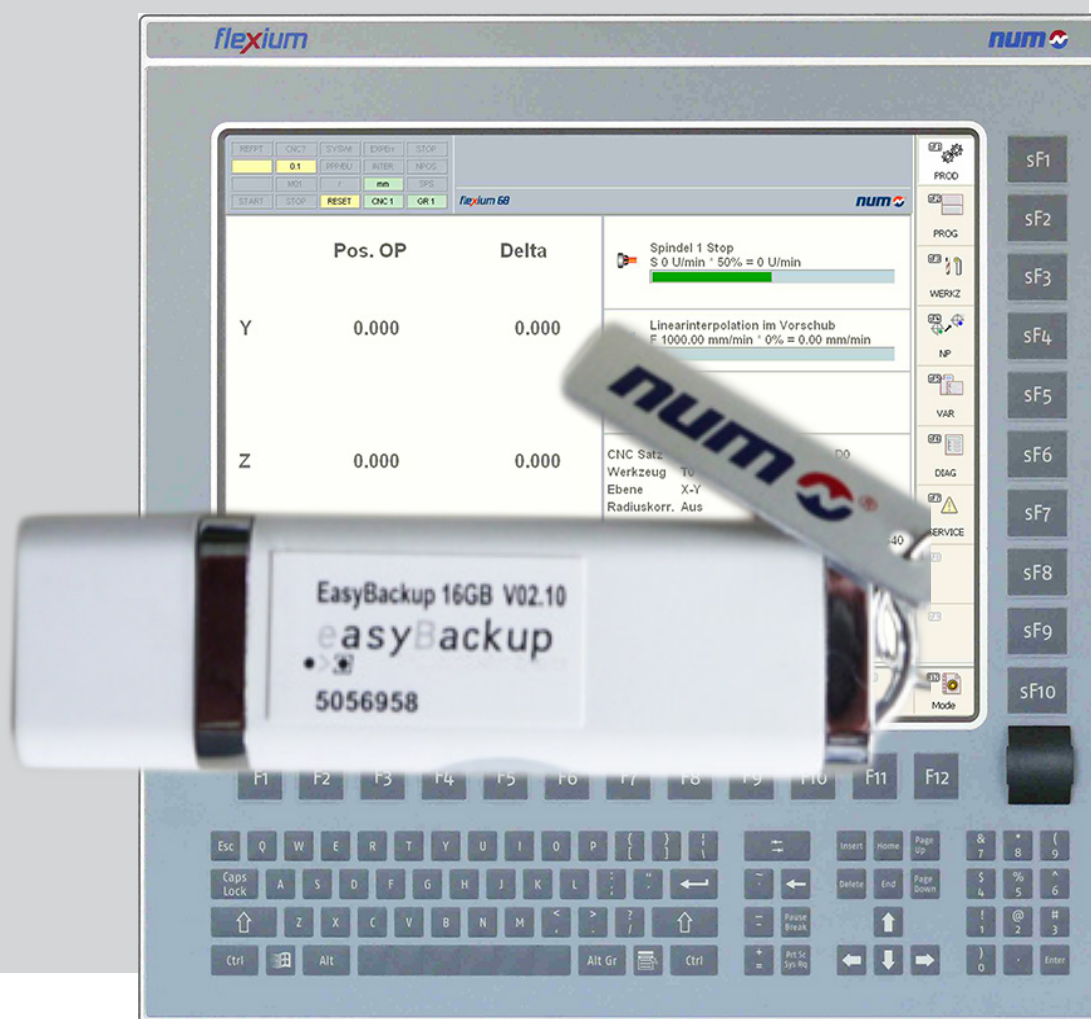


EasyBackup

Instruction manual (Rev. 2.10)

M00013EN-02

Edition 01.2014



Copyright Note

Keep documentation for future use!

This documentation is the intellectual property of **NUM** , which also has the exclusive copyright. Any modification of the content, duplication or reprinting of this documentation, as well as any distribution to third parties can only be made with the express permission **of NUM**.

NUM does not accept any liability for damages arising from the use of any incorrect or incomplete information contained in this documentation or any information missing therefrom.

NUM reserves the right to make complete or partial modifications to this document.

All brand and product names are trademarks or registered trademarks of the owner concerned.

Proper use

Hardware, software, operating systems and drivers must only be used for the applications specified and only in conjunction with the components recommended by NUM.

Warning

No warranty claims will be recognized for faults arising from the improper handling of the device.

This device should not be used for the implementation of any safety functions relating to the protection of personnel and machinery.

No liability is accepted for claims for damages arising from a failure or functional defect in the device.

All data specified in this document does not represent warranted properties in the legal sense.

Safety instructions for the user

This system description contains the information required for the proper use of the products described therein. It has been written for technically qualified personnel.

Qualified personnel in the sense of the safety instructions in this system description or on the product are those persons:

- who are either familiar with the safety concepts of automation as project designers,
- or are instructed as operating personnel in the use of automation equipment and are familiar with the content of this system description related to operation,
- or have acquired the relevant training as commissioning or service personnel for the repair of such automation equipment, and are authorized to commission current circuits and devices/systems in compliance with standard safety engineering principles.

Contents

1	EXPLANATION OF SYMBOLS	4
2	INTRODUCTION	5
3	BACKUP	7
3.1	GENERAL NOTES	7
3.2	PROCEDURE	7
4	RECOVERY	11
5	DISASTER RECOVERY	15
5.1	PRECONDITIONS	15
5.2	BIOS SETTINGS	15
5.3	RECOVERY PROCEDURE	17
6	VERSION HISTORY	19
7	INDEX	21

1 Explanation of Symbols

Danger warnings

The following information is for your personal safety and the prevention of damage to the product described or connected devices.

Safety instructions and warnings for the prevention of danger to the life and health of users or service personnel, and for the prevention of damage are highlighted in this document by the following pictograms. "Warning" and "Information" pictograms are shown in this document.

Warnings indicate the following:

Death, serious injury or substantial material damage may occur if the related safety measures are not implemented.

The individual "Warning" pictograms have the following meaning:



Attention! General!

Is an instruction that must be observed in order to ensure protection in time from dangers during and at the time of the operation of the device. The correct procedure must be observed.



Attention! Electric shock!

Persons may be exposed to dangerous voltages in electrical installations. There is a danger of electric shock if a live part is touched.



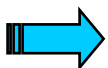
Attention! Observe ESD measures!

Electrostatic discharge may destroy electronic components.

Information pictograms indicate the following:

Important information about the product or the relevant section of the document, requiring the particular attention of the reader.

The "Information" pictogram has the following meaning:



Indicates important and instructional information.

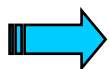
2 Introduction

This document describes the features of "EasyBackup" data backup solution.

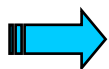
EasyBackup allows the backup and restore of single partitions and complete volumes.

Recovery can be done under Windows and DOS.

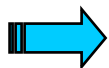
The delivered USB Memory Stick is bootable, so a recovery is also possible even if the system doesn't boot Windows.



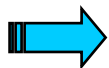
Backup should be done in time and periodically. The USB Memory Stick doesn't contain any image, the backup image must be created and stored on the stick before a recovery can be done!



This Software is a single user licence for one (industrial) PC. Customer is allowed to use this Software only for one single device! The delivered licence label has to be placed on the device!



Basic knowledge of PCs, disks and partitions is required!



EasyBackup must only be used for NUM Systems devices with a Windows licence!

Page deliberately empty

3 Backup

3.1 GENERAL NOTES

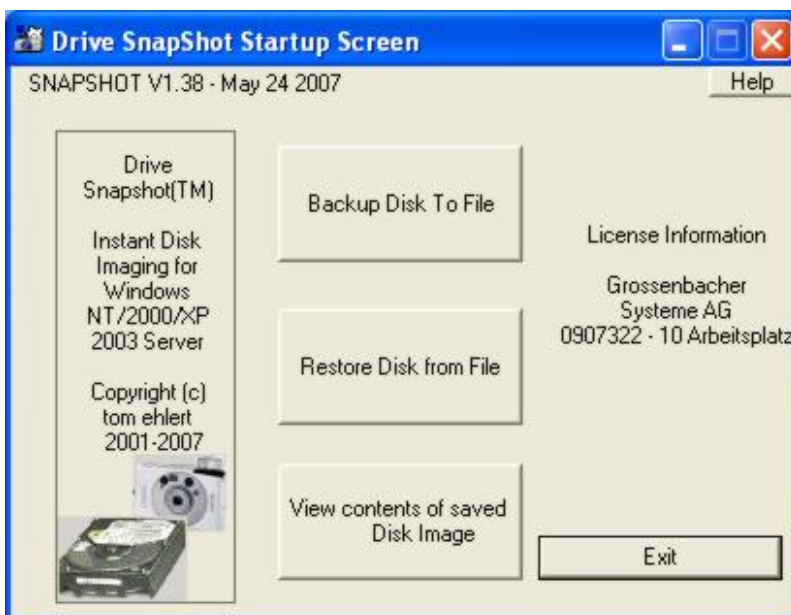
- Create backups periodically
- Store backup media on a save place, not on the device mass storage itself. Because in case of a mass storage failure the backup will be lost too!
- Close all unused programs, before starting the backup software.
- "Administrator" rights are required to run the backup software.

3.2 PROCEDURE

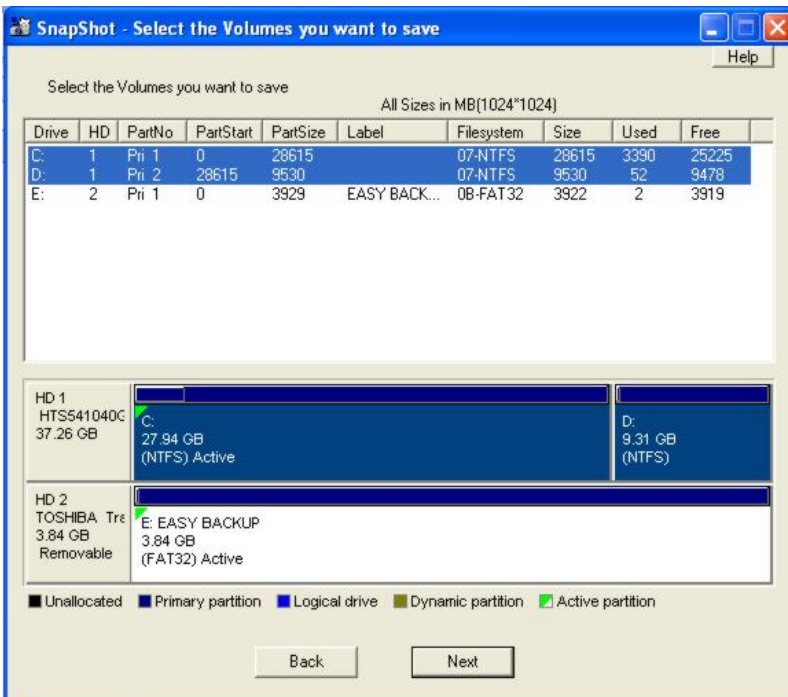
Insert the USB Memory Stick into the USB interface of the device to create a backup.



Start the program "SNAPSHOT.EXE" within the directory "X:\SNAPSHOT\" (X: is the drive of the USB Memory Stick). No program installation is required!

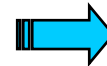


Select "Backup Disk to File"

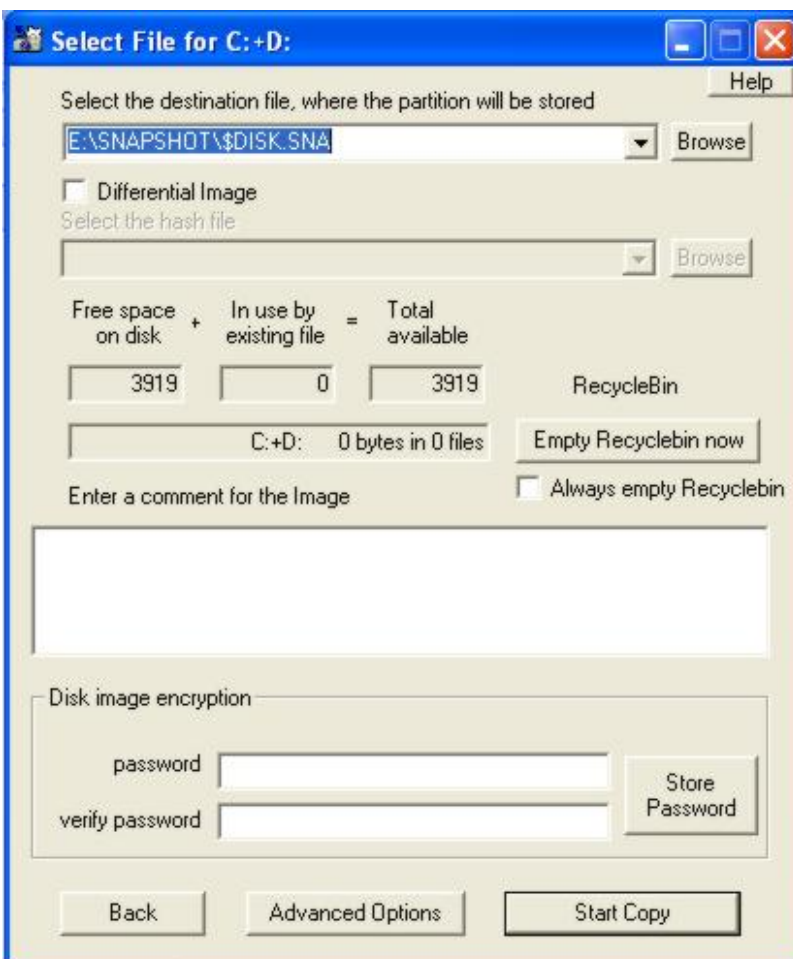


Select the partition(s) which should be backedup. To select multiple partitions press the Shift key. To restore a complete volume (s.a. "Disaster Recovery" functionality → Chap 5) it is necessary to select all partitions of a volume. Continue with "Next".

This example creates a backup of the partitions C: and D: of the first harddisk.



The USB Memory Stick (second disk in this example) drive must not be selected!



Enter "X:\SNAPSHOT\DISK.SNA" within the field "Select Destination File". X: is the name of the USB Memory Sticks drive. Continue with "Start Copy".

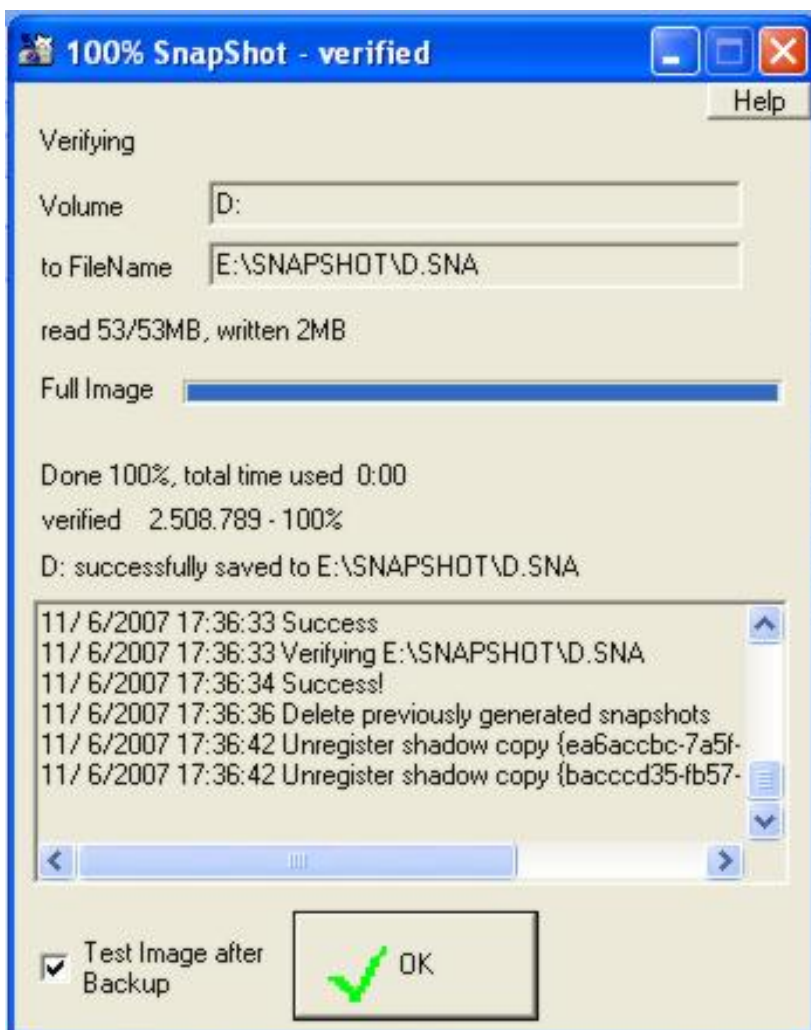
"\$DISK" is the name of the backup media. (C, D, E, ...)



The drive name must be C, D, E, ..., otherwise the automatical recovery doesn't work!

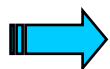


Click „Empty RecycleBin now“ to save space!



After the backup image has been created successfully you can finish backup pressing Ok.

This example has created C.SNA and D.SNA files on the USB-Stick which correspond to the partitions C: and D:.



To prevent data loss in case of USB-Stick faulty it is strongly recommended to backup the created Images C.*, D.* etc. additionally e.g. on a Server!

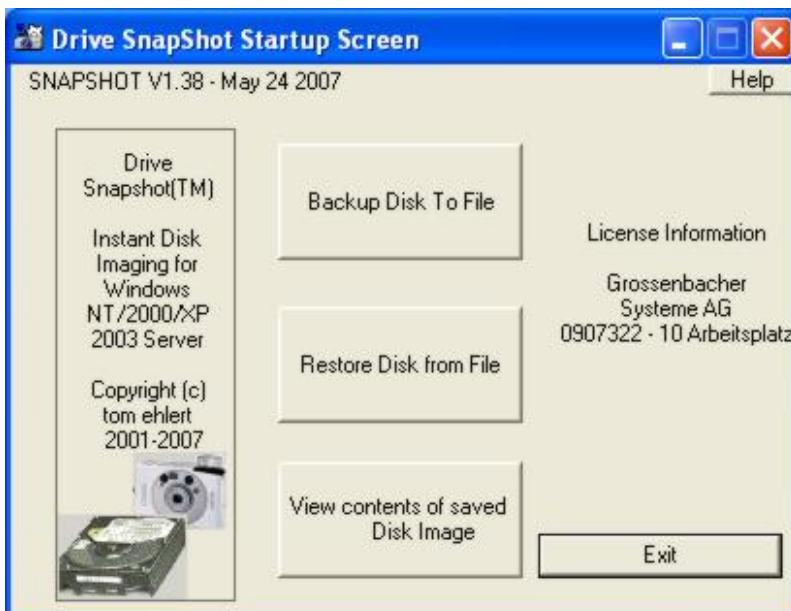
Page deliberately empty

4 Recovery

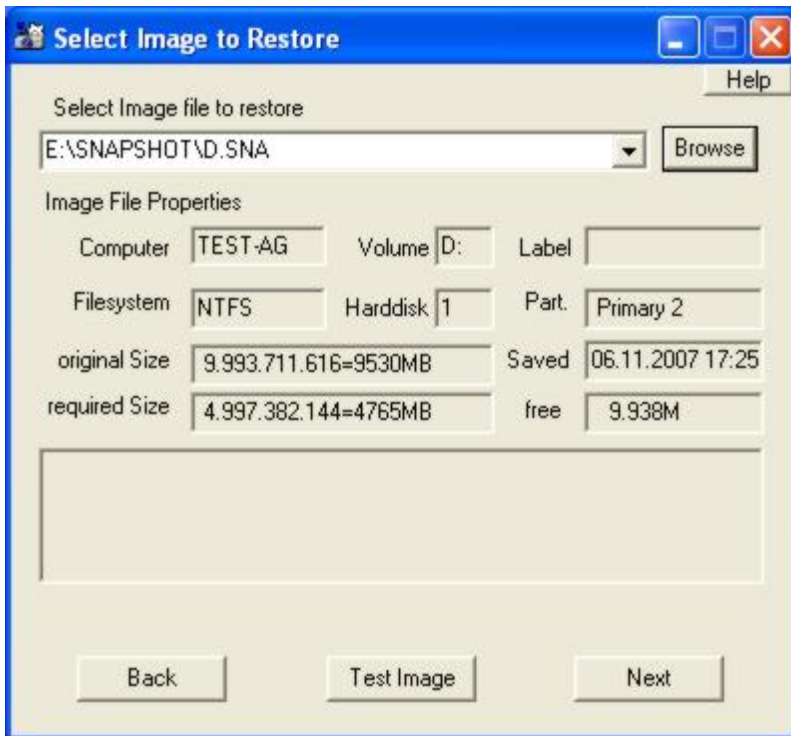
Insert the USB Memory Stick into the USB-port of the device which you want to recover.



Start the program "SNAPSHOT.EXE" within the directory "X:\SNAPSHOT\", (X: is the drive of USB Memory Sticks).

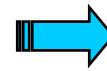


Select "Restore Disk From File "

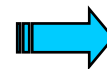


Click "Browse" and select the SNA file which should be restored. Continue with "Next".

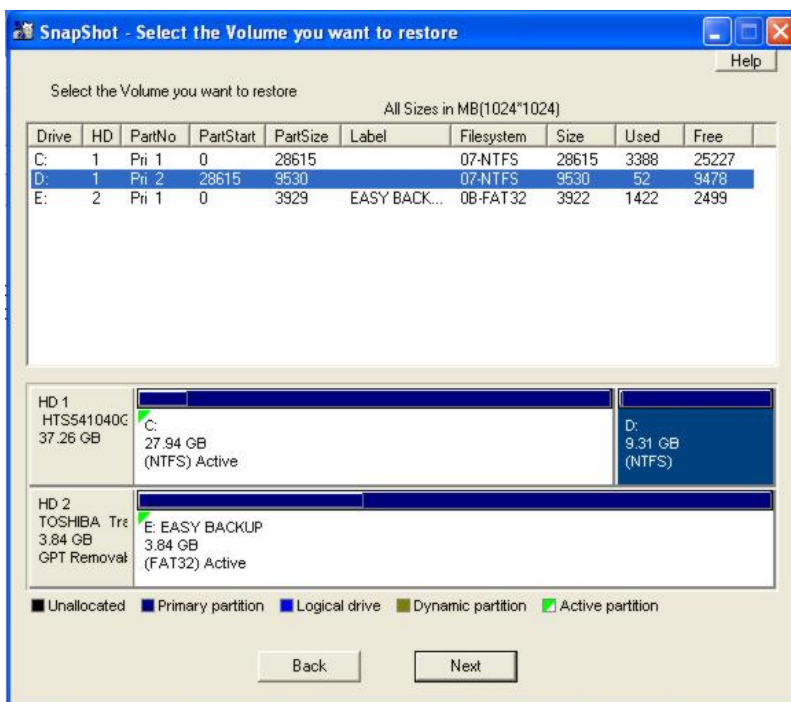
The example shows the restore of partition D: So "X:\SNAPSHOT\D.SNA" has to be selected. (X: is the drive of USB Memory Sticks).



Continue this steps for each partition you would like to restore.



Please note!
It is not possible to restore the system partition of Windows while Windows is running! (s.a. Chap. 5)



Select the target partition and click "Next"

The example restores data from "D.SNA" to partition D:.



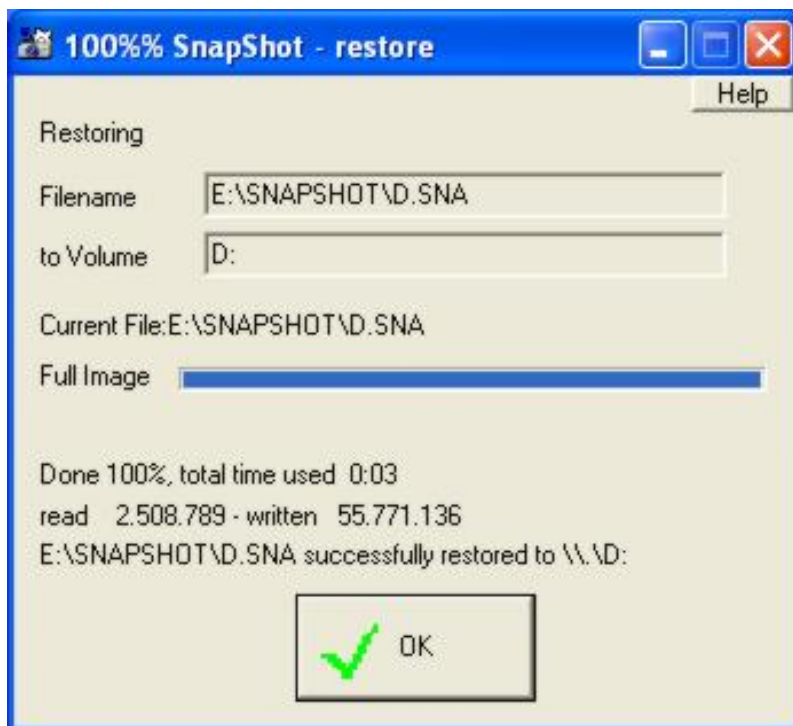
Data from SNA files can be restored to any partition!
So please be careful to select the right partition.



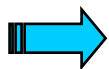
Continue with "Yes"



Warning!
All existing data of the selected target partition will be destroyed!



After successful recovery finish with OK.



**It is not possible to restore Windows system partitions during operation of Windows!
To restore Windows system partitions (e.g. C:) it is necessary to boot the device from
USB-Stick.**

Page deliberately empty

5 Disaster Recovery

The "Disaster Recovery" functionality can be used to restore a Windows system partition even in cases of a complete data loss. So it is also possible to restore the system on an empty mass storage without the need of a Windows Installation before.

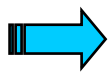
5.1 PRECONDITIONS

- Use the bootable USB Memory Stick.
- The computer must support the USB Memory Stick as boot device (requires correct BIOS settings)
- A complete backup image of the volume (all partitions) has to be stored on the USB Memory Stick before, within directory "SNAPSHOT" (→ s.a. Chap 3).

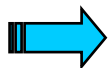
5.2 BIOS SETTINGS

BIOS settings may differ for different devices. Please refer to the computer manual for details. The following description shows the correct BIOS settings for the Compact Panel PC-M from NUM.

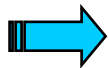
Please insert the USB Memory Stick and then power up the device.



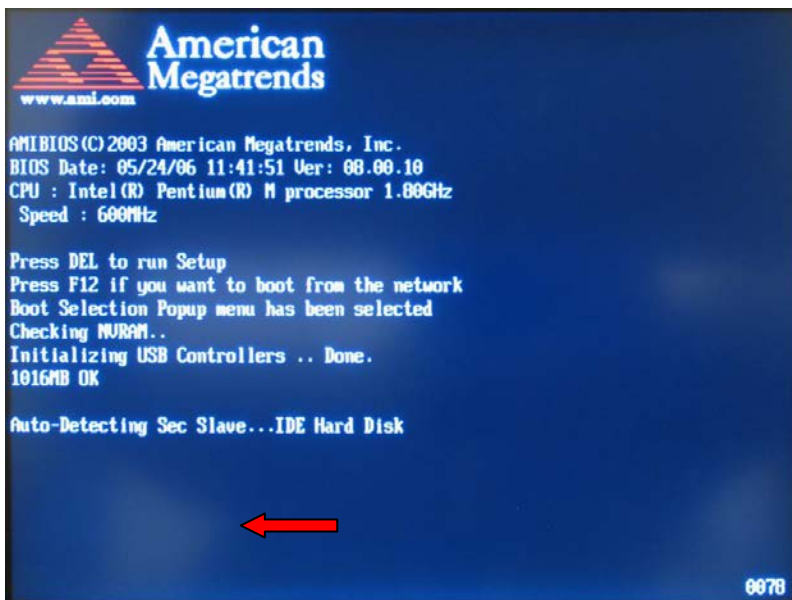
It can not be guaranteed that the USB Memory Stick will boot on every PC Hardware! For details please contact NUM!



Please check if your PC boots from USB Memory Stick before creating an image!



Disaster Recovery functionality is not useful to clone mass storages! For details please contact NUM.



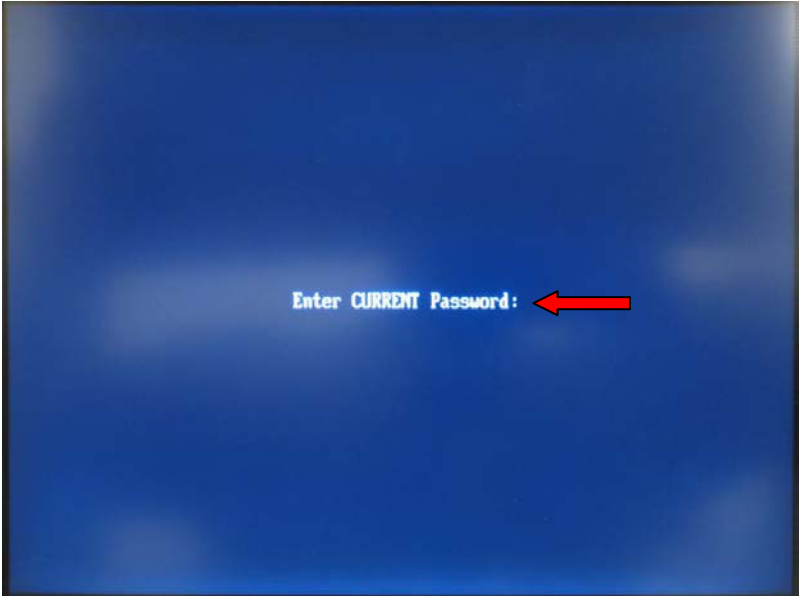
Power up the device and press the DEL key while the BIOS screen appears.

Alternative some BIOS Versions offer an option for selecting the Boot device. Please refer to the table here under.

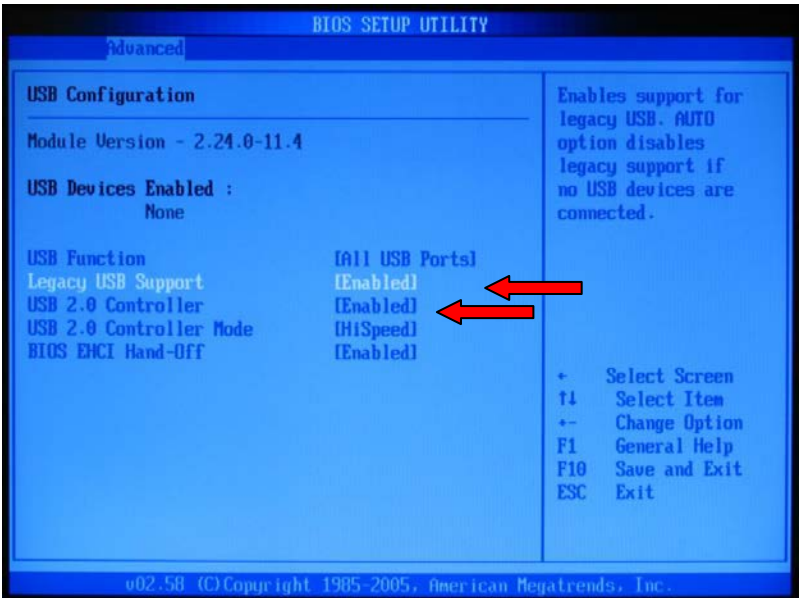
Password is not required and can be skipped by pressing Enter.

This allows to select the memory stick as Boot device and to continue directly with point 4 In chap. 5.3.

PC Type	Backup	Disaster Restore
FS152i P1 Atom (since C_)	In OS/Easy Backup	Boot in Dos and Push "F11"
FS152i P2 i5 (since C_)	In OS/Easy Backup Tool	Boot in Dos and Push "F7"
FS152i P1 Celeron	In OS/Easy Backup Tool	Boot in Dos and Push "F7"
FS152i P2 Pentium	In OS/Easy Backup Tool	Boot in Dos and Push "F7"
Box PC P1 Atom	In OS/Easy Backup Tool	Boot in Dos and Push "F11"
Box PC P2 i5	In OS/Easy Backup Tool	Boot in Dos and Push "F7"

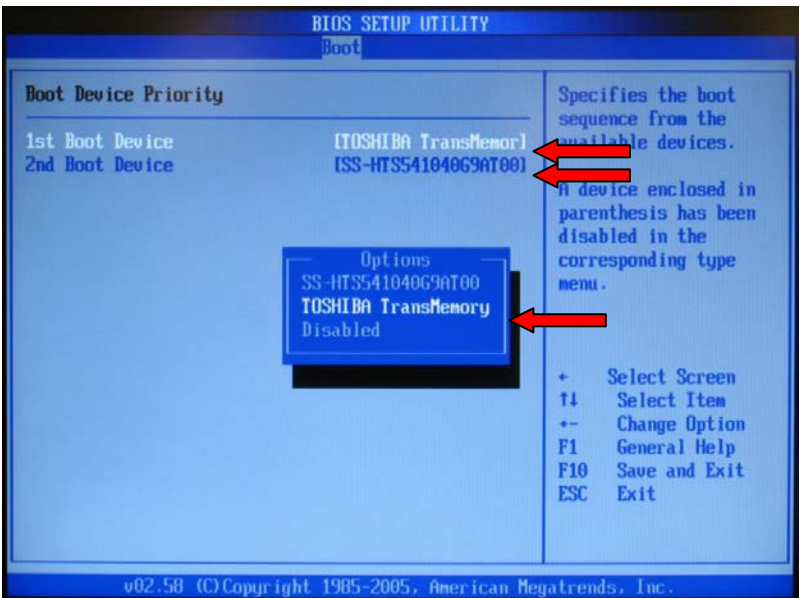


Enter the BIOS password if required (default: NUM Password is "2929"). Continue with "Return".



Select Menu "Advanced", Option "USB Configuration" and enter the following configuration:

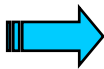
USB Function = [All USB Ports]
USB Legacy Mode = [Enabled]



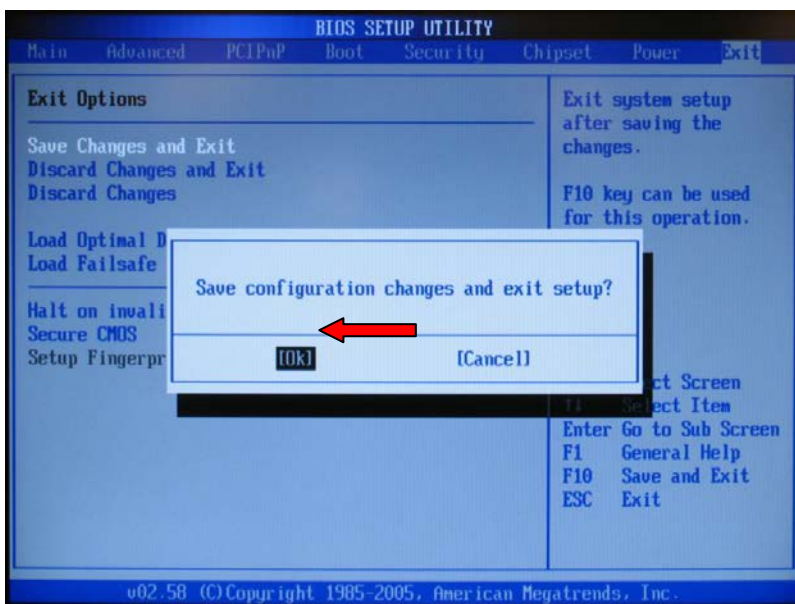
Select Menu "Boot", Option "Boot Device Priority" and enter

1st Boot Device = [Memory Stick]
2nd Boot Device = [hard disk]

In this example the USB Memory Stick is "Toshiba Transmemory".



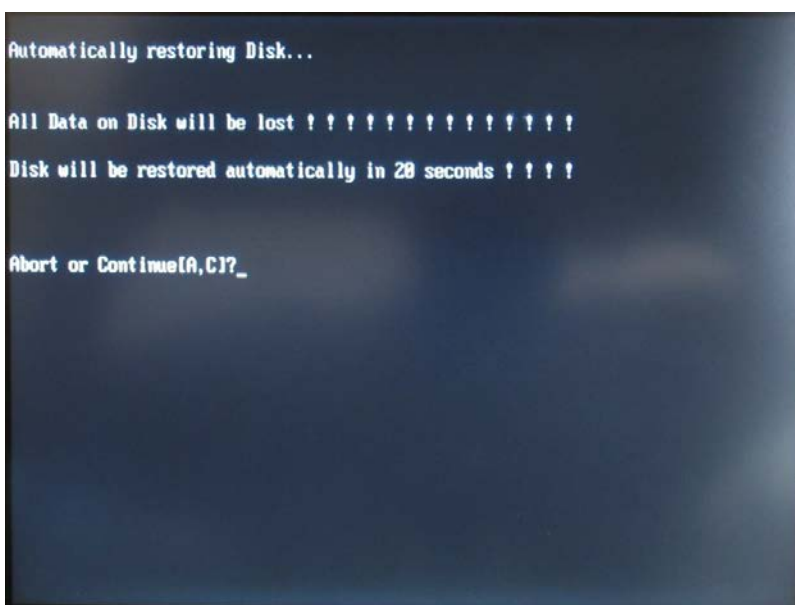
Insert the USB Memory Stick, before power up of the device!



Select Menu "Exit", Option "Save Changes and Exit" and "OK" to save the changes and reboot the device.

5.3 RECOVERY PROCEDURE

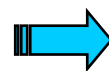
1. Switch off the device
2. Insert the USB Memory Stick into the USB port of the device.
3. Power up the device
4. After booting from the USB-Stick the following screen will be shown:



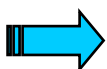
The recovery process can be aborted by pressing key „A“.

With key "C" or after a timeout of 20 seconds the recovery will be started.

After this timeout there is an additional request to press a key (for security)



All existing data on the volume will be deleted!



It is possible to start restore automatically after a timeout. To activate this feature remove the PAUSE in Restore.bat!

```
Automatically restoring Disk...

All Data on Disk will be lost ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
Disk will be restored automatically in 20 seconds ! ! ! !

Abort or Continue[A,C]?C

Restoring Master Boot Record ...
Restoring Partition Structure ...
Restoring Drive C: ...
Restoring Drive D: ...

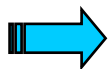
Restoration completed.

Remove the Memory Stick and restart the computer.
C:\SNAPSHOT>_
```

After successful recovery the following screen will be shown:

Now you can switch off the device and remove the USB-Stick.

The device is now ready to use.



It may be necessary to restore the changed BIOS settings before the restart of the device! (e.g. restore the Boot priority before removing the USB-Stick and restart the device)

6 Version History

Version	Date / Signed	Modifications:
1.0	20.05.2008 / Fis	Initial version
2.0	28.10.2008	P.1 new footer P.9 Note Image Backup P.13 Note system partition P.17 Additional request to press a key
3.0	02-13 / Fis	New address
4.0	05-13 / Fis	P.15 Option select boot device with F7 or F11 for FS devices and Box PC.
5.0	05-13 / Fis	P.15 Password is not required
6.0	05-13 / Fis	P.15, 17 Point 4 Chap. 5.3

Page deliberately empty

7 Index

	B		I
Backup	7	Introduction.....	5
BIOS Settings.....	15		
	C		L
Contents	3	licence label	5
	D		M
Disaster Recovery	15	Manufacturer address	19
	E		R
Explanation of Symbols	4	Recovery	11
	G		V
General notes	7	Version history.....	19

Published by NUM Spa

Via F. Somma 62
20012 Cuggiono (MI) (Italy)
Tel. : +39 02 979 691
website: www.num.com

Printed Jenuary 2014