NEXCOPY INCORPORATED

SOFTWARE USER MANUAL

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To register your product and receive emails for software and hardware updates please visit: www.nexcopy.com/product-registration/

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ABOUT NEXCOPY INCORPORATED

Thank you for purchasing Nexcopy's PC based duplicator[s]. Nexcopy manufacturers a variety of flash memory duplication systems for data loading to USB, SD, microSD, CF and other flash memory devices. Our product line is continually growing, so if additional memory device data loading systems are needed, please visit www.nexcopy.com . We hope you will consider us for all your production needs.

WHAT TO EXPECT

Your Nexcopy flash memory duplication system is professionally designed and manufactured to give you years of trouble free operation. To avoid accidental damage to your new duplication system, please read and understand this manual thoroughly before operating the unit.

ABOUT THIS MANUAL

This manual is written for both novice and experienced computer users. Please read through this operator's guide from beginning to end before using the unit. This user's manual will provide the necessary information to understand and operate the Drive Manager software. For hardware and software installation, please reference the Quick Start Guide found on the black resource USB flash drive.

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Please remember to register your product to receive updates about your duplicator system. Registration is found at: www.nexcopy.com/product-registration/

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GETTING TO KNOW DRIVE MANAGER SOFTWARE

The Nexcopy Drive Manager software is a user friendly program to facilitate content loading to flash memory devices. This software manual applies to all Nexcopy PC based systems. There are a variety of features and utilities with in the program which are subtle, yet make a big difference in production given your required application.

We know it's boring to read through a software manual, BUT you will learn many things about flash memory devices in general and many things about the Nexcopy Drive Manager software. The time you spend now will [possibly] save you time down the road.

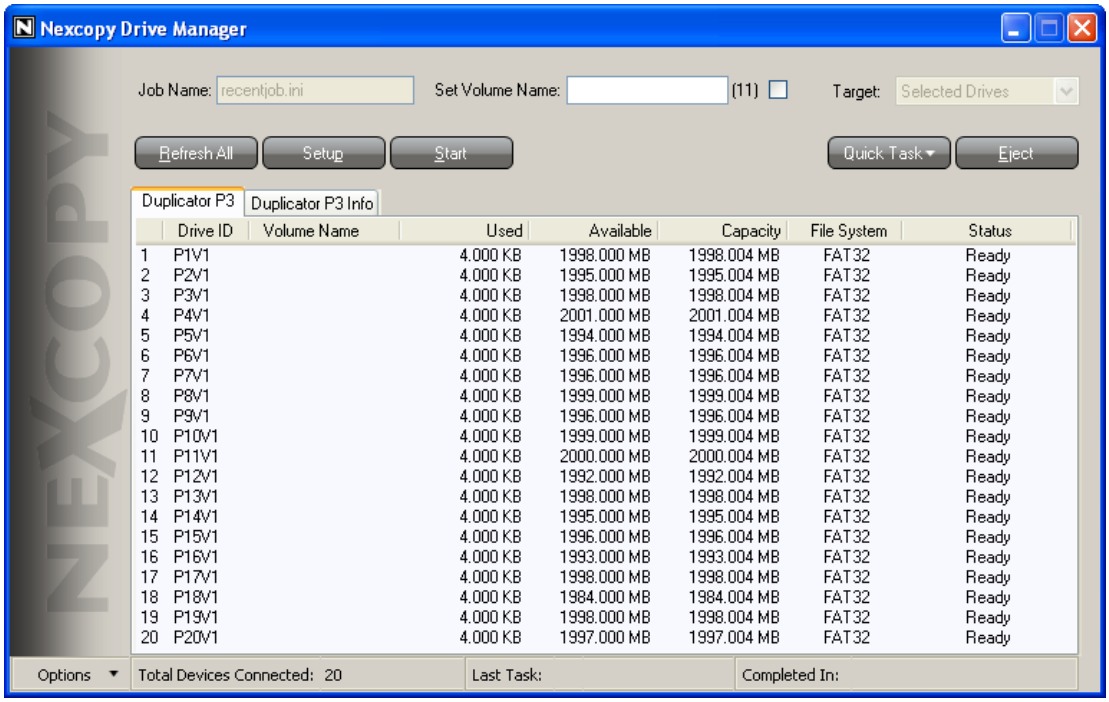
The first thing to understand about flash memory is that most devices are cheap, low quality, and range in production quality. Even the highest quality product can have a bad lot of drives or cards. The reason is that millions are produced each month from an endless list of suppliers [both good and bad] and it's a commodity product, sold at low margins. Many times flash memory uses B stock product or recycled NAND flash.

The best approach to have about flash memory is *be patient*. Although we want the devices to perform and react as quickly as our brain can think, it's not how the devices work.

NEXCOPY DRIVE MANAGER - DUPLICATOR SCREEN

The Drive Manager **Duplicator tab** shows the connected devices, their capacity, amount used, amount available, File System and Status of the Drive Manager software. The number next to "Duplicator" in the tab represents the USB port on the host motherboard. In this example, the duplicator is connected to the 3rd port of the motherboard.

If you notice, there are no drive letters, but rather a P1V1 – P20V1 with an associated number ranging from 1 through 20. The 1-20 number represents the physical location of the stick in the Blue Aggregator box. The **P1** represents the Port the device is connected to and the **V1** tells you the number of Volumes for that device. In this example we have 20 devices connected with one Volume for each device.



REVIEWING DRIVE MANAGER BUTTONS:

- **REFRESH ALL** – Once devices are physically connected to the duplicator, click Refresh All to see the devices appear in Drive Manager [Hot key = Alt R]
- **SETUP** – Will direct you to the SetUp and Configuration of duplication jobs you'd like to perform [Hot key = Alt P]
- **START** – Clicking Start will begin the duplication job [Hot Key = Alt S]
- **QUICK TASK** – These are tasks a user may want to perform without entering the SetUp area of the software
- **EJECT** – Eject button will Eject the devices from the host computer [Hot key = Alt E]

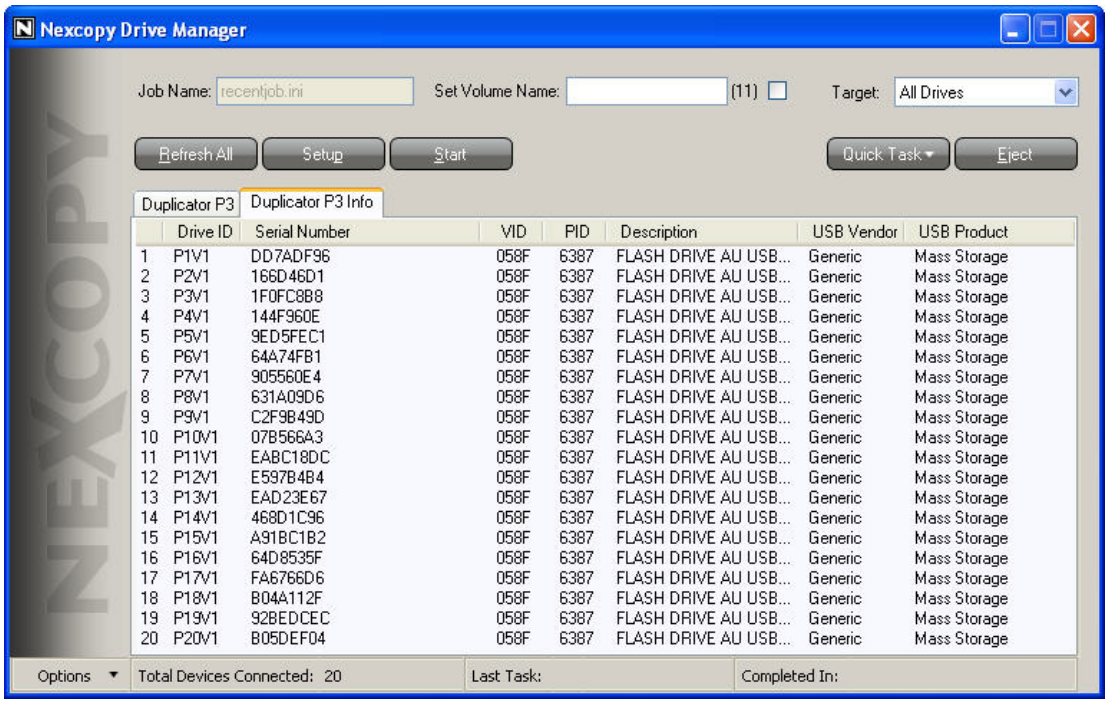
REVIEWING OTHER FIELDS – MAIN SCREEN

- **JOB NAME** – This field displays a Job name from a saved .ini configuration file
- **SET VOLUME NAME** – This allows the user to set a device name. This field is limited by 11 alpha numeric characters, thus the [11] to the right of the field.
- **TARGET** – This drop down menu allows the user to select All Drives or Selected Drives. Using the Shift key or Ctrl key, the user can select individual drives, or groups of drives to perform a function
- **OPTIONS** – This gets the user into advanced Options and access to system diagnostic functions.
- **TOTAL DEVICES CONNECTED** – Displays the total number of devices connected
- **LAST TASK** – Shows the user the last task performed. This is good in a production environment in case the user walks away from the machine and needs to remember the last task performed before the next function.
- **COMPLETED IN:** – Displays the amount of time it took the host computer to process the last task. PC processing power and RAM memory will decrease this number.

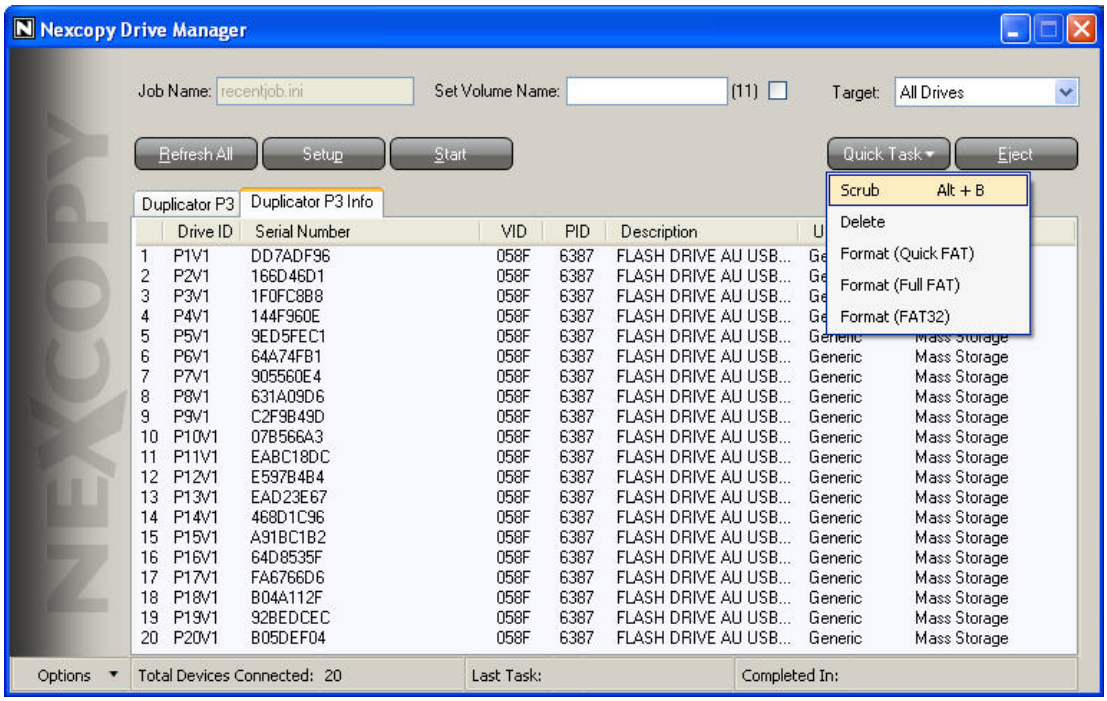
NEXCOPY DRIVE MANAGER - INFORMATION SCREEN

The Drive Manager **Information tab** shows the user about the properties of the device. The Information will display the Serial Number of the device, the Vendor ID [VID], the Product ID [PID], the Description for the device, and SCSI Vendor and Product string.

This information will vary between the USB, SD and CF units manufactured by Nexcopy. The example below is with USB drives. For USB devices, Nexcopy does offer an advanced software solution [USB200PRO] which allows the user to edit these fields. In addition the USB200PRO can partition USB sticks, Write Protect them, create CD-ROM partitions and assign 100% customized and unique Serial Numbers.



NEXCOPY DRIVE MANAGER – QUICK TASK



REVIEWING DRIVE MANAGER QUICK TASKS

- **SCRUB** – This is a registry cleaning utility for Windows. This utility we call "USB Scrub" performs a deep registry cleaning and edit to insure the host computer remains stable and operates correctly. The user will generally use this when a device is being problematic and is performing inconsistently. **FACT:** With the connection of a single USB stick, there are over 150 registry edits or changes to the host computer!

NOTE: A standalone **USB Scrub** utility is available for free in the event you want to "scrub" other computers without installing the Drive Manager software. This is a great utility for cleaning rogue registry entries from any USB or flash memory device. A free version is available for download – just Google "USBScrub" and you'll find it.

- **DELETE** – This function erases content on a drive without recreating the FAT [File Allocation Table]
- **FORMAT (QUICK FAT)** – This function performs a quick format of the device. A quick format simply clears the File Allocation Table but does not erase the data on the device.
- **FORMAT (FULL FAT)** – This function performs a low level format to erase all the data and reset the File Allocation Table. Cannot format in FAT larger than 4GB in size.

- **FORMAT (FAT32)** – This function is a low level format to erase all the data and reset the File Allocation Table. FAT32 is generally used for devices over 4GBs. There is no Quick FAT32 format function.

NEXCOPY DRIVE MANAGER – PASSWORD

The default setting of the password is blank, therefore the user can simply use the **Enter** key or click **OK** and proceed to the setup area.

To set the password do the following:

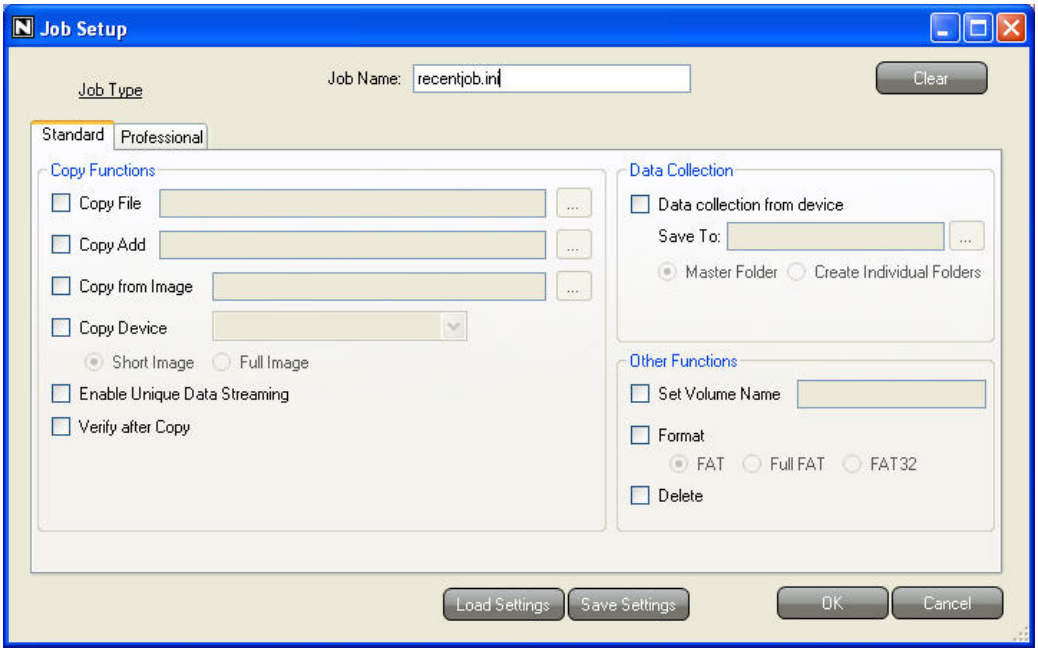
1. Enter the current password in the Password field. **TIP:** For initial setup of the password leave the "Password" field blank
2. Check box "Change Password"
3. Enter New Password
4. Confirm new password by retyping the New Password again
5. Done!

TIP: The password field is case sensitive so please keep this in mind. In the event you've lost the password, forgotten it, etc. please contact Nexcopy technical support.

NEXCOPY DRIVE MANAGER – JOB SETUP

The Drive Manager Job Setup tab provides the user all the tools to configure a duplication job for any type of flash memory. The Drive Manager Job Setup gives the user an ability to select single functions or multiple functions – the software will automatically know which functions to perform during the duplication job.

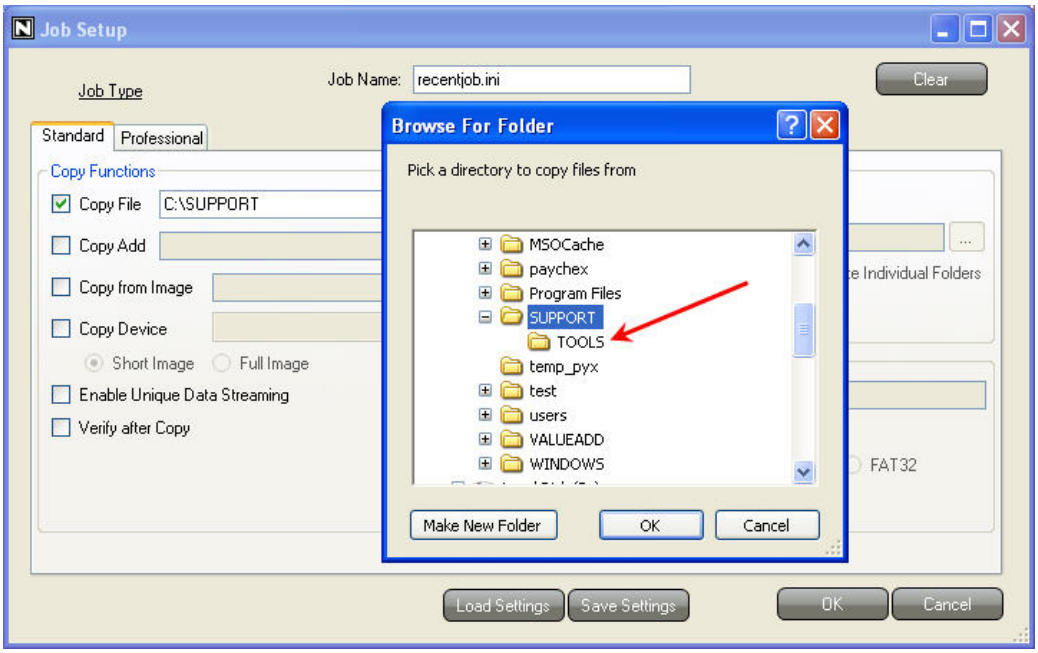
The Job Setup tab is configured into three areas. The **Copy Functions** area, the **Data Collection** area and the **Other Functions** area. Most users will use the Copy Functions area and Other Functions area. Please study them below:



There are significant differences between many of the functions above. The following information will help you understand which functions are best suited for the job you are about to perform. Please read and understand this section of the Software guide before beginning any duplication job.

You could learn information that will [literally] save you hours of time.

COPY FILE FUNCTION



COPY FILE is the most popular method for data loading flash memory. To use Copy File you create a master Directory [folder] and put all your required data **inside** it. The Drive Manager software will copy all the data inside the master Directory without copying the master folder itself.

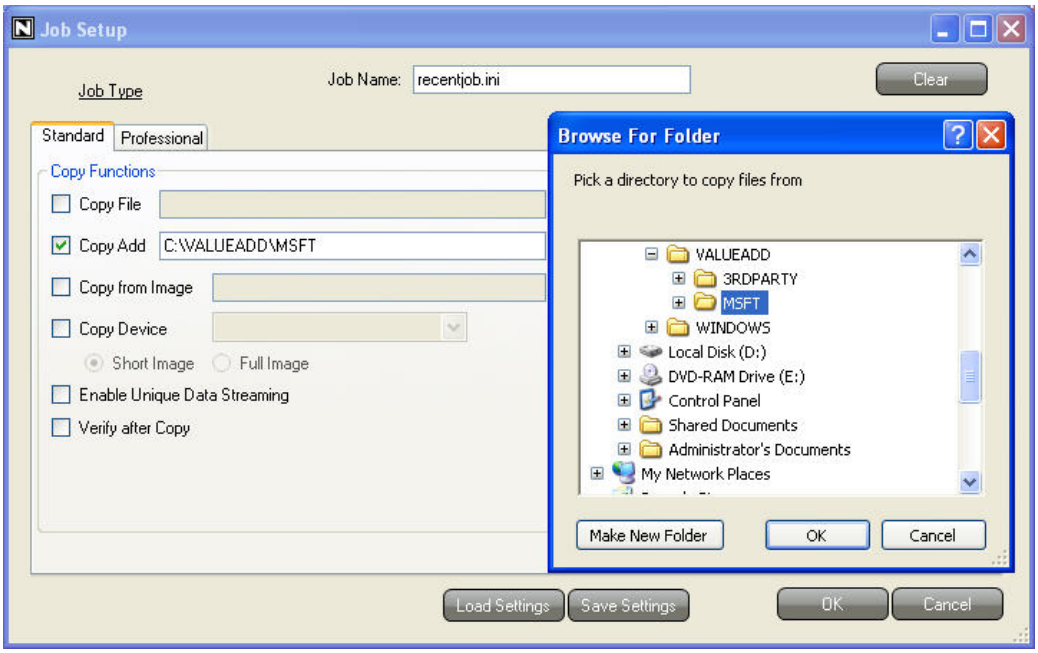
Copy File is best suited for small data load jobs where a small number of files or a small number of folders are being copied.

In the above example our master Directory is “Support.” The only data to be copied to the flash device is the “TOOLS” folder and everything inside the “TOOLS” folder. The “Support” folder itself will not appear in the resultant copies.

TIP: If your data load is 100s of files or 1000s of files or many Directories with a complicated Directory structure please use IMAGE copy or DEVICE copy. More information below.

NOTE: This function automatically performs a Delete of the device before starting the Copy File process.

COPY ADD FUNCTION



COPY ADD is a powerful function to replace an existing file or folder on a flash device, or Add additional data to a flash device without effecting data currently on the device. This is a great tool to update flash devices "in the field" where personal information may be convoluted and mixed with company information and it's the IT departments responsibility to update that "company" information. Copy Add is also *the* required function to data load to MP3 players or iPods where information must be nested into the device data structure.

To effectively use the Copy Add function the user must know the location of files on the devices to be copied, meaning the user must know the path on the flash devices. The user must then make the same Directory structure path in the master Directory to correctly data load new content OR replace existing content. For example:

Lets say you had a flash device with the following Directory [folder] structure:

Nexcopy > Support

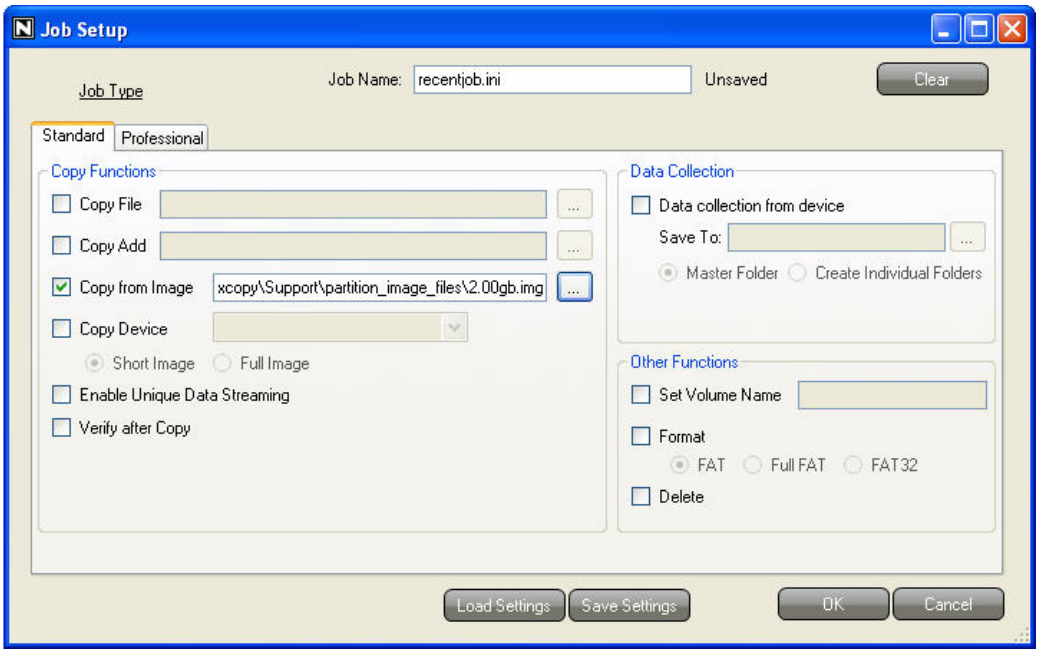
Now you want to add a "manual.pdf" into the Support folder of the device. You would do the following:

Create a master Directory on the desktop named “Master” From there, create two empty Directories named “Nexcopy” and inside that Directory “Support” then place the manual.pdf document inside the Support Directory. Now point the Drive Manager Copy Add field to the “Master” folder found on the desktop to set the Copy Add function.

Master > Nexcopy > Support > manual.pdf

NOTE: The Copy Add function does NOT perform a Delete before the Copy Add function begins.

COPY IMAGE FUNCTION



COPY IMAGE is an ideal way to data load a complicated directory structure, data load from an archive file or data load where unique content is being loaded such as bootable image files, Linux Ext2 or Ext3 data, Mac HFS content or UNIX content.

The Copy Image function is ideal for data loads where 100s or 1000s of files or folders are being copied to the device. The Copy Image function will accept any STANDARD image file [.img] OR the user can launch the Nexcopy Image Maker utility and create an Image file of a master device.

TIP: The Image utility Nexcopy offers will capture the Master Boot Record along with bootstrap code, boot loaders and boot files. The Image utility will also capture the Partition Table for the drive letter in which it’s pointed to. The utility will not capture multiple Partition Tables from a single device.

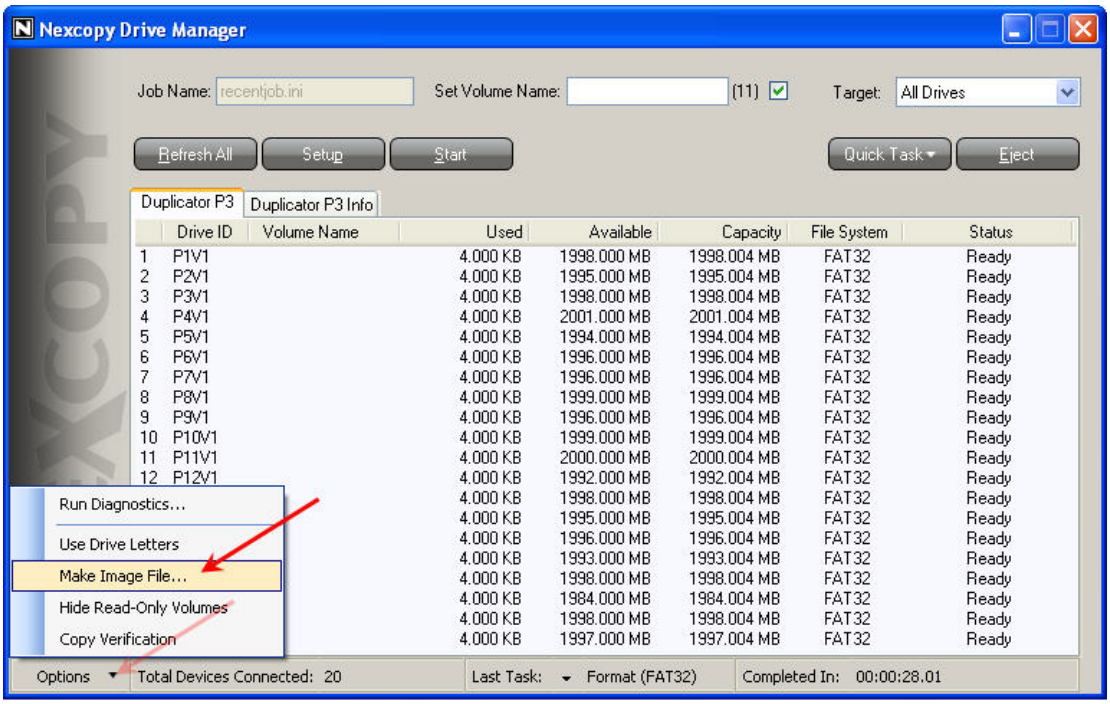
To use the Copy Image function, simply point the Drive Manager to a standard IMG file and set the job.

CAUTION: When burning an image file, the resultant device will have the same characteristics of the image file itself. For example, if the image file is a copy of a 2GB device and the user is burning that IMG file to a 4GB stick – the resultant drive will be a 2GB drive.

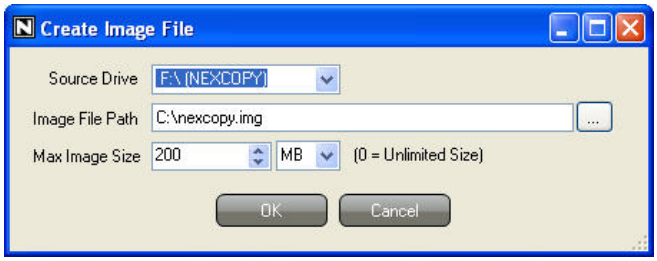
IMAGE FILE UTILITY

To use the Nexcopy Image Utility do the following:

- **TIP:** It is not required – but best practice to de-fragment the flash device before Imaging. Even if the device has little use, often times data will sit outside the Partition Table [especially Ext2 or Ext3 devices] therefore Nexcopy has designed the Image utility to pick up data only inside the Partition Table – as by definition – data outside the Partition Table should not be readable.
- Launch the Image Utility by going to **Options** > **Make Image File…** from the main Drive Manager window.



- Select the drive letter in which you would like to make an Image file
- Set the path or location to where the Image file will be saved
- Set the size of the Image file*



CAUTION: Setting the Image file size does not effect the Partition Table [or GB size] of the flash device. Setting the Image file size ONLY determines the size of the IMG file to be created and saved on your hard drive. Here is more detail…

IMAGE FILE UTILITY - DETAILS

Leaving the Max Image Size to "0" means the Image utility will create an IMG file the same size as the device. For example, if you choose to image a 2GB stick and leave the Max Image Size to "0" then your resultant IMG file will take up 2GBs of space on your hard drive.

However, you may know the 2GB stick only has 100MBs of data on the device. Therefore you can set the Image utility to stop after 150MBs of imaging. The resultant IMG file will be 150MBs and take up that amount of space on the hard drive. The process of setting the Image file size simply "force stops" the imaging utility at the point you specify.

This 150MB IMG file will contain all the attributes of a 2GB device and when copied back to flash memory, the resultant device will be 2GBs in capacity.

Nexcopy offers the short image function to speed up the copy process during duplication. In the example above, it is faster to copy a 150MB IMG file than a 2GB IMG file.

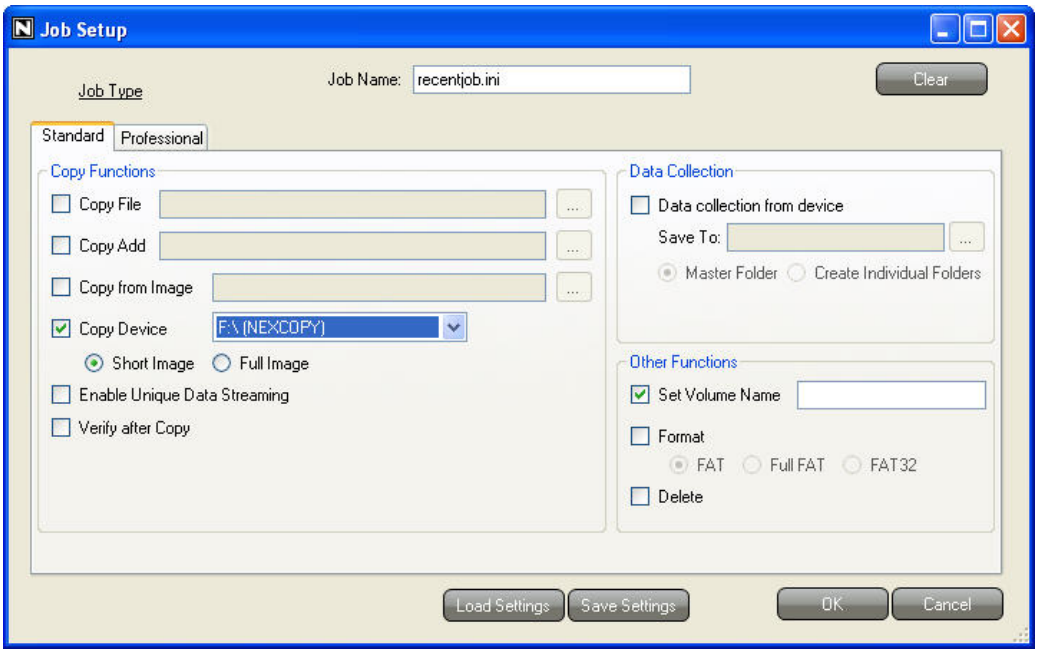
NOTE: When setting the Max Image Size be sure to add at least 10MBs of space for each GB of data to be imaged. The buffer is used to fit the File Allocation Table inside the IMG file.

CAUTION: When copying an image file, the resultant device will have the same characteristics of the image file itself. For example, if the image file is a copy of a 2GB device and the user is copying that IMG file to a 4GB stick – the resultant device will be 2GBs.

COPY DEVICE

The Copy Device function is very similar to the Image file utility except we don't make a master archive IMG but we simply copy via bit for bit from a physical master. To use the Copy Device function the user will need to insert the master device into the host computer system – not the blue aggregator box. From here the user can select the drive letter to be the master.

- **TIP:** It is not required – but best practice to de-fragment the flash device before Imaging. Even if the device has little use, often times data will sit outside the Partition Table [especially Ext2 or Ext3 devices] therefore de-fragmenting the device will resolve this issue.
- The Copy Device function will capture the Master Boot Record along with bootstrap code, boot loaders and boot files. Copy Device will also capture the Partition Table for the drive letter in which it's pointed to. The Copy Device function will not capture multiple Partition Tables from a single device.



COPY DEVICE – SHORT IMAGE

The Short Image copy option will automatically detect the data used on the flash device and perform a bit for bit binary copy of the master device. This option is ideal for copying a device where you want a bit for bit copy, yet don't want to copy the entire device, just the portion which is used.

NOTE: The Short Image copy function only supports FAT and FAT32 devices. If the flash device is anything else it is required you use the Full Image copy function or better yet, use the Nexcopy Image Utility.

TIP: This is the quickest and easiest setup option if your data load has 100s or 1000s of files or a complicated data structure and the user is looking to optimize the copy speed of the Nexcopy systems.

CAUTION: When using the Full Image copy option, the resultant device will have the same characteristics of the master device. For example, if the master device is a 2GB device and the user is copying to a 4GB targets – the resultant device will be 2GBs.

COPY DEVICE – FULL IMAGE

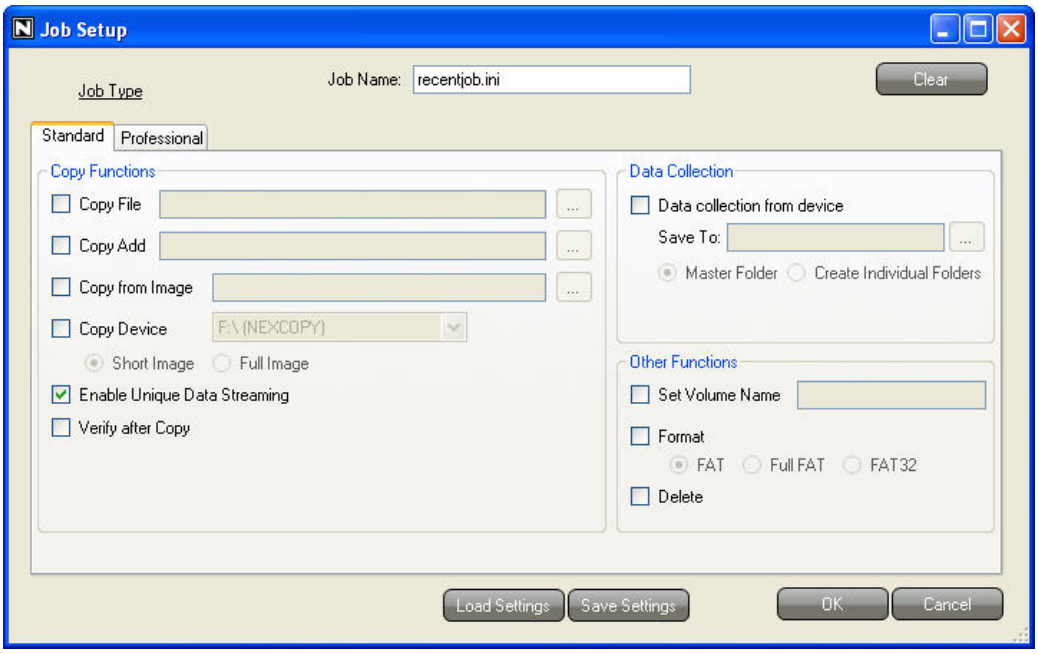
The Full Image copy option will perform a binary bit for bit copy of a master device from the beginning of the device to the end of the device. As with the short image copy option, this process will capture the Master Boot Record and Partition Table of the device.

The Full Image copy function should be used when the master device is a file system other than FAT or FAT32.

CAUTION: When using the Full Image copy option, the resultant device will have the same characteristics of the master device. For example, if the master device is a 2GB device and the user is copying to a 4GB targets – the resultant device will be 2GBs.

UNIQUE DATA STREAMING - OVERVIEW

The Drive Manager allows the user to interface with the devices to perform unique data streaming to each device. The unique data streaming is the setting to use when individual and unique files are to be loaded onto each device. This process does require programming on the users side to push data to the Nexcopy Drive Manager software.



In summary, Unique Data Streaming uses staging folders on the host computer and the Drive Manager software checks the staging folders for data. If the Drive Manager detects data sitting in the folders, a unique data stream will be established. If the staging folders are empty, the process continues like a normal duplication job.

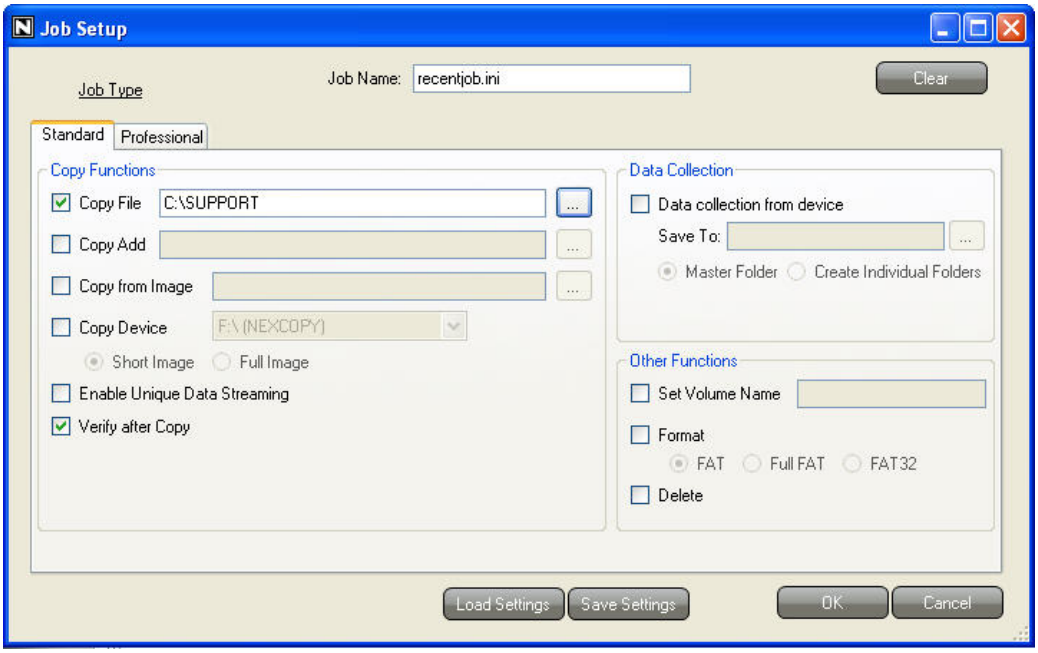
An example application for Unique Data Streaming would be a software serial number file must be inserted into each device. The Drive Manager software will perform the static data load of the software, then ping the staging folders for the unique serial number file. When the data is detected, the Drive Manager performs a Copy Add procedure and includes that single file to the target device.

If you require unique data streaming please contact Nexcopy for the White Paper documentation for this process.

COPY VERIFICATION

Copy verification can be used to verify the data was correctly copied to the devices. The verification process is a bit for bit verification to the master source. The verification is not a checksum and is not a MD5 process.

Verification during a File Copy can only be use with FAT or FAT32 devices. For all other file systems you must use the IMG copy or Device Copy functions to enable the Verification function.

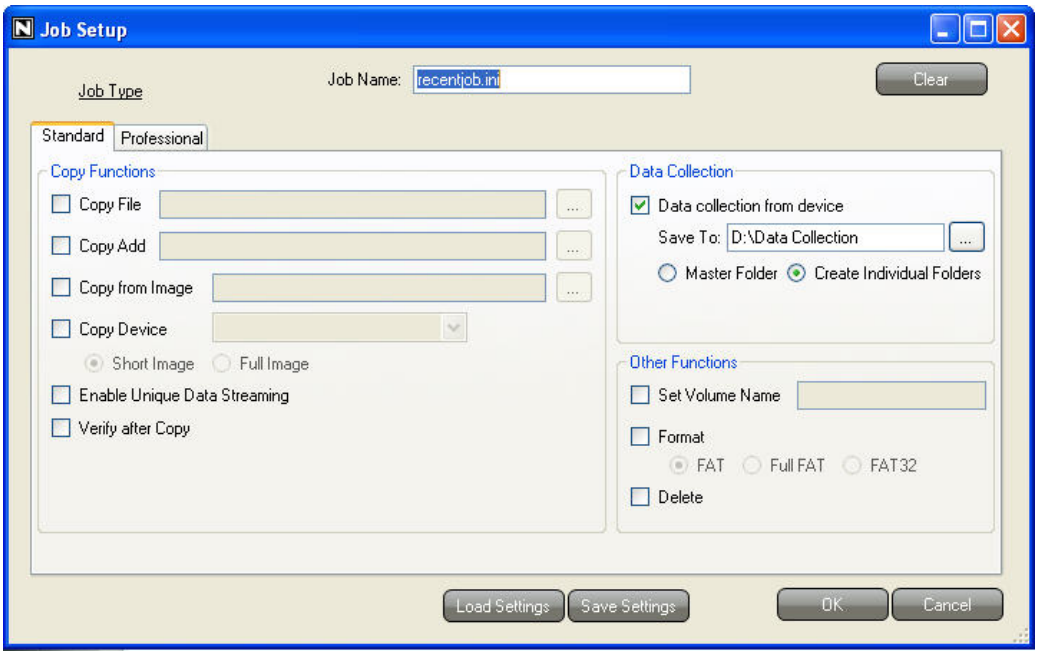


NOTE: The Verification process is a full bit for bit of the master device so it will add additional time to the duplication process.

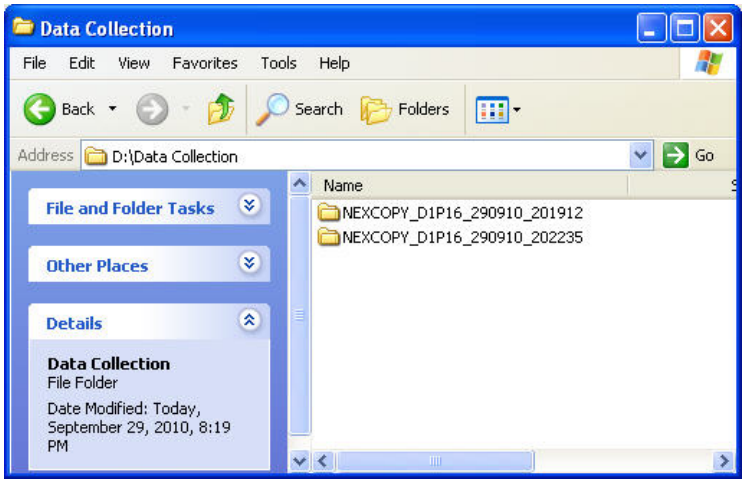
TIP: Run Verification on the first pass and write down the total bits used in the Used Column of the main screen. On subsequent duplication jobs, simply check to make sure that number remains the same. If the number changes, then something is worth investigating. Most times the number changes as a result of some devices being FAT or FAT32. So be sure to check the file system type.

DATA COLLECTION

The Data Collection function will copy data OFF the flash device to the host computer. This function was originally designed for schools so teachers and test facilities could easily extract data off the student flash drives. The data can be collected into a master directory or let the Drive Manager create a unique folder for each device.



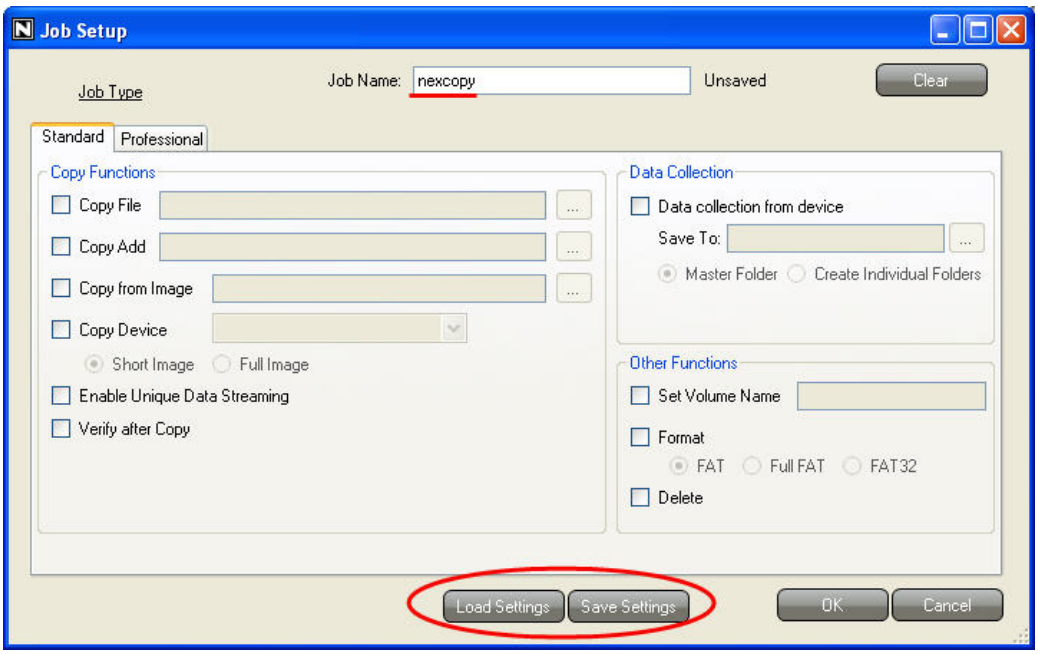
If data collecting to a Master Folder be sure there is no chance the file / folder names on the different devices are the same, otherwise they will be over written during the data collection process. If in doubt, let the Drive Manager software create individual folders for each device. The naming convention can be seen below. We use Date & Time stamps.



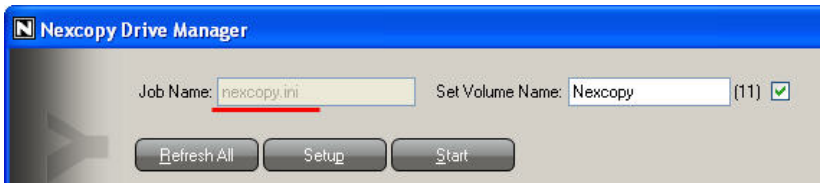
SAVE JOB, IMPORT, EXPORT JOB

Any duplication configuration can be saved for future use. The settings are saved in an .ini configuration file and can easily be called by using the Load Settings button.

In the event the user has not saved the Setup configuration, the Drive Manager will remember the last configuration set by the user.



The main Drive Manager screen will show the current Job Name.



TROUBLESHOOTING

Nexcopy experience with troubleshooting issues is based mostly from poorly made flash memory media where a user sees connection problems, format problems or copy problems. If the failure rate of your flash memory is above 3% then we classify this as poor flash memory.

OS OR DRIVE MANAGER DOESN'T RECOGNIZE DRIVE:

This is the most common problem. This means the drive is bad. Until the OS can recognize a drive you cannot format the drive to see if the flash memory is salvageable. Also see maintenance section of this document. Contact flash memory manufacturer.

DRIVE WONT FORMAT:

This is another common problem and a good indication the flash media is bad. In some situations you can try formatting from FAT to FAT32 to see if the drive becomes writable. Also see maintenance section of this document. Contact flash memory manufacturer.

CANNOT CHANGE VOLUME NAME:

If you cannot set the Volume Name, try reformatting the drive. Use the full format function; do not use the quick format option.

Nexcopy has experienced the ability to copy flash memory, but not able to set the Volume Name. We classify this as bad flash media.

ERROR MESSAGE REQUESTING REBOOT

Windows will request a reboot if too many of the same devices are connected with the same firmware. Simply click NO and continue your duplication process. There is no harm done to the OS or flash memory devices.

SYSTEM CRASH AND WINDOWS BLUE SCREEN

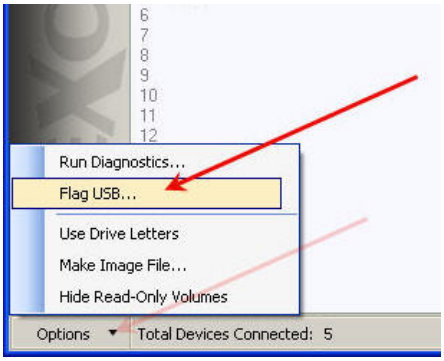
This is very unlikely, but in the event Windows does crash and display the Blue Screen you can correct the problem. If the blue screen does happen, it's most likely in a USB aggregator duplicator system.

Windows may crash and provide the blue screen after several USB devices are connected. The number can be between 3-10 units before you run into the error. This is not a Nexcopy issue, but a Windows issue and can easily be resolved.

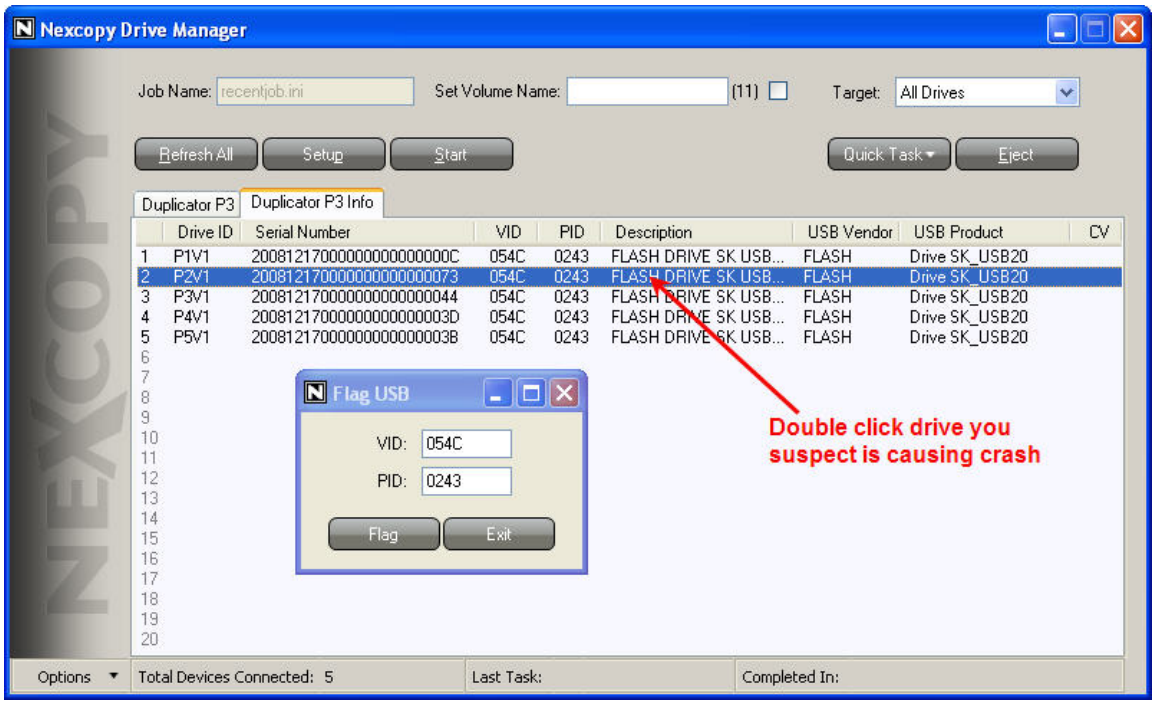
If you experience a system crash, the USB device is providing the same serial number to some of the devices connected. Windows assigns a GUID [Globally Unique Identifier] to each device based off the Serial Number. When multiple serial numbers are seen for the same type of device, Windows doesn't know how to handle the GUID assignment and instantly reboots.

To correct the issue we must tell Windows to ignore the device serial number. We must do this in the Windows Registry. Nexcopy has made this process very easy. This is what you do:

1. Connect 2 or 3 of the USB sticks which where connected to the aggregator box with the Windows system rebooted.
2. Go to **Options** > **Flag USB…**



3. The USB Flag window will open and the Drive Manager will switch to the Info Tab of the software. Simply Double Click the drive you suspect is causing the reboot and we will auto populate the field.



4. Click **Flag** and the registry entry will be made. From this point forward Windows should no longer reboot after your devices are connected.

MAINTENANCE

CLEANING MAINTENANCE

To clean the Nexcopy aggregator and brushed metal face plate use Windex and a soft cloth. Do not spray Windex directly onto the unit or USB ports, rather spray the cloth, than clean the duplicator. Do not use metal cleaners or polishes as this could tarnish the faceplate.

YOU MAY CONTACT NEXCOPY:

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Phone: +1 949 481 6478
Email: support@nexcopy.com

Please remember to register your product to receive software and hardware updates about your duplicator system. Registration is found at:
www.nexcopy.com/product-registration/