AISBackup

Manual

Part 2

Creating Backup Jobs

Managing Backup Jobs

View Options

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4.5 View Job Properties

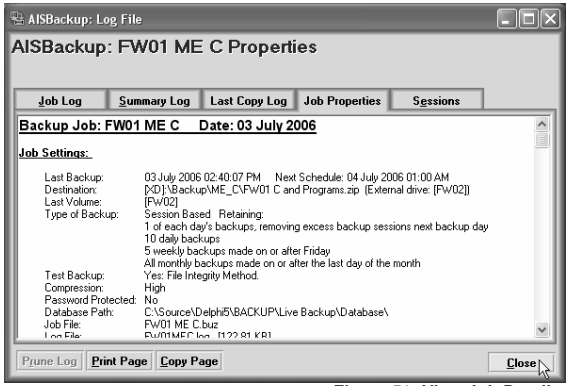


Figure 51: View Job Details.

The View Job form displays the files and folders that have been selected and excluded from a backup job.

For further information on selecting files for backup see using the Select Files Form in section 2.1.7.

Use the **Print** option to print the job summary.

4.6 Read me

The Read Me option displays the AISBackup *read me* file.

4.4 View sessions.

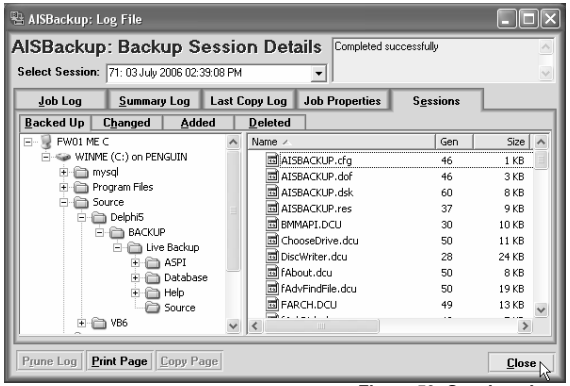


Figure 50: Sessions Log.

Use this option to look at which files were backed up or deleted during each backup session. This option may be used for trouble shooting problems with the PC where you may want to view differences between two or more backup sessions.

The option is available after loading the selected backup job.

The following views are available:

- **Backed Up:** This option displays all files that were backed up during the selected session.
- **Changed:** Displays a list of files that were backed up because the file had been modified.
- **Added:** This option displays a list of new files that were added to the backup.
- **Deleted:** Displays the files that were deleted since the previous backup session.

The contents of the left hand files pane pay be printed using the **Print File List** option. The font name and font size are set in **Tools** / **Program Settings and Options** / **Program Settings**.

Note:

If the selected backup job is of a generation or session variety where not all generations / sessions are retained, some sessions may be empty because the files have been removed from the Backup Contents File.

2 Creating a backup Job

2.1 New Backup Job Instructions.

Before a backup of PC data can be made a backup job must be created. The job contains the following details:

- A list of files and folders that are to be backed up.
- Optionally, a list of files and folders that should not be backed up, these are known as *Exclusions*.
- The location of the backup files, this is known as the *Backup Destination*.
- An optional list of programs and NT Services which are to be closed down during the backup.
- A link to the database holding the contents of the backup, this is known as the *Backup Contents File*.

There are two ways to create a backup job:

- **Quick Job** is used to create and run a backup job based on modifiable pre-defined file selections. With the quick job option the backup can be created and running within 5 clicks of the mouse, without any typing.
- **New Job** is used to make custom AISBackup jobs.

The Quick Job option is not a poor person's version of the New Job option; the only backup type that cannot be created this way is where the destination is an FTP Server. The Quick Job option is described in section 1.8.1.

This chapter concentrates on the features found in the more comprehensive New Job option.

To create a backup job click the **New Job** button on the main AISBackup form, as shown below.

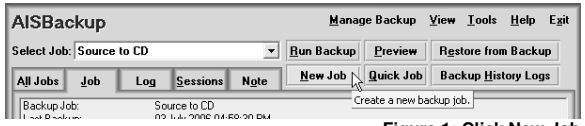


Figure 1: Click New Job

After clicking **New Job** a series of forms are used to create the backup job. These forms share the following options:

- Move the mouse pointer over the field captions to display additional help about that option.
- On each of the forms click **Next** to move to the next backup job form, **Back** to go back to the previous backup job form or **Cancel** to abort the create job process.
- At any time when using AISBackup press F1 on the keyboard for context sensitive help.

2.1.1 Form 1: Source of Backup.

The source of the backup is selected on form 1; the source includes one or more of the following:

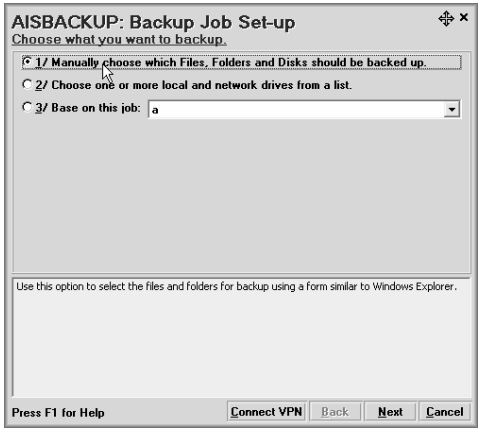


Figure 2: Select Source of Backup.

- **Manually choose which Files, Folders and Disks should be backed up:** This option will instruct AISBackup to display the Select Files form towards the end of the backup job creation process.
- **Choose one or more local and network drives from a list:** This option displays a list of local and network drives from which one or more may be selected for backup. Backup jobs can be more easily managed if not too many drives are selected.

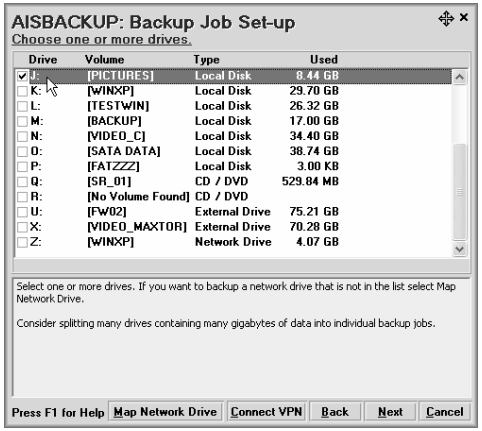


Figure 3: Select Drives.

- **Base on this job (Job List):** This option can be used to base a new backup job on a pre-existing job.

- **Copy Page:** Copy the current log page to the clipboard.

4.2 Job Summary Log.

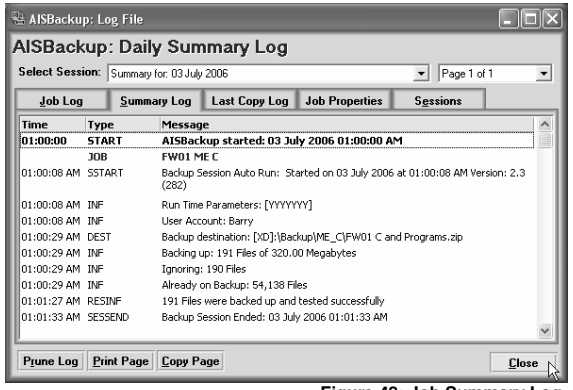


Figure 48: Job Summary Log.

The job summary log displays summary information for all backup jobs run each day. The form controls are the same as the Backup Log described in section 4.1.

4.3 Last Copy Log

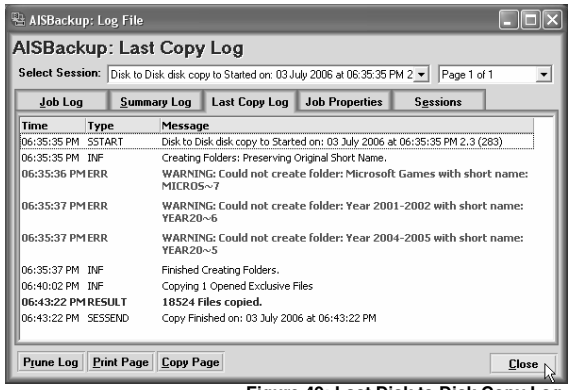


Figure 49: Last Disk to Disk Copy Log.

The last copy log displays the results of the last job run via **Tools** / **disk to Disk Copy** option. The form controls are the same as the Backup Log described in section 4.1.

4 View Options

The view options are used to display information about backup jobs and backup sessions.

- **Backup Log:** Displays the backup log for the selected backup job.
- **Job Summary Log:** Displays a summary of all jobs run on the selected day.
- **Last Copy Log:** Displays the log from the last **Tools** / **Copy Disk to Disk** session.
- **View Sessions:** Displays details of each backup session including: New Files, Modified files and deleted files.
- **View Job:** Displays a summary of the selected backup job's file selections and exclusions.
- **Read Me File:** Displays the AISBackup read me file.

4.1 Backup Log

The log options are displayed on one tabbed form, select a tab to switch between each log and report.

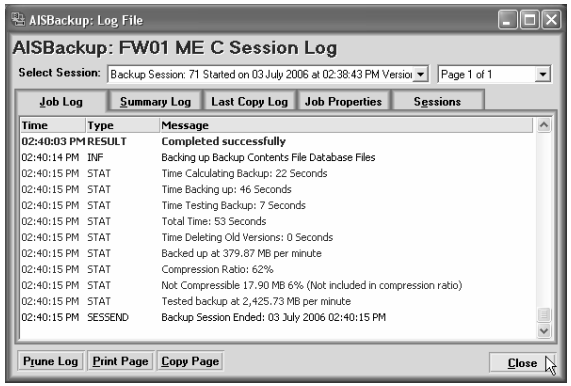


Figure 47: View Backup Log.

The backup log shows the history of Backups, Restores and Validations that have been run using the selected backup job. If the full log option was taken the log is split into pages of 1000 lines. To make it easier to find errors in a 'full log' there is an **Only Show Summary** check box option.

Options:

- **Only Show Summary:** to switch from a Full log view to a summary log view. This option is only available if the **Log Everything** option has been checked, see section 3.1.
- Select the earliest date to retain then click **Empty Log Prior to Displayed Date** to delete old entries from the log.
- **Print Page:** Print the current log page.

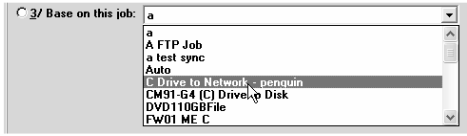


Figure 4: Base on Backup Job.

- **Emergency System Backup:** This option is only available on Windows 95, 98 and ME. Use this option to create a disaster recovery backup of the Windows Operating system which can be restored quickly from a DOS session.

  The option is not available on Windows NT, 2000 or XP and unfortunately the disaster recovery procedure does require that Windows be installed prior to a restore using AISBackup. If disaster recovery restores are likely to be a regular occurrence then consider setting up a dual-boot system and restoring the backup from there.

2.1.2 Form 2: Destination of the Backup:

This form is used to select the destination of the backup.

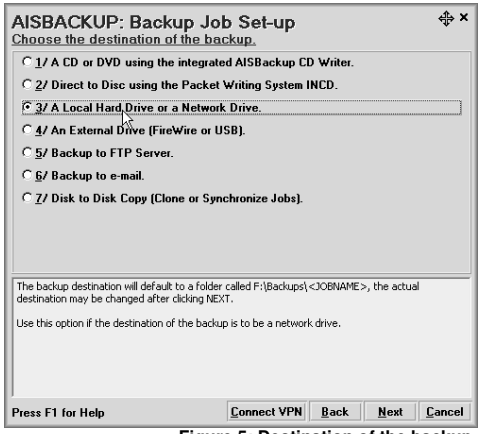


Figure 5: Destination of the backup.

- **A CD or DVD using the AISBackup CD Writer**: This option uses AISBackup's integrated Disc writer interface. The backup is initially written to a disk based staging area from where it is copied to CD. If a test backup option has been selected the CD is tested. The disk staging area is erased prior to resuming the backup. This process is repeated until the backup is complete.

  Precautions should be taken not to interrupt the CD creation process if Buffer under Run protection (or equivalent) is not available on the drive.

  The staging area must be at least the capacity of a CD (650 – 700 MB) or DVD (4.5 GB). This option is only available if the Disc Writer is made active in program settings and options. AISBackup will allow a smaller disk stage where it will write multiple sessions to DVD+RW and DVD-RW and on Windows XP DVD-R and DVD+R. To automatically enable using a smaller disk stage see **Tools** / **Program Settings and Options** / **Program Settings** in section 1.6. Smaller stage sizes are not recommended for CD as there is a 14MB overhead on each CD session.

  This option is recommend for backup to CD and DVD subject to the DVD restrictions defined in section 1.1.9.4.

- **A CD using the Packet Writing System <Name>:** uses a third party packet writing interface which writes a CD using the Universal Disk Format (UDF). Please see the documentation that came with the CD writer software. This option is only available if the Packet Writing option is made active in the menu option **Tools** / **Program Settings and Options**, see section 1.6.

  CD's and DVD's written using a packet writing system can only be read on PC systems that support the UDF interface

  This option is recommended when backing up to DVD if there is not 4.5GB DVD pre-

5. BACKUP2's pre-run Job
6. BACKUP2 is executed
7. BACKUP2's post run job
8. Global Post Run Job.

The first job options are useful for running backup job specific actions and the global pre-and post run jobs for complete backup session options.

Parameters for backup and global pre and post run jobs:

The parameters are split between pre and post run jobs. AISBackup expects that pre-run jobs create dependencies for the actual backup so AISBackup waits for these jobs to complete. If the job does not complete AISBackup will continue to wait. Ensure that proper testing is carried out, especially when running the backup from a User Account that is not running interactively.

Environment variables may be used in any of the parameters, e.g. Run Program: %winpath%\notepad.exe runs notepad.exe from the current Windows directory. If an environment variable is likely to contain spaces enclose the parameters within quotation marks.

Run Program: Specifies the name of the program to run.

Working Directory: specifies the directory from which the program should run.

Parameters: Specifies job run time parameters.

For backup job specific pre and post run jobs the following options are available:

Run when job is run from task scheduler or via shortcut: Select to run the jobs when running the backup via a task scheduler or shortcut.

Run when job is run from main AISBackup interface: Select this option if the jobs should be executed when the backup is run from the main AISBackup interface.

Wait for post run job to complete: For global post run jobs AISBackup is finishing off just prior to launching the post run job so it does not make sense to wait for the post run job to finish. However, when running backup job specific post run jobs there may be additional backups queued for execution so it may be desirable to wait for post-run jobs to complete before AISBackup resumes.

Parameter File.

A file called AISBackupLastRun.log is created when AISBackup executes a backup. This file contains the name of each backup job run, the success or failure of the jobs and the names of the actual backup zip files that were created. Please see here for more information about setting up your own post backup program.

Testing the jobs.

To test that your program will start and run correctly use the Test Launch button. You are advised to place your job in the AISBackup program folder. Please note that any program name or parameter that contains spaces should be enclose in double quotation marks.

If AISBackup does not run a backup, because for example the job or jobs are a 'run once per day' and they have already been executed, the user supplied pre and post run jobs will not be executed.

3.14 Pre and Post Run Jobs

Running your own job before or after the Backup has finished

AISBackup has the ability to execute user supplied jobs before and / or after a backup job is run. There are two places that these job parameters may be supplied, each of which offers different functionality:

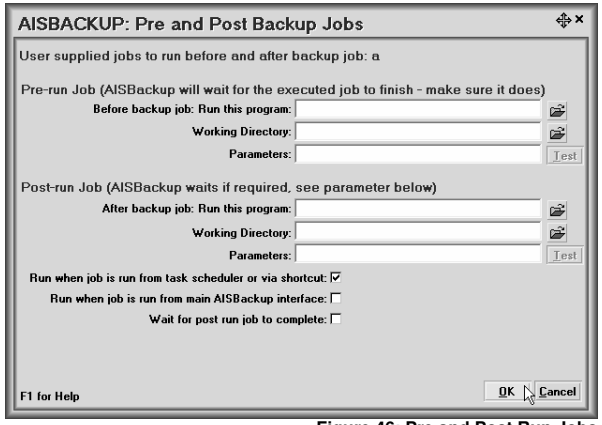


Figure 46: Pre and Post Run Jobs

- Jobs executed for each backup.

  Each job may have its own associated user supplied pre-run and post-run jobs, these jobs are set-up via **Manage Backup** / **Edit Job Parameters** / **Pre & Post Jobs** menu option. These jobs can be set to run when running the backup via a task scheduler or shortcut and optionally when running via the main AISBackup interface.

- Jobs executed before and after complete auto-run backup sessions (Global pre and post run jobs).
  Pre and post run jobs may also be set-up for all auto-run (and via a shortcut) jobs but these jobs are executed before and after all selected auto-run backup jobs are run. These jobs are accessed via the **Tools** / **Auto Running AISBackup** / **Pre & Post Jobs** menu option.

Illustration of where each of these jobs are executed:

A schedule has been set-up to run 2 backup jobs called BACKUP1 and BACKUP2, there is a pre-run job that runs before BACKUP1 and BACKUP2 are executed and a post-run job that runs after both of these jobs have been executed. Each job also has a pre and post run job associated with them.

1. Global Pre-Run Job
2. BACKUP1's pre-run Job
3. BACKUP1 is executed
4. BACKUP1's post run job

disk stage available. This option is also recommended for RW discs if Advanced Session Pruning is selected, see section 2.1.6.

- **A CD using a third party CD Mastering Program (Not shown):** This option uses a third party CD Mastering program. The backup is made to a staging area, when this is full to the capacity of a CD you are asked to copy the contents of the backup to CD using a CD Mastering program, i.e. not a packet writing system.
  The CD must be given the same volume name as the folder name, and the contents of the folder must be written to the root of the CD and not the single sub-directory containing the backup files.
  It is recommended that this option is only used if the integrated AISBackup CD Writer does not work with the CD writer.

- **A hard drive on this PC or a network drive**: Use this option to direct the backup to a local disk on the PC or to a network drive (share). AISBackup defaults the backup destination to the *Default Root Location of Backup Files Program* Option, the actual destination folder may be changed on the on form 3.

- **A FireWire or USB connected hard drive:** Use this option to direct the backup to a USB or FireWire drive. AISBackup treats these drives as removable media, and will, if necessary, ask for the drive to be connected at run time. The drive is selected from the form shown in Figure 6.

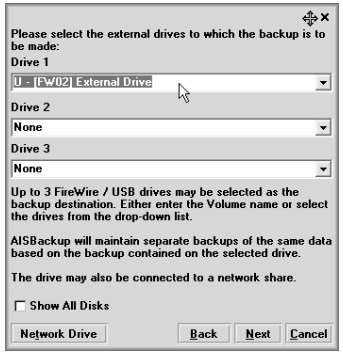


Figure 6: FireWire / USB disk selection.

Up to 3 FireWire drives may be selected for backup destination. AISBackup will backup to one of these connected drives at run time. If more than one drive is connected AISBackup will ask which drive should be used but will default to the drive without a backup or the drive containing the earliest backup. If more than one USB / FireWire drive is selected the Open Backup Contents from Backup Media Parameter must be checked, see here.

Multiple network shares may also be specified for USB / FireWire drives to enable backup to these drives over a network. This makes it easy to maintain on-site / off-site backups of client PC's to drives connected to backup servers.

If required AISBackup will prompt for the drive to be connected at Backup / Restore time.

- **Backup Files to [Select Drive] Removable Drive:** This option is only displayed if there is a removable drive connected to the PC. Choose the actual drive from the

drop down list. Removable drives include Iomega™ Zip and some DVD-RAM systems.

- **Backup to FTP Server:** This option is used to create a disk-based backup which is then transferred to an FTP Server. For more information see Backing up to FTP Server in section 2.2.
- **E-Mail Address:** This option creates a disk based backup that is e-mailed to the supplied address, or multiple addresses separated by a semi-colon. An email address of **ASK** may be used, this will cause AISBackup to ask for the e-mail address after the backup has completed. The e-mail SMTP parameters must be set-up via **Tools** / **Program Settings and Options** / **E-mail settings**.

  For more information about e-mail backups see section 3.13.
- **Disk to Disk Copy:** Use disk to disk copy to create a copy of the chosen files and folders at the backup destination. This option may be used to clone the operating system.

  Also use the Disk to Disk Copy option to create Synchronization jobs. Synchronization jobs differ from Copy (Clone) jobs in that they only copy New files and files that are more up-to-date than the destination files. A both way synchronization job may also be set-up to transfer new and more up-to-date files from the destination back to the source folders

  To create bootable copies of Windows using the Clone option the following notes apply:

  Windows 95, 98 & ME: The copy must be made to an active, primary partition. The easiest way to do this is to copy these operating systems to a second hard drive. Remember that the drive must also be set as Active, this is done using the Microsoft DOS utility FDISK or a third party disk partition manager.

  Windows NT, 2000 & XP: These operating systems may be copied to any disk partition, but it is advisable to copy an NTFS partition to another NTFS partition or some information may be lost. To boot into the copy of the operating system the Windows boot menu must be updated, this may be done using the **Tools** / **Edit Windows Boot Menu** option, see section 5.11.

2.1.3 Form 3: Job Settings

This backup job settings form is used to name the backup job, ‘fine tune’ the backup selection criteria and backup destination.

How the recipient opens the e-mail backup

The e-mail recipient receives either one e-mail containing the complete backup or several e-mails containing backup segment attachments.

There are several ways to open the e-mails, the easiest is to either drag and drop the attachments onto AISBackup or to double click the e-mail attachment from the e-mail and choose **Open**. Multiple e-mail backup segment files may be selected and dropped at the same time, each time backup segments are dropped (or double clicked) AISBackup lists the missing backup file segments. Once all the segments have been processed AISBackup displays the Restore form. The collated e-mail backup file may be saved so that the backup file segment collation phase need not be repeated.

The third, and probably the slowest, method of opening the e-mail backups is to drag and drop the attachments to another folder, e.g. the desktop, and use the **Tools** / **Open Job From Backup Media** menu option.

Ensure that the e-mail recipient is using the same password seed or he/she will not be able to open the backup, see here.

Recommendations:

It is recommended that single session backups are used for e-mailed backups to reduce the size of the backup. A single session (Session Based / Keep 1 Session) is equivalent to a full backup but only backs up new and changed files, all deleted and replaced files are removed from the backup files.

default program for the chosen format.

The recommended mail transport is **SMTP**.

2. **Summary (Superseded with option 1, above):** e-mail settings may be used to send messages after completion and / or failure. No backup log is sent with this option. It is recommended that backup jobs are converted to use the more flexible 'per-job' e-mail option which was introduced with version 2.0 of AISBackup.

3.13 E-Mail Backup Options.

AISBackup can be set-up to e-mail a complete disk based backup to an e-mail address, or multiple e-mail addresses separated by a semi-colon. AISBackup accomplishes this task by collating all the backup files into one file, this file is then e-mailed by one of the following methods:

Choose the Menu option **Manage Backup** / **E-mail Backup**.

A permanent e-mail address may be added to the backup job via **Manage Backup** / **Change Backup Job Settings** / e-mail address field. The e-mail address field may also be set to the value ASK this will cause AISBackup to prompt for an e-mail address after the backup is complete.

A backup job of type e-mail may be created via New Job.

Before an e-mail can be sent the e-mail parameters must be set-up using then **Tools** / **Program Settings and Options** / **E-mail Settings** option, see section 1.6.6.

The program settings include attachment size and backup size parameters. The Attachment size should be set to about 60% of the lower value of your ISP's maximum e-mail size and the maximum allowed e-mail size of the recipient. The size is set to 60% because of the overhead incurred when converting the backup file into the e-mail MIME format.

The maximum backup size should be set to an appropriate value to prevent very large backup's been sent.

How E-mail Backups are sent

1. AISBackup collates all the necessary files into one zip file.
2. If the backup is already password protected the 40 byte strong password created using the Password Encryption Seed (see here) is applied as the key to create a 128-bit AES encrypted file called <jobname>.aie.
3. If the backup is not password protected you are asked to supply a password, this too is converted into the 40 byte strong password created using the Password Encryption Seed. This password is then used as the key to create the 128-bit AES encrypted file.
4. If the file is larger than the attachment size value the file is split into attachment size file segments.
5. If there is no e-mail address or the value ASK has been supplied you are asked for the destination e-mail address.
6. One or more e-mails are sent to the recipient.

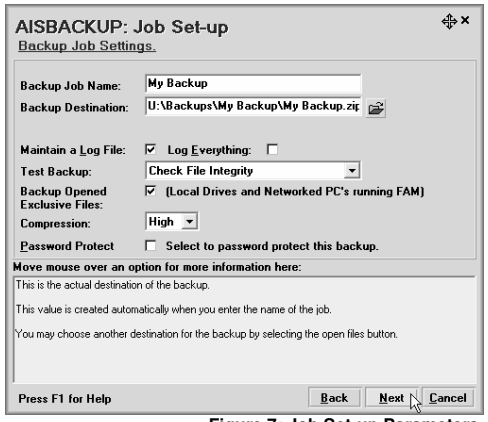


Figure 7: Job Set-up Parameters.

- **Backup Job Name:** Enter a unique the name for the backup job.
- **Backup Destination**: The default backup destination is based on the backup destination media type and the name of the backup job. The destination may be changed by clicking the button.
- **Volume Name:** If the backup is directed to a CD using the AISBackup integrated CD Writer a volume name prefix is required for the CD / DVD Volume names.

Figure 8: Volume Prefix.

- **Maintain a Log File:** Choose whether to maintain a backup activity log.

  Log Everything: To instruct AISBackup to log all messages. This option should only be used when troubleshooting problems because the log can get very large.
- **Test Backup:** Test backup causes AISBackup to do a trial restore of the backup. This option is normally left selected.
- **Backup Opened Exclusive Files:** This option is used to back up opened exclusive files, i.e. files that are opened in a way that prevents other programs accessing them.

  AISBackup uses Microsoft's recommended *Volume Shadow Copy Service* to backup opened exclusive files under Windows XP, Windows Server 2003 and Windows Vista.

  When running Windows 95, 98, ME, 2000 and NT4 AISBackup uses a technique similar to that used by disk cloning programs to backup opened exclusive files from FAT disk systems, however opened exclusive files on Windows NT4 and Windows 2000 NTFS drives cannot be backed up.

AISBackup cannot backup opened exclusive files from network drives.

There are third party interfaces available for Windows NT4 and 2000 which enable opened exclusive files from NTFS drives to be backed up, for current information visit the AISBackup web-site.

- **Compression:** Compression specifies the compression level for the Backup files, this should normally be left as **High** to give the best time verses compression ratio.
- **Password Protect:** To password protect the backup check Password Protect.

3.12 E-Mail Log Options

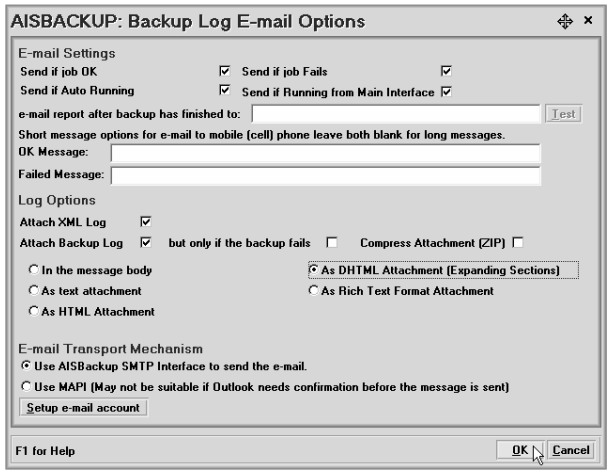


Figure 45: E-Mail Log Options.

E-mailing the result of the backup.

AISBackup prepares a report that may be e-mailed after the failure or completion of all backup jobs. If your mobile phone (cell phone) accepts e-mails you may prefer to send a smaller message, this you may specify in the OK Message and Failed Message text boxes. If both of these boxes are left blank a more comprehensive message is sent, if one of the boxes is used (presumably, at least, the Failed Messages text) the short messages are sent. The job names are automatically added to the short message.

The e-mail message.

E-mail logs may be set-up on an individual job basis or after one or more jobs have run via one of the auto-run facilities. The most flexible option is the per-job option available via the via **Manage Backup** / **Edit Job Parameters** / **E-Mail Log Options** menu option. The summary e-mail is set-up via the **Tools** / **Auto Running AISBackup** / **E-mail Settings** tab option. The per-job e-mail option supersedes the original summary e-mail option, which has been retained for users of AISBackup prior to version 2.0.

1. **Per job basis:** E-mails may be set-up to forward the actual backup session log in the body of the e-mail message or a text, HTML, DHTML or Rich Text Format attachment. DHTML messages contain expandable sections. An XML version of the summary log may also be attached to the e-mail.

   E-mail log options are set-up via **Manage Backup** / **Edit Job Parameters** / **E-Mail Log Options**.

   AISBackup may be used with MAPI compliant e-mail systems, but, security features in Microsoft Outlook may make it un-suitable for sending e-mail messages from AISBackup. If this is true choose the Set-up e-mail account option and use the integrated SMTP e-mail system.

   If the e-mail recipient field is left blank the log is displayed on the PC using the

3.11 Make the Backup an Archive.

How to get to this option: **Manage Backup** / **Make the Backup an Archive.**

Use this option to move a live backup to the list of archived backups. Archived backups are no longer used for backing up but may be used for restoring files. The archived backups are accessed using the **Tools** / **Archive Management** option, described in section 5.8.. Archived backups may be searched using the **Tools** / **Find a File** option, described in section 5.9.

Options:

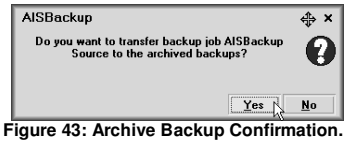


Figure 43: Archive Backup Confirmation.

Confirm that the backup is to be archived by selecting **Yes**.

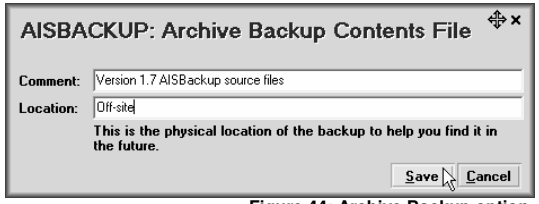


Figure 44: Archive Backup option.

A comment and location may be assigned to an archived backup to help remember what the backup contains and the current physical location of the backup media.

2.1.4 Copy Job Settings

The copy job type settings are used to select how files are to be copied between the source and destination drives and folders. For cloning a copy of a disk use option 1, Copy New and Different Files. For sharing files between the home and office using, for example a USB flash drive, use one of the synchronisation options.

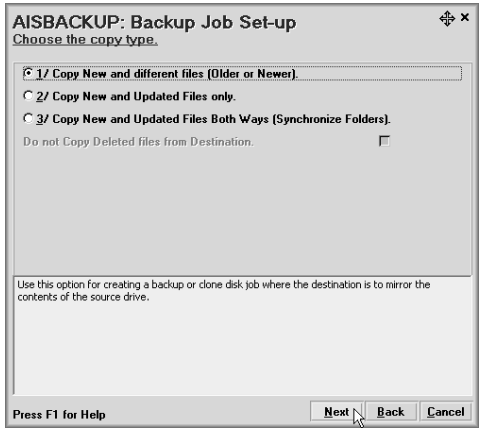


Figure 8-1: Copy Job Options.

- **Copy New and different files (Older or Newer):** Use this option for backup jobs where the destination is to mirror the source drive. After running with this option the destination will contain a copy of all the source files regardless of whether the destination files have been updated since the source files.
- **Copy New and Updated Files only:** This option emulates the behaviour of a one way synchronization program as it copies new and updated files from the source to the destination and does not replace files on the destination that are newer than the source drive. After running with this option the destination folders may be more up-to-date than the source folders in terms of file age.
- **Copy New and Updated Files Both Ways (Synchronize Folders):** This option emulates the behaviour of two way synchronization programs and copies the latest versions of all files from the source to the destination and from the destination to the source. After running with this option both the source and destination will contain the latest version of all files, even if these files did not previously exist on either the source or destination folders. Some Users may not want deleted source files reinstated, see Do not Copy Deleted files from Destination, below.
- **Do not Copy Deleted files from Destination:** Check this option if you do not want files copied back from the destination if they do not already exist in the source folders.

  This option is used if you do not want deleted files to keep re-appearing in the source folders even though they do exist in the destination folder.

  This option is only used with the Both Ways (Synchronize Folders) option.

2.1.5 Form 4: Password Protection Options:

The password protection form is displayed if **Password Protect** was selected, above.

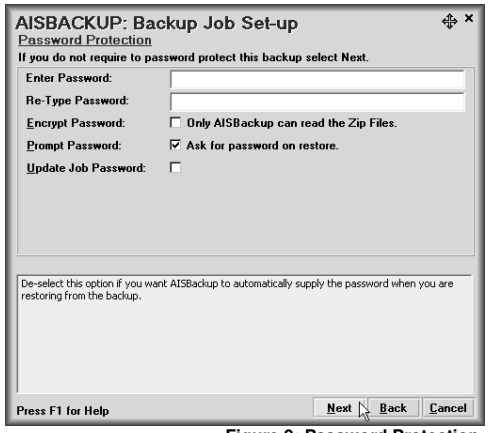


Figure 9: Password Protection.

- **Enter Password:** Enter a password.
- **Re-Type Password**: Re-type the same password to verify that it was entered correctly.
- **Encrypt Password:** Encrypt password is used to generate a 40 character password based on the supplied password to effectively make zip password cracking software take a very long time to find the password. The actual generated password uses 64^{40} characters.

  For added security set-up a Password Encryption Seed to make the generated passwords unique to your copies of AISBackup. The *Password Encryption Seed* is set-up in the menu option **Tools** / **Program Settings and Options** / **Advanced** tab, see section 1.6.6. AISBackup stores an encrypted copy of the password with the backup but it does not store the *Password Encryption Seed* with the backup. Forget the *Password Encryption Seed* and it is highly unlikely that the backup will ever be restored.
- **Prompt Password:** The prompt password option is used to automatically apply the password when restoring files. This option is used if the files are to be protected on the backup media but the Users of AISBackup are trusted so they do not need to know the password before performing a restore. This option may be useful for FTP backups where the backup must be very secure on a public server, but your colleagues may restore from the backup using their copy of AISBackup which is sharing your *Password Encryption Seed* see Section.
- **Update Job Password:** Select Update Job Password to require the password to be submitted before any of the **Manage Backup** menu options can be used with the job. Select this option to prevent un-authorised Users updating the backup job parameters.

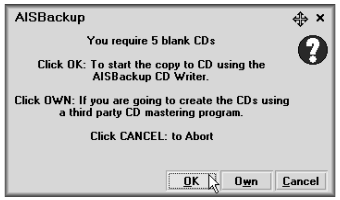


Figure 41: Number of CDs required.

Click **OK** to start the AISBackup CD writer interface, click **OWN** to start the interface to a third party CD Mastering program.

AISBackup cycles through the CD Write phase / Test Phase / Load Blank CD phase until the copy is complete.

If the AISBackup CD writer is not enabled or the copy is to be made using a third party CD Mastering Application The following prompt is displayed:

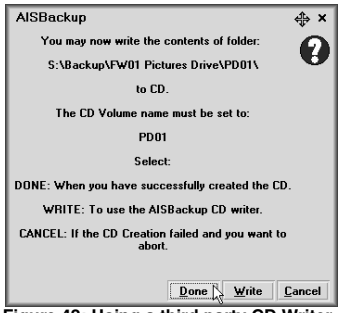


Figure 42: Using a third party CD Writer.

The **Write** option is not shown if the AISBackup integrated CD Writer is not enabled.

The above prompt requires that the contents of folder S:\Backup\FW01 Pictures Drive\PD01\ is written to CD, ensure that the contents of the folder are written to CD rather than the folder or folder structure. The prompt also requires that the volume name is set to PD01. The volume name setting option is easily overlooked when creating CD's so AISBackup also writes a file called *VolumeName.vol* to the CD for identification purposes, just in case the volume name is not set correctly.

Updating a CD copy with an updated backup.

If the **Add to CDs** option is used the backup is automatically appended to the last copy CD. Technically AISBackup imports the last CD session when adding new files to the CD layout. If a third party CD Mastering application is used it is very important that the latest previous session is imported and any duplicate files are overwritten. If in doubt add new CD's to the backup instead by using the **Add CDs** option.

3.10 Copy Backup to CD.

How to get to this option: **Manage Backup** / **Copy Backup to CD.**

This option is used to copy a disk based backup to CD using the AISBackup integrated CD writer or a third party CD mastering application.

To use this option select a disk based backup and click **Load Job** then select **Manage Backup** / **Copy Backup to CD**.

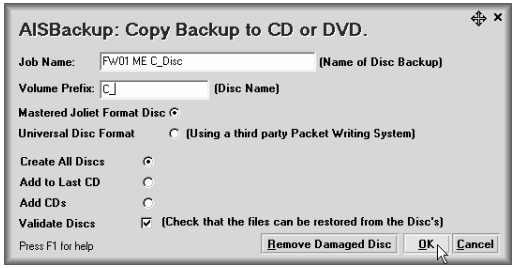


Figure 40: Copy Backup to CD.

Enter a job name for the CD based backup job.

Enter a CD volume prefix, the CD volume names are called <Prefix>01, <Prefix>02 etc.

Choose the disc type between mastered Joliet Format (CD/DVD-ROM) or niversal Disc Format (UDF). UDF format discs require a third party interface.

Choose an appropriate How to create the CDs option.

- **Create All Discs:** Copies the complete backup to a set of CDs.
- **Add to last CD:** appends new backup data to the last CD used.
- **Add CDs:** append new backup data to a blank CD.

Validate Discs: AISBackup tests that the files can be restored from each CD.

Remove Damaged Disc: Use this option to remove damaged or lost discs from the backup, removed discs will be re-created next time a Copy Backup Job to CD or DVD is next run.

To proceed click **OK**, to abort the process click **Cancel**.

After clicking **OK** AISBackup requests that a blank CD is loaded, this is to determine the capacity of the CD so that the backup can be split into CD size folders. This folder arrangement is automatically moved back to the normal folder arrangement after the Copy to CD process has finished. The size of each CD must be entered manually if the integrated AISBackup CD writer is not enabled.

After loading or entering the capacity of the CD's AISBackup splits the disk based backup into CD sized folders and displays the following prompt:

2.1.6 Form 5: Type of Backup Options.

This form displays options for the style of backup, pruning options to reduce the size of an on-going backup and selection criteria based on days since the selected files were last modified.

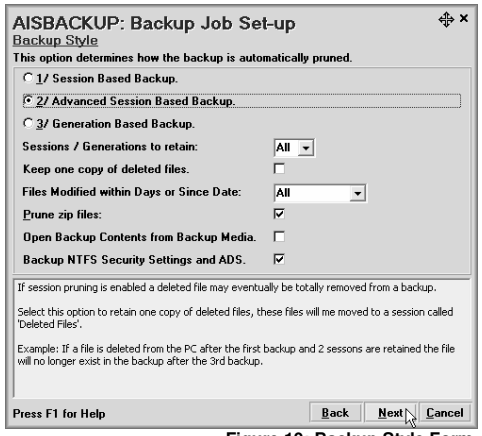


Figure 10: Backup Style Form.

- **Session Based Backup:**

  A Session based backup enables a restore of the system back to the same state it was in on a particular date.

  If a file is deleted from the computer and the job has been set to retain 3 sessions, after a further 3 backups the file will no longer exist in the backup.

- **Advanced Session Based Backup:** Select this option to set up session pruning based on backup sessions run 'today', daily, weekly and monthly. See section 2.1.6 for more details.

- **Generation Based Backup:** Generation based backup's enable the specified number of versions (Generations) of each file to be retained on the backup.

  With Generation style backups the system cannot be restored back to a specified date because files required for a particular session may have been removed from the Backup. The 'Select Session' option is not available on the restore files screen when the backup job is a Generation style backup.

  Generation based backup's are useful when a backup job is automatically backing up files from certain directories throughout the day, if the last 3 versions of a file are retained there will be up to 3 versions of each file in the backup even if the file has long since been deleted from the PC.

- **Sessions** / **Generations to Retain:** The Sessions / Generations to retain option specifies how many sessions or generations should be kept on the backup destination. This option enables self-pruning of the backup destination. The default setting of *Session Based / All* does not remove any file from the backup destination and the PC may be restored back to any date that a backup session was made.

If the backup is to CD the deleted files are not actually removed from the CD but they are removed from the Backup Contents File. Using **the Manage Backup / Validate (Test) Backup** option would recover the 'deleted' files from the backup to the orphaned folder.

If the backup is to a local Hard Drive or remote Network Drive redundant versions of files are deleted from the Backup Contents File and the actual backup (zip files).

- **Keep one copy of deleted files:** If session pruning is been used to remove redundant data from the backup, eventually, some deleted files will not exist in the backup any more.

  Select this option if at least one copy of all files should remain in the backup, even when the files do not exist in any dated backup session.

  Deleted files which do not belong to any session are moved to a special session called 'Deleted Files'.

  Using this option may produce a lot of unwanted files in the backup, for example, transient operating system files such as PC Health Data. The AISBackup **Manage Backup / Backup Maintenance** option may be used to only show the deleted files to make it easier to prune unwanted 'retained' files from the backup.

- **Files Modified within Days or Since Date:** The Default value **All** causes AISBackup to consider all files selected for backup when calculating which files should be backed up.

  To restrict the backup to files modified since a specified date enter a date in the format as specified by the PC's short date format setting (this is shown on the form).

  To only consider files modified within the last 7 days then enter the value **7**.

  The value **Ask** causes AISBackup to ask for the number of days or a date since the files were last modified at run time. The **Ask** option is not suitable for non-interactive Auto-Running.

- **Prune Zip Files:** The prune zip files option is used to instruct AISBackup to remove individual redundant files from the actual backup zip files. This reduces the disk space used at the cost of a longer backup time. For all disk based backups complete zip files that are no longer required are deleted from the backup destination.

  No action is taken if the backup destination is write once media.

- **Open Backup Contents from Backup Media:** This option is only shown when the backup is to a FireWire drive, USB drive or removable media (but not CD or DVD).

  This option opens the contents of the backup from the backup media rather than from the AISBackup database folder. This option is useful when sharing a backup between PC's or when backing up using the same backup job to multiple FireWire/USB drives. Check this option to ensure that any new backup data added to the backup is based on what is on the backup media.

- **Backup NTFS Security Settings:** Use this option to backup NTFS security settings and secondary file streams. This option creates non-standard zip files and even though the zip files can be opened with third party zip programs it will not be possible to extract the files except by using AISBackup.

Remove a file or folder from the backup by right clicking the item and selecting one of the following menu options:

- **Remove File:** Removes the selected file.
- **Remove Files From Folder:** This option removes all files from the selected folder.
- **Remove Files From Folder and All Sub Folders:** This option removes all files from the selected folder and all files from sub folders of the selected folder.

Confirmation for each of the above actions is required.

Once the file or folder has been removed from the Backup Contents File AISBackup calculates whether one or more backup Zip files have become redundant. If one or more zip files have become redundant a message stating there are n backup zip files that are no longer required is displayed and the associated Delete button is enabled. The message states *There are at least n…..* if the backup media is offline or if the backup destination is CD or other Removable Media.

If the backup is to a local hard drive, network drive or USB / FireWire connected drive the backup zip files may have redundant files remove from them.

If files are not physically deleted from the backup media they may be re-instated to the backup contents file by using the **Manage Backup / Validate (Test) Backup** option.

Removing Redundant Zip files From CD or Removable Media.

If the backup is to CD or Removable media selecting the Delete option gives the following options:

- Select **ALL** to check all media. This option causes AISBackup to ask for each CD / Media in the backup to be loaded so that each zip file that is not longer required can be deleted.
- Select **SELECTED** to remove zip files that have been removed during this Removal session.
- Select **CANCEL** to abort the zip removal phase, note this option does not re-instate the files back into the Backup Contents File.

Removing damaged or lost CD's or other media.

Damaged or lost backup media can be removed from the backup by using the **Remove Volumes** option. This will cause the files that still exist on the PC to be selected for backup next time.

3.9 Backup Maintenance.

How to get to this option: **Manage Backup** / **Backup Maintenance.**

The backup maintenance option is used to either move folders to different drives within the Backup Contents File or Remove files individual files and folders that have been backed up.

Damaged or lost media may also be removed from the backup.

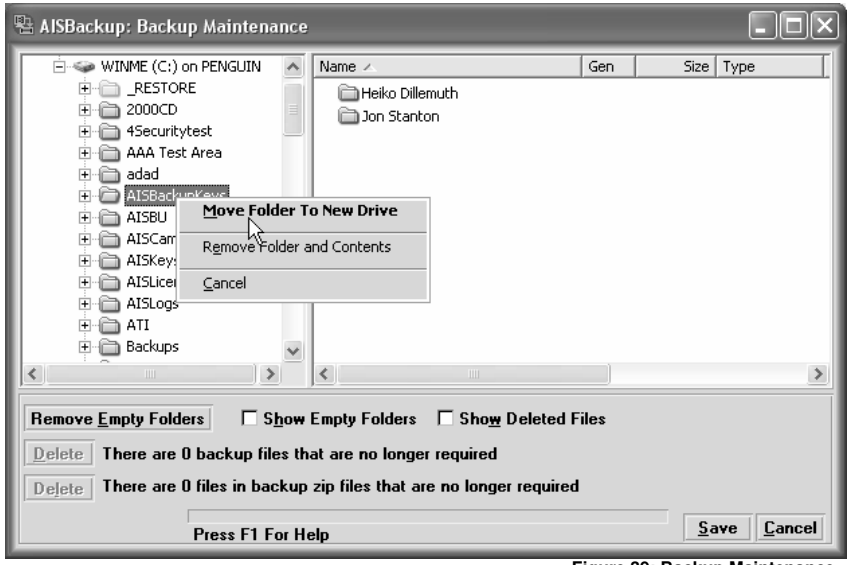


Figure 39: Backup Maintenance.

Moving Files.

This option is used to move files from one drive to another within the Backup Contents File. Amongst the reasons why you may want to do this are:

- The drive letter of the source of the backup has changed so the drive letter of the backup should be changed to reflect this.
- A **Manage Backup** / **Validation (Test) Backup** process has orphaned some files (denoted by a drive letter of ?). These files can be set to their correct disk drive.
- A set of folders have been moved to a different disk drive.

After moving files AISBackup asks whether the backup job should be updated to backup the files from their new location. Check that the backup job has been set-up correctly by using the **Manage Backup** / **Modify Files and Folders** option.

Removing Files from the Backup Contents File.

Individual files and folders can be removed from the backup contents file, and optionally from the backup destination. The actual files removed from the backup destination depend on the backup media, for example, individual backup zip files are not pruned if the backup is to CD.

Only System and Backup Administrator user accounts are able to backup NTFS security settings.

Ensure that System and Backup Administrator permission is present before backing up NTFS security settings from networked computers.

- **Create Backup File Then Copy To Media:** This option is only displayed when the backup destination is direct to CD or DVD using a packet writing system, a network drive or removable media.

  Select this option if there is a problem writing directly to the backup media. AISBackup needs to read and write directly to the backup media, this may cause problems for devices such as networked DVD / CD writers or some packet writing systems that run extremely slowly when performing read and write operations.

  This option causes AISBackup to backup the file to a temporary file and then copy the file to the backup media. The test phase accesses the backup media and not the temporary file.

2.1.7 Advanced Session Management

Advanced Session Management enables session pruning to keep the size of the backup down while retaining backup sessions taken during key times of the week and month.

AISBackup prunes backups after a backup has completed. Data cannot be pruned from write once media, for example, CD and DVD that are in CD-ROM and DVD-ROM format.

A list of sessions that are scheduled to be pruned from the backup are displayed on the Sessions page of the main form.

Even sophisticated auto-pruning will not be suitable in some circumstances as some critical backups may need to be kept. To enable individual backup sessions to be retained, from the Sessions page of the main form, use the **Right Click** / **Disable Auto Prune** for the selected backup session.

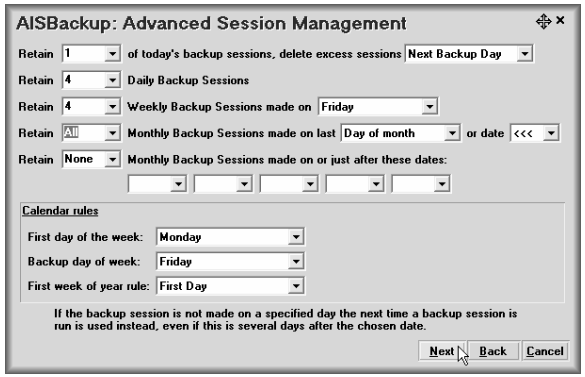


Figure 11: Advanced Session Pruning.

Parameters.

- **Retain today's backup sessions:** Specifies how many backups made on the same day should be retained, the latest backups are retained. The excess backups may be deleted the next time a backup is run 'today' or on the next day that a backup session is run.
- **Retain Daily Backups:** Specifies how many daily backups should be retained. AISBackup retains up to the specified number of the above daily backups for each day.
- **Retain Weekly Backups:** Specifies the number of weekly to retain, this value must be set to one of these values:

  None: To retain no weekly backups.

  All: To retain all weekly backups.

  A Number: To retain the specified number of weekly backups.

  The day of the week that a backup is designated a weekly backup must also be specified. If a backup is not run on the specified date the next daily backup is designated the weekly backup instead.
- **Retain Monthly Backups:** Specifies how many monthly backups should be retained, this value is None, All or a number, as described for Weekly Backups. The last day of the month that a backup is designated a monthly backup must also be specified; this value can be one of the following values:

  The last day of the month.
  The last week day of the month, e.g. Friday.

  A specified day of the month, e.g. 22.

  If a backup is not run on the specified date the next daily backup is designated the monthly backup instead.
- **Retain Backups made on a specified day:** Specifies up to 5 specific days of the month for which backups should be retained. This option may be useful to retain backups made after special mid-month processing etc. If a backup session is not made on the specific day the next daily backup is used instead.

Calendar Rules.

This section specifies the default day to be used for weekly backups and to specify national rules for the first day of the week and first week of the year numbering rules.

- First Day of the Week: Specifies which day of the week is the first day of the week. The international standard ISO-8601 states that the first day is Monday, but hey, who are they to say?
- Backup Day of Week: Specifies which default end of week day to use for new backup jobs.
- First Week of the Year Rule: Specifies the rule for calculating the first week of the year:

  First Day: Week 1 is the week with 1 January.

Phase 2 of the Validation

After clicking **Next** AISBackup compares the validated files against the files in the Backup Contents file.

Once the validation is complete a summary is written to the backup job log file.

Validation Summary Messages:

- **Perfect matches:** Files that can be restored and known to the backup.
- **Near Matches Fixed:** Files that did not quite match the Backup Contents File but matched the Date Modified and File Size. The Backup Contents File entry for these files has been updated.
- **No Matches Removed:** These files are in the Backup Contents File but do not exist in any backup 'zip' file, these files are removed from the Backup Contents File.

  If the file still exists on the PC it will be selected for backup next time.
- **Duplicates Removed:** These identical files exist in more than one backup 'zip' file but only once in the Backup Contents File, the duplicate is ignored but physically remains on the backup destination media.
- **Never Backed Up, Removed:** These files are reported in the Backup Contents File as backed up but were not on the backup media. This can happen if a backup 'zip' file has been incorrectly manually deleted or is very badly damaged.
- **Orphans Added to Drive '?':** These files are in the backup 'zip' files but are not in the Backup Contents File and AISBackup cannot determine the original disk volume that the file existed on. This can happen if there are a limited number of sessions on a CD backup and previous backup 'zip' files have not been deleted, this can also happen if a backup was aborted then restarted and the previous backup 'zip' files were not deleted.

  Orphans are assigned to the drive letter ? and may be re-assigned to their proper drive letter or removed from the Backup Contents File by using the **Manage Backup / Backup Maintenance** option.
- **Duplicate Folders Removed:** This value displays the number of duplicate folder names in the Backup Contents File, this value should always be 0.
- **Huge File Segments Checked:** The number of huge file segments checked.
- **Huge Files Failed Removed:** The number of huge files that failed the restore test and cannot be re-started because the original file no longer exists or has changed.
- **Huge Files Failed Restartable:** The number of huge files that failed the restore test, these files still exist on the PC and the backup can be restarted.

  Only file segments that failed the restore test are actually backed up next time and not necessarily the whole file.
- **Files Not Checked:** The number of files that were not checked because not all media was tested.

- The **Backup File Prefix** displays the prefix of the name of each of the Backup database files. This is set when a backup file is loaded using the **Load Backup Files** button.
- The **Expected Volumes** list box displays the names of the CDs expected for this backup job. Not all CD's, or other media, need to be processed before proceeding to phase 2, i.e. in a 10 CD set if only one CD is suspected as been damaged only that CD need be checked. For hard drive or network drive backups the **Expected Volumes** list box will hold a single drive name.
- Click **Load Backup Files** to display the open files dialogue, the name of the currently loaded media is displayed next to this button.
- Select the drive containing the backup files, then select just one of the backup zip files or one of the large file segments.
- If this backup is on CD, wait for the CD to be processed then load the next and then optionally repeat the process until all the CDs have been tested. As stated above not all CD's have to be tested before proceeding.
- Once the backup media has been checked click **Next**, click **Cancel** at any time to abort the process.
- During the actual file processing phase click **Abort** to cancel the test.

Remaining CD Action.

If the backup was to CD and not all the CD's were tested a prompt is shown to request the action to be taken for those CD's that were not examined:

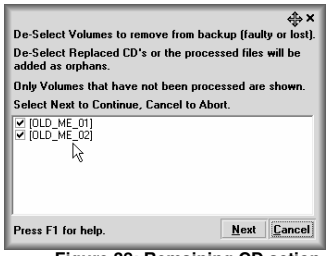


Figure 38: Remaining CD action.

Each CD that has not been examined is shown in a Checkbox List, each CD is pre- selected, this means do not process any information about files stored on these CDs.

De-select damaged or lost CD's from this list, all files that AISBackup has catalogued for the de-selected CD's are removed from the backup contents file in the next phase of the validate option. If the 'lost' files still exist on the PC they will be selected for backup next time.

If a CD has been replaced with another that has a different Volume name, de-select the previous CD from the list or the files on the replacement CD will be added as orphans.

Orphans are files where AISBackup does not know the original drive letter, these files are added to the backup contents file under a drive called '?' The files may be re-assigned to their proper drive letter by using the **Manage Backup** / **Backup Maintenance** option, see section 3.9.

Click **Next** to proceed to the next phase of the validate option, click **Cancel** to Abort.

First Full week: Week 1 is the first week where all 7 days from the designated first day of the week fall in the same year, previous dates fall within the last week of the previous year.

First Four Day Week: If week 1 contains at least 4 days of the current year, based on the week start day, then week 1 contains 1 January other wise Week 1 starts at the designated first day of the following week. The discarded dates fall in the last month of the previous year.

2.1.8 Review the selected files?

If the source of backup was a complete disk or number of disk drives the *do you want to review the chosen files?* Form is displayed; choose **Yes** to display Form 6, the *Select Files for Backup* form.

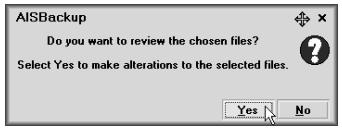


Figure 12: Review the selected files.

2.1.9 Form 6: Select Files for Backup Form.

The select files for backup form is displayed if option 1 of form 1 was chosen, i.e. *Manually Choose…*, or by answering **Yes** to *Do you want to review the chosen files?*

If the *Manually Choose files and folders* option was used a form is displayed to enable the automatic selection of pre-selected common files and folders.

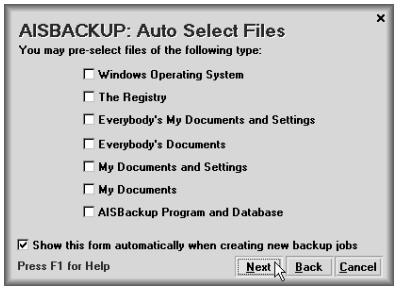


Figure 13: Auto Select Files.

2.1.9.1 The Auto Select Files.

The Auto Select options are:

- **The Windows Operating System.**

  The Operating System is selected with the minimum of Documents and Settings (Only the registry files are selected from Documents and Settings).

- **The Registry.**

  This includes both the System and User portions of the Registry.

- **Everybody's Documents and Settings.**
  These folders contain data for Microsoft systems such as Outlook Express, Desktop, Cookies, Start Menus etc.

  Not all computer applications store their files in *Documents and Settings* these files and folders must be located and selected manually.

- **Everybody's My Documents.**
  Just the Microsoft Document folder from the above.

- **My Documents and Settings.**
  Similar to Everybody's Documents and Settings but for the current logged on User only.

- **My Documents.**
  The current logged on User's Microsoft Document folder, data folders belonging to other applications must be selected manually.

- **AISBackup Program and Database:** Selected AISBackup, the registration key and the backup contents of the jobs.

Just check the required selection options and click **OK**. If no files or folders are to be pre-selected choose **Cancel**.

3.8 Validate (Test) Backup.

How to get to this option: **Manage Backup** / **Validate (Test Backup).**

The Validate (Test) Backup option is used to check that a backup can be restored.

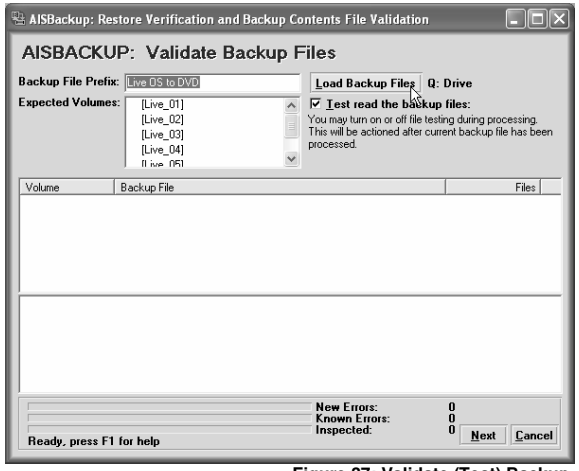


Figure 37: Validate (Test) Backup.

The validate option is also used to check the Backup Contents File against the files actually held on the backup media.

A CD that becomes damaged or is lost can be removed from a backup set.

Any files that are removed from the Backup Contents File which still exist on the PC will be backed up next time a backup session is run.

The Validation form may be minimised so that you can work on something else while the backup is been tested.

Errors are split between Known Errors and New Errors:

- Known errors are when AISBackup already knows that the file could not be read and has already removed the file from the Backup Contents File.

- New errors are files that AISBackup did not know it could not restore, the Backup Contents File will be updated when the files are processed, by clicking **Next**.

Errors are written to a file called: <Job name>.err, this file is used by the AISBackup validation option to keep track of known errors and should not be deleted.

Options:

- To verify that the files in the backup can be restored leave the default setting **Test read the backup files** checked. To re-catalogue the files in a backup un-check **Test read the backup files**, this will cause AISBackup to just read the file names rather than the verifying the data within the files. The **Test read the backup files** option can be toggled on and off during the test phase.

The Schedule Job form lists all Microsoft Task Schedules that run AISBackup. Either choose an existing schedule to replace or click **<Add New Job>** to create a new task.

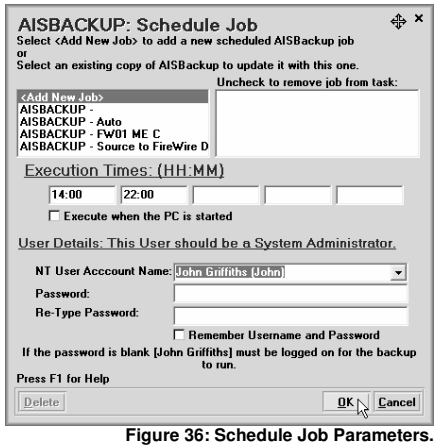


Figure 36: Schedule Job Parameters.

Enter one or more execution times and / or select **Execute when the PC is started**.

Times must be entered as Hour:minutes, with the **:** character in between, the time fields are display in red if they are not complete or have been entered incorrectly. The time is entered in 24 hour notation where 00:00 is midnight and 12:00 is noon.

If the operating system is Windows NT4, 2000 or XP the Username and Password fields are displayed. If the password is not entered, for example there is no password set on the account, the PC must be logged into the same account at the time of the backup for the backup to run. If you choose another account AISBackup will run invisibly; the account must be password protected and a password MUST be supplied.

On some PC's the internal; User Account name and displayed Account Name are different, in order to ensure that the correct name is used with AISBackup all Administrator NT User Account names are displayed in a drop down list.

The **Delete** option is used to remove the selected task from the schedule.

Fine tuning.

To fine tune the parameters edit the task using the Microsoft Scheduled Tasks list manually.

Trouble Shooting.

If an AISBackup job is not executed when expected then check the following:

- Only one copy of AISBackup can run on the computer at a time, please ensure that no other copy of AISBackup is running prior to when the scheduled task is due to execute.
- Check the Microsoft Scheduled Tasks Log using the option **Advanced** / **Log** option.

For more options use the **Tools** / **Auto Running AISBackup** menu option.

2.1.9.2 Select Files for Backup Form.

Figure 14: Select Files for Backup.

The Select Files For Backup form is used to choose which files and folders are to be included in the backup job. The select files form is similar to Windows Explorer, and like Explorer some options are available by right clicking the files and folders.

To fine-tune the file selection some files and folders can be exclude from the backup that match a specified name pattern. Files may also be excluded if they exceed a specified size. The exclusions are accessed by clicking the **Exclusions** tab. When a new backup job is created the exclude files and folders list is pre-loaded with the default list of exclusions which is maintained by menu option **Tools** / **Default Exclude Files & Folders List** see Section 5.6.

Single file and folder exclusions are achieved by right clicking the file or folder and choosing an exclude option.

AISBackup can be set-up to backup files of a specified type from the selected folders. Files of Type backup is set-up using the **Files of Type** tab or by using the right click / **Files of Type .xyz** menu option. The files of type option is based on the file extension, e.g. *.doc for Microsoft documents.

The Auto Select form, described above, may be re-displayed by clicking the **Auto Select** button.

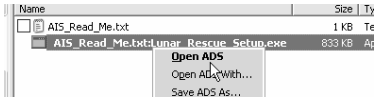
Form Options:

- Select the files and folders to backup by clicking ☐ so that it becomes ☑ (a green check mark).

- De-Select selected files and folders that they will not be backed up by clicking ☑ so that it becomes ☐.
- Select the **Exclusions** tab to edit the list of files and folders that are to be excluded from the backup. Individual file and folder exclusions may be set by using a *right click* menu options, see below.
- Select the **Files of Type** tab to backup files from the selected folders of the selected type (file extension). Files of type may also be selected by right clicking the filename and choosing **File of type *.xyz***.
- Click **Print File List** to print the contents of the right hand file pane. The font for this option is set in the menu option **Tools** / **Program Settings and Options**, see section 1.6.3.
- Click **Map Network Drive** to display files from a disconnected network drive.

  If the backup job contains files and folders from a network drive that is not online AISBackup displays the missing shares after the main file list. If the network share is no longer available all file selections may be removed by de-selecting the share.
- If the operating system supports NTFS drives then an option to show the Alternate Data Streams is shown. It takes longer to display the file list if this option is selected because each file must be read to see if it contains an alternate data stream. To display the Alternate Data Streams select **Show NTFS ADS**.

  Alternate Data Streams may be Opened, Saved to a visible file, Renamed (using copy / delete) or Deleted by using Right Click options.



  The screen shot, above, shows the file AIS_Read_Me.txt which contains an alternate data stream called Lunar_Rescue_Setup.exe, this file may be opened by using the right click menu option **Open ADS**.

If the backup job contains files and folders from a network drive that is not online AISBackup displays the missing shares after the main file list. If the network share is no longer available it may be removed from the backup by de-selecting the share, see \\OWL\ below.

Figure 15: Offline Network drive

2.1.9.3 Selecting and De-selected Files and Folders.

Choosing files and folders is achieved by clicking the ☐ box so that it becomes ☑ (a green check mark).

De-selecting files and folders is done by clicking the ☑ box so that it becomes ☐.

- **Run On:** select which days of the week the job should run on.
- **Hibernate & Standby Options:**
  - After Backup Options: Select Do Nothing, Hibernate or Standby.
  - Delay (Seconds): A delay before Hibernate or Standby activates, to enable the option to be cancelled if the PC is still in-use.
  - Between Hours: Restrict the time interval where the Hibernate or Standby mode is activated. This option may be useful for Shortcut backup jobs which may be run during the day, where it would not be convenient to hibernate the PC. Example: 19-05: The Hibernate / Standby mode will only be executed between 7pm and 5am. The default 00-00 indicates no time restriction.

Once the job parameters have been selected click **Next**, click **Cancel** to abort.

3.7 Auto Run This Backup Job (MS Task Scheduler)

How to get to this option: **Manage Backup** / **Auto Run this Backup.**

Use this option to add the selected backup job to the Microsoft task scheduler. Only one copy of AISBackup can run at a time so if there are multiple backup jobs to be run the new job may be added to an existing scheduled job. Multiple scheduled jobs must not overlap or the subsequent jobs will not run. If a scheduled job is running and an auto-run job is executed a message is displayed.

For more advanced options see the **Tools** / **Auto Running AISBackup** option, described in section 5.10.

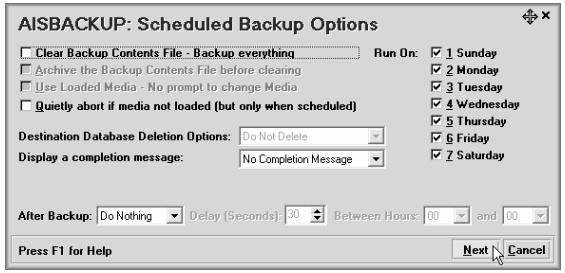


Figure 35: Scheduled AISBackup Job.

Options:

- **Clear Backup Contents File – Backup everything:** this is used to force AISBackup to create a full backup, not the normal incremental backup.
- **Archive the Backup Contents File before clearing**: This option may be used to keep online the contents of the backup that is been replaced. The option is only really valid if the previous backup was written to write once media.
- **Use Loaded Media – No prompt to change Media:** causes AISBackup to use the CD or other media that is in the drive at the time the backup runs, no check is made to see if it the expected media.

  If the backup is using the integrated CD writer AISBackup will only use a CD that is blank or previously used with the selected job.
- **Destination Database Deletion Options:**
  - **Do Not Delete** – any files from the backup destination media.
  - **Delete Backup** – delete any backup files belonging to the chosen job.
  - **Delete Everything** – delete all files from the destination media.
- **Completion Message:** (on screen messages displayed using Notepad)
  - Do not give a completion message.
  - Give a completion message only if there was an error.
  - Always give a completion message.

Selecting folders:

Folders may be selected by clicking the ☐ box in the folders pane, the actual file selection depends on whether the folder is expanded or not:

When the folder tree is not expanded selecting or de-selecting a folder toggles the selection for all child files and folders. If the folder has been expanded only the selection state of the files is toggled, the folders retain their previous select state.

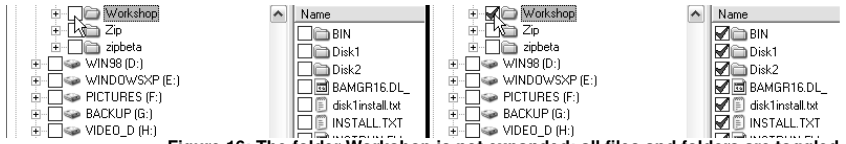


Figure 16: The folder Workshop is not expanded; all files and folders are toggled.

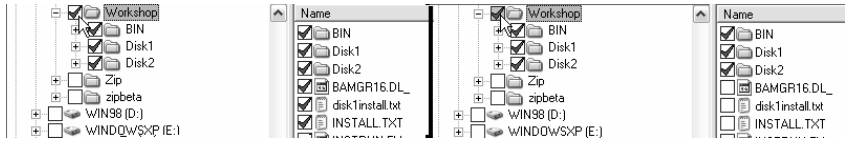


Figure 17: The folder Workshop is Expanded, All files are toggled, and the folders retain their selection state.

2.1.9.4 Alternate ways to exclude files and folders.

Using folder example, above, if files from \Workshop\Bin are to be excluded one option is to de-select the folder by clicking the ☑ box so that it becomes ☐. Alternatively right click \Workshop\Bin and choose the menu option **Exclude Files from this Folder** or **Exclude Files and Sub-Folders**.

Figure 18: Excluding Files and Sub-Folders from Folder.

This method of excluding files and folders introduces an important select files concepts *All but* and *None But*.

- **All But:**

  An *All But* selection is one where all files and folders in a folder are to be backed up <u>including files and folders that have not been created yet</u>. Files and sub-folders can be excluded from this folder by right clicking and choosing the option **Exclude files from this Folder** or **Exclude Files and Sub-Folders** or by right clicking a file and choosing **All but this file**.

  An *All But* folder is identified by the fact that there are no ☐ de-selections in the files and folders list, all de-selections either use the de-selected folder symbol ☑ or the de-selected file symbol ☑.

- **None But:**

  A *None But* selection backs up files or folders from a folder if they have been selected as indicated by the ☑ symbol. Files and folders with the ☐ symbol are not backed up.

  New files and sub-folders created under a folder that has any ☐ de-selections are not backed up unless they are implicitly selected by using the **Manage Backup** / **Modify Files and Folders List** option.

  A *None But* folder can be identified by the fact that there are one or more ☐ de-selections in the files and folders list.

  The *None But* select mode is the default mode used by AISBackup.

To avoid re-selecting files each time new applications are added to the PC use the *All But* method of file selection.

Individual files may be excluded from an *All But* style backup by right clicking and choosing **All but this file**. The file exclusions are indicated by the ☑ symbol. If at least one file has been excluded from a backup clicking selected files changes the state to ☑ instead of ☐.

2.1.9.5 File Exclusions.

To supplement the right click / exclude options there is a list of global exclusions maintained by the **Tools** / **Default Excluded Files and Folders List** menu option. This list is copied to the file exclusions list of new backup jobs. The exclusions list is maintained for an individual backup job by clicking the **Exclusions** Tab.

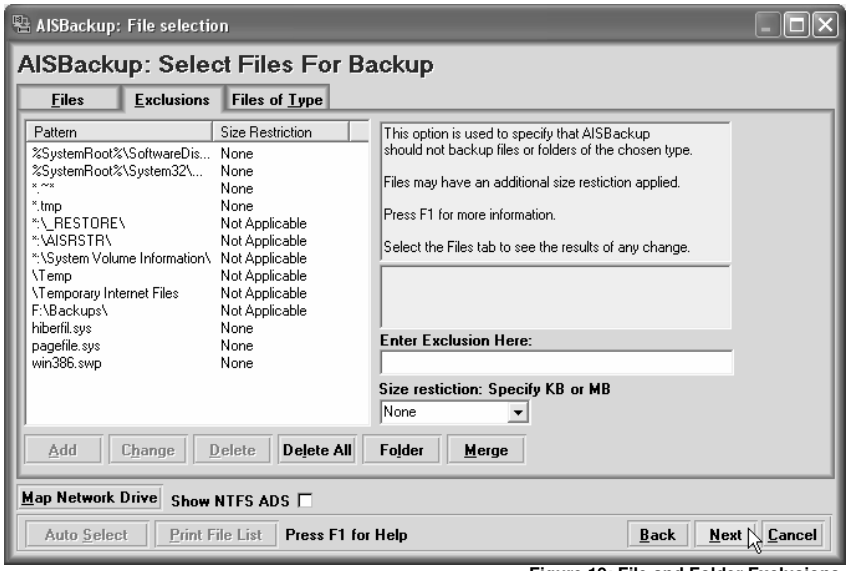


Figure 19: File and Folder Exclusions.

Options:

only be executed between 7pm and 5am. The default 00-00 indicates no time restriction.

Figure 34: Create Shortcut.

- Choose whether the shortcut should be crated on the Windows desktop or in the Start-up folder (or both).

  If the backup job should only be run once per day regardless of how many times the job is executed check the option **Once per day**.

- Type a name for the short cut.
- Choose an Icon image for the shortcut.
- Click **OK** to create the shortcut.
- Click **Cancel** to abort the creation of the shortcut.

For more command line options see the menu item **Tools** / **Auto Running AISBackup** described in section 5.10.

3.6 Create Shortcut for this backup Job

How to get to this option: **Manage Backup** / **Create Shortcut for this Backup Job.**

Create Shortcut is used to create an AISBackup auto run shortcut in either the Desktop or Start-up folders. Shortcut's saved in the start-up folder are executed when the PC is booted.

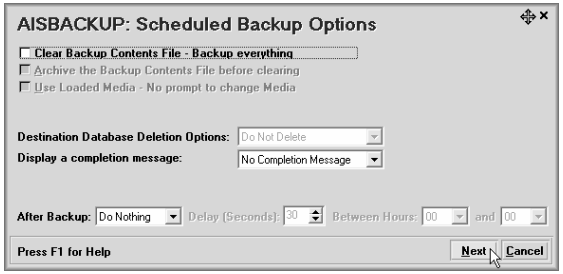


Figure 33: Shortcut Job Parameters.

- **Clear Backup Contents File:** this is used to force AISBackup to create a full backup, not the normal incremental backup
- **Use Loaded Media:** causes AISBackup to use the CD or other media that is in the drive at the time the backup runs, no check is made to see if it the expected media.
- **Delete Destination files options:**

  If the backup is using the integrated CD writer AISBackup will only use a CD that is blank or previously used with the selected job.

  - **Do Not Delete** – any files from the backup destination media.
  - **Delete Backup** – delete any backup files belonging to the chosen job.
  - **Delete Everything** – delete all files from the destination media.
- **Completion Message:** (on screen messages)
  - Do not give a completion message.
  - Give a completion message only if there was an error.
  - Always give a completion message.
- **Hibernate & Standby Options:**
  - After Backup Options: Select Do Nothing, Hibernate or Standby.
  - Delay (Seconds): A delay before Hibernate or Standby activates, to enable the option to be cancelled if the PC is still in-use.
  - Between Hours: Restrict the time interval where the Hibernate or Standby mode is activated. This option may be useful for Shortcut backup jobs which may be run during the day, where it would not be convenient to hibernate the PC. Example: 19-05: The Hibernate / Standby mode will

- An existing exclusion may be selected to **Change** or **Delete** from the list, a file may also be deleted by double clicking its list entry.
- To remove all exclusions select **Delete All**.
- Enter a new exclusion in the **Enter Exclusion Here** box, a file exclusion may be further qualified with a file size, for example, to exclude all mp3 files 50MB or greater enter **50MB** in the **Size Restriction** box.
- If an absolute folder name is to be selected use the **Folder** button.
- To merge the global exclusions list click **Merge**.
- All exclusion modifications are discarded with the **Cancel** option, however, the **Cancel** option also cancels the complete *Select Files For Backup* option.

Exclusion Examples.

Take care when entering folders using fuzzy matching, entering TEMP* will not only exclude files from '\TEMP' and '\TEMPORARY INTERNET FILES' but also '\TEMPLATES', this may not be the desired action.

File & Folder Exclusion Examples:

- To exclude all files and folders from folders named Temp enter

  TEMP then click **Add**

- To exclude all files and folders from folders starting with $NtUninstall enter

  $NtUninstall* then click **Add**

- To exclude all folders called Mozilla but only if Mozilla is in a folder called \Application Data

  \Application Data\Mozilla then click Add

  Multiple folders may be specified.

- To exclude Mozilla cache files:

  *.slt\Cache then click **Add**

  This excludes all files from a folder called cache but only if the folder cache is contained in a folder name ending with **.slt** Fuzzy matching is specified by the * character.

- To exclude the folder C:\System Volume Information\ enter

  C:\System Volume Information\ then click **Add**

- To exclude the folder \System Volume Information\ from all disk drives enter

  ***:\System Volume Information**\ then click **Add**

- To exclude all temporary files from the backup enter:
  ***.tmp** then click **Add**.

- To exclude all filenames beginning with the character ~ from the backup enter:
  ~***.*** then click **Add**.

- To exclude all AVI files larger than 50mb enter
  *.avi with 50mb in the **size restriction** box then click **Add**.

- Environment variables may be used in folder names:

  %SystemRoot%\SoftwareDistribution\

  Excludes the SoftwareDistribution folder from the system root folder.

Excluded folders are displayed with the symbol, excluded files are displayed with the symbol.

3.5.1 Setting up the Task Manager.

Although the program details may typed into input boxes, the best way is to select a program from either its desktop or start-up programs shortcut. Loading the details from the shortcut will ensure that the Working Directory and Command line parameters are set-up correctly.

To specify NT Services enter the Program Name parameter with the service name within square brackets, e.g. **[MSSQLSERVER]**.

Loading a program via its shortcut is done by using the **Desktop** or **Programs** button under the *Open a program* area of the form as can be seen on the right hand side of Figure 32.

An alternative way to select the program is via the *Select a Program* list:

- If the name of the program that is to be auto-closed is not known make sure that it is not running, for example, do you know that the program Outlook Express is called msimn.exe? Not too obvious eh?
- Click **Refresh**, this removes the program from the list of running tasks.
- Re-start the program.
- Click **Refresh**, the program that is to be auto-closed will be displayed in red.
- Click the Program Name (if there are more than one program names in the list try the test procedure with both).
- Click **Test Unload**. If the program, unloads okay click **Test Load**. If the program loads okay it may be added to the list by clicking **Add**.

Once a program has been selected choose a close down option for normal and auto-running AISBackup. The default actions for both options are **Attempt to close task then re-start after backup**.

AISBackup will only re-start programs that were running when the backup was started.

The Window State option is used to tell Windows how to start the program, in most cases **Normal** should suffice.

Example:

The following actions demonstrate the 'workings' of this option by using the Outlook Express.

1. Ensure that Outlook Express is not running.
2. Click **Refresh.**
3. Start Outlook Express.
4. Locate and click the program displayed in red named msimn.exe.
5. Click **Test Unload**.
6. If Outlook closes down okay click **Test Load**.
7. Click **Add** to add Outlook Express to the list of programs that should be closed down before AISBackup starts the backup.

Click **OK** to keep the changes, click **Cancel** to discard the changes.

3.5 Task Manager.

How to get to this option: **Manage Backup** / **Task Manager.**

The 'Tasks' option allows you to select programs or NT Services that have opened files in a way that prevent them from being backed up e.g. when Microsoft Outlook 2000 is running you cannot backup the Personal Folders File (*.pst).

Enter NT Service names in square brackets, e.g. **[MSSQLSERVER]**.

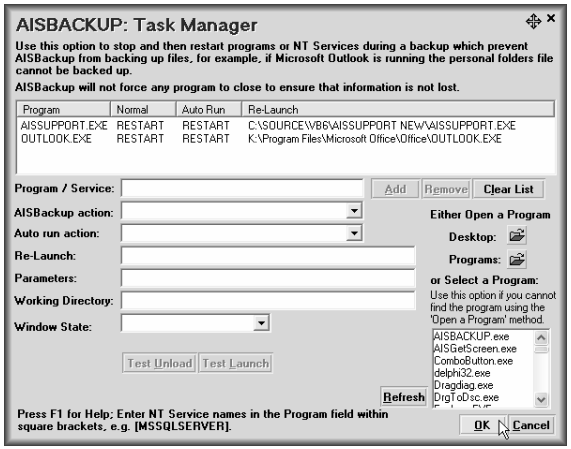


Figure 32: Task Manager.

Different actions may be selected for running AISBackup interactively or non-interactively via an auto-run option, these are:

- **Prompt and wait:** A prompt to close the program(s) is given when the backup is run. The backup may be resumed without closing the programs.
- **Prompt and wait for 60 seconds:** As above, but the prompt will only display for 60 seconds after which if the prompt has not been acknowledged the backup will continue without closing down the programs.
- **Attempt to close task :** This option automatically closes a program but does not restart the program after the backup.
- **Attempt to close task then re-start after backup**: This option will automatically close down a program and then re-start the program after the backup. This is probably the best option for unattended backups.

NT Services are always closed for the duration of the backup and then re-started.

AISBackup will not close down a program that requires an acknowledgement, for example, if a asks the question 'Do you want to save this file' AISBackup will not forcibly close the program, down.

2.1.9.6 Files of Type.

A files of type is backup is used to backup files of a specified type or types. The type is defined by the file extension, e.g. *.mdb for Access databases *.doc for Microsoft documents. A backup can either be a normal backup or a *Files of Type* backup, if there is a requirement to combine both styles of backup two backup jobs must be created and run one after the other using the Auto Run facility.

Figure 20: Files of Type.

To change the backup style to *Files of Type* either select the **Files of Type** tab or right click a file from the **Files** tab and choose the **File of type *.xyz*** menu option, as shown below.

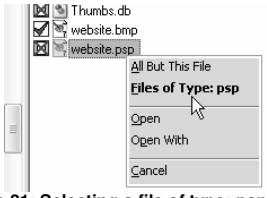


Figure 21: Selecting a file of type: psp

Files of type selections are only backed up if the folder is selected, If a folder had not been selected the selected files of type are shown with the symbol ☐ until the folder is selected. Files that have excluded from the files of type list are displayed with the ☒ symbol.

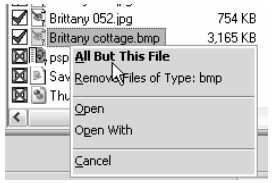


Figure 22: Excluding individual files.

Right click and choose the menu option **All But This File** to exclude an individual file or files of a selected type.

To revert a Files of Type backup to a normal backup style choose the **Files of Type** tab and remove the files from the list by clicking the **Clear** button.

2.1.10 Post Backup Job Create Options.

Figure 23: Post Backup Job Options.

Once a backup job has been created click **OK** to return to the AISBackup main form, click **Run** to run the backup now.

3.4 Change Backup Destination.

How to get to this option: **Manage Backup** / **Change Backup Destination.**

Change backup destination may be used to change the destination of a backup. An alternate way to achieve this functionality is to create a **New Job** based on an existing job, but with a different backup destination.

If the existing backup destination is an AISBackup Mastered CD the change backup destination option changes the CD Stage area and not the actual backup destination.

If the existing backup is disk based the backup destination may be changed to another local disk, network drive, a CD or DVD which uses a third party packet writing interface or other removable media. To copy a disk based backup to CD using the AISBackup integrated CD writer use the **Manage Backup** / **Copy Backup to CD** instead.

The following rules apply:

- If the source and new destination of a backup is a local hard drive or network drive the source backup can be optionally deleted after the copy phase.
- If the Source is a CD or Removable media and the new destination a local or networked drive the backup is copied, i.e. the old backup is not deleted.
- If the Source is a local or networked drive and the new destination is a CD or Removable media the backup is copied, i.e. the old backup is not deleted.
- The Source and Destination cannot be both CD and Removable media.
- As Stated above a CD destination must use a third party packet writing system.

3.3 Undo Backups.

How to get to this option: **Manage Backup** / **Undo Backups (Prune Backup Sessions).**

The undo backups option can be used to remove backup sessions from the current backup.

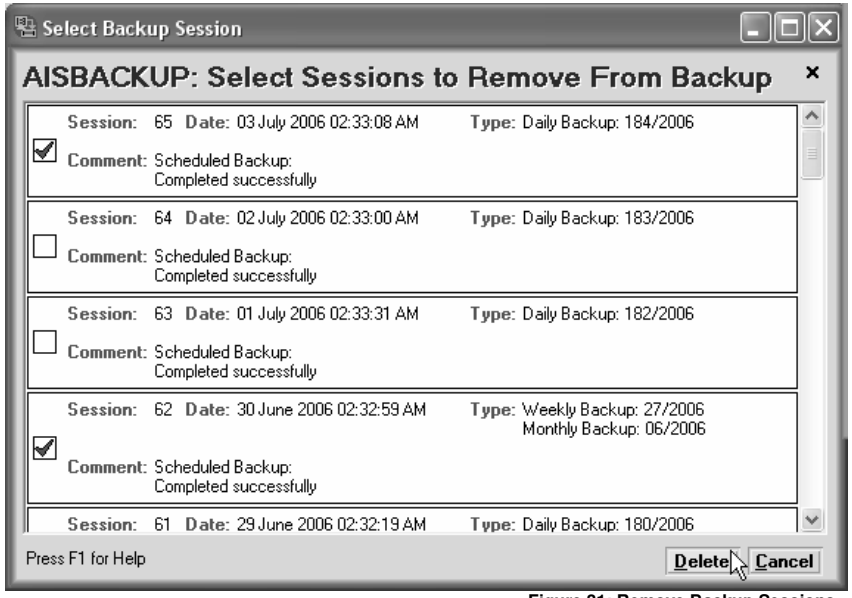


Figure 31: Remove Backup Sessions.

This option is used to remove one or more backup sessions from a backup.

Select each session to be removed then click Delete.

Files that were created in a selected session that exist in higher sessions are moved to the next highest session number. Files that were created in earlier sessions but marked as deleted in the selected session are marked as deleted in the next highest session number.

Disk based backups are automatically pruned to free-up disk space.

2.2 Backup to FTP Server.

To create an FTP server backup choose the backup destination **Backup to FTP Server** on the backup destination form described in section 2.1.2.

The Backup Job Parameters form defaults the backup destination to the default hard drive backup destination. The password protect option is pre-set on the Backup Job Parameters, see section 2.1.3.

AISBackup sets the **Encrypt Password** option on the password form, this option instructs AISBackup to create a password of 64^{40} characters. If the backup is to be transferred to a public FTP server it is recommended that the **Password Encryption Seed** option is also used so that the generated passwords are unique to your copies of AISBackup, see section 1.6.6.7.

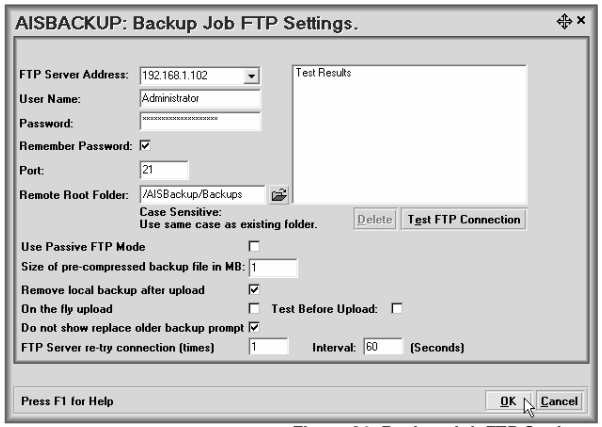


Figure 24: Backup Job FTP Settings.

The Backup Job FTP Settings form is very similar to the form displayed in the **Tools** / **Program Settings and Options** version described in section 1.6.5. There are additional parameters specific to backup jobs.

Some FTP Servers do not allow spaces in file and directory names, the **Test FTP Connection** option checks this and adjusts the backup job parameters where necessary.

- **FTP Server Address:** Select a pre-defined server address or enter a new server address using the format *server.com* or *server.co.uk*. Some server addresses may require the preceding *www.*
- **User Name:** Enter the user name for the FTP server.
- **Password:** Enter a valid password for the user name.
- **Remember Password:** Check Remember Password to instruct AISBackup to store the password. AISBackup encrypts stored passwords. If a password is changed the password may be altered using the **Manage Backup** / **Edit Job Parameters** / **FTP Settings** menu option.

  If **Remember Password** is not checked an un-attended FTP backup job using the task scheduler cannot be run.

- **Port:** The usual FTP port value is 21, enter a value here if different.
- **Remote Root Folder:** This specifies the root directory for the backup on the FTP server. The directory is created if it does not exist. Multiple embedded directories may be specified in the form /Folder1/Folder2.

  AISBackup creates an additional folder under the FTP root folder based on the job name.

  Ensure that AISBackup has read and write permissions to the folder.

  To browse for the backup root folder click
- **Delete:** Choose Delete to delete the selected FTP parameters from AISBackup.
- **Test FTP Connection:** Use the Test FTP Connection button to test the settings.

Additional Parameters for backup jobs.

- **Use Passive FTP Mode:** The default FTP mode is Active, this may cause problems with some Firewalls. A possible solution is to use a Passive FTP connection.

  Discussion about the pros and cons of Passive and Active FTP connections is beyond the scope of this manual, for further information try an internet search engine, for example Google (hint, click Google).
- **Size of pre-compressed backup in MB:** This is the maximum pre-compressed size of each backup zip file. Keeping the files small reduces network traffic after the initial backup.
- **Remove local backup after upload:** This option removes the backup from the local PC after it has been uploaded to the FTP server.
- **On the fly upload:** This option causes AISBackup to upload each backup file as it is created. If the local backup is selected for removal this option may be used to decrease the amount of disk space used on the local PC at the expense of some extra processing time.
- **Test Before Upload:** This parameter is only used if On the fly upload is selected

  If the Test Backup option has been selected AISBackup will have to download from the FTP server each backup zip file, as the local file would have been deleted. To force AISBackup to test the backup before the upload select this option.
- **Do not show replace older backup prompt:** If the FTP backup is to be shared the copy known to a local computer is likely to be older than the copy on the FTP server. Selecting this option will cause AISBackup to update the local backup with the version on the FTP server without asking.
- **FTP Server re-try connection (times):** The number of times AISBackup will attempt to attach to an FTP server. The default setting is 1, AISBackup will try to re-connect once.
- **FTP Server re-try connection (interval):** The interval in seconds between FTP connection re-tries. The default value is 60, AISBackup will attempt to re-try the FTP connection after each minute has elapsed.

3.2 Reset Backup – Backup Everything.

How to get to this option: **Manage Backup** / **Reset Backup – Backup Everything.**

This option is used to re-start a backup, i.e. backup everything next time.

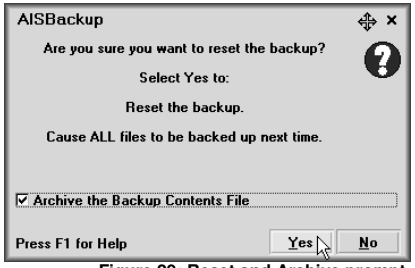


Figure 29: Reset and Archive prompt.

To proceed with this option choose **Yes.**

Online disk based backups may be permanently deleted, other backup destinations must be deleted manually.

If an existing backup is to be retained, for example it is on write once media such as CD-R or DVD-R the current backup may be archived rather than deleted. To archive the existing backup check **Archive the Backup Contents File**.

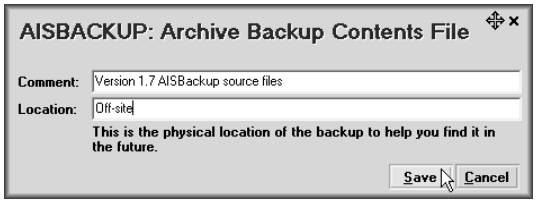


Figure 30: Archive Backup option.

A comment and location may be assigned to an archived backup to help remember what the backup contains and the current physical location of the backup media.

3.1.6 Button Options:

Figure 28: Button Options.

- **Change Password:** This option may be used to change or remove a password from a backup. The password cannot be changed on a pre-existing, removable media style backup, to enable the change password option for removable media use the **Manage Backup** / **Reset Backup - Backup Everything** menu option first.

  The password may be changed or removed on an existing disk based backup, but the process must not be interrupted or the backup will become inaccessible. However, if the PC or AISBackup crashes during the change password process the change password process may be restarted next time AISBackup is used.

- **Pre and Post Jobs:** AISBackup can be set to run user supplied jobs before and after a backup job is executed. These jobs may be useful to instruct applications running on the computer to take some action just prior to and after the backup job is executed. See here for more information. See section 3.14.

- **FTP Settings:** The FTP Settings option is only shown if the backup is to an FTP Server. Use this option to adjust the remote FTP server parameters, see section 2.2.

2.3 Map Network Drive.

Many of the file access forms used within AISBackup have a button called **Map Network Drive**. Here are the instructions for using this option.

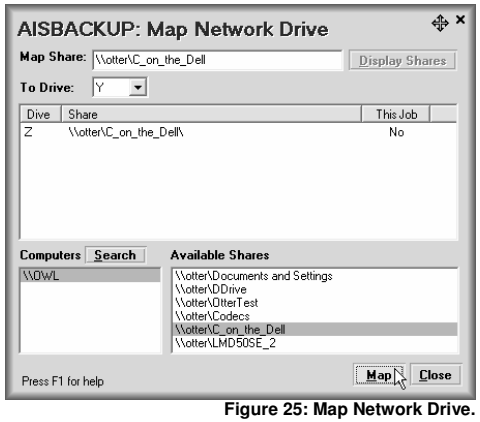


Figure 25: Map Network Drive.

This option allows network drives to be mapped for use in AISBackup, this form is used as an alternative to the map network drive used by Windows Explorer.

A list of network shares that have already been mapped are shown, those that are used by the current backup job are also identified by Yes in the *This Job* column.

AISBackup does not rely on the drive letter assigned to the share but the actual share name itself. This enables AISBackup to map and un-map network shares dynamically.

Using this option:

The easiest way to use this option is to ensure that the computer or computers containing the required network drives are connected to the network. Some computers may have to be logged on to before the network shares are available.

- There is a **Search** option available which may be used to look for connected computers. This option may not find all connected computers and can take a long time to execute.
- If the name of the computer is known but the name of the share is not type the computer name in the **Map Share** text box then click **Display Shares**. The computer name must be entered in the format **ComputerName**
- Locate the share name to map then click **Map**.
- Click **Close** when finished.

Notes about the Map Network Drive form shown in Figure 25:

The **Search** option was used but the computer containing the wanted share name was not found. Instead the computer name **OTTER** was typed in the **Map Share** text box and **Display Shares** clicked. The **Available Shares** list box was then populated with the available share names from **OTTER**. The share named **C_on_the_Dell** was selected and **Map** clicked.

3 Manage Backup Options

The manage backup options are used to alter the parameters of individual backup jobs. Manage backup options are also available by context directly from the AISBackup J*ob tab* on the main form. The options include:

- **Modify Files and Folders List:** This option is used to change the list of files and folders included and excluded from the backup. This option is described in section 1.1.7.
- **Change Backup Job Settings:** This option is used to change most of the parameters selected when the backup job was created. Parameters of jobs created with the **Quick Job** option may be refined using this option. This option is described in selection 3.1.
- **Undo Backups (Prune Backup Sessions):** This option is used to undo backup sessions from the backup job. The sessions may be removed from the beginning or end of the backup. This option is described in selection 3.3.
- **Reset Backup – Backup Everything**: This option is used to restart a backup job, i.e. discard the existing backup and backup everything next time. This option is described in selection 3.2.
- **Import Backup Contents File:** This option is used to replace the online copy of the Backup Contents File with the version found on the backup media. The option may be used if the last CD of a backup set is damaged and the backup is to be resumed from the previous CD.
- **Change Backup Destination:** This option may be used to change the destination of a backup job, the actual backup may also be copied to the new destination. See section 3.4.
- **Task Manager:** AISBackup has the ability to close down applications, backup and then restart the applications. This option is set-up using the Task Manager. See section 3.5.
- **Create Shortcut for this backup Job:** This option is used to create a desktop or start-up short-cut for AISBackup jobs. See section 3.6.
- **Auto Run This Backup Job (MS Task Scheduler):** This option is used to set-up a Microsoft Task Schedule to the backup job automatically at pre-defined days and times. See section 3.7.
- **Validate (Test) Backup:** This option is used to test that a backup can be restored from. See section 3.8.
- **Backup Maintenance:** This option may be used to logically move files within a backup, remove files from the backup that are no longer required and remove damaged backup media from the backup. See section 3.9.
- **Copy Backup to CD or DVD:** This option is used to copy a disk based backup to CD. See section 3.10.
- **E-mail Backup:** Use this option to send a disk based backup to an e-mail address. See section 3.13.

3.1.5 VPN Settings

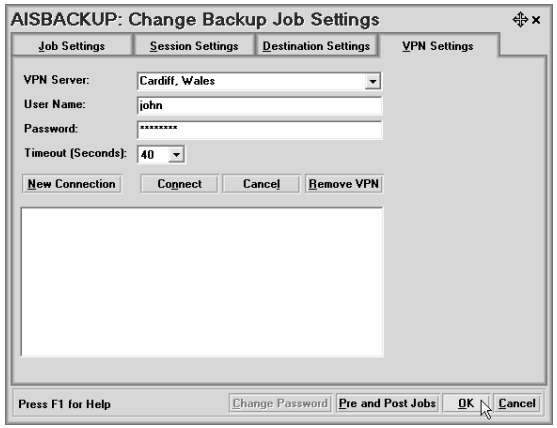


Figure 27: VPN Settings.

AISBackup may be used to backup files over a Virtual Private Network, these settings enable AISBackup to automatically establish the VPN connection during the backup and then disconnect after the backup. If the VPN connection has already been established AISBackup will not disconnect.

VPN Provides a secure method of backing up data over a network using your existing Cable, DSL broadband internet connections. Consider setting up a reciprocal arrangement with another user of AISBackup to backup data on each other's PC.

- **VPN Server:** Specifies the VPN connection name, this is also known as a 'Phone Book Entry'.
- **Username:** Specifies the remote system username.
- **Password:** Specifies the remote system password.
- **Timeout (Seconds):** Select the period in seconds which AISBackup should attempt to connect to the remote system.
- **New Connection:** Launches the Windows New Connection Wizard.
- **Connect:** The Connect button may be used to test the connection.
- **Cancel** / **Disconnect:** The Cancel / Disconnect button may be used to disconnect from the remote system.
- **Remove VPN:** This option removes the VPN connection from the backup job.

3.1.4 Destination Settings.

The Destination Settings option is only shown when the job is of style FireWire / USB option.

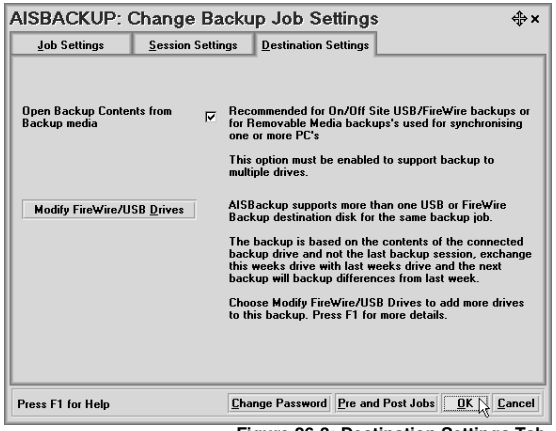


Figure 26-3: Destination Settings Tab.

- **Open Backup Contents from Backup Media:** This option opens the contents of the backup from the backup media rather than from the AISBackup database folder. This option is useful when sharing a backup between PC's or when backing up using the same backup job to multiple FireWire/USB drives. Check this option to ensure that any new backup data added to the backup is based on what is on the backup media.

- **Modify USB / FireWire Drives:** If the *Open Backup Contents from Backup Media* option has been selected this option allows additional drives to be added to the backup job.

  If you are creating a new backup job at least one FireWire or USB drive must be selected as the backup destination. If more than one drive is selected the *Open Backup Contents from Backup Media* option must also be selected for AISBackup to function correctly.

  Using multiple drives is an easy way to maintain On-Site / Off-Site backups as the next backup session is always based on what was backed up on the currently connected backup media.

  To remove a USB / FireWire drive from the backup remove its name from the appropriate Drive dropdown Combo box. Removing a drive from the backup job does not physically delete the actual backup.

  Network shares may also be specified for USB / FireWire drives to enable backup to multiple USB / FireWire drives over a network.

- **Package and Encrypt:** Use this option to combine all of the AISBackup data files and backup zip files into one file, this file may then be encrypted by using AES 128 bit encryption.

- **Make This Backup an Archive:** This option may be used to retire a backup from the main backup list to a read only backup archive. See section 3.12.

- **Remove Backup Job From List:** This option is used to remove a backup from the list of backup jobs, optionally disk based backups are deleted from the disk.

3.1 Change Backup Job Settings.

How to get to this option: **Manage Backup** / **Change Backup Job Settings.**

3.1.1 Job Settings.

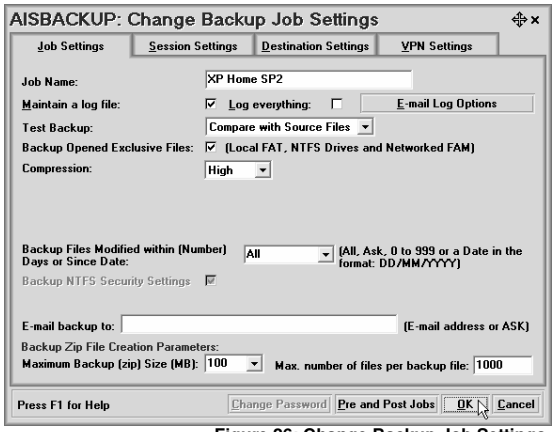


Figure 26: Change Backup Job Settings.

- **Backup Job Name:** The backup job name may be changed.
- **Maintain a log file:** The option to maintain a log file can be switched on or off.
- **Log Everything:** The option to log all messages can be switched on or off.
- **E-mail Log Options:** This option displays the e-mail log option form from where e-mails may be sent following the execution of a backup job. The actual session log may be attached to the e-mail in a variety of formats or sent in the message body.

  If the e-mail field is left blank the backup log is displayed on the PC using the default program for the chosen format.

  see section 3.13 for details about setting up the e-mail log options.

  Owing to security features in Microsoft Outlook it is recommended that the integrated SMTP e-mail option is used. To set-up the SMTP settings see section 1.6.6.
- **Test read backup files:** There are 3 test backup options:

  Do Not Test: the backup is not tested for restore capability

  Check File Integrity: Each backed up file is assigned a 32bit checksum; the data is read from the backup to re-calculate the checksum, if the checksum matches the file is okay. There is a 4, 294, 967, 295 to 1 chance of an invalid file generating a correct checksum. This is the recommended Test Backup option.

  Compare with Source Files: This option also uses the Check File Integrity method but additionally compares each backed up file with the original file. If there are file

- **Prune Zip Files:** Select this option to get AISBackup to remove individual files from backup zip files. This reduces the disk space used at the cost of a longer backup time. For all disk based backups zip files that are no longer required are deleted from the backup destination.
- **Advanced Session Management:** Select this option to set up session pruning based on today's, daily, weekly and monthly session retention. See here for more details. This option is recommended for perpetual disk based backups where it is desirable to recover disk space while still preserving backup data from key dates.

  See section 2.1.6 for more information about *Advanced Session Management*.

3.1.3 Session Settings

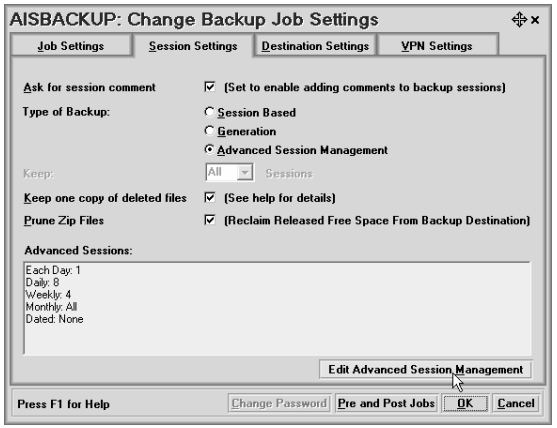


Figure 26-2: Session Settings Tab.

- **Ask for Session Comment:** Set this option to ask for a session comment each time a backup is run. A comment is not requested if the job is run via the task scheduler.
- **Type of Backup:** Change a session based style to a Generation Number style backup, note a generation style backup cannot be changed back to a session style backup. To change the job to Advance Session click the **Advanced Session Management** button.
- **Keep:** Change the number of sessions or generations to retain. If the number of sessions retained is decreased the Backup Contents File and Backup will be pruned when the next backup session is run. Files are not deleted from a disk based backup until the next backup session is run. To get AISBackup to release disk space immediately use the **Manage Backup** / **Undo Backups** option, see section 2.3.
- **Keep one copy of deleted files:** If session pruning is been used to remove redundant data from the backup, eventually, some deleted files will not exist in the backup any more.

  Select this option if at least one copy of all files should remain in the backup, even when the files do not exist in any dated backup session.

  Deleted files which do not belong to any session are moved to a special session called 'Deleted Files'.

  Using this option may produce a lot of unwanted files in the backup, for example, transient operating system files such as PC Health Data. The AISBackup **Manage Backup** / **Backup Maintenance** option may be used to only show the deleted files to make it easier to prune unwanted 'retained' files from the backup.

differences AISBackup produces a warning rather than an error because it is conceivable that data legitimately changes within some files during the time that the backup runs. However, if there is a checksum mismatch the files are flagged as failed to backup.

- **Backup opened exclusive files:** The option to back up opened exclusive files may be turned on or off. *Opened exclusive* files are those that have been opened with a switch to disallow any other program accessing the file, some database files fall into this category.

  AISBackup uses Microsoft's recommended *Volume Shadow Copy Service* to backup opened exclusive files under Windows XP, Windows Server 2003 and Windows Vista.

  When running Windows 95, 98, ME, 2000 and NT4 AISBackup uses a technique similar to that used by disk cloning programs to backup opened exclusive files from FAT disk systems, however opened exclusive files on Windows NT4 and Windows 2000 NTFS drives cannot be backed up.

  AISBackup cannot backup opened exclusive files from network drives.

  There are third party interfaces available for Windows NT4 and 2000 which enable opened exclusive files from NTFS drives to be backed up, for current information visit the AISBackup web-site for details.
- **Use Third Party CD Writer:** If shown toggles whether AISBackup uses the integrated CD Writer (un-checked) or a third party CD Mastering Application (checked).
- **Compression:** The Compression Level of subsequent backed up files may be changed from High to None.
- **Files Modified within Days or Since Date:** The Default value **ALL** causes AISBackup to consider all files when calculating which files should be backed up.

  If only files modified within the last 7 days are to be backed up then enter the value 7.

  The value **Ask** causes AISBackup to prompt for the number of days since files were last modified at run time. The **Ask** option is not suitable for non-interactive Auto-Run jobs.

  Possible values are: **ALL** (Suitable for the majority of backup jobs), **Ask**, or a number in the range **1** to **999** or a date which is enetered in local date format.
- **Prune Zip Files:** Select this option to get AISBackup to remove individual files from backup zip files. This reduces the disk space used at the cost of a longer backup time. Disk based backups zip files that are no longer required are deleted from the backup destination regardless of the **Prune Zip Files** setting.
- **Backup NTFS Security Settings:** This option is not available if the backup job has already been run and the backup has not been re-set using the **Manage Backup** / **Reset Backup** option.

  Use this option to backup NTFS security settings and secondary file streams. This option creates non-standard zip files and even though the zip files can be opened

with third party zip programs it will only be possible to extract the files by using AISBackup.

Only System and Backup Administrator user accounts are able to backup NTFS security settings.

Ensure that System and Backup Administrator permission is present before backing up NTFS security settings from networked computers.

- **E-Mail Backup To:** Enter an e-mail address if a disk based backup is to be e-mailed after completion. The value ASK is used to prompt for the e-mail address at run time. This option is only enabled on disk based backups.
- **Maximum Pre-Compressed Size (MB):** This value sets the maximum pre-compressed size of each zip file. This value is automatically adjusted as free space is decreased on the backup media.
- **Maximum number of files per backup file:** This value sets the maximum number of files that should be written to each zip file. The **Maximum pre-compressed size** overrides this value. The zip file limit is 65535 files.

3.1.2 Job Settings for Copy Jobs

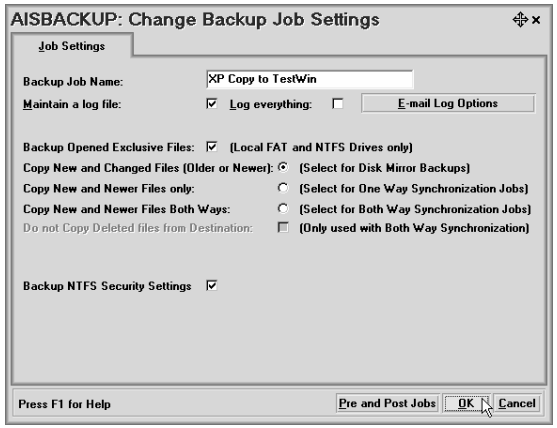


Figure 26-1: Job Settings for Copy Jobs Tab.

- **Copy New and different files (Older or Newer)**: Use this option for backup jobs where the destination is to mirror the source drive. After running with this option the destination will contain a copy of all the source files regardless of whether the destination files have been updated since the source files.
- **Copy New and Updated Files only**: This option emulates the behaviour of a one way synchronization program as it copies new and updated files from the source to the destination and does not replace files on the destination that are newer than the source drive. After running with this option the destination folders may be more up-to-date than the source folders in terms of file age.
- **Copy New and Updated Files Both Ways (Synchronize Folders)**: This option emulates the behaviour of two way synchronization programs and copies the latest versions of all files from the source to the destination and from the destination to the source. After running with this option both the source and destination will contain the latest version of all files, even if these files did not previously exist on either the source or destination folders. Some Users may not want deleted source files reinstated, see *Do not Copy Deleted files from Destination*, below.
- **Do not Copy Deleted files from Destination**: Check this option if the files are not to be copied back from the destination if they do not already exist in the source folders.

  This option is used if deleted files are not to keep re-appearing in the source folders even though they do exist in the destination folder.

  This option is only used with the *Both Ways (Synchronize Folders)* option.