

# **Bootmanager BOOTMENU**

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## Introduction

### Short Overview

The bootmanager **BOOTMENU** offers you the following functions:

- **Several** DOS / Windows **Versions** (3.1x, 9x and NT) parallel on one or several harddisks
- **Unlimited** support of **all** operating and **all** file systems (as well as Win 98 and FAT32)
- **Distinctive security features** for entire partitions using **passwords** and "true" hiding
- Unique extension from 4 up to **15 primary partitions** (operating systems)
- While computer is booting, freely selectable booting from **any harddisk** / disk
- Problem-free integration of subsequent bootmanagers (e.g., LILO, NTLoader...)
- **Setup programs** for DOS and for **Windows 9x/NT**
- much more...

#### **See also:**

*How it works (Overview), Seite 4*

*System Requirements, Seite 4*

*Security Features (Overview), Seite 6*

### System Requirements

In order to be able to use the bootmanager **BOOTMENU**, you will need an Intel-compatible **80386** PC (or later model).

**All** operating systems and **all** file systems are supported, since the bootmanager's How It Works is not dependent on the operating and/or file system.

There are two setup programs: One for DOS (starting with version 4.0) and one for Windows (starting with Windows 95 / NT 3.51).

#### **See also:**

*Short Overview, Seite 4*

*How it works (Overview), Seite 4*

*Security Features (Overview), Seite 6*

*Problems (Overview), Seite 27*

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

*Problems with Hardware, Seite 29*

## How It Works

### How it works (Overview)

The bootmanager **BOOTMENU** manages two partitiontables:

- The master boot record partitiontable
- The **BOOTMENU** partitiontable

The master boot record partitiontable is a table describing the subdivision of the harddisk into partitions. This table has been defined since the advent of harddisks during the beginning of the 80s and is absolutely required by all operating systems. This table can encompass up to four primary partitions.

The bootmanager **BOOTMENU** manages a second partitiontable internally (invisible to other programs / operating systems) with up to 15 entries. This table is called the "**BOOTMENU** partitiontable."

While the computer is booting, up to four entries are copied by the bootmanager **BOOTMENU** with the aid of the boot images. These entries are copied from the internal **BOOTMENU** partitiontable to the master boot record partitiontable. The remaining entries of the master boot record partitiontable are deleted.

The bootmanager is located on the harddisk on the first cylinder ("track 0"). This location is used by a few harddisks and bootmanagers. Therefore, the capacity of your harddisk is not limited by the bootmanager **BOOTMENU**.

**While the bootmanager **BOOTMENU** is installed, no other harddisk partitioner may be used (e.g., FDisk or PartitionMagic)!**

**See also:**

*Master Boot Record, Seite 5*

*Bootmanager BOOTMENU, Seite 5*

*Boot Images, Seite 6*

*Security Features (Overview), Seite 6*

## **Master Boot Record**

The master boot record is the first sector on the harddisk.

It contains the "bootstrap." This is a program, which is called by the BIOS to load the actual operating system.

This sector also contains a description of how the harddisk is divided into separate areas (partitions). This description is listed in the so-called "partitiontable." It contains one entry for each partition. The entry lists the location of the partition on the harddisk and the "type" of this partition.

Due to historical reasons, this partitiontable can include only four entries.

The format of this master boot record (bootstrap / partitiontable) is permanently defined and is **absolutely** required by all operating systems.

**See also:**

*Partition Types, Seite 20*

*Bootmanager BOOTMENU, Seite 5*

*Open Master Boot Record, Seite 32*

*Save Master Boot Record, Seite 32*

## **Bootmanager BOOTMENU**

The bootmanager **BOOTMENU** is an independent bootstrap program. Thus, it is not dependent on the setup program. However, it will be generated by this setup program automatically during installation and written to the harddisk.

This bootstrap (bootmanager) makes it possible to select a boot image while booting.

While the bootmanager **BOOTMENU** is installed, no other harddisk partitioner may be used (e.g., FDisk or PartitionMagic)!!!

**See also:**

*Install BOOTMENU, Seite 36*

*Boot Images, Seite 6*

*Master Boot Record, Seite 5*

## **Boot Images**

While the computer is booting, you do not just use the bootmanager **BOOTMENU** to select an operating system (or a partition) but rather an entire boot image. This boot image contains the following settings:

**Visible partitions:**

You may mark up to four of the fifteen primary partitions as "visible." The remainder will be "truly" hidden.

**Active partition:**

You may choose which of the visible partitions should be booted. In this case, it is unimportant which harddisk contains this partition. It is also possible to boot from disk as an alternative. (An additional option is to change to booting from disk while the computer is already going through the booting process.)

**Order of the visible partitions:**

You may change the order of the partitions. This may be used to influence the drive designation (e.g.: "C:").

**Keyboard buffer:**

You may write up to 16 automated keys into the keyboard buffer. This may be used, for example, to control subsequent bootmanager such as LILO or NTLoader.

**Security settings:**

You may indicate the following separate entries for each boot image:

- whether it may also be booted from disk,
- whether a password is required for booting, or
- whether this boot image should be displayed at all.

**See also:**

*Edit Boot Image, Seite 34*

*Bootmanager BOOTMENU, Seite 5*

*Security Features (Overview), Seite 6*

## **Security Features**

### **Security Features (Overview)**

The bootmanager **BOOTMENU** offers your data (partitions) a high level of security.

Due to the extension of the second partitiontable (**BOOTMENU** partitiontable) and the boot image concept, partitions from the master boot record partitiontable will be deleted.

Since these deleted partitions are no longer listed in the master boot record partitiontable, they cannot be seen by other harddisk partitioners either. Thus, they are "truly" hidden. Almost all other bootmanagers change nothing more than the partition type, which then can be changed back without any problems; it also means that the partitions are not hidden with only the access being restricted.

(The encoded **BOOTMENU** partitiontable is invisible to other harddisk partitioners.)

The visibility of the partitions may be "switched on" using the boot images. These may be protected individually using passwords, so that no one without the proper password may have access to your data.

Furthermore, it is also possible to hide boot images, so that these may only be offered after a specific key combination has been used. Thus, a non-authorized person cannot even detect, whether additional boot images (partitions) even exist.

Booting from disk may also be permitted or restricted via a password.

The reliability of such a protection and safeguarding of the partitions has a high rating, since probably only about 1% of all users is able to circumvent this type of password protection.

#### **See also:**

*How it works of the Security Features, Seite 7*

*Application of the Security Features, Seite 7*

*Boot Images, Seite 6*

*Edit Boot Image, Seite 34*

### **How it works of the Security Features**

The bootmanager **BOOTMENU** does not protect your partitions but your boot images. The principle applied is the same as for the distribution of rights on the Internet. There too passwords are required when registering, with these passwords then referencing certain various resources.

Thus, it follows that if you want to protect a partition on your computer, you have to protect all those boot images with a password that contain these partitions.

In some cases, a boot image is created solely for the system administrator. Such a boot image should be hidden completely. It will be displayed only after a specific key combination (hot key) has been pressed. This function may be activated separately for each boot image.

You should definitely protect the bootmanager **BOOTMENU** itself with a password, so that none of the users can view or even change the settings after downloading the setup program (from the Internet).

#### **See also:**

*Security Features (Overview), Seite 6*

*Application of the Security Features, Seite 7*

*Boot Images, Seite 6*

*Edit Security Settings, Seite 34*

*BOOTMENU Settings, Seite 38*

*BOOTMENU Password, Seite 39*

### **Application of the Security Features**

While booting (after selecting boot image), the bootmanager **BOOTMENU** fills the master boot record partitiontable with the partitions to be used.

These partitions are temporarily unprotected, because they can be (and are supposed to be) seen by all users and operating systems.

In order to protect the partitions again, the entries from the master boot record partitiontable have to be deleted again. This can be done in two ways:

1. Booting the computer (partitions are deleted when **BOOTMENU** is started)
2. Calling the setup program using `/ClearMBR`

Operating systems read the partitiontable only during booting. Therefore, the setup program may already be called in the "AUTOEXEC.BAT" file. The computer will then remain protected if not newly rebooted.

The booting sequence in the BIOS should **always** be "C: , A:," and the BIOS should **always** be protected by a password. This will prevent that a user does not boot from disk without having authorization to do so. However, booting from disk may still be possible if you permit it with the aid of the boot images.

Modifying the booting sequence also ensures that the bootmanager **BOOTMENU** will always be called and that the entries from the master boot record partitiontable are thus deleted. (This is only reliable if the harddisk will not be taken out of the computer and then reinstalled into another computer.)

**See also:**

*Security Features (Overview), Seite 6*

*How it works of the Security Features, Seite 7*

*Boot Images, Seite 6*

*Master Boot Record, Seite 5*



## Application Examples

### Example for Several Operating Systems

#### **Problem:**

Generally, it is possible to install several operating systems on a PC. Unfortunately, it is usually not possible to choose a specific OS during booting. There are bootmanagers (e.g., integrated into OS/2), which enable a switch, but switching is rather cumbersome - and they need extra space on the harddisk. Another problem is the partitioning limitation of the harddisk restricted to only four areas (partitions). In the end, almost no one is able to start his or her computer from a second or additional harddisk.

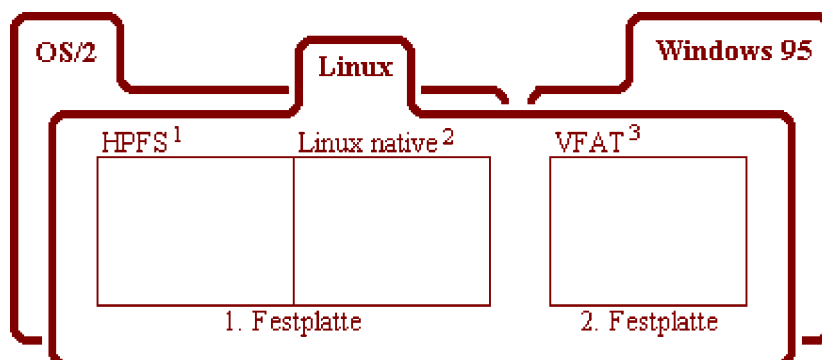
#### **Solution using the bootmanager *BOOTMENU*:**

These three limitations are eliminated by *BOOTMENU* without any problems: The bootmanager *BOOTMENU* enables the user to choose an operating system while the computer is booting by simply using a menu.

Your choice depends on

- which operating system you want to use
- on which harddisk with
- which partitions.

For example: You can install OS/2 and Linux on your first harddisk without any problems and at the same time install Windows 95 on your second harddisk:



<sup>1</sup> : OS/2 file system

<sup>2</sup> : Linux file system

<sup>3</sup> : Windows 95 file system

Which operating system you would like to use can be selected quite comfortably from a menu while the computer is booting. To change to a different OS, simply restart your computer.

Tips for the automatic installation (on several computers):

*Example for Several Computers, Seite 15.*

#### **Technical realization:**

The realization of the application example listed above is as follows:

	Partitionen		Partition
	Laufwerk 1		Laufwerk 2
<b>Boot-Image</b>	HPFS <sup>1</sup>	Linux native <sup>2</sup>	BIGDOS <sup>3</sup>
Windows 95			A
Linux	X	A	X
OS/2	A	X	

X : Partition visible

A : Partition visible and active (booting from this partition).

<sup>1</sup> : OS/2 file system

<sup>2</sup> : Linux file system

<sup>3</sup> : Windows 95 file system

### See also:

*Example for Backup, Seite 10*

*Example for "Local Firewall", Seite 11*

*Example for Virus Protection, Seite 12*

*Example Password Protection, Seite 13*

*Example for Training Center, Seite 14*

*Example for Several Computers, Seite 15*

### Example for Backup

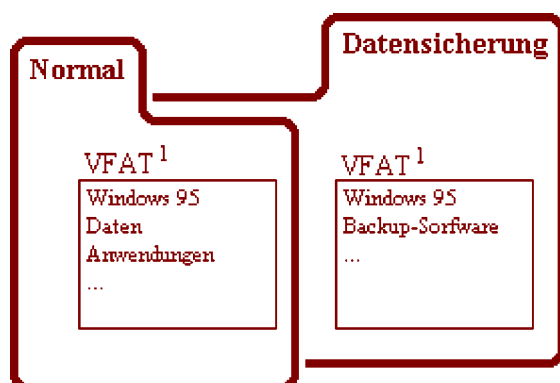
#### Problem:

Modern operating systems usually have already integrated backup programs. This, however, can cause significant problems when restoring data. For example: It is not possible to restore Windows 95 if Windows 95 itself is defective.

#### Solution using the bootmanager **BOOTMENU**:

**BOOTMENU** eliminates this problem by offering the option to install another operating system on your computer, which will be used exclusively for backup / restore.

This additional operating system can be, e.g., Windows 95. The first installation of Windows 95 is used for "normal" operation, while the second one remains invisible. Use your secondly installed Windows 95 - which can see the first one but does not use it - to backup and/or restore data. Since you normally would not use the second operating system, this OS will be stable and function properly at all times, guaranteeing a trouble-free backup and/or restoration of your data. (Of course, this process will also work with any other operating system.)



<sup>1</sup> : Windows 95 file system

During booting, choose easily from a menu whether you would like to use your computer "normally" or for the purpose of backup/restore. To change, simply restart your computer.

### Technical realization:

The realization of the application example listed above is as follows:

Boot-Image	Partitionen	
	VFAT <sup>1</sup>	VFAT <sup>1</sup>
"Normaler" Betrieb	A	
Datensicherung	X	A

X : Partition visible

A : Partition visible and active (booting from this partition).

<sup>1</sup> : This boot image is protected with password

### See also:

*Example for Several Operating Systems, Seite 9*

*Example for "Local Firewall", Seite 11*

*Example for Virus Protection, Seite 12*

*Example Password Protection, Seite 13*

*Example for Training Center, Seite 14*

*Example for Several Computers, Seite 15*

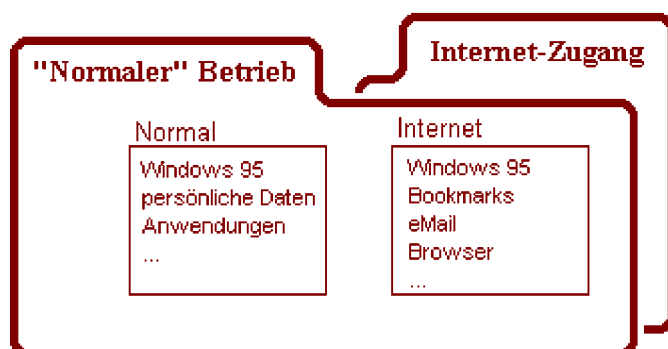
### Example for "Local Firewall"

#### Problem:

The Internet always brings with it the danger that a stranger might view and explore your system and even copy data from your harddisk. (The manufactures of the leading browsers, Netscape and Microsoft, had to admit to this security gap repeatedly.)

#### Solution using the bootmanager **BOOTMENU**:

Just install another operating system on your computer. For example, a second Windows 95 specifically for surfing the Internet ("Internet access"). While you use this Internet access, your actual operating system ("normal" operation) together with your personal data remain invisible. However, the data of the Internet access remain accessible to you during "normal" operation.



Whether you want to use your computer "normally" or whether you want to surf the Internet, you can choose either option easily from a menu during booting. In order to change your selection, all you have to do is restart your computer.

### Technical realization:

The realization of the application example listed above is as follows:

Boot-Image	Partitionen	
	Normal <sup>1</sup>	Internet <sup>1</sup>
"Normaler" Betrieb	A	X
Internet-Zugang		A

X : Partition is visible

A : Partition visible and active (booting from this partition).

<sup>1</sup> : Both partitions can be of the same type (but do not have to be)

#### See also:

*Example for Several Operating Systems, Seite 9*

*Example for Backup, Seite 10*

*Example for Virus Protection, Seite 12*

*Example Password Protection, Seite 13*

*Example for Training Center, Seite 14*

*Example for Several Computers, Seite 15*

### Example for Virus Protection

#### Problem:

Usually you will test a new program once in a while. If this new program contains a virus (or maybe even a grave programming error), this can mean a lot of trouble for you.

#### Solution using the bootmanager **BOOTMENU**:

You can solve this problem in a similar way as the Internet problem: You simply install another operating system for testing the new software.

If you find a virus, you can normally eliminate it fast and easily with the data security/backup solution.

Whether you just want to try out a new program or want to use your computer "normally", you can choose either option easily from a menu during booting. In order to change your selection, all you have to do is restart your computer.

#### Technical realization:

The realization of the above listed application example is depicted in the following graphic:

Boot-Image	Partitionen	
	Normal <sup>1</sup>	(Virus-) Test <sup>1</sup>
"Normaler" Betrieb	A	X
Test-Betrieb		A

X : Partition is visible

A : Partition visible and active (booting from this partition).

<sup>1</sup> : The both partitionen could, but don't have to be, get the same type

#### See also:

*Master Boot Record, Seite 5*

*Boot Images, Seite 6*  
*BOOTMENU Settings, Seite 38*  
*Example for Several Operating Systems, Seite 9*  
*Example for Backup, Seite 10*  
*Example for "Local Firewall", Seite 11*  
*Example Password Protection, Seite 13*  
*Example for Training Center, Seite 14*  
*Example for Several Computers, Seite 15*

## **Example Password Protection**

### **Problem:**

In some companies and private sectors, several users have access to one computer. However, not every user is supposed to gain access to the data of all other users. Maybe you would like to ensure safeguarding of your data, even in the case of theft of the computer (or harddisk).

### **Solution using the bootmanager *BOOTMENU*:**

The bootmanager *BOOTMENU* makes it possible for you to protect individual areas of the hard drive (partitions) by using a password query during the start of the computer. Thus, you can create an individual partition for every user. Different hierarchical levels can also be created in this connection.

Maybe you are also familiar with the problem that a self-employed freelancer or entrepreneur wants to use the computer for his or her work, but at the same time the children of the family want to use the computer to play games.



<sup>1</sup> : This boot image is password protected.

Whoever would like to use the computer at the moment only has to select his or her environment from a menu during booting.

In order to change the selection, the computer just needs to be restarted.

Tips for the automatic installation (on several computers):

*Example for Several Computers, Seite 15.*

### **Technical Realization:**

The realization of the application example listed above is as follows:

<b>Partitionen</b>		
<b>Boot-Image</b>	<b>Geschäft</b>	<b>Spiele</b>
Vater <sup>1</sup>	A	
Sohn		A

- x : Partition is visible
- A : Partition visible and active (booting from this partition).
- 1 : This partition is password protected

**See also:**

*Example for Several Operating Systems, Seite 9*

*Example for Backup, Seite 10*

*Example for "Local Firewall", Seite 11*

*Example for Virus Protection, Seite 12*

*Example for Training Center, Seite 14*

*Example for Several Computers, Seite 15*

**Example for Training Center****Problem:**

It is not uncommon that the computers in training centers are frequently used by several courses with completely different application needs. Some of the participants of training seminars also attempt to modify or even willfully destroy configurations.

**Solution using the bootmanager *BOOTMENU*:**

By using the bootmanager *BOOTMENU*, the participants can select the environment for their training. Thus, the instructors can set up separate configurations for different training courses.

This also offers the option that the participants of one course cannot access and see the environment of the other courses.

Similarly to the data backup example and/or password example, a configuration can be installed for the instructors on each system that cannot be used and/or destroyed by course participants, which allows the restoration of the system.

Ausbilder <sup>1</sup>	Word	Excel	Buchhaltung
Windows 95 Windows Backup-Software div. Tools Netzzugang ...	Windows 3.11 Windows Word 6.0 ...	Windows 3.11 Windows Excel ...	DOS 6.22 DOS Buchhaltungs ...

<sup>1</sup> : At least this boot image should be password protected and / or hidden.

Now each course participant can easily select his or her training from the menu during booting. In order to change the selection, the computer just needs to be restarted.

Tips for the automatic installation (on several computers):

*Example for Several Computers, Seite 15.*

**Technical realization:**

The realization of the application example listed above is as follows:

- x : Partition visible
- A : Partition visible and active (booting from this partition).
- 1 : At least this boot image should be password protected and / or hidden

**See also:**

*Example for Several Operating Systems, Seite 9*  
*Example for Backup, Seite 10*  
*Example for "Local Firewall", Seite 11*  
*Example for Virus Protection, Seite 12*  
*Example Password Protection, Seite 13*  
*Example for Several Computers, Seite 15*

**Example for Several Computers****Problem:**

In larger companies and institutions, it is often necessary to reinstall a series of new computers. In this case, each computer has to be set up individually "by hand" (a lot of work!), because there is no software, which automatically creates partitions.

**Solution using the bootmanager *BOOTMENU*:**

The setup program of the bootmanager *BOOTMENU* can be automated using a so-called "batch programming" routine, which can also be used to create partitions at the same time.

The computer can be booted from a boot diskette, which triggers this batch program automatically. It installs all desired partitions and the bootmanager *BOOTMENU* as well -- if that is desired. It also offers support for installing operating systems.

This process can be used for any of the application examples.

**Technical realization:**

The realization of the application *Example for Several Operating Systems, Seite 9* listed above is as follows:

```
:LABELStart
  BMDOS.EXE /Status           ; Is BOOTMENU installed?
  If Errorlevel 1 Goto LABELClear ; No: Jump

  BMDOS.EXE /Deinstall

:LABELClear
  BMDOS.EXE /CLEARMBR          ; Delete all existing partitions

  BMDOS.EXE /Install           ; Install BOOTMENU

  BMDOS.EXE /Partition:OS2-100 ; Create partition with 100 megabytes
  BMDOS.EXE /Partition:Linux-   ; Partition with remaining hard drive
  BMDOS.EXE /Partition:Win-,HDD2 ; Partition on 2nd Hard drive
```

---

```
BMDOS.EXE /Active:2                ; Activate Linux
```

**See also:**

*Command Line Options (Overview), Seite 23*  
*Example for Several Operating Systems, Seite 9*  
*Example for Backup, Seite 10*  
*Example for "Local Firewall", Seite 11*  
*Example for Virus Protection, Seite 12*  
*Example Password Protection, Seite 13*  
*Example for Training Center, Seite 14*



## **Installation**

### **Installation (Overview)**

Unzip the file "BOOTMENU.ZIP". It contains the following files:

BMDOS.EXE	Setup program for DOS (starting with version 4.x)
BMDOS.HELP	Help file with detailed description for DOS
BMWin.exe	Setup program for Windows 95 / Windows NT (starting with 3.51)
BMWin.dll	Supplement for the Windows setup program
BMWin.hlp	Help file with detailed description for Windows
BMWin.cnt	Supplement for the Windows help file
ReadMe.txt	Brief description of the bootmanager
Manual.pdf	Manual in Adobe Acrobat Portable Document Format
Order.txt	Order form for orders via mail / fax

Both setup programs are completely compatible. The only difference is the operating system (DOS / Windows) under which they can be started. All other items (functionality and menu structure) are completely identical.

After all files have been unzipped, you can start the correct setup program directly.

However, you should first plan your system well, because it is very difficult to modify the configuration (partitions) at a later time.

#### **See also:**

*Planning a System, Seite 17*

*Installation on New System, Seite 18*

*Installation on Existing System, Seite 18*

*Installation of New Operating System, Seite 19*

*Configuration of Boot Images, Seite 21*

## **Planning a System**

**Before** you begin with the installation of the bootmanager or operating system, you should think about how you would like to organize your system:

Most important is here that you will **first** decide which operating systems you would like to use.

The next step should be determining how much harddisk space is required by which operating system (size of the harddisk). The manufacturer of the operating system usually already suggests a certain size, which you should use as your minimum.

It might be beneficial to reserve a part of your harddisk (a partition) to make data available for all or at least several operating systems.

It is best to leave some part of your harddisk unused (if it is large enough), so that you can use this part for later extensions.

**It is very difficult to reconfigure a system once it has been set up.**

Each operating system should have its own partition. You can use the bootmanager **BOOTMENU** to manage up to 15 partitions per harddisk.

It is also possible to boot most of the operating systems from the 2<sup>nd</sup> harddisk (or higher), so that you might want to think about which operating system you would like to install on which harddisk. (The

bootmanager **BOOTMENU** supports up to four harddisks.)

Finally, the last step should consist of deciding which operating system is supposed to "see" which partitions, and which partitions should be hidden.

Some operating systems have limitations regarding booting and visibility, which have to be observed:

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

Some hardware have limitations regarding booting and running the setup, which have to be observed:

*Problems with Hardware, Seite 29*

Once you have decided how to set up your system, you should then install the bootmanager **BOOTMENU** on the harddisk(s). It is advisable to install the bootmanager **BOOTMENU** before installing the operating system(s), so that the separation of the operating systems functions better.

*Installation on New System, Seite 18*

*Installation on Existing System, Seite 18*

Then you need to configure the boot images:

*Configuration of Boot Images, Seite 21*

Finally, install the operating system(s):

*Installation of New Operating System, Seite 19*

## **Installation on New System**

Installing the bootmanager **BOOTMENU** on a new system is very easy. All you have to do is start the setup program. The setup program will ask you immediately whether you want to install the bootmanager. Answer with "Yes."

Then you are asked to backup the master boot record as a file for safeguarding purposes. (If a system really is brand-new and has not been used yet, then this backup is not necessary.)

Then configure the boot images:

*Configuration of Boot Images, Seite 21*

Done!

### **See also:**

*Installation (Overview), Seite 17*

*Installation of New Operating System, Seite 19*

*Master Boot Record, Seite 5*

*Positions in Master Boot Record, Seite 35*

### **Problems (Overview)**

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

*Problems with Hardware, Seite 29*

## **Installation on Existing System**

It is very easy to install the bootmanager **BOOTMENU** on an existing system: Simply start the setup program. You will be asked whether you would like to install the bootmanager. Answer with "Yes."

Then you will be asked to save the master boot record as a file for safeguarding purposes. You should

seriously consider doing so, because otherwise you cannot restore your system 100% if any problems should occur.

After the installation is complete, the boot image table will appear. Here you will now need to configure your boot settings:

*Configuration of Boot Images, Seite 21*

**See also:**

*Installation (Overview), Seite 17*

*Installation of New Operating System, Seite 19*

*Master Boot Record, Seite 5*

*Positions in Master Boot Record, Seite 35*

*Problems (Overview), Seite 27*

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

*Problems with Hardware, Seite 29*

## **Installation of New Operating System**

If you would like to install an operating system **before** you install the bootmanager **BOOTMENU**, you may disregard the following details!

**Installing operating systems after the bootmanager has been installed enables a better separation among the operating systems.**

To install a new operating system while installing the bootmanagers **BOOTMENU**, please carry out the following steps:

- Create a partition for the new operating system (see also details about the partition types)
- Create a boot image, which contains nothing but the just created partition
- Install the operating system (during the first booting, select the boot image using <Ctrl+Enter> to boot from disk)
- Configure the boot images according to your wishes

If the new operating system is supposed to be installed from CD-ROM, please execute the following steps (the current level of BIOS technology does not permit any other solution):

- Select boot image
- Perform reset
- Set the "boot sequence" in the BIOS to "CDROM, . . ."
- Install operating system
- Return the "boot sequence" in the BIOS back to "C: , A: "
- Select boot image

**See also:**

*Installation (Overview), Seite 17*

*Planning a System, Seite 17*

*Configuration of Boot Images, Seite 21*

*Partition Types, Seite 20*

*Problems (Overview), Seite 27*

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

## **Partition Types**

Almost each operating system uses its own file system to save its data. Recognition of the file system is triggered by the partition type. Thus, for each file system, the correct partition type has to be entered. (In this program, the partition type is indicated using a hexadecimal system.)

The following list can never be complete because every manufacturer of operating systems is basically able to define his or her own types at any time.

### **MS-DOS:**

- FAT 12, partition smaller than 32 MB: Type "01"
- FAT 16, partition smaller than 504 MB version higher than 3.3: Type "04"
- FAT 16, partition smaller than 2 GB and start not higher than 2 GB: Type "06"

### **Windows 95:**

- FAT 16, partition smaller than 2 GB and start not higher than 2 GB: Type "06"
- FAT 16, partition smaller than 2 GB and start higher than 2 GB: Type "0E"

### **Windows 95b OSR 2, Windows 98:**

- FAT 16, partition smaller than 2 GB and start not higher than 2 GB: Type "06"
- FAT 16, partition smaller than 2 GB and start higher than 2 GB: Type "0E"
- FAT 32, partition bigger than 2 GB or start higher than 2 GB: Type "0B"
- FAT 32, partition bigger than 8 GB or start higher than 8 GB: Type "0C"

### **Windows NT:**

- NTFS; partition smaller than 2 GB and start not higher than 2 GB: Type "07"
- FAT 16, partition smaller than 2 GB and start not higher than 2 GB: Type "06"

### **OS/2:**

- HPFS; partition smaller than 2 GB and start not higher than 2 GB: Type "07"
- FAT 16, partition smaller than 2 GB and start not higher than 2 GB: Type "06"

### **Linux:**

- ext2fs, start not higher than Cylinder 1024: Type "83"
- Swap partition (should be set up additionally): Type "82"

### **Extended Partitions:**

- Normal: Type "05"
- Partition bigger than 8 gigabytes or higher than 8 gigabytes : Type "0F"

### **Novell NetWare:**

- Netware 286: Type "64"
- Netware 3.11: Type "65"

### **Other:**

If one partition type is not listed here, type "06" is usually suitable for the installation of an operating systems. The type is often going to be corrected automatically during the installation.  
If needed, consult the manual of your operating system to obtain further information and tips.

### **See also:**

- Installation of New Operating System, Seite 19*
- Select Partition Type, Seite 33*
- Edit Partition, Seite 33*
- Master Boot Record, Seite 5*

## **Configuration of Boot Images**

The boot images constitute the individual choices, which are offered to you by the bootmanager **BOOTMENU** while the computer is being booted. They contain all information needed for booting.

The minimum amount of information required in these boot images consists of which partition should be visible and which partition should be the boot partition (disk).

These settings are inserted into the boot image table after the bootmanager has been installed.

The boot images can be reconfigured at **any time without any problems**, so that any extensive planning ahead of time is not necessary. You probably will change the settings of individual boot images at one or another or add new ones.

Please note that some operating systems (e.g., Windows NT and Linux) require the die exact position of your partition entry in the master boot record partitiontable. This has to be configured in the boot image under "Positions in MBR."

### See also:

*Installation (Overview), Seite 17*

*Installation of New Operating System, Seite 19*

*Boot Images, Seite 6*

*Boot Image Table, Seite 37*

*Security Features (Overview), Seite 6*

*Problems (Overview), Seite 27*

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

## Updates

Updates are very easy: Start the setup program of the new version. This setup program will recognize automatically whether an update of the bootmanager **BOOTMENU** is required. After a query, it will update the bootmanager automatically.

It can happen that an update of the setup program does not require an update of the bootmanager. In this case, only the setup program has been improved.

Shareware versions notes:

If you have already registered your copy of the bootmanager, this registration will remain valid even after the update. However, the setup program will indicate that it is unregistered. This refers only to the setup program and has no effect on the bootmanager.

### See also:

*Installation (Overview), Seite 17*

*Order, Seite 41*

## Uninstallation

The uninstallation of the bootmanager **BOOTMENU** is as easy as the installation: Just start the setup program and choose the menu item "BOOTMENU / Uninstallation".

Of course, the uninstallation is only possible if not more than 4 primary partitions have been set up. The reason is that all partitions have to be entered into the partition table of the master boot record.

A "default" bootstrap is written into the master boot record during the uninstall process.

If you require exactly the same conditions after the uninstall process as existed before the installation, you can open the master boot record from the file you created during installation.

**See also:**

*Installation (Overview), Seite 17)*

*Installation on New System, Seite 18*

*Installation on Existing System, Seite 18*

## Command Line Options

### Command Line Options (Overview)

All functions of this setup program may also be called from within "batch files" using so-called "command options." This is of special interest to companies that have to perform many installations.

#### **Call:**

```
BMDOS.EXE [/Install[,HDDn]] [/Uninstall[,HDDn]] [/Status[,HDDn]]
           [/MBR[,HDDn]] [/ClearMBR[,HDDn]]
           [/Partition[:n[=tt][,HDDn]]:[NNN]-[s][,HDDn]]]
           [/BootImage[:n[:File]] [/Time[:n[:Off]]]
           [/Reboot] [/Hidden]
           [/Password:PPP[-NNN]][/File[:File]]
           [/?]
```

#### **/Install**

Installs **BOOTMENU** on the harddisk.

Return:

"1," if successful.

#### **/Uninstall**

Uninstalls **BOOTMENU** from the harddisk.

Return:

"1," if successful.

#### **/Status**

Indicates whether **BOOTMENU** has been installed on the harddisk.

Return:

If **BOOTMENU** is installed selected boot images; otherwise "0" (zero).

#### **/MBR**

Reinitializes the bootstrap in the master boot record. If **BOOTMENU** is installed, **BOOTMENU** generates the bootstrap. Otherwise, a default bootstrap will be generated.

If BMDOS.EXE was registered, the registration also released the bootmanager **BOOTMENU** for use.

Return:

"1," if successful.

#### **/ClearMBR**

Deletes the MBR partitiontable(s). While **BOOTMENU** is installed, the MBR table of all harddisks on which **BOOTMENU** is installed will be deleted. Otherwise, only on the indicated harddisk.

Return:

"1," if successful.

#### **/Partition**

Indicates the active partitiontable. While **BOOTMENU** is installed, the **BOOTMENU** partitiontable will be displayed. Otherwise, the MBR partitiontable will be displayed.

Return:

Number of existing partitions.

#### **/Partition:n**

Activates the n.partition.

This parameter may only be used if **BOOTMENU** is not installed.

Return:

"n," if partition exists.

#### **/Partition:n=tt**

Changes the type of the n. partitons.

tt is the type in hex  
Return:  
"n," if partition exists.

**/Partition:NNN-s**

Adds a new partition. If needed, a new boot image will be created for this partition, which contains only this additional partition.

NNN is the name of the boot image, s is the size in megabytes.

The "-" has to be entered.

Return:  
Number of partitions after the addition.

**/BootImage**

Displays the boot image table. Functions only if the bootmanager **BOOTMENU** is installed.

Return:  
Number of boot images.

**/BootImage:n**

Activates the n<sup>th</sup> boot image. Functions only if the bootmanager **BOOTMENU** is installed.

Return:  
"n," if the boot image exists.

**/BootImage:File**

Loads the boot image table from the file "file." All already existing boot images will be deleted.

Return:  
Number of boot images.

**/Time:n**

Indicates in seconds the time that will elapse until booting. Functions only if the bootmanager **BOOTMENU** is installed.

Return:  
Time in seconds (255, if deactivated).

**/Time:Off**

No automatic booting.

Return:  
Time in seconds (255, if deactivated).

**/Reboot**

Reboots the system (reset).

**/Password:PPP-NNN**

Permits calling the program and, if needed, creates a new password. This command might have to be issued first!

PPP: Password for this program

NNN: New password for this program

Return:  
"1", if incorrect password was indicated.

**/Hidden**

Suppresses screen output.

Return:  
None.

**/File[:File]**

Reads commands from file. Details in the following section.

Return:  
Taken over by last command or "0," if the file "file" was not found.

/?



Displays this help.

Return:

"1", if **BOOTMENU** is active.

It is not necessary to write out all option in their entirety; it suffices to indicate the respective first letter (insofar as the first letter is unambiguous).

When indicating the harddisk (e.g., ", HDD2") it suffices to type in the number of the harddisk (example: ", 2"). If nothing is entered, then the first harddisk will be used.

All entries start with "1" (e.g., 1<sup>st</sup> harddisk: ", HDD1"; 1<sup>st</sup> partition: "/partition:1").

The return value "0" (zero) always refers to an error (if not indicated otherwise).

### See also:

*Script File, Seite 25*

*Return Values Using Exitcode, Seite 25*

## Script File

An alternative to indicating all commands in a batch file is the "script file." More details about the commands can be obtained in the section Command Options. Script files should have the extension "\*.scr." Within this file, all commands written in command option lines are indicated with "/.".

Only one command may be written within one line. Commentaries start with ";".

If no file name is indicated, then the file BMDOS.SCR will be used.

The command "Hidden" should not be used in the script file, because output will not be suppressed until this command has been called.

### See also:

*Command Line Options (Overview), Seite 23*

*Return Values Using Exitcode, Seite 25*

## Return Values Using Exitcode

The return values within a batch file can be handled as follows:

```
INSTALL.BAT:
```

```
BMDOS.EXE /Install
```

```
If Errorlevel 1 Goto NUMBER
```

```
Echo INSTALL.BAT: Error during installation !
```

```
Goto END
```

```
:NUMBER
```

```
BMDOS.EXE /partition
```

```
If Errorlevel 3 Goto LABEL3           ; The sequence must always
```

```
If Errorlevel 2 Goto LABEL2           ; view the highest Errorlevel
```

```
If Errorlevel 1 Goto LABEL1           ; first!
```

```
Echo INSTALL.BAT: No partitions exist!
```

```
:LABEL1
```

```
Echo INSTALL.BAT: One partition exists!
```

```
Goto END
```

```
:LABEL2
```

```
Echo INSTALL.BAT: Two partitions exist!  
Goto END
```

```
:LABEL3  
Echo INSTALL.BAT: Three or more partitions exist!  
Goto END
```

```
:END
```

Additional information about batch programming is listed in the manual of the DOS operating system.

**See also:**

*Script File, Seite 25*

*Command Line Options (Overview), Seite 23*

## **Problems / Solutions**

### **Problems (Overview)**

- The bootmanager **BOOTMENU** is written into the first cylinder (track 0) of the respective harddisk. That is the reason the program cannot be used with other programs (usually also bootmanagers), which occupy and use the same memory location.
- For most operating systems, it might be necessary to set the harddisk in the BIOS to the "LBA" mode.
- Hard drives, which need a software driver (either because of their size and/or age) usually cannot be used with the bootmanager **BOOTMENU**.

#### **See also:**

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

*Problems with Hardware, Seite 29*

### **Problems with DOS / Windows 9x**

#### **General:**

- For FAT 16 (Type "06") partitions, the maximum partition size is 2 GB.
- Booting from FAT 16 (Type "06") partitions can only take place if the boot partition starts within the first 2 GB.
- For MS-DOS up to version 4.x, only one primary partition (boot image) at one time may be visible. (However, it is not a problem to install several.).
- It is possible to boot from the 2nd harddisk only if no primary partition is visible on the 1st harddisk.

#### **Installation:**

The setup program of Windows 9x writes over the master boot record during installation. This damages the bootmanager **BOOTMENU**. Therefore, after the installation, the file setup program of the bootmanager **BOOTMENU** should be executed in order to correct the error automatically.

#### **Installation on second hard drive:**

When installing on the second hard drive, the power has to be disconnected to the first hard drive during the installation process.

An alternative is to "manually" install DOS (with `FORMAT`, `SYS`, and `COPY`).

#### **See also:**

*Partition Types, Seite 20*

*Problems (Overview), Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

*Problems with Hardware, Seite 29*

### **Problems with Windows NT**

#### **General:**

- For FAT 16 (Type "06") partitions, the maximum partition size is 2 GB.
- Booting from FAT 16 (Type "06") partitions can only take place if the boot partition starts within the

- first 2 GB.
- Only one Windows NT partition (boot image) may be visible at any one time. (However, more than one can be installed without any problems).

### NTLoader - BOOT.INI:

The file `BOOT.INI` contains the information on which partition Windows NT is installed. In this case the information concerns the position of the partition in the partitioning table of the master boot record (empty entries are only counted while bootmanager **BOOTMENU** is installed). That means that the master boot record partitiontable and the file `BOOT.INI` from Windows NT have to be in agreement with one another.

The position in the master boot record partitiontable can be set in the boot image ("Positions in MBR").

The position in the `BOOT.INI` can be set as follows:

```
[boot loader]
default=multi(0)disk(0)rdisk(0)partition(1)\WINNT

[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINNT="Windows NT"
```

The information specified in "partition(1)" is decisive. If needed, all specifications entered have to be corrected! The specification for the first partition is the number 1.

If Windows NT is installed **after** the bootmanager **BOOTMENU**, then these problems will not occur.

### Installation on 2<sup>nd</sup> harddisk:

Invariably, a primary partition has to be created on the 1<sup>st</sup> harddisk, which will receive the boot files.

In order to install to the 2<sup>nd</sup> hard drive, all power has to be cut off to the 1<sup>st</sup> hard drive. Otherwise, it will impossible to boot from the 2<sup>nd</sup> hard drive later on. After Windows NT has been installed, the power is once again restored, and a very small partition is created on the 1<sup>st</sup> hard drive for booting. The file `NTLDR` will be copied from the Windows NT partition into this partition directly after formatting. Afterwards, the files `NTDETECT.COM` and `BOOT.INI` are copied as well. Furthermore, the 2<sup>nd</sup> hard drive has to be indicated in the file `BOOT.INI`.

All these file must be have the attributes "S," "H," and "R."

The file `BOOT.INI` also has to list the 2<sup>nd</sup> harddisk in "rdisk()":

```
[boot loader]
default=multi(0)disk(0)rdisk(0)partition(1)\WINNT

[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\WINNT="Windows NT"
```

If necessary, all entered specifications have to be corrected! The entered specification for the first harddisk is a "0" (zero).

### See also:

*Partition Types, Seite 20*

*Positions in Master Boot Record, Seite 35*

*Problems (Overview), Seite 27*

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Linux, Seite 29*

*Problems with Hardware, Seite 29*

## **Problems with Linux**

### **General:**

Linux can only be booted if the partition starts on a cylinder before cylinder1024.

### **LILO Keyboard Control:**

In order to transfer keyboard entries from the bootmanager **BOOTMENU** to LILO, it is necessary for some distributions to build LILO with a specific option. For more details about this subject, please read then LILO documentation.

### **LILO Configuration - lilo.conf:**

The file `lilo.co` contains the information on which partition Linux is installed. This information refers to the position of the partition in the master boot record partitiontable. (Empty entries are only counted while the bootmanager **BOOTMENU** is installed.) Thus, the master boot record partitiontable and the file `lilo.conf` from Linux have to be in agreement with one another.

The position of the respective partition can be set in the boot image.

The position of the file `lilo.conf` can be set as follows:

```
boot = /dev/hda1      ; IDE harddisk
boot = /dev/sda1      ; SCSI harddisk
```

The specification "hda1" and/or "sda1" is decisive. If necessary, all entered specifications have to be corrected! The entered specification for the first partition is a "1".

### **See also:**

*Partition Types, Seite 20*

*Positions in Master Boot Record, Seite 35*

*Problems (Overview), Seite 27*

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Hardware, Seite 29*

## **Problems with Hardware**

### **Mainboard ASUS (mainly P2B):**

#### **Problem:**

- Runtime Error 158

#### **Solution:**

Not known. A BIOS Update might also be of help.

#### **Problem:**

- After installing the bootmanager **BOOTMENU** the computer does not boot anymore, also booting from floppy disk is not possible

#### **Solution:**

1. Enter the following into the BIOS Setup: "LBA" -> "Normal", "Cylinder" -> 100
2. Boot from floppy disk
3. Uninstall Boot-Manager **BOOTMENU**
4. Enter the original information into the BIOS Setup

A BIOS Update might also be of help

### **SCSI Controller Adaptec:**

**Problem:**

- Runtime Error 158
- The setup program cannot be started

**Solution:**

- Deactivate "Interrupt 13 BIOS Extensions Support"

A Firmware Update might also be of help

### **SCSI Harddisks:**

**Problem:**

- Setup program does not (properly) recognize/identify the harddisk

**Solution:**

- Load "ASPI" driver before running the setup program

**See also:**

*Problems (Overview), Seite 27*

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

## **Setup Program**

### **Menu "File"**

#### **Open File**

##### **Setup Program:**

- BOOTMENU Partitiontable / File / Open...
- Master Boot Record Partitiontable / File / Open...
- Boot Image Table / File / Open...
- Extended Partitiontable / File / Open...

You may load the content of a currently visible window (... , table, or opening message) from a previously created file.

If you load a partitiontable, the old partitiontable will be completely overwritten with the new one. In case you are loading an outdated or invalid partitiontable, you may use this feature to overwrite partitions.

An opening message text may be loaded from a normal ASCII file. The tables have to be loaded from a file previously created with this program.

##### **See also:**

*Save File, Seite 31*

#### **Save File**

##### **Setup Program:**

- BOOTMENU Partitiontable / File / Save...
- Master Boot Record Partitiontable / File / Save...
- Extended Partitiontable / File / Save...
- Boot Image Table / File / Save...

You may save the content of a currently visible window in a data file. These files should be stored on a floppy disk if possible so that continuous access is guaranteed even if you should encounter problems (with accessing the harddisk).

All files are saved in an ASCII file without any encoding. This means you might want to consider protecting them from any unauthorized access.

##### **See also:**

*Open File, Seite 31*

#### **Open Partition**

##### **Setup Program:**

- BOOTMENU Partitiontable / File / Open Partition...
- Master Boot Record Partitiontable / File / Open Partition...
- Extended Partitiontable / File / Open Partition...

You may load the contents of an entire partition from a previously saved file. In this case, the entire contents of the partition will be deleted and overwritten with the contents of the partition from file.

The partition is selected by making the appropriate choice in the partitiontable.

**See also:**

*Save Partition, Seite 32*

**Save Partition****Setup Program:**

BOOTMENU Partitiontable / File / Save Partition...

Master Boot Record Partitiontable / File / Save Partition...

Extended Partitiontable / File / Save Partition...

You may store the content of a currently selected entire partition in a file for the purpose of restoring it at a later time. Backup is performed regardless of the contents of the partition. (E.g., the long file names of Windows 9x remain intact.)

The file system of the partition is disregarded, which means that the created binary file will be very large.

This process can be used by companies with several computers constructed in the same fashion to copy the partitions from one computer to another. This will save a considerable amount of time.

However, the partitions can only then be loaded if the harddisks, the position of the partition on the harddisk, and the size of the partition are identical.

**See also:**

*Open Partition, Seite 31*

**Open Master Boot Record****Setup Program:**

File / Open Master Boot Record... / n<sup>th</sup> Harddisk

You may load the content of the master boot record (incl. bootmanager) in its entirety from a previously created binary file (\*.bms). (This file should have been created during installation.)

In this case, you should make sure that the master boot record contains the bootstrap as well as the partitiontable and is written in its entirety from the partitiontable to the file of the master boot record. Loading an outdated or invalid partitiontable can result in the loss of partitions.

It rarely serves any purpose to load a master boot record. Should the restoration of the bootstrap be absolutely necessary, the following process might be helpful:

- If needed, uninstall **BOOTMENU**.
- Save master boot record partitiontable to file (\*.bmt).
- Open master boot record.
- Open master boot record partitiontable from the file generated above (\*.bmt).

**See also:**

*Save Master Boot Record, Seite 32*

*Uninstall BOOTMENU, Seite 37*

*Master Boot Record Partitiontable, Seite 39*

*Open File, Seite 31*

*Save File, Seite 31*

**Save Master Boot Record****Setup Program:**

File / Save Master Boot Record... / n<sup>th</sup> Harddisk



*Uninstall BOOTMENU, Seite 37).*

**See also:**

*Master Boot Record, Seite 5*

*Open Master Boot Record, Seite 32*

**Menu "Edit"****Edit Partition****Setup Program:**

BOOTMENU Partitiontable / Edit / Edit...

Master Boot Record Partitiontable / Edit / Edit...

The following settings have to / can be made for each partition:

Start:

Beginning of partition

End:

End of partition

Type:

Pressing the button "Selection" offers a list from which to choose the partition type.

Name:

This field only appears with the **BOOTMENU** partitiontable. You may indicate a name to make it easier to find the partition when setting up the boot image.

The start and end specifications can only be indicated when a partition is being created. If you were to change these specifications for an existing partition, the installed file system would have to be changed as well. (This task exceeds the function of a bootmanager.)

FAT partitions may be increased or decreased using a program such as FIPS (Freeware). This program was developed to divide existing DOS partitions without destroying the therein-contained data. FIPS may be obtained on the Internet. The URL is listed on the homepage of the bootmanager **BOOTMENU**.

**See also:**

*BOOTMENU Partitiontable, Seite 37*

*Master Boot Record Partitiontable, Seite 39*

*Partition Types, Seite 20*

*Select Partition Type, Seite 33*

CHS Encoding

**Select Partition Type****Setup Program:**

Master Boot Record Partitiontable / Edit / Edit... / Selection

BOOTMENU Partitiontable / Edit / Edit... / Selection

Extended Partitiontable / Edit / Edit... / Selection

A list will offer different partition types. Select the one based on the file system to be used.

You may also select a partition type based on the operating system being used:

*Partition Types, Seite 20*

**See also:**

*Edit Partition, Seite 33*

*Boot Image Table, Seite 37*

*Master Boot Record Partitiontable, Seite 39*

**Edit Boot Image****Setup Program:**

Boot Image Table / Edit / Edit...

You may indicate the following settings for each boot image:

**Name:**

Enter the name of the boot image. This name will appear in the bootmanager **BOOTMENU** during booting. (The boot image may then be selected by either pressing the first letter of the name or by using the cursor keys.)

**Boot Disk:**

Enter the drive from which to load using this boot image. If you select a harddisk, you have to indicate which partition should be active as well.

Some operating systems support only the 1<sup>st</sup> disk and the 1<sup>st</sup> harddisk. If you would like to boot from the 2<sup>nd</sup> harddisk (or higher), most operating systems require that the previous harddisks do not have any visible partitions.

**Active:**

Indicate the partition from which to boot. (You may only activate "visible" partitions, which are located on the "boot disk.")

Here you will activate the extended partition and the secondary partition within the extended partitiontable in order to boot from a secondary partition.

**Visible:**

Enter up to four partitions you would like to make visible in this boot image. During booting, these partitions are used by **BOOTMENU** to enter them into the master boot record partitiontable. (The reason for the limitation to only four partitions rests with the master boot record.)

**See also:**

*Bootmanager BOOTMENU, Seite 5*

*Edit Security Settings, Seite 34*

*Edit Keyboard Buffer, Seite 35*

*Positions in Master Boot Record, Seite 35*

**Edit Security Settings****Setup Program:**

Boot Image Table / Edit / Edit... / Security Settings

You may indicate the following security settings for each boot image:

**Password:**

Here you may enter a password required for the booting of this boot image.

This function may be used to protect partitions by indicating a password for all boot images containing the partition to be protected.

**Booting from Disk:**

If you deactivate this option, it will be impossible to boot the selected boot image from disk during the booting process using <Ctrl+Enter> instead of <Enter> from **BOOTMENU**.

**Visible Boot Image:**

If you deactivate this option, this boot image will not be displayed by **BOOTMENU** during the booting process. Only after pushing the "hot keys" will this boot image become visible and may then be selected. (The "hot keys" may be changed in the "**BOOTMENU** Settings." Usually, <Alt+B>, <Alt+M> are the "hot keys.")

**See also:**

*Security Features (Overview), Seite 6*

*Edit Boot Image, Seite 34*

*BOOTMENU Settings, Seite 38*

*BOOTMENU Password, Seite 39*

**Edit Keyboard Buffer****Setup Program:**

BOOTMENU Partitiontable / Edit / Edit... / Keyboard Buffer

You may indicate up to 16 characters for each boot image, which otherwise would have to be "manually" selected while booting.

This allows for the integration of subsequent bootmanagers such as e.g., LILO or NTLoader.

Most of the keys may be specified in this field. The remaining keys (e.g., "Enter") may be specified if you press the "Scroll Lock" key. You may enter all keys until the "Scroll Lock" key has been pressed again. Bis

(Please note that the American keyboard driver will be used during booting.)

**See also:**

*Edit Boot Image, Seite 34*

**Positions in Master Boot Record****Setup Program:**

*Boot Image Table, Seite 37 / Edit / Edit... / Positions in MBR*

It is possible to vary the positions of the individual partitions within the master boot record partitiontable. (These settings are reset each time a partition is changed or modified. In that case, it is necessary to re-enter the settings of the "Positions in MBR".)

This is necessary for some operating systems to ensure that they function properly (Windows NT and Linux). It might be possible therefore, that these operating systems expect the partition to be located in the exact same position in the master boot record as before the bootmanager **BOOTMENU** had been installed.

For most operating systems, the order of the partitiontables also determines the logical drive designation. This means that the order of the logical drive designation can be modified by changing the order of the entries in the partitiontable.

Microsoft operating systems always require the following drive letter specification sequence:

1. Primary, active partition on 1st harddisk
2. Primary partitions on 2nd harddisk according to the "positions in the MBR"
3. Secondary partitions on 1st harddisk according to order on hard drive (cylinder, head, sector)
3. Secondary partitions on 2nd harddisk according to order on hard drive (cylinder, head, sector)
4. Remaining partitions primary partitions on 1st harddisk according to "Positions in MBR"

All additional harddisks are treated accordingly.

**See also:**

*Master Boot Record, Seite 5*  
*Problems with Windows NT, Seite 27*  
*Problems with Linux, Seite 29*  
*Edit Boot Image, Seite 34*

**Extended Partitiontable****Setup Program:**

BOOTMENU Partitiontable / Edit / Extended Partition  
Master Boot Record Partitiontable / Edit / Extended Partition

You may edit the extended partitiontable the same way as the master boot record and the **BOOTMENU** partitiontable.

If you would like to boot from a secondary partition, you have to activate that secondary partition within the extended partitiontable; then switch this extended partition from inactive to "active" in the boot image.

Some operating systems do not support booting from secondary partitions at all or only if no primary partition is visible.

The functionality of the bootmanager, unfortunately, is not available to secondary partitions. The entire extended partition can be either only completely visible or completely invisible. The selection of the active partition cannot be set in the boot image either.

**See also:**

*Edit Partition, Seite 33*  
*BOOTMENU Partitiontable, Seite 37*  
*Master Boot Record Partitiontable, Seite 39*  
*Boot Images, Seite 6*

**Menu "BOOTMENU"****Install BOOTMENU****Setup Program:**

BOOTMENU / Install

The installation process writes the actual bootmanager to the harddisk. During the process, entries of the master boot record partitiontable are copied and entered into the new **BOOTMENU** partitiontable and the bootstrap is overwritten with the bootmanager.

During the installation, you should choose to backup the master boot record to a file, so that you will be able to return the system -- after the uninstall process -- to the exact same condition it was before the installation.

**BOOTMENU** may be installed separately on every harddisk. If **BOOTMENU** is not installed on the first harddisk, the boot images can be selected only through the use of the command line options.

**While **BOOTMENU** is installed, no other harddisk partitioner may be used (e.g., FDisk or PartitionMagic)!!!**

**See also:**

*Master Boot Record Partitiontable, Seite 39*  
*BOOTMENU Partitiontable, Seite 37*

*Master Boot Record, Seite 5*  
*Uninstall BOOTMENU, Seite 37*

## **Uninstall BOOTMENU**

### **Setup Program:**

BOOTMENU / Uninstall

You can uninstall the bootmanager **BOOTMENU** only if the **BOOTMENU** partitiontable of the corresponding harddisk does not have more than four partitions. (The reason for this is the format of the master boot records)

### **See also:**

*Uninstallation, Seite 21*

*Master Boot Record, Seite 5*  
*Install BOOTMENU, Seite 36*  
*Open Master Boot Record, Seite 32*

## **BOOTMENU Partitiontable**

### **Setup program:**

BOOTMENU / Partitiontable / n<sup>th</sup> Harddisk

This table displays all (visible and invisible) partitions of the harddisk.

The following parameters of the partition are displayed:

- Number (position) of the partition
- Start / end of the partition (only the cylinder specifications are indicated here. More details are obtained when editing the corresponding partition)
- Type of partition
- Name of the partition (is only an internal program specification used to facilitate the boot image settings)

### **See also:**

*Master Boot Record Partitiontable, Seite 39*  
*Extended Partitiontable, Seite 36*  
*Partition Types, Seite 20*  
*Edit Partition, Seite 33*  
*Open File, Seite 31*  
*Save File, Seite 31*

## **Boot Image Table**

### **Setup Program:**

BOOTMENU / Partitiontable / n<sup>th</sup> Harddisk

This table lists all boot images:

The name of the boot image is displayed on the very left hand side (will be shown during booting).

This is followed by the existing partitions:

An "x" means that this partition is visible.

An "A" means that this partition is visible and active (this is the boot partition).

On the very right hand, you will see whether a password has been specified for this boot image.

More details are available when editing the boot image.

**See also:**

*Boot Images, Seite 6*  
*Edit Boot Image, Seite 34*  
*Open File, Seite 31*  
*Save File, Seite 31*

**BOOTMENU Opening Message****Setup Program:**

BOOTMENU / Opening Message...

Here you may specify an opening message (any text), which will be displayed during the booting process and **before** a boot image is selected.

You can use the text message to present general information or information about the boot images to the user. You may use about 1 000 characters.

(This function is mainly of interest for computers with different users.)

**See also:**

*BOOTMENU Settings, Seite 38*  
*BOOTMENU Colors, Seite 39*  
*Boot Images, Seite 6*

**BOOTMENU Settings****Setup Program:**

BOOTMENU / Settings...

Here you may specify some general settings. which influence the functions of the bootmanager **BOOTMENU** while booting:

**Auto-boot / Time:**

Specify a time after which the auto-boot will start -- if the user does not make a choice. Auto-boot will boot the active boot image.

**Default Choice:**

Choose, whether the same boot image should always be active or the previously selected boot image:

- Always the same: The default boot image is the one activated in the boot image table.
- Previous: The default is always the one chosen previously during the last booting.

**Boot Image Selection:**

Here you can activate or deactivate the display of the chosen boot image.

**MBR Checksum:**

Deactivate this option if you are using a harddisk, which requires access to the master boot record. While booting, a check is run on the master boot record in order to detect any modifications (usually by viruses). If any modifications are found, this setup program will be triggered, which then will (after confirmation) reverse the modification (the virus is removed) automatically.

**Hot Keys:**

Indicate one or two keys to be pushed to receive a list of the invisible boot images (Security Settings of the Boot Images) and to make a selection.

**See also:**

*Bootmanager BOOTMENU, Seite 5*  
*Boot Image Table, Seite 37*  
*Edit Security Settings, Seite 34*  
*BOOTMENU Colors, Seite 39*  
*BOOTMENU Password, Seite 39*

## **BOOTMENU Colors**

### **Setup Program:**

BOOTMENU / Colors...

Here you may select the colors of **BOOTMENU** during booting.

Change the color by first selecting the element color, then the foreground color, followed by the background color.

### **Please Note (DOS Version):**

You may switch from one field to the next by using the <Tab> key. To chose any color, please use the cursor keys.

### **See also:**

*Bootmanager BOOTMENU, Seite 5*  
*BOOTMENU Settings, Seite 38*

## **BOOTMENU Password**

### **Setup Program:**

BOOTMENU / Password...

Here you may protect the entire bootmanager **BOOTMENU** (incl. all settings) with a password.

If you specify a new password, a perhaps already existing password will be deleted.

**Please make a note of this password! If you should forget this password, it will be impossible either to start the setup program or to uninstall **BOOTMENU**! You are then also longer able to view or modify the partition information.**

### **See also:**

*Edit Security Settings, Seite 34*  
*Bootmanager BOOTMENU, Seite 5*

## **Menu "Master Boot Record"**

### **Master Boot Record Partitiontable**

### **Setup Program:**

Master Boot Record / Partitiontable / n<sup>th</sup> Harddisk

This table displays all partitions of the harddisk (while **BOOTMENU** is **not** installed). While **BOOTMENU** is installed, the current setting (selected boot image) is displayed.

You will see the following:

- Active partition ("A")
- Start / end of the partition (only the cylinder specifications are indicated here. You will receive information that is more detailed if you edit the respective partition).
- Type of partition

While **BOOTMENU** is installed, you can modify the partitions only by editing the **BOOTMENU** partitiontable.

**See also:**

*Edit Partition, Seite 33*  
*BOOTMENU Partitiontable, Seite 37*  
*Open File, Seite 31*  
*Save File, Seite 31*

## **Menu "Help"**

### **Registration**

**Setup Program:**

Help / Registration...

**This menu item is only in the shareware version available!**

Here you can type in your registration key, which you will receive after ordering.

This registration key always consists of an "Identifier" and a "key."

You can register both of the setup programs (DOS and Windows) as well as the perhaps installed bootmanager by clicking on "OK." Only after the registration is complete is it possible to use the program without limitations and/or restrictions.

All future installations performed with this program (EXE file) will be executable afterwards without any restrictions as well.

**See also:**

*Shareware (Restrictions), Seite 41*  
*Updates, Seite 21*  
*Order, Seite 41*  
*Copyright, Seite 41*  
*Liability / Warranty, Seite 42*



## **Others**

### **Shareware (Restrictions)**

#### **Notes for the shareware version:**

You may test and evaluate this program free of charge and pass it along to other interested users as well (without any registration key). Proper and standard use, however, requires a registration of the program (buying the program). This is valid for the setup program as well as the actual bootmanager (bootstrap).

Without a registration key, you can use the shareware version without any restrictions for four weeks. **After** the trial period is over, each boot will result in a registration notice being shown on your screen. With each booting of an unregistered copy, the registration notice will remain on your screen for one second longer. Example: **After** the trial time has expired, the 10<sup>th</sup> booting will result in a ten-second delay before your system will actually start.

**One** license is required for **each** computer using the bootmanager **BOOTMENU**! If several licenses are ordered, it is possible to obtain a key for all licenses.

#### **See also:**

*Registration, Seite 40*

*Order, Seite 41*

*Copyright, Seite 41*

*Liability / Warranty, Seite 42*

## **Order**

#### **Notes for the shareware version:**

You can order the shareware version of the bootmanager **BOOTMENU** either by using the enclosed order form `ORDER.TXT` or online on the Internet.

All other ordering details and prices can be found on the ordering form.

Updates of the shareware version may be downloaded from the Internet whenever they become available. Currently, all updates are free!

#### **See also:**

*Shareware (Restrictions), Seite 41*

*Registration, Seite 40*

*Copyright, Seite 41*

*Liability / Warranty, Seite 42*

## **Copyright**

Copyright (C) of the bootmanager **BOOTMENU** rests with:

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Germany

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<http://www.BOOTMENU.com/>

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All listed trademarks are property of their respective owner(s)!

**See also:**

*Frequently Asked Questions (FAQ), Seite 44*

*Liability / Warranty, Seite 42*

*Order, Seite 41*

## **Liability / Warranty**

If this program is used improperly, it may result in the **irretrievable destruction of all data on your harddisk!**

It is thus absolutely necessary to create a backup before using the bootmanager **BOOTMENU**. According to the ruling by the district court Konstanz 1 S 292/95 from May 10 1997, daily data backup is **reasonable** and can be **expected!**

**Thus, any responsibility or liability for any losses or damages is not accepted!  
UNDER NO CIRCUMSTANCES!**

The purchase of this software is according to the BGB §494 (German Federal Legal Code) a "**trial purchase**". This means that the software can be evaluated **before** the actual purchase. The software is provided **as is** without warranty of any kind. Any rights for modifications or follow-up corrections **do not** exist.

Should you find any errors, please let our support staff know and we will try to correct the error within a few days.

Any bug notifications (if not already known) and all good ideas will be rewarded with a free registration key!

**See also:**

*Copyright, Seite 41*

*Updates, Seite 21*

## **History of Development**

The following overview shows the development history of the bootmanager **BOOTMENU**:

### **4.2x**

Command Line Options available in the Windows Version.

### **4.1x**

A freely definable opening message can be displayed while booting.

### **4.0x**

Windows 95/98/NT version of the setup program.

### **3.7x**

Command line options are supported.

Boot images may be hidden.

The contents of entire partitions may be stored as a file.

### 3.6x

Changes of the partition type are automatically recognized and copied from the MBR to the **BOOTMENU** partitiontable.

**BOOTMENU**'s colors may be changed.

### 3.5x

Secondary partitions (logical drives) are supported.

### 3.3x

Harddisks larger than 8 gigabytes are supported.

### 3.2x

The positions of the partition entries within the master boot record partitiontable can be selected as desired.

### 3.1x

The boot images can fill the keyboard buffer.

Selection of boot images in **BOOTMENU** by typing in first letter.

### 3.0x

Extension to cover four harddisks.

### 2.9x

Password protection for the setup program.

### 2.8x

Implementation of the password protection.

Implementation of the checksum function for master boot record.

### 2.5x

Improved input of boot images.

### 2.3x

Implementation of the uninstall function with default bootstrap.

### 2.2x

Internet distribution with homepage.

Implementation of a demo version with limited trial run time.

### 2.0x

Implementation of additional partitiontable:

Extension to cover 15 primary partitions.

Implementation of boot images to select an entire partitiontable.

New user interface for setup program.

### 1.7x

Implementation of being able to boot from 2<sup>nd</sup> disk (B:).

### 1.6x

Saving of old selection and implementation of the auto-boot function without keyboard.

### 1.4x

Implementation of booting from 1<sup>st</sup> disk (A:).

**1.2x**

Selection of active partition using a selection menu (with cursor keys).

**1.1x**

Input function to edit partitiontable.

**1.0x**

First functional version, selection of active partition using a number.

**See also:**

*Updates, Seite 21*

**Frequently Asked Questions (FAQ)****Does the bootmanager *BOOTMENU* support the following operating systems / file systems: ...?**

Yes, the bootmanager *BOOTMENU* functions independently from the operating or file systems!  
A few operating systems, however, have some limitations, which need to be observed when using the bootmanager *BOOTMENU*:

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

**Is it possible for the bootmanager *BOOTMENU* to manage the operating system(s) ... together with the operating system(s) ...?**

Yes, the bootmanager *BOOTMENU* can manage individual operating systems completely separate.  
Therefore, every individual operating system works with every other operating system.

**Does the bootmanager *BOOTMENU* support the following hardware? ...**

The bootmanager *BOOTMENU* basically supports **every** Hardware. However, some hardware products have inherent errors, which become noticeable when installing and using the bootmanager *BOOTMENU*:

*Problems with Hardware, Seite 29*

**I have planned to do the following: ... How can I realize this using the bootmanager *BOOTMENU*?**

We regret to inform you that we cannot supply individual installation and setup instructions.

**I have problems with the installation of the operating system(s) ... Can you help me?**

Please read the manual of your operating system. Additional problem solutions may be found on the following pages:

*Problems with DOS / Windows 9x, Seite 27*

*Problems with Windows NT, Seite 27*

*Problems with Linux, Seite 29*

We regret to inform you that we cannot supply individual installation and setup instructions.

**How can I uninstall the bootmanager *BOOTMENU*?**

Start the setup program and select the entry "Uninstallation" from the "BOOTMENU" menu.

**I have problems after uninstalling *BOOTMENU*. How can I get back to the exact same settings I used before the installation of the bootmanager *BOOTMENU*?**

Most of the time it is sufficient if you activate the correct partition. An alternative is to restore the safety backup copy, which you created during the installation (\*.BMS) of BOOTMENU. (To restore: Use setup program, menu "File," entry "Restore Master Boot Record.")

**I have installed the shareware version of the bootmanager *BOOTMENU*. Can I install the full version over the shareware version without any problems?**

Yes! You already have the full version. Installing the full version means to eliminate the time delay by entering the registration key.

**I have tested the shareware version of the bootmanager *BOOTMENU* and now would like to purchase it. How do I do that?**

Please use the order form included with the program. All price and delivery information is outlined in this order form.  
As an alternative, you may use an online order form. You will receive your registration key faster that way.

**How do I get updates of the bootmanager *BOOTMENU*?**

Current updates of the bootmanager *BOOTMENU* are (only) obtainable via the Internet.

**What is the cost of an update?**

If you are using the shareware version, then the updates are currently free of charge. In all other cases, please consult your vendor/dealer.

**How do I use updates? Do I have to uninstall the old version first?**

No, all you need to do is start the setup program of the new version. If an update of the bootmanager is required, this will be recognized automatically and an update is performed automatically as well. However, this might not always be necessary since some updates are only updates of the setup program.

**Why does the setup program indicate that the program is not registered after I installed an update, although the bootmanager *BOOTMENU* does show a registration?**

The setup program has not been registered yet. The bootmanager *BOOTMENU*, however, is still registered from the time you registered the old setup program.

**I have already entered the shareware registration key and still get the shareware notice. What can I do about that?**

Please, enter the registration key once more.

**I have lost my registration key. Can you send me my key again?**

Unfortunately, we cannot offer this service because the cost would just about equal the cost of a new order.

**Since I have installed the bootmanager *BOOTMENU*, my virus detection program shows that I have an unknown virus! Is my hard drive infected?**

No! The bootmanager *BOOTMENU* changes the master boot record. These changes are reported erroneously by the virus program as a virus.

**What happens if I act against all warnings and install another hard drive partitioner such as FDISK or PartitionMagic?**

These partitioners cannot recognize the partitions hidden by the bootmanager *BOOTMENU*. This means that those hidden partitions might be destroyed. Other partitioner changes are not recognized by the bootmanager *BOOTMENU*, and are thus overwritten by the program using the original values and settings. This is done on purpose to safeguard the password protection.

**I have discovered unknown entries in the master boot record partition table, which are 0 MB in size. What are these entries?**

The bootmanager *BOOTMENU* uses these entries to try to protect the hidden partitions from other hard drive partitioners such as FDISK and PartitionMagic.