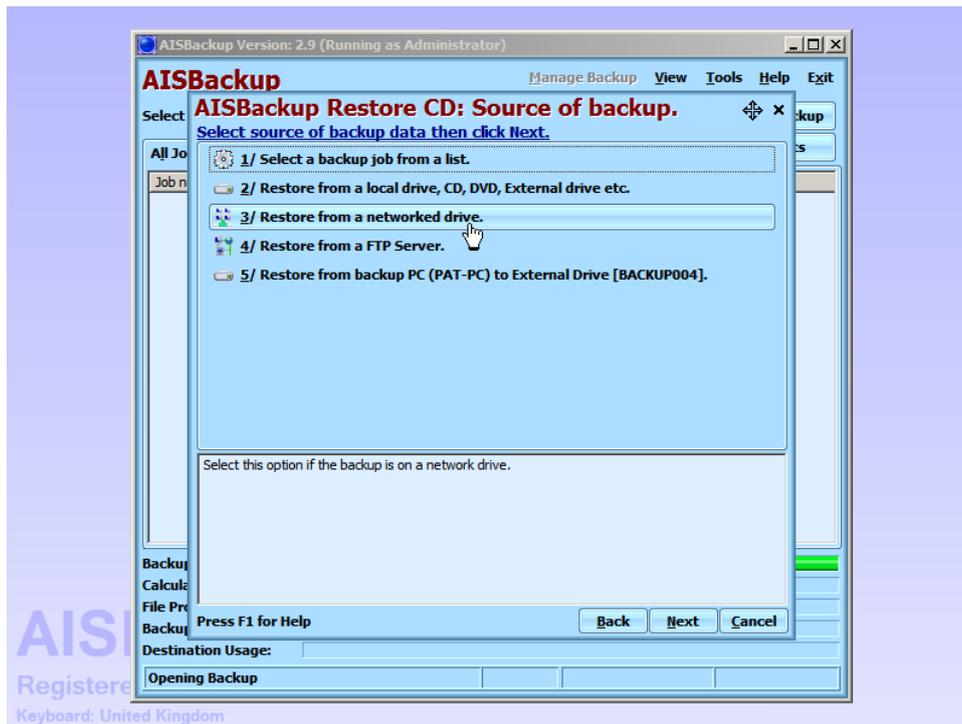


From the backup folder double click the backup contents file.

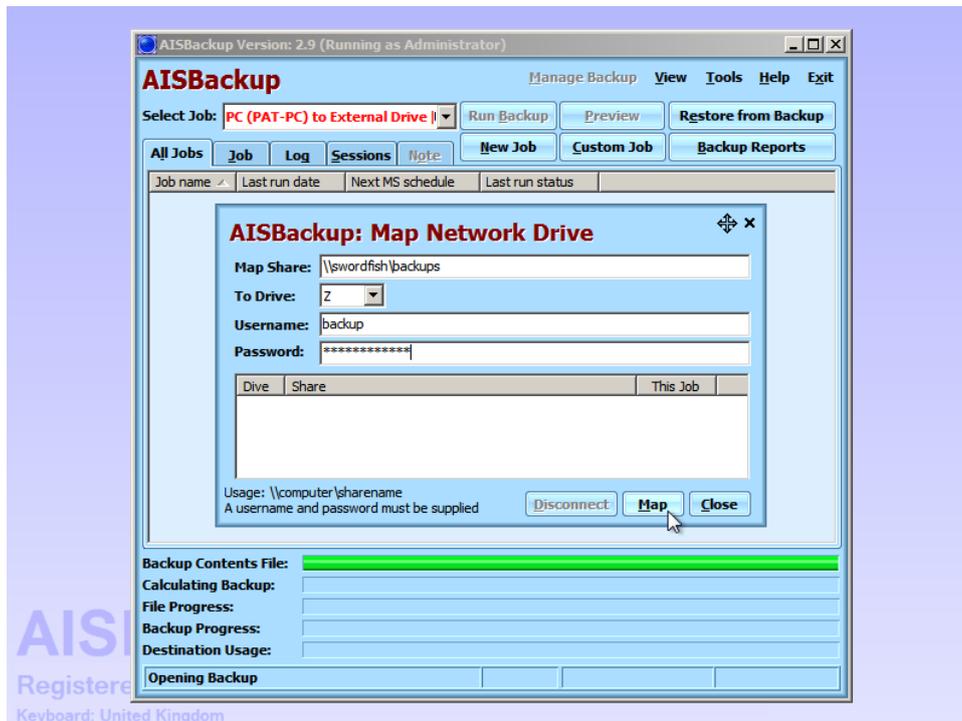


Choose the dated backup session to restore. Note that the *All Sessions* option is not suitable for disaster recovery restores. For the remaining restore instructions see page 4

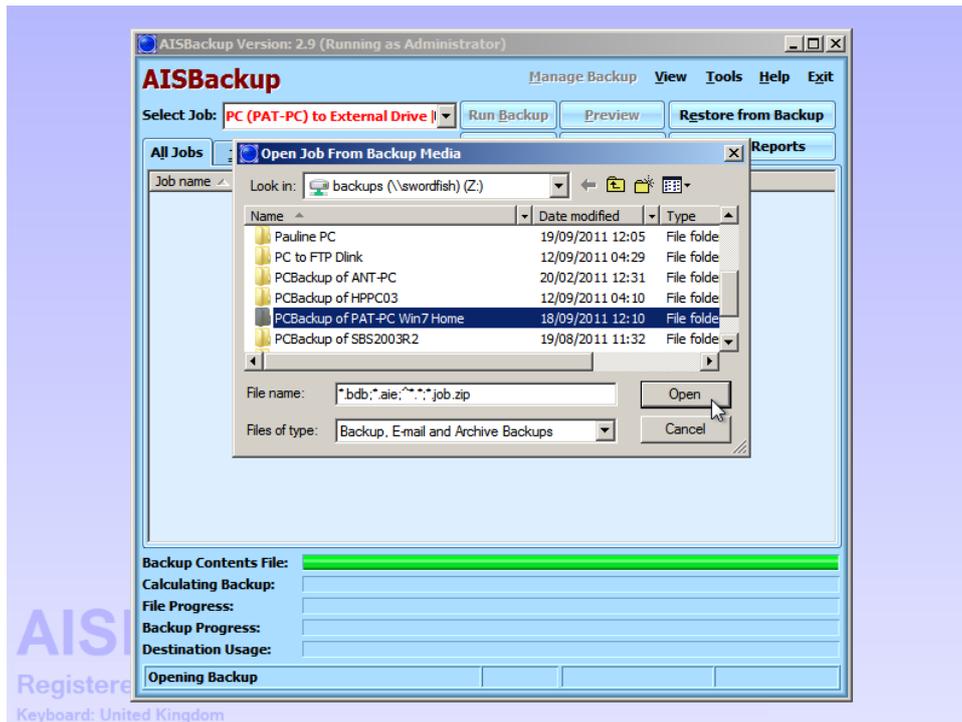
Restore from a network drive.



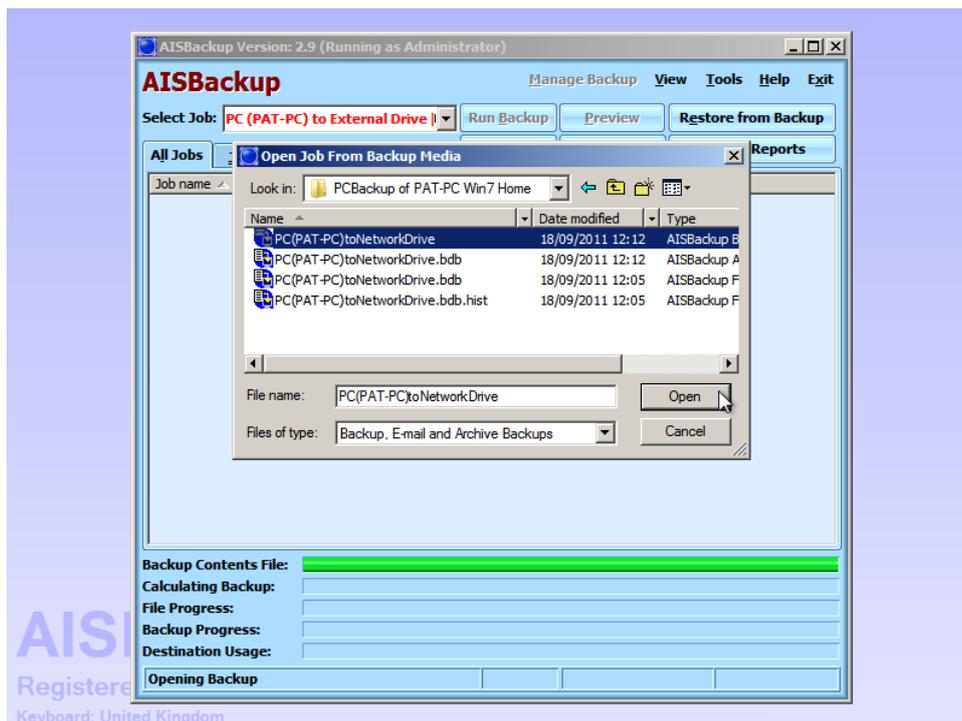
To restore from a network drive click *Restore from a network drive*.



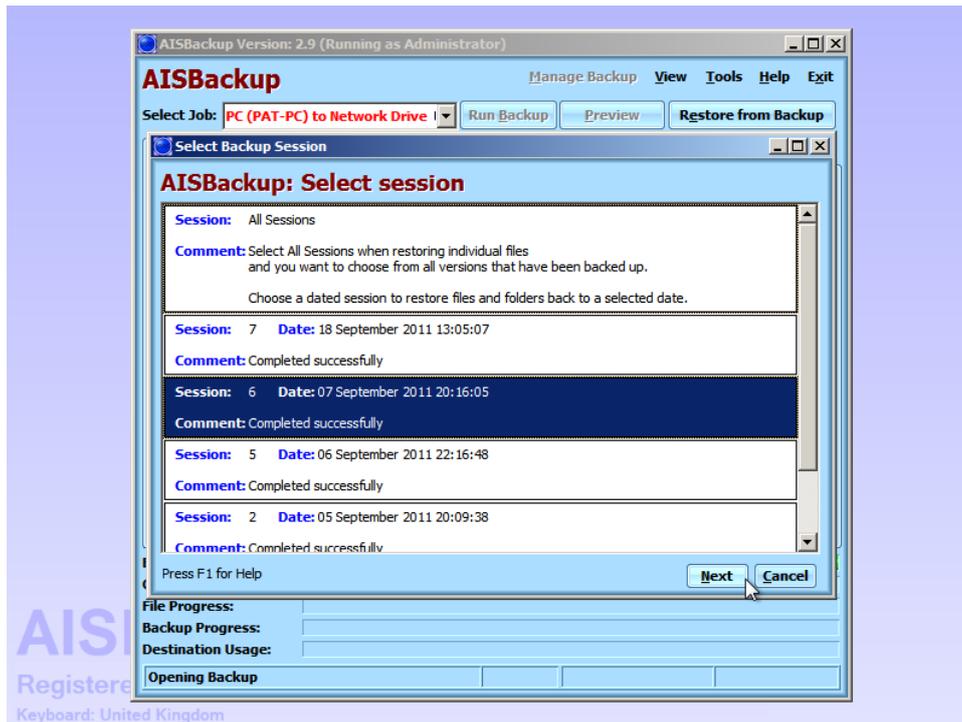
Enter the share name, username and password for the remote PC.



Navigate to the folder containing the backup.

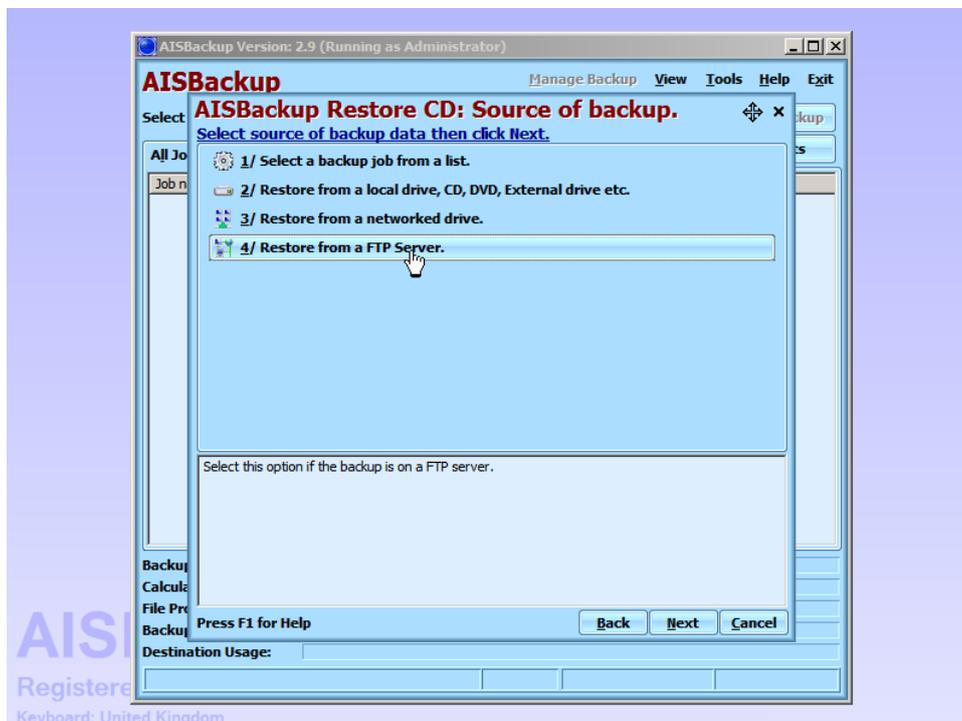


Double click the backup database file to open.

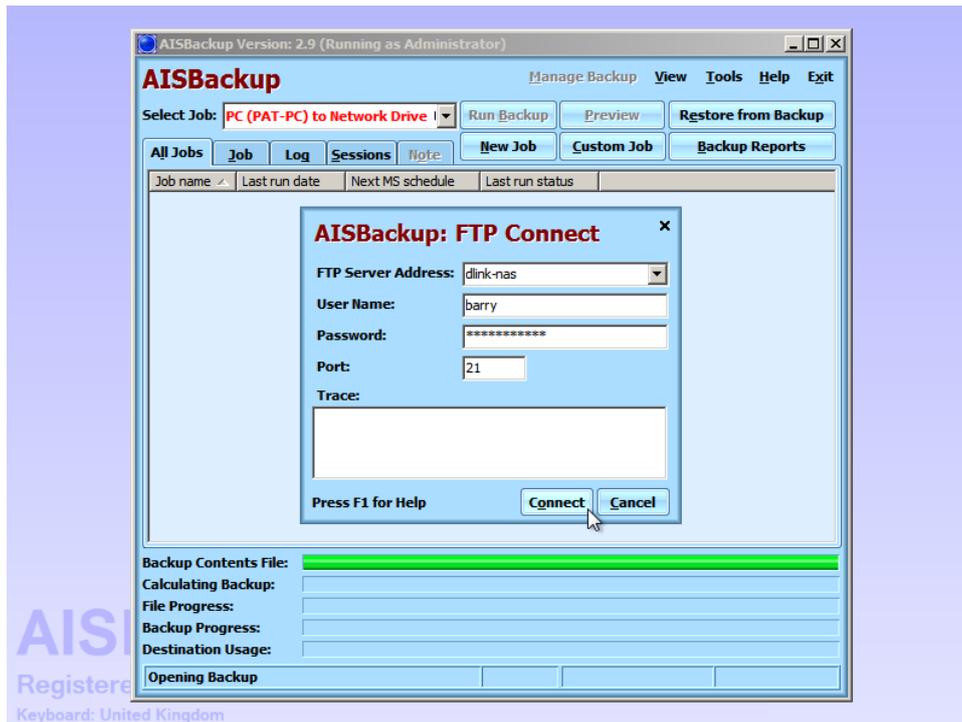


Choose the dated backup session to restore. Note that the *All Sessions* option is not suitable for disaster recovery restores. For the remaining restore instructions see page 4

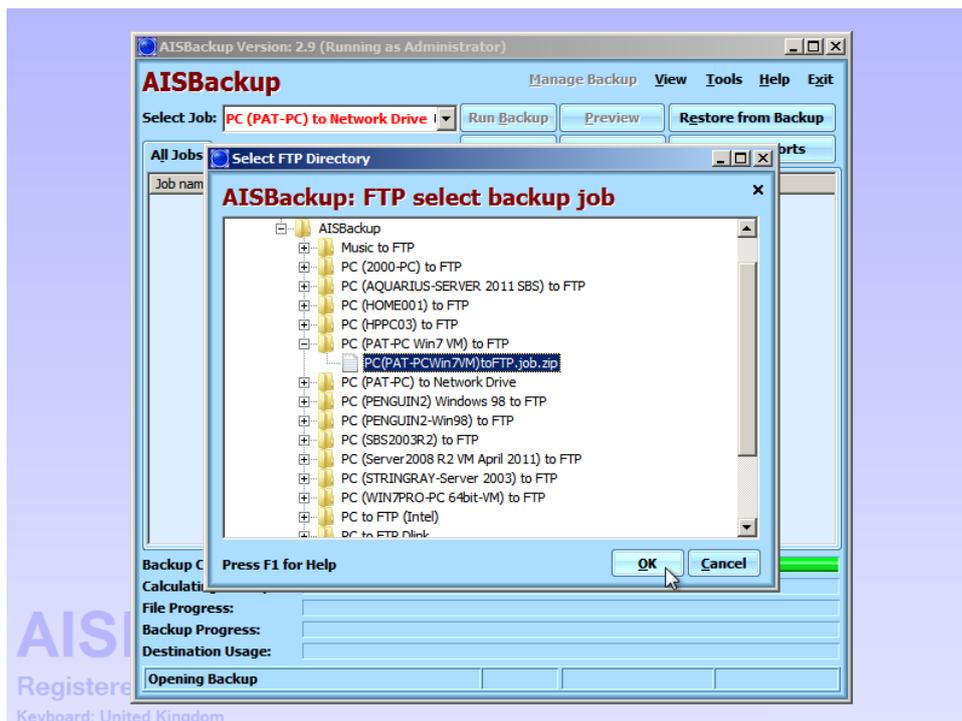
Restore from FTP Server.



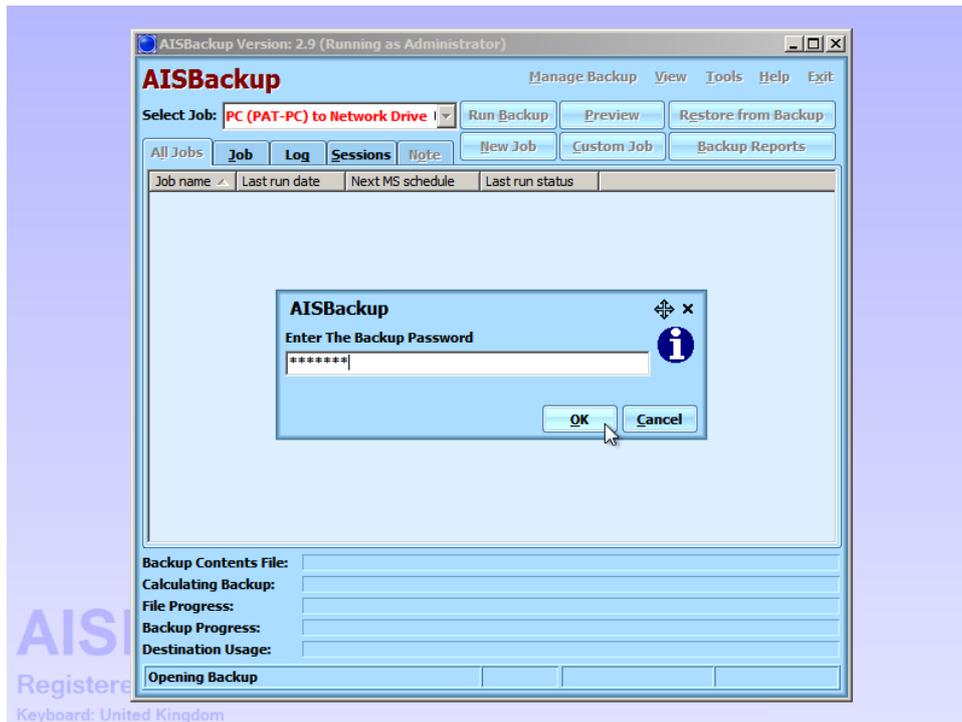
If the backup is on an FTP sever click *Restore from a FTP Server.*



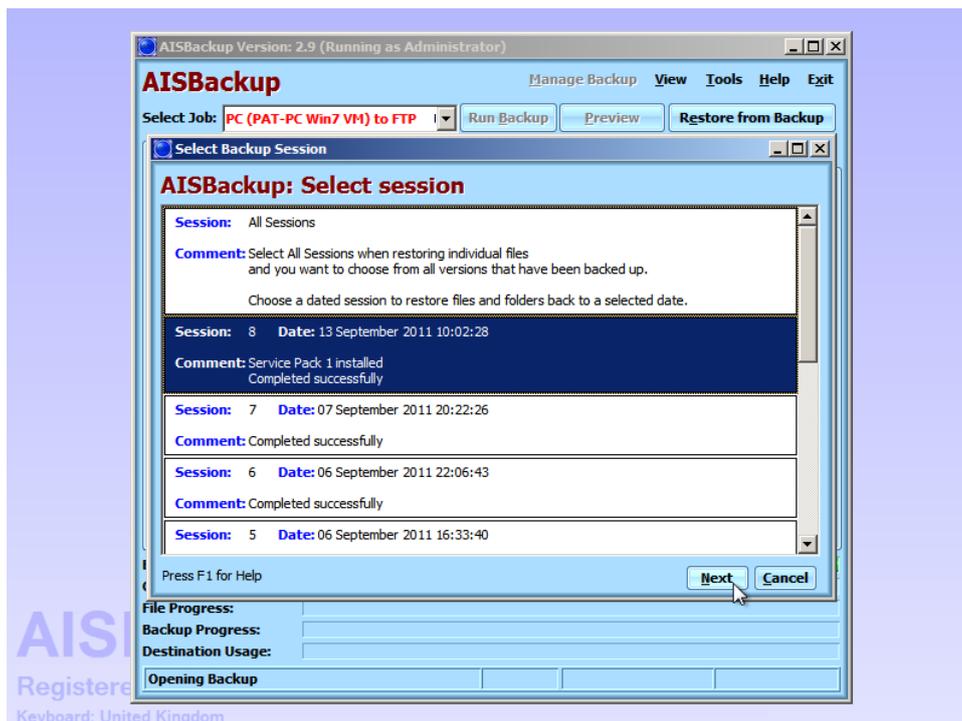
Enter the name of the server, username and password.



Navigate to the folder containing the backup then click the FTP Backup control file then click **OK**.



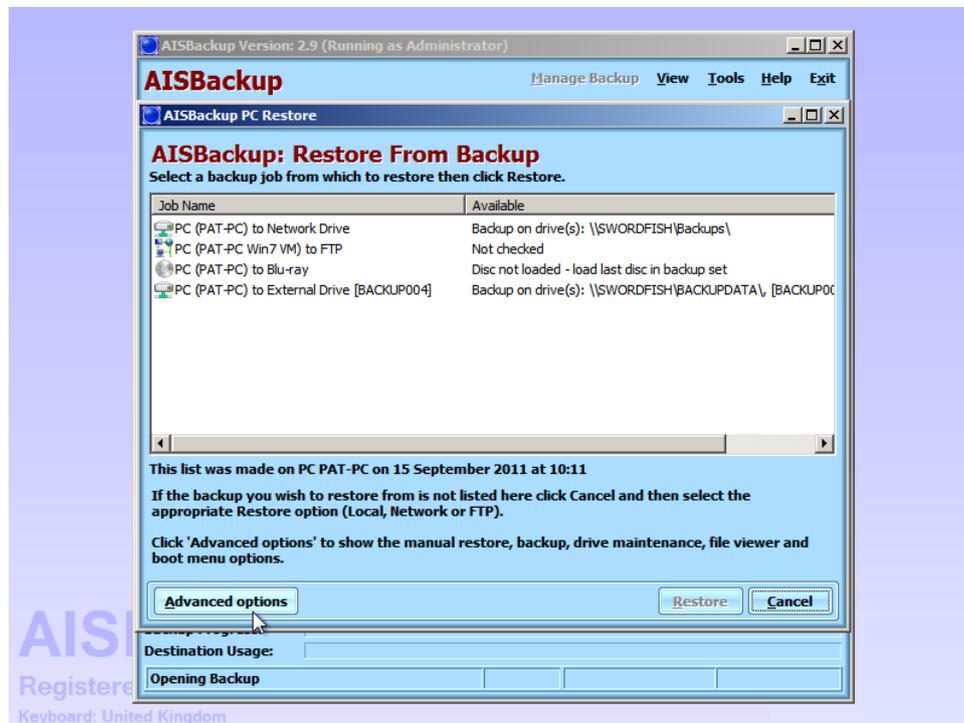
Enter the FTP server password then click **OK**.



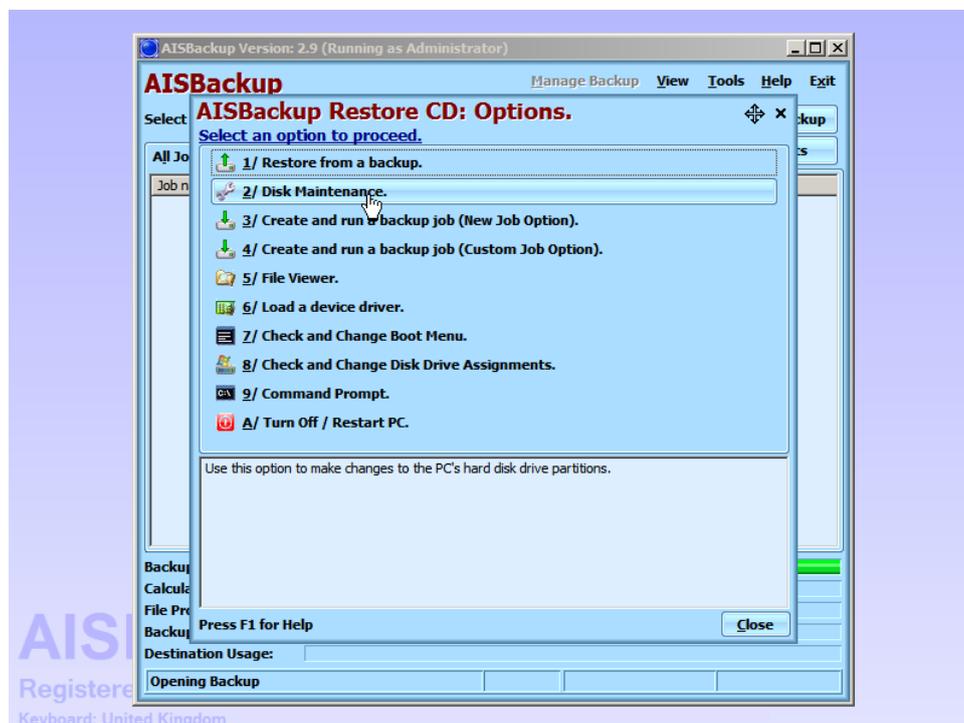
Choose the dated backup session to restore. Note that the *All Sessions* option is not suitable for disaster recovery restores. For the remaining restore instructions see page 4

Advanced Options.

The advanced options are displayed by default on disaster recovery media that was created prior to version 2.9 build 400 of AISBackup, this was before the list of jobs menu was introduced.



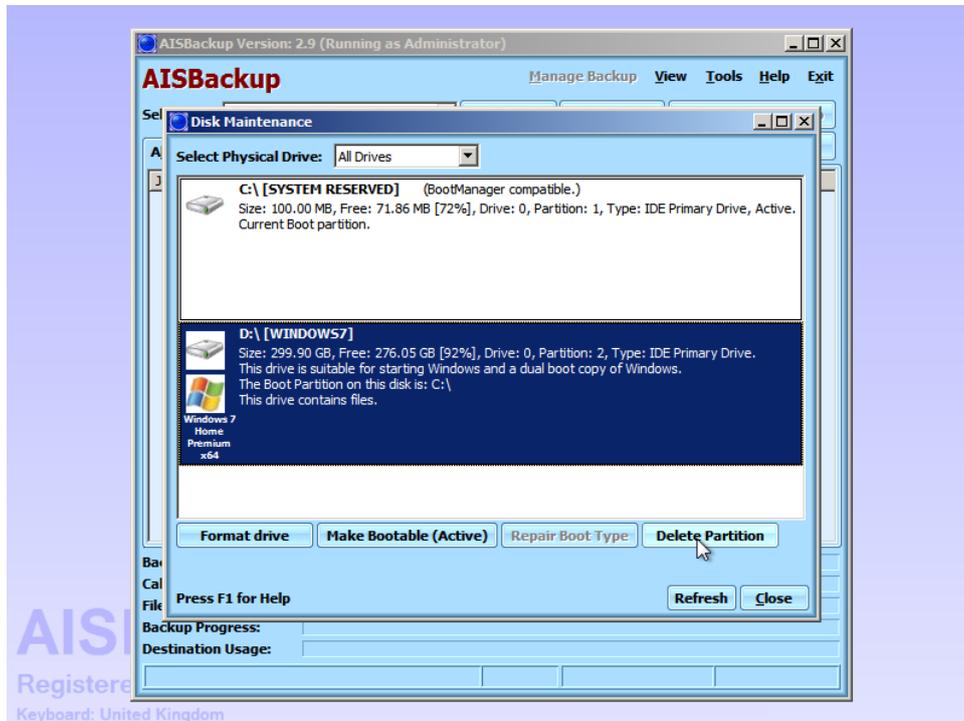
If the disaster recovery media was created on version 2.9 build 400 of AISBackup or above click **Advanced options** to display the advanced options form.



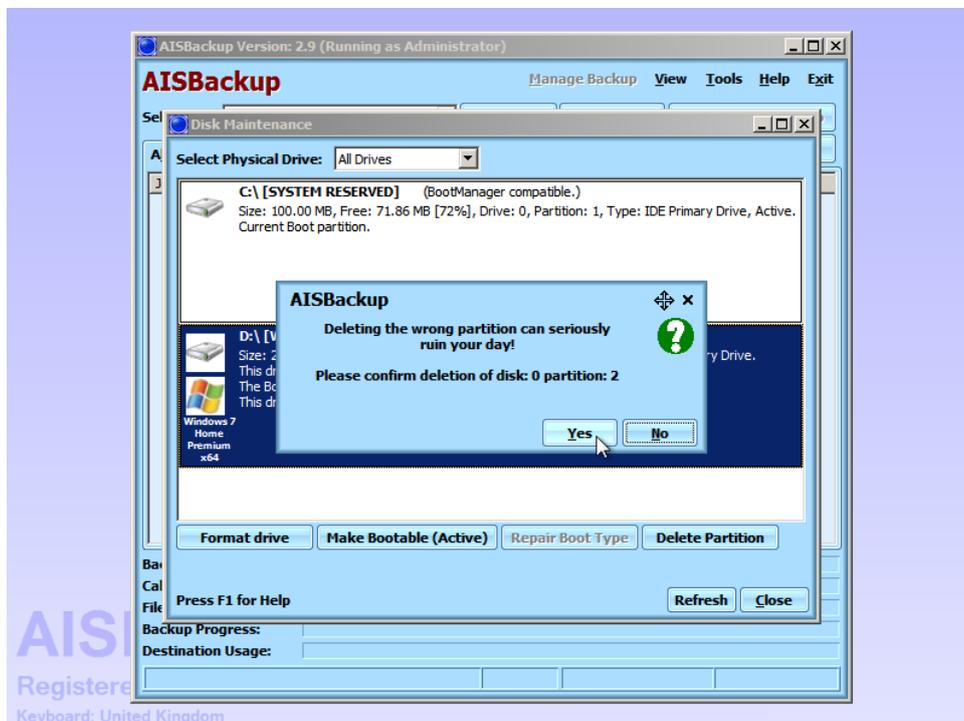
To select the disk maintenance options click *Disk maintenance*.

Disk Maintenance.

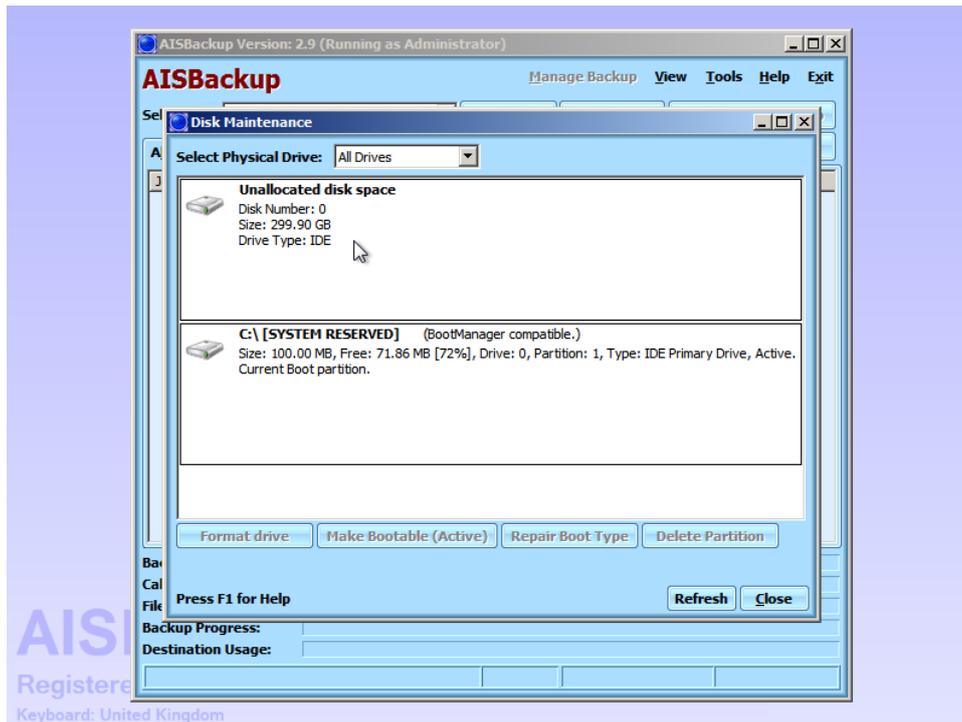
The disk maintenance options enable disk partitions to be removed, created formatted. In this example we will remove the partition containing Windows.



Select the partition to remove then click **Delete Partition**.

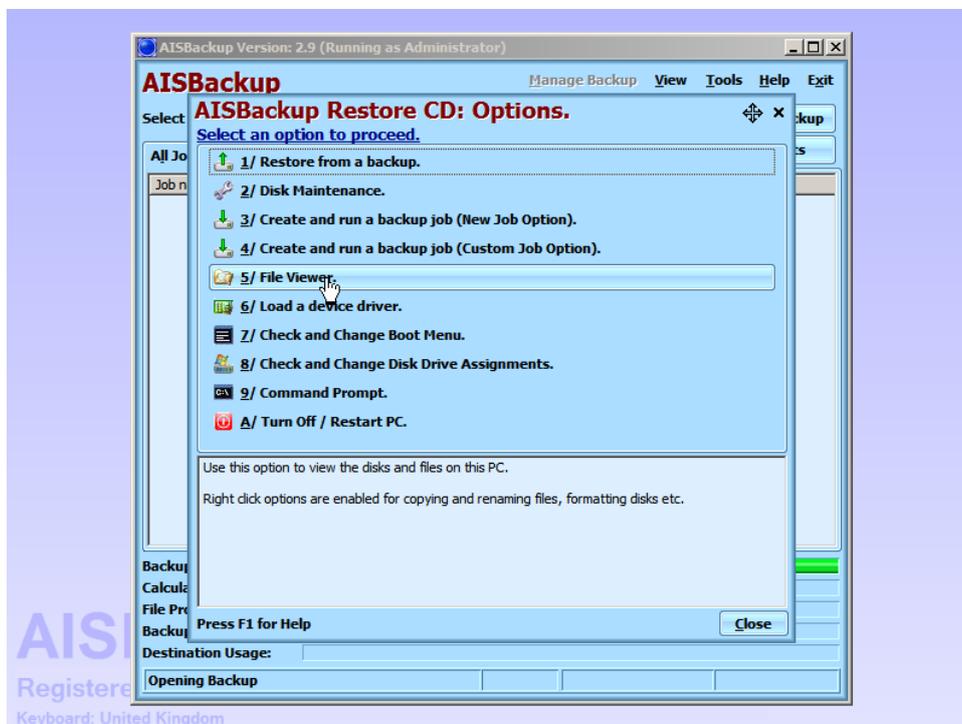


Confirm the deletion of the partition by clicking **Yes**.

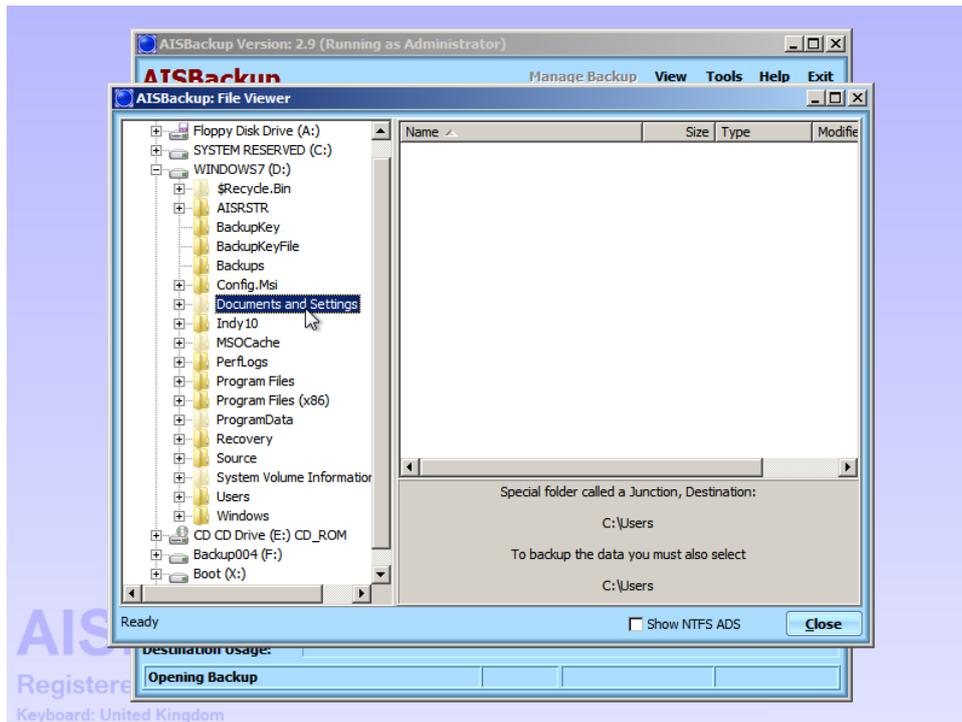


The partition is now shown as *Unallocated disk space*. You may choose to create a new partition (by clicking **Create drive**) or allow AISBackup to make the partition during the restore process, see page 5.

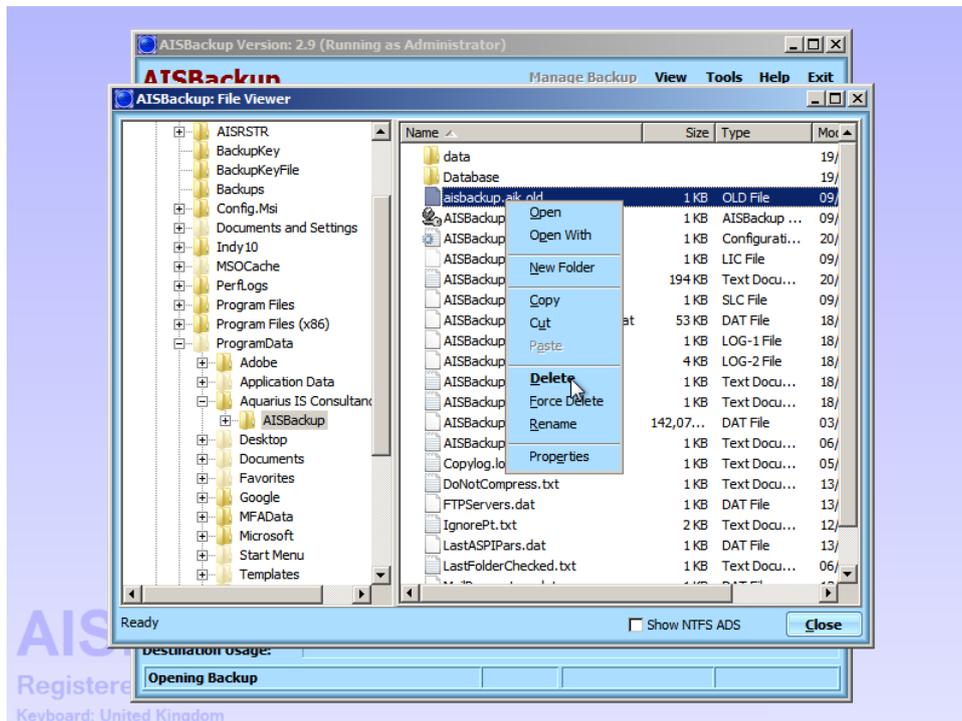
File viewer



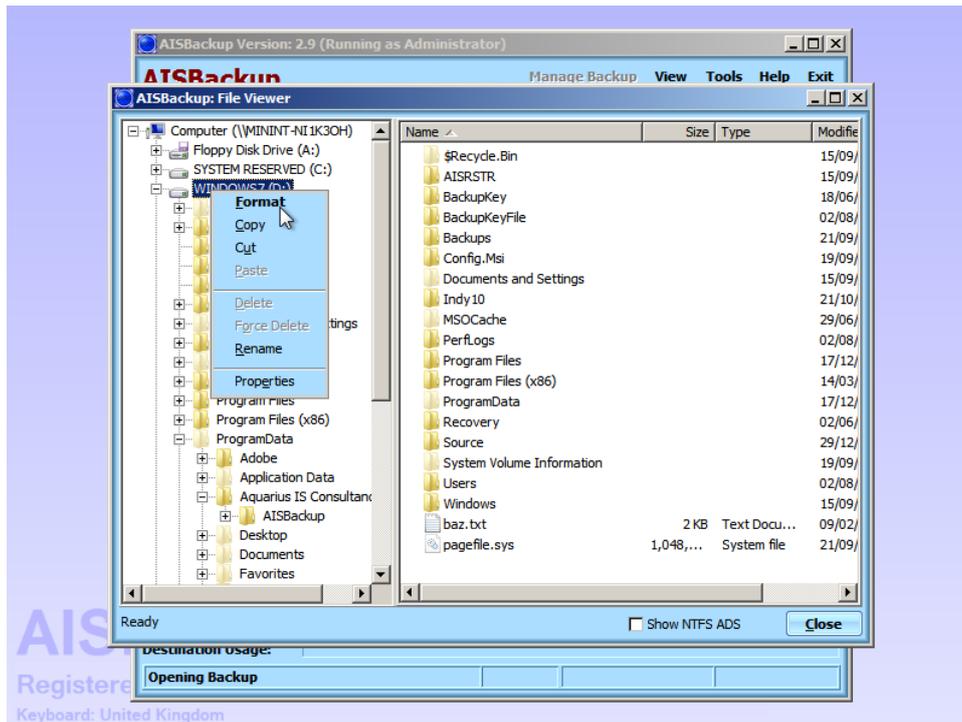
To use the file viewer to examine the file structure on the drives click **File Viewer**. Please note that the file viewer is only made available if the disaster recovery media is created with the registered version of AISBackup.



In this example we can see that the *Documents and settings* folder on a Windows 7 or Windows Vista is actually a special folder called a *Junction* that 'points' to the real folder *Users*.



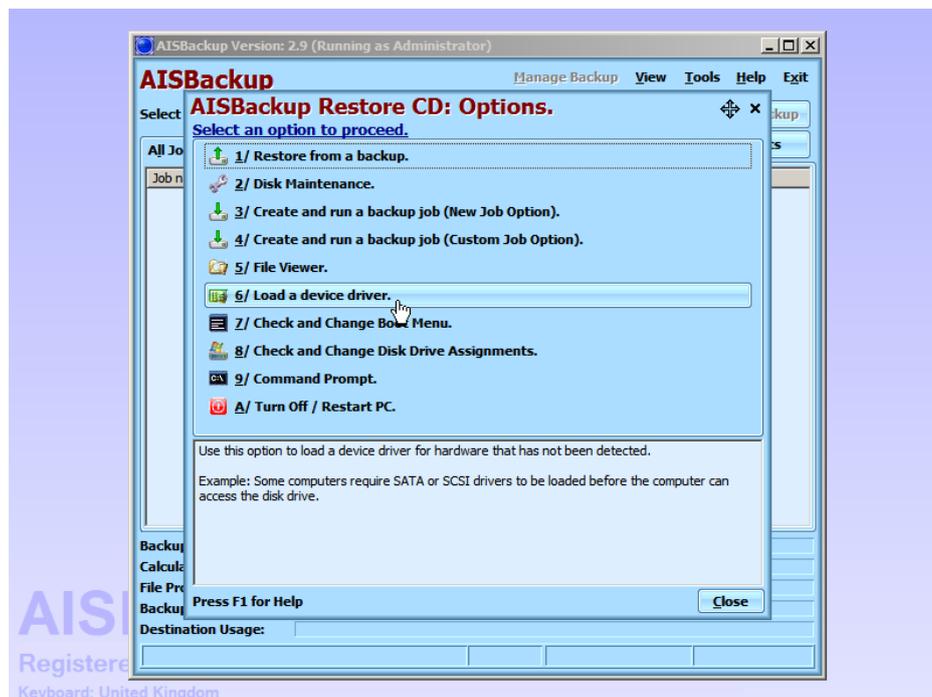
The file viewer enabled files to be copied, renamed and deleted by using right click options. Expert users may use this option to remove viruses from the PC that cannot be removed while Windows itself is running.



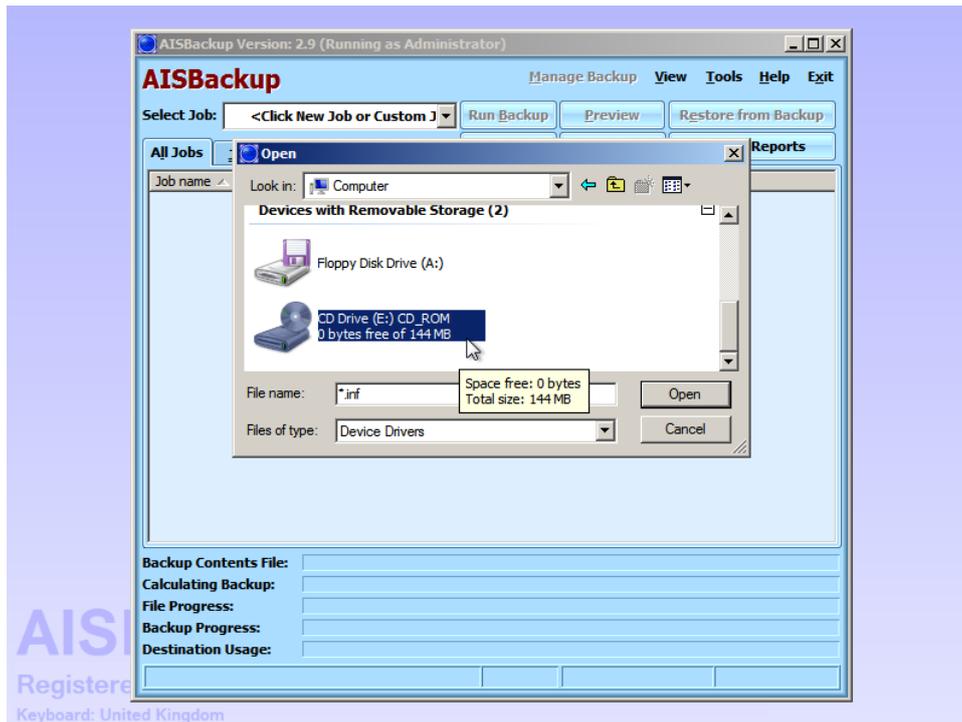
The file viewer also enables drives to be formatted, as an alternative to using the *Disk Management* function.

Load a Device Driver

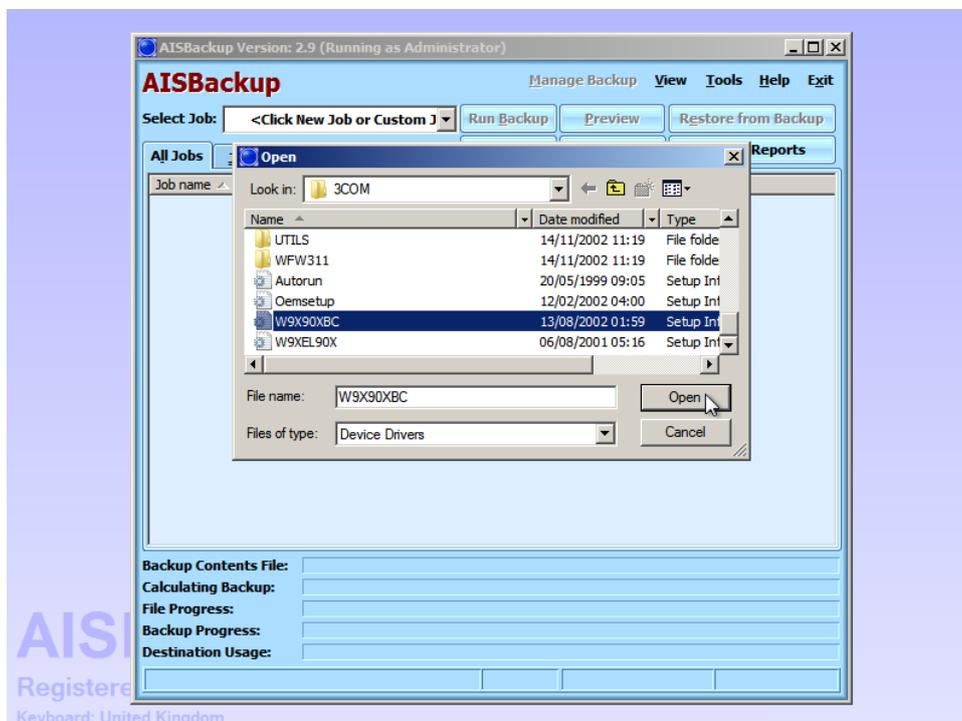
Device drivers are required by the Windows operating system to interface with hardware; for example network cards. In most cases you will not have to install additional device drivers to restore the PC using the disaster recovery media.



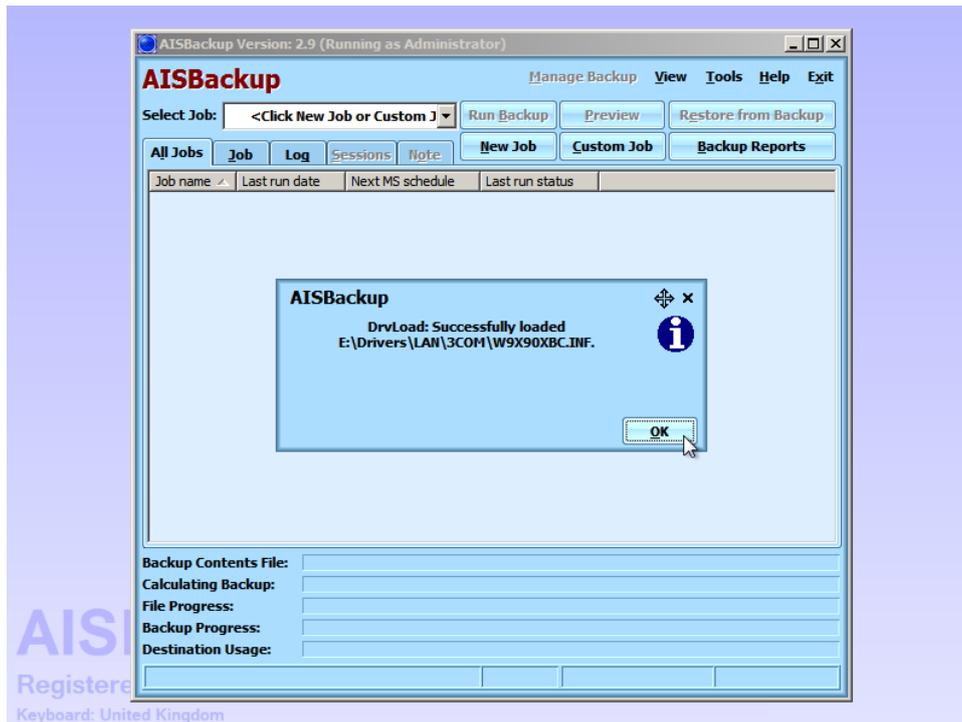
To install a device driver click *Load a device driver*.



Device drivers are usually found on the Motherboard drivers CD supplied with the PC. If not you may have to download them from the hardware manufacturers website. Navigate to the CD (via *Computer*).

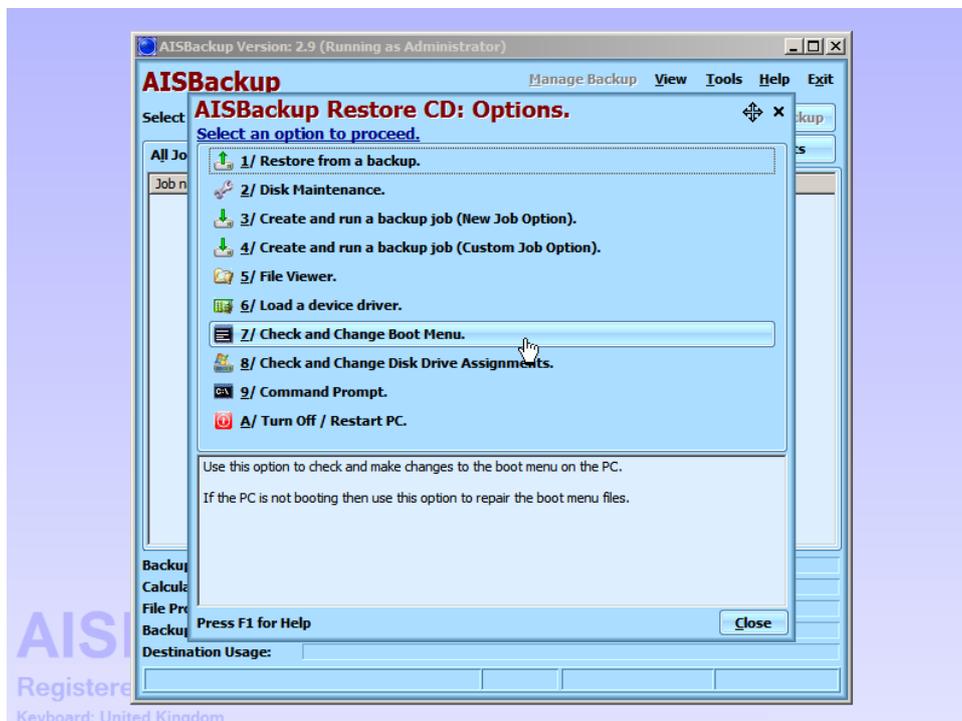


Navigate to the folder holding the driver and then double click the Driver's information file, in this example we are loading the device driver for a 3COM W9X90XBC network card.



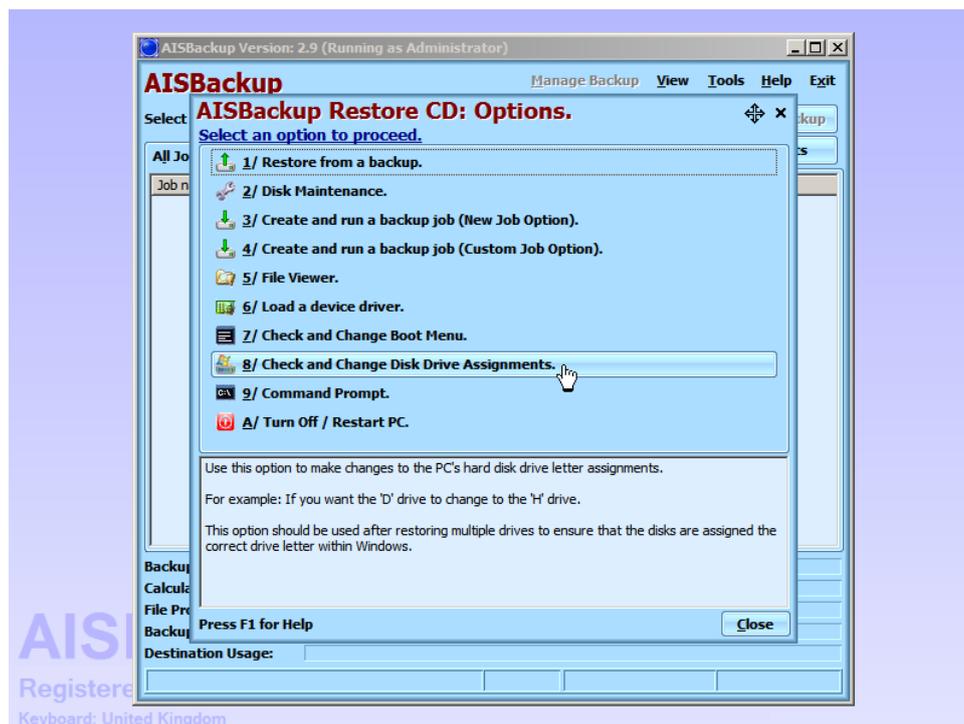
If the correct driver has been chosen the *Successfully Loaded* message is displayed, click **OK** to discard this message.

Check and Change the Boot Menu.

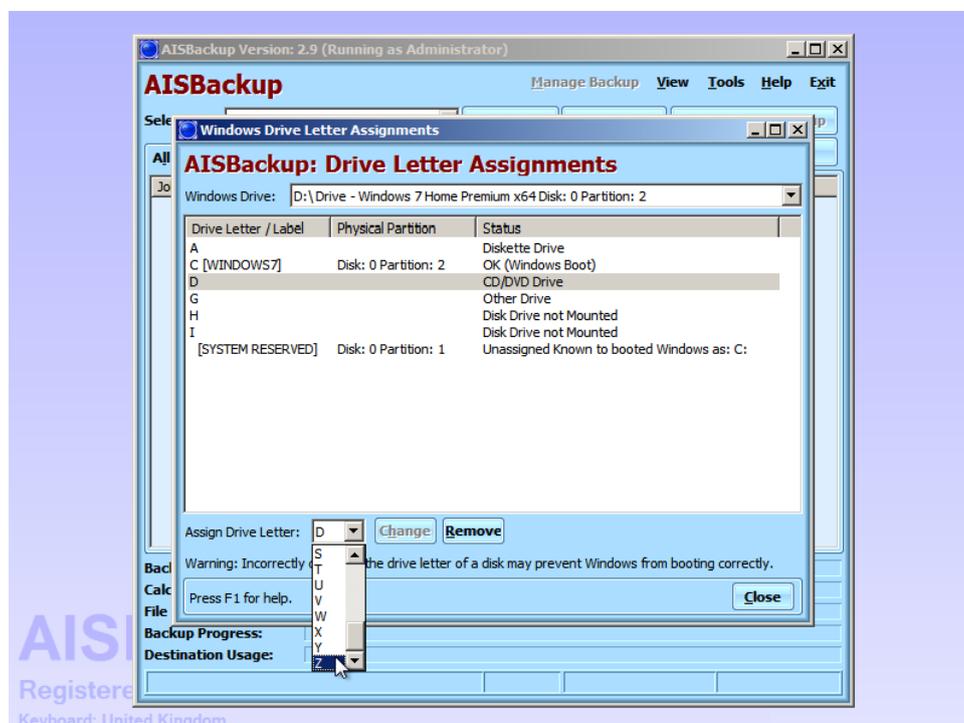


If there is a problem with the boot menu click *Check and Change the Boot Menu*. Details on how to use this option are in the PDF guide *Repair the Windows Boot Menu*, which may be found on the AISBackup web-site.

Check and Change Disk Drive Assignments



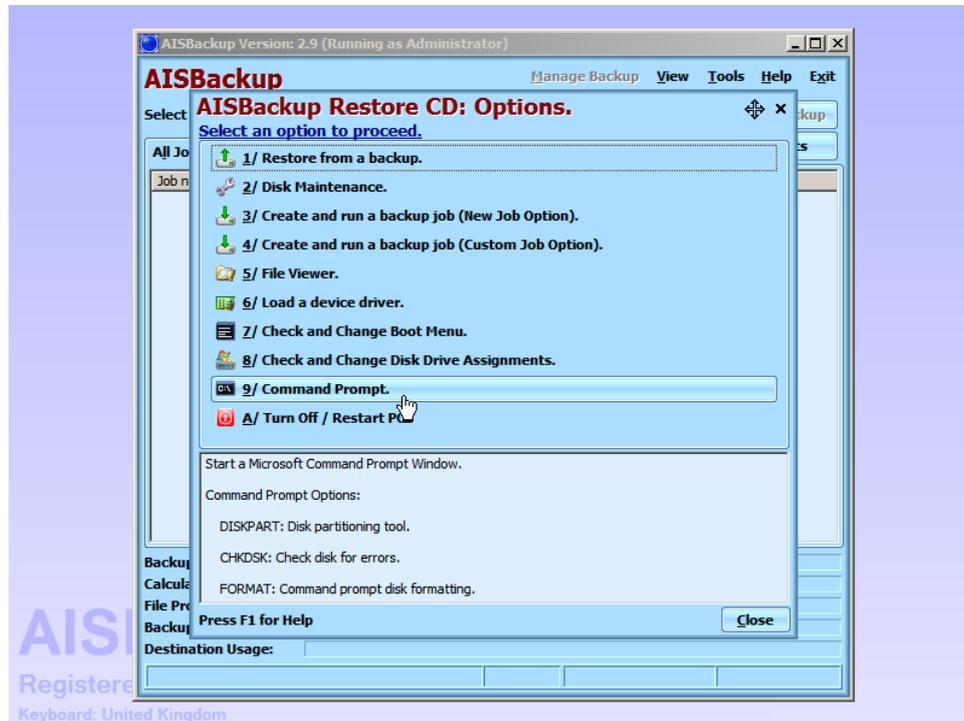
Disk partition drive letters in Windows are logically assigned by the Windows operating system. If you would like to change a drive letter on the restored copy of Windows then choose *Check and Change Disk Drive Assignments*.



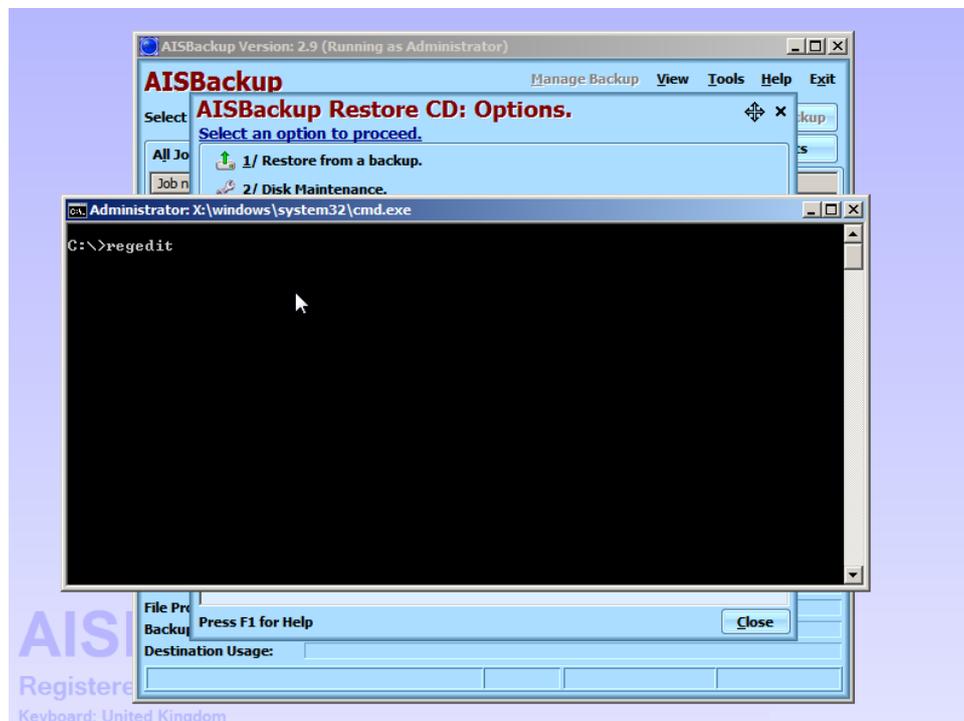
In this example we are about to change the drive letter of the CD/DVD drive to Z:.

Command Prompt Option

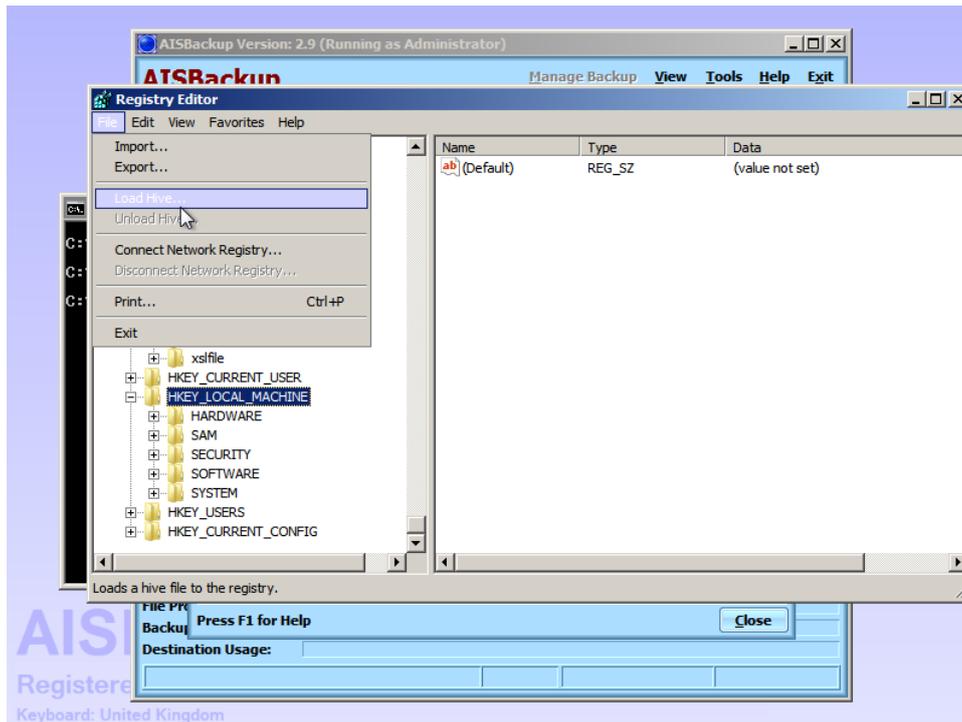
Command Prompt gives you access to Microsoft's command prompt interface.



Click to select *Command Prompt*.

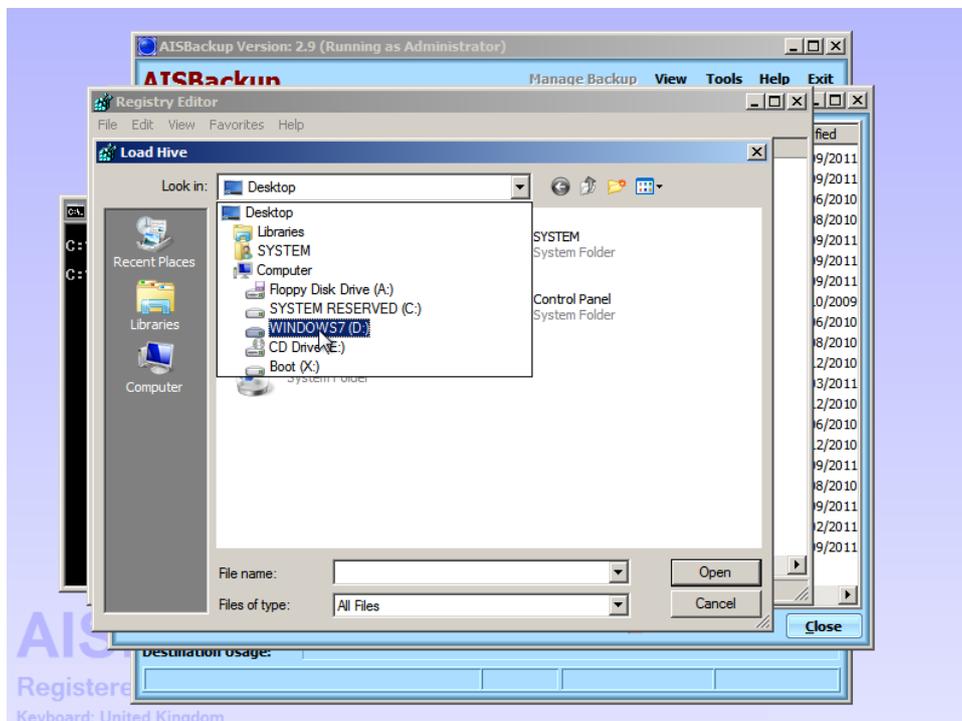


In this example we will use one of the *expert* options *Regedit* to edit the registry; This option may be useful for removing malicious entries from the registry if restore is not possible.

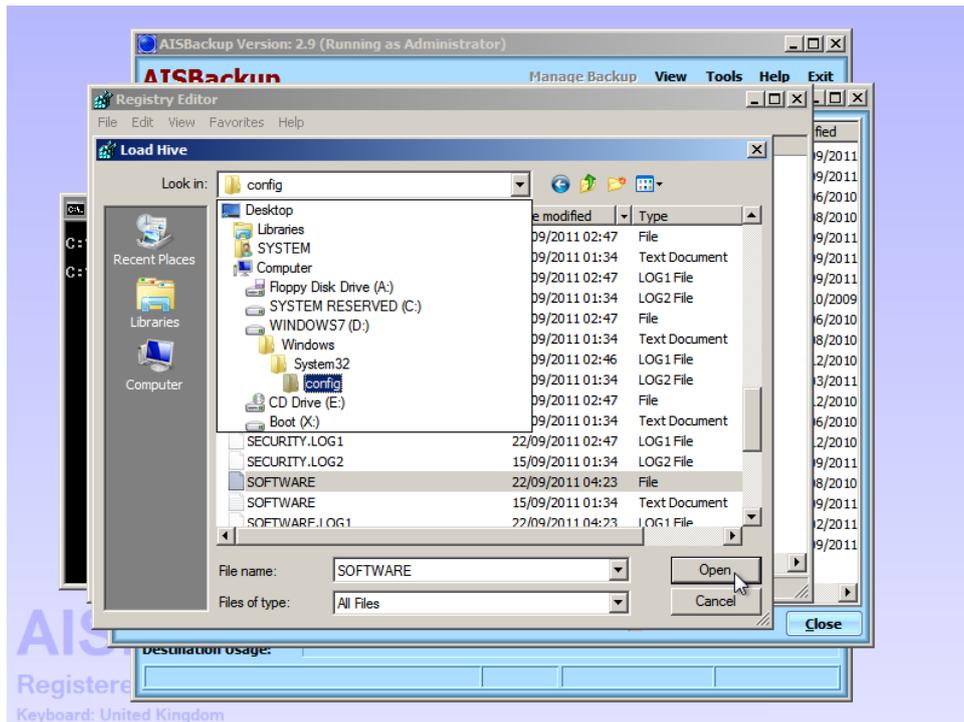


The registry that opens with Regedit when running on the recovery media is the registry of the pre-install version of Windows that AISBackup is running under. It is most likely that the registry of a restored or running version of Windows needs to be edited.

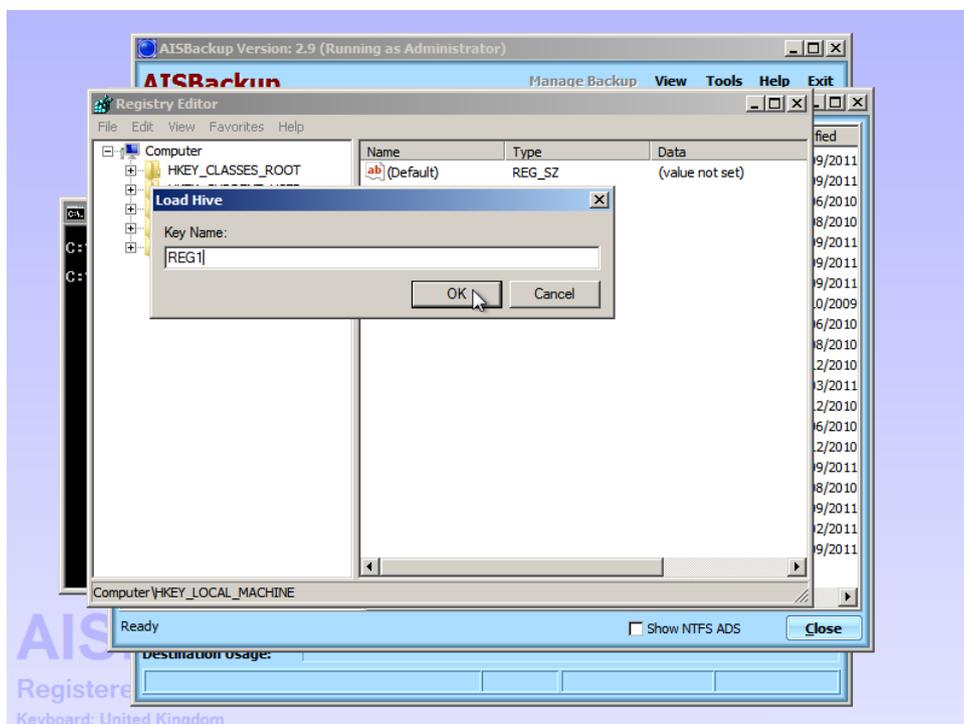
Select either HKEY_LOCAL_MACHINE or HKEY_USERS then choose the menu option **File / Load Hive**.



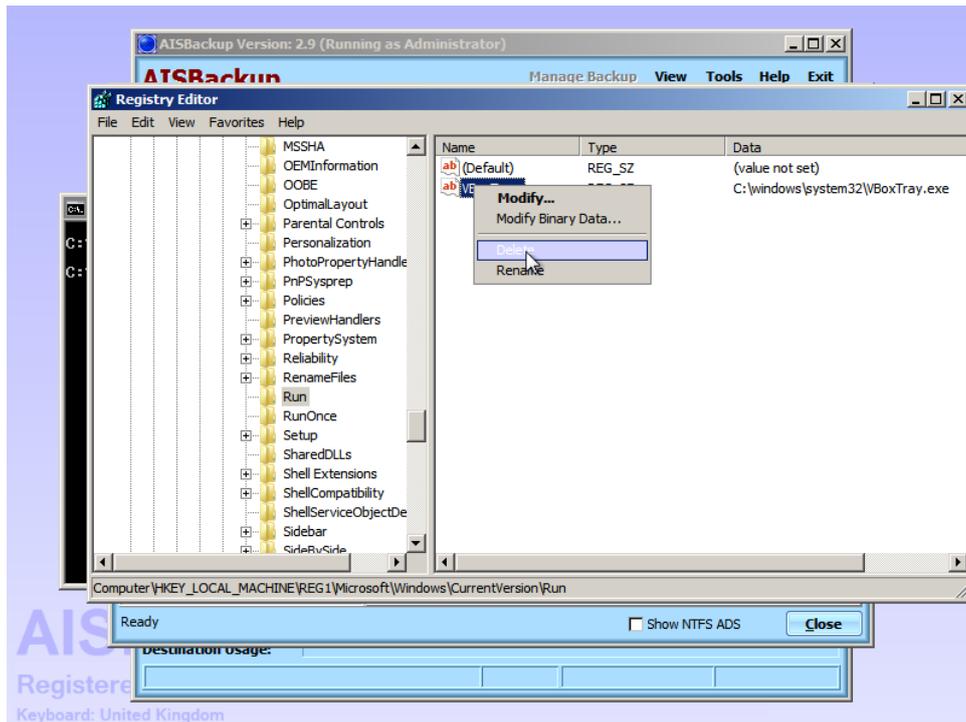
Navigate to the drive holding the restored or the copy of Windows for which the registry is to be edited.



The *System* part of the registry is stored under **:\Windows\System32\Config* where the registry files (called hives) *SYSTEM* and *SOFTWARE* are stored (it is unlikely that the other registry hives would need to be changed). *SOFTWARE* holds program settings and in this example we will remove a program that runs at start-up.

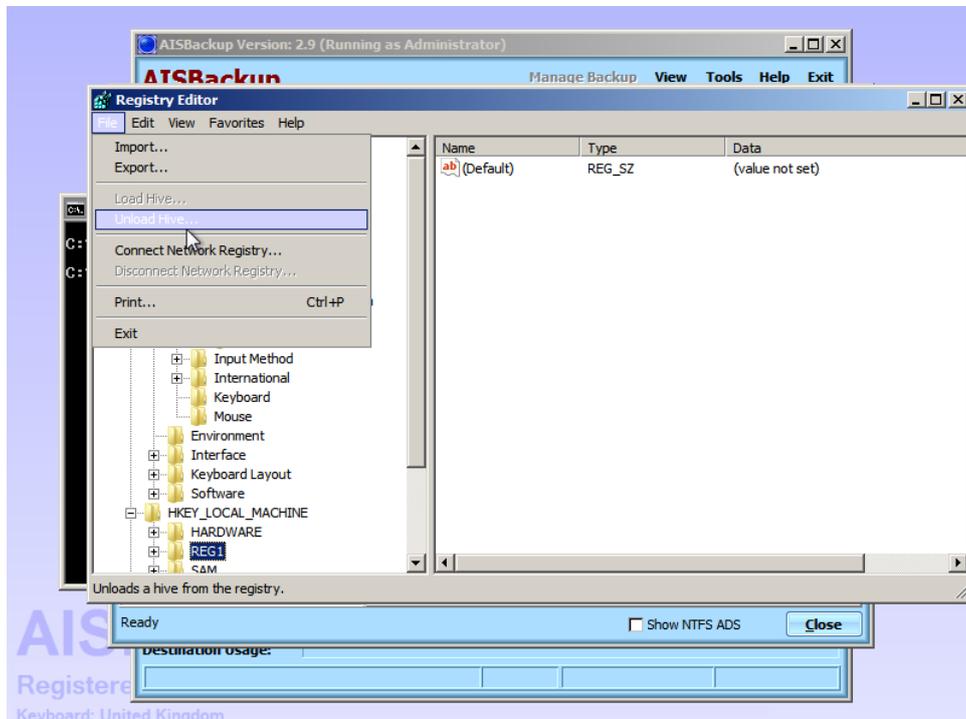


The loaded Hive requires a name, in this example type *Reg1* then click **OK**.

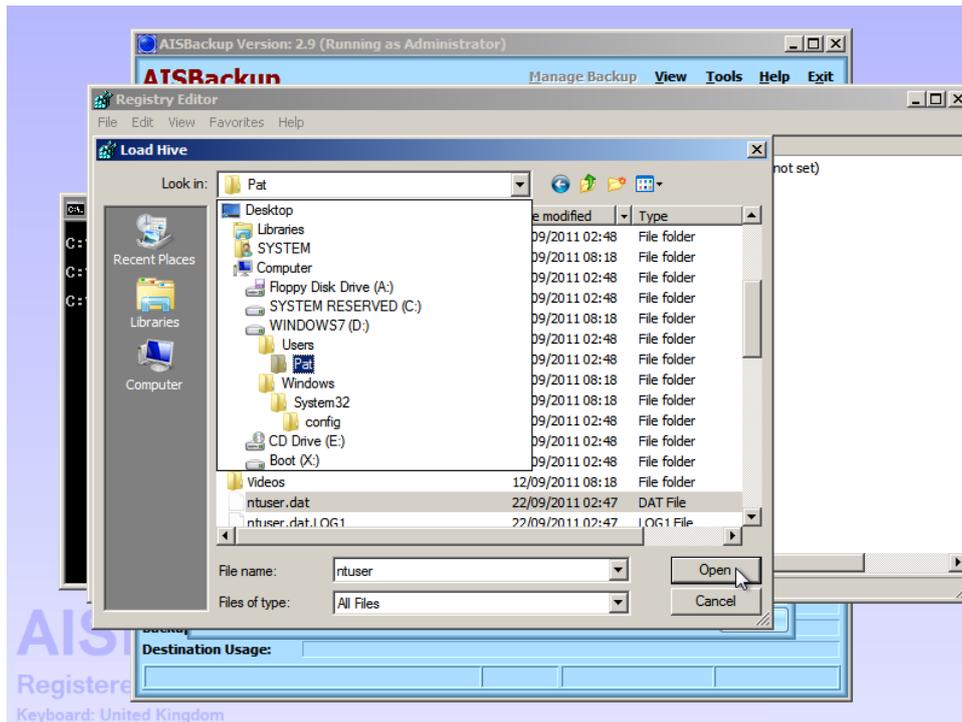


To remove a start-up expand the tree side to
`KEY_LOCAL_MACHINE\REG1\Microsoft\CurrentVersion\Run`

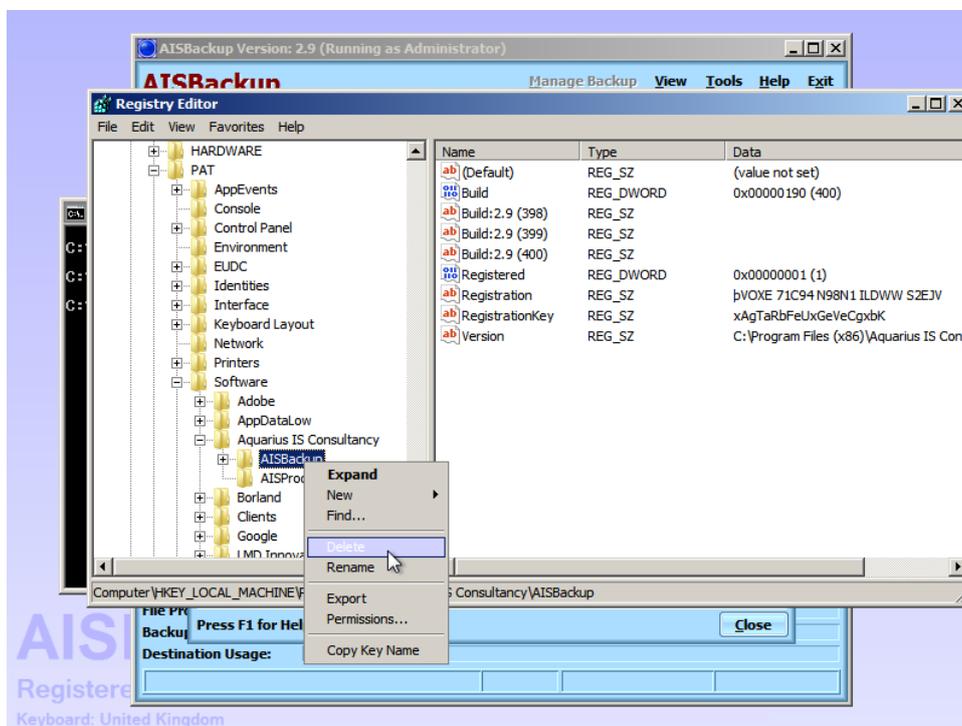
Right click the value to delete then choose **Delete**.



Once finished you may unload the registry hive, however this step is optional. Click the hive name added earlier (*REG1*) then choose the menu option **File / Unload Hive**, then confirm the removal

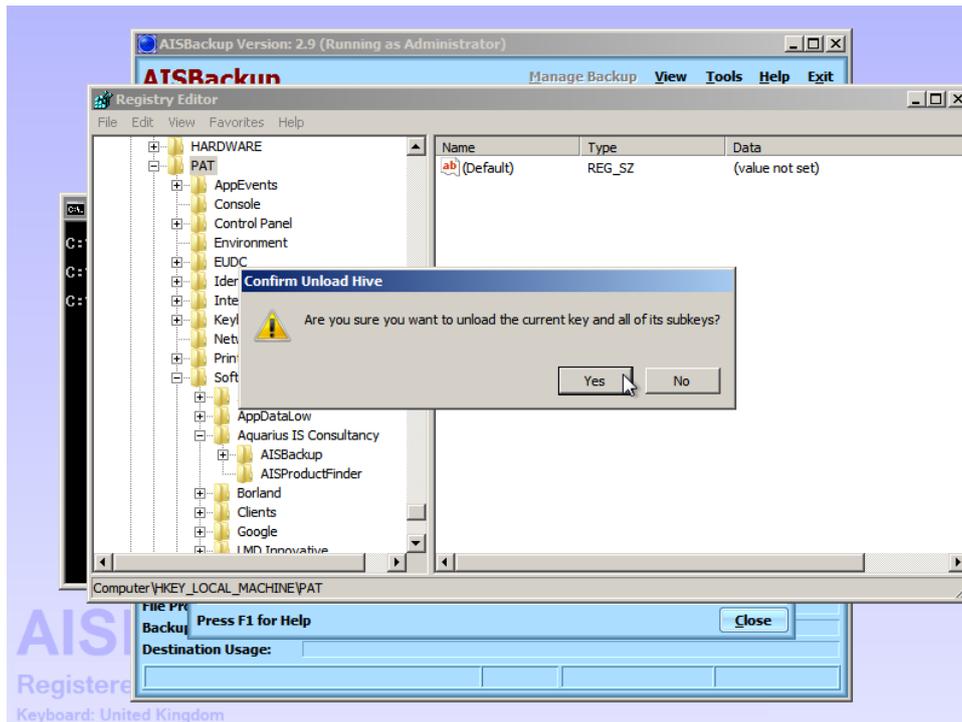


The user settings are held under the folder `*:\Users\Username` (Documents and settings on Windows XP, Server 2003). As in the previous example click `HKEY_CURRENT_USER` then choose the menu option **File / Load Hive**, navigate to `*:\Users\Pat` then open the registry hive `ntuser.dat`, in this example call the loaded hive `PAT`.



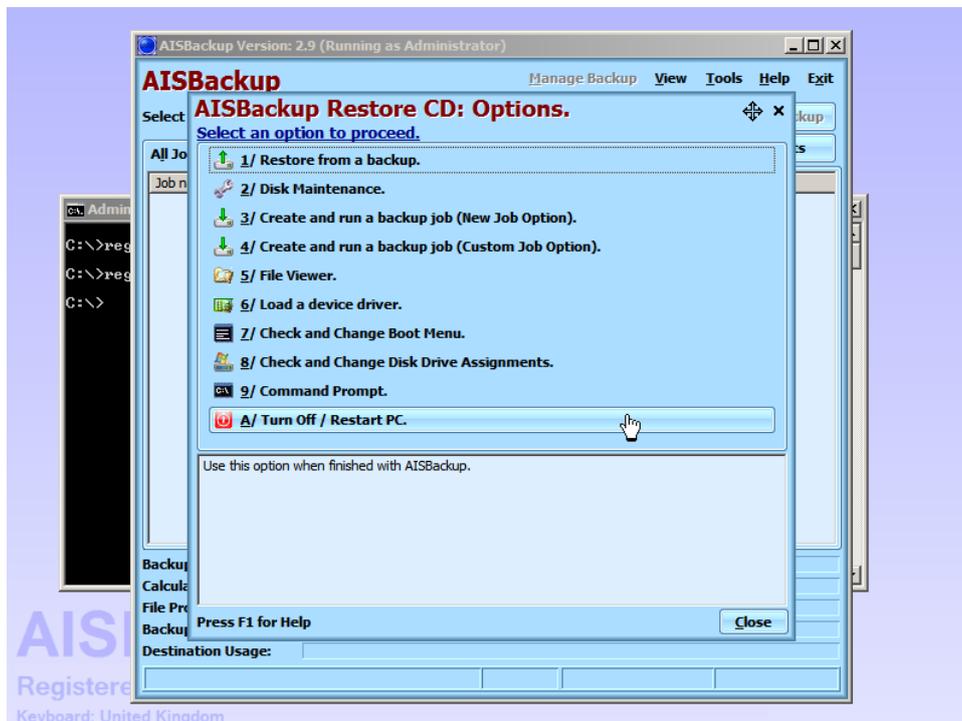
In this example we will remove the AISBackup program settings.

Navigate to `HKEY_LOCAL_MACHINE\PAT\Software\Aquarius IS Consultancy`, right click AISBackup then choose **Delete**.



Confirm the delete by clicking **Yes**.

Restart the PC



Once the changes have been made restart the PC by clicking *Turn Off / Restart PC.*