

HD95Protect

1 What is the purpose of HD95Protect?

HD95Protect is an extension of the file system of Windows 95. It is programmed completely in 32 bit technique as a VXD (virtual device driver), therefore the performance of the system is not decreased by switching to real mode and back.

You can use HD95Protect on stand alone PCs and on PCs connected by a network.

You can use HD95Protect to protect files and/or directories on the local drives of your Windows 95 - PC, so that it is not possible with or without intention to make changes that could lead to a crash of the whole system: to delete, move, rename or overwrite files or directories or to alter file attributes.

Of course this protection is effective even for Windows applications and for the DOS box. It is not effective if you start your PC to "pure DOS mode". Therefore you should deactivate this option (how to do it: see appendix).

Besides the opening of files is modified if the readonly attribute is set: Many applications open a file for reading and writing, but only read from it. If you set this file to readonly you could get an error when the application will open it. If HD95Protect is loaded the file in this case is opened for readonly access (assuming you set only files to readonly if you do not want to write to them).

A very special feature of HD95Protect is the support when you install a new application: HD95Protect shows you all the rights your application additionally needs!

2 Files that belong to HD95Protect

2.1 SETUP.EXE

The program to install HD95Protect.

Besides you can use it (even after installation) to alter password, license data or the used language.

2.2 HD95ADM.EXE

Administration of access rights

2.3 HD95PROT.EXE, HD95PROT.VXD

The protection program

2.4 HD95PROT.DAT

File where the access rights are stored

2.5 HD95PROT.INI

Settings of HD95Protect

2.6 WINATTR.BAT

This batch file helps you to set the readonly attributes for Windows if you use the default installation ("do not modify file attributes"). For more details see "Installation of programs".

3 Strategies

Basically there are two strategies you can apply:

The user is allowed all to do that is not forbidden.

The user is not allowed to do anything that is not explicitly allowed.

(What in the following is said for drive C: is valid for all local drives!)

You see for every strategy an example how the path list could look like.

3.1 Do not modify file attributes on C:

(default strategy!)

This way to do it is very easy, but very effective!

The user has no rights to change file attributes on C:\ (which means on the whole drive C:), but he is allowed to delete files. You set all files you want to protect to readonly. Because the user cannot remove this attribute he cannot delete, move, rename or overwrite these files!

Example:

```
D C:\
```

This strategy is recommended because it offers some advantages and a very simple administration!

3.2 Protection of program directories

You take away the rights from program directories. The user can use the rest of the drive to save data.

If you want to do it this way you can choose in the setup program "Protect Windows and start files". Later you can add other program directories (especially C:\Programs).

Example:

```
C:\WINDOWS
C:\Programme
C:\SB16
```

3.3 Protection of the whole drive C:

If you take away the rights from C:\ this applies also to all subdirectories, it means for the whole drive. If you want to use a directory to save data you simply give all rights to this directory.

You could do the same e.g. to a directory C:\DOSTUTOR where the user can practise DOS commands in the DOS box.

Example:

```
C:\
M D C:\DATEN
M D C:\DOSTUTOR
```

4 Installation

From Windows 95 start SETUP.EXE.

4.1 Path to install

Path where program and configuration files of HD95Protect are stored.

Default: <drive>:\HD95PROTECT, (<drive> is the drive where Windows is installed)

Of course you can HD95Protect install once on a network and use this installation from all stations!

If your network is Novell: Install to P:\HD95PROT where P: is mapped to SYS:PUBLIC (works also with Novell Client32 !).

If you use a Windows network you should (assumed you want to start by entry in SYSTEM.INI) change the line in SYSTEM.INI to

```
shell=Explorer.exe \\xxxxx\ddd\hd95prot\hd95prot.exe
```

where xxxxx is the computername and ddd the network name of the directory where HD95Protect is installed.

In all cases set all files of HD95Protect to readonly and (if you use Novell) shareable!

4.2 Language

You can choose German or English.

This setting is not only valid for the Setup program, but also for HD95Protect and HD95Adm.

Default: English

(Some standard dialogs always use the language Windows is configured for.)

4.3 Protection of ...

You can choose what to protect. Later you can alter it with HD95ADM.EXE.

(If you protect a directory all of its subdirectories are protected the same way unless you define other access rights for one of them.)

The access to the installation path of HD95Protect is always protected.

4.3.1 *Windows directory*

4.3.2 *Windows directory and startup files*

(CONFIG.SYS and AUTOEXEC.BAT)

4.3.3 *Whole drive C:*

4.3.4 *Nothing*

4.4 Password

Enter a password which enables you to get full access (e.g. to install an application) and to start the administration program. Of course it is stored encrypted!

You can use this option also to change the password later.

4.5 License data

Enter your license data you get when you register; you even can do it later: try the test version, register and then enter the license data - you keep all your settings!

You have to enter your license data exactly as you got them, including spaces.

4.6 Automatic load by ...

(to load HD95Protect always when Windows starts up)

4.6.1 *Entry in SYSTEM.INI*

To the line shell=Explorer.exe the call of HD95Protect is added.

4.6.2 *Entry in the Registry*

A key in SYSTEM.DAT is set.

4.6.3 *No automatic Start*

(If you only want to test HD95Protect just click on HD95PROT.EXE in the installation path.)

4.7 Copy files

If this box is checked all program files are copied to the installation path. Else only your settings (e.g. a new password or your license data) are saved.

4.8 Install

Your settings are saved. In case "Copy files" is checked also the program files are copied.

If HD95PROT.DAT already exists you are asked whether you want to overwrite it by the setup settings.

4.9 Exit

Exit the setup program without saving. If you have changed any settings you are asked whether you want to discard them.

5 Administration of the access rights

5.1 Start of HD95ADM

You administrate the access rights by starting HD95ADM.EXE. If you start it without a command line parameter it looks for HD95PROT.DAT and HD95PROT.INI in its own path. But you can save HD95ADM.EXE e.g. in a path on your network where only you have access to. In this case you start it with a command line parameter that is the path where it should look for the configuration files, e.g.

HD95ADM C:\HD95PROT

When you start HD95ADM you are asked for the password (not in the test version!).

5.2 Program windows of HD95ADM

If you click on a drive card on the upper left corner you see the directories of that drive, at the right side the files in the selected directory.

You can change a directory by double clicking it.

At the bottom you see a list box containing the granted rights. There are files and/or directories preceded by the access rights:

M (modify) ... the user can change file attributes

D (delete) ... the user can delete (move, rename) files

5.3 Granting rights

To grant a right just use the mouse to drag a file or directory to the list box "Rights".

To alter or delete granted rights click on the line with the *right* mouse button. A dialog is opened where you can do it.

Another way to delete a right is to select the line and press .

Click on <Save> to save the rights in HD95PROT.DAT.

Click on <Exit> to quit without saving.

At the bottom you see a window showing the selected path - in case the path is too long to fit into the window of its list box.

Another window shows you hints, depending on where the mouse pointer is.

5.4 Closing HD95Adm

To let the new settings take effect you must restart Windows.

(Tip: If you click on "Start / Shutdown / Restart Windows", hold down the Shift key and click on Enter, Windows is restarted without rebooting!)

6 HD95PROT.EXE

When you start this program you see an icon in the status line. If you click on it you see the main window containing some buttons.

6.1 Logon

Click on it and enter your password to activate the other buttons.

(In the test version you are not asked for the password).

6.2 Logoff

HD95Protect again protects your drives.

6.3 Unlock / Lock

For test purposes or to install a program you can deactivate and again activate the protection.

6.4 Watch

It is a very special feature of HD95Protect to make your life easier!

The protection is deactivated but HD95Protect shows you all accesses that else would be denied.

6.5 Update

Click on it to have a look on the watched accesses.

6.6 Clear

The window containing the watched accesses is cleared.

(You see the status of the program - protecting, not protecting or watching - in the title bar.

6.7 Do not start for certain users

You can add a line to HD95PROT.INI if you do not want that the program is started for certain users. If you use

a network you could e.g. add

ASKSTART=SUPERVISOR,ADMIN

6.8 ASKSTART=Name1,Name2,...

If a user logs on whose name is in the list (separated by comma; no spaces!) he is asked whether HD95Protect should be started or not.

6.9 NOSTART=Name1,Name2,...

If a user logs on whose name is in the list (separated by comma; no spaces!) HD95Protect is not started. It is also not possible to start it manually.

7 Hints for practical use

7.1 How can I prevent a file to be overwritten?

It is possible by HD95Protect: Just set the attributes of the file(s) to readonly (use Explorer or ATTRIB.EXE in the DOS box) and take away the right to change file attributes.

There is a reason why this way has been chosen: There are (bad) applications saving their temporary files in the program or Windows directory, but also printer drivers of well known printer manufacturers needing write access to their INI file. If you set all files to readonly (but not this INI file) and take away the right to change file attributes (but not to delete) all these files are protected. But the application can create and delete temporary files or write to the INI file!

7.2 What are the Windows files you should NOT set to readonly?

(I assume C:\WINDOWS is your Windows directory)

C:\WINDOWS*.PWL

C:*.SWP /S

C:\WINDOWS\PROFILES*. * (and all files in ist subdirectories)

If a new user XXX logs in to Windows or to a network, the following line is added in SYSTEM.INI to [Password lists]

[Password lists] die Zeile

XXX=C:\WINDOWS\XXX.PWL

(You can add this line before he logs in!)

7.3 What are the files an application needs access to?

You have installed a new application. All works fine. You load HD95Protect - and there are error messages (but they nearly never show you the true reason of the error!). Your application needs more access to any file - but to which one?

HD95Protect will help you!

Click on the icon of HD95Protect in the status line. Click on <Logon> and enter your password. Click on <Watch> and start your application. Now it runs as if HD95Protect was not loaded.

Work with your application, then quit it. Go back to HD95Protect and click on <Update>. Now you see in the watch window what would have happened ... E.g. means

ATTR C:\WINDOWS\ABC.INI

DEL C:\XYZ\123.DAT

that your application has problems when it tries to change the file attributes of C:\WINDOWS\ABC or to delete (move) the file C:\XYZ\123.DAT.

Now you know which rights your application needs!

If you use the strategy “Do not modify file attributes” (recommended) maybe you have to find out which files of an application should NOT be set to readonly (to do it you do not have to load HD95Protect):

- remove all readonly attributes
- start the application and close it
- go to a DOS box and change to the directory where the application is installed
- the command DIR /O-D /S shows you the files ordered by date. You see immediately which files have been written to when you closed the application (look at the Windows directory the same way!).

8 Installation of applications

Close all applications.

Change to HD95Protect, enter your password and click on “Unlock”.

If you use the strategy “do not modify file attributes” you have to remove readonly attributes from the files before you install programs or change the Windows configuration (display settings ...). To do it you can use WINATTR.BAT. When you have completed the installation you can use WINATTR.BAT again to set the file attributes to readonly. Use WINATTR.BAT after “start to DOS” (not in the DOS box!).

WINATTR - to remove file attribute readonly

WINATTR + to set file attributes to readonly

Have a look at WINATTR.BAT. Maybe you have to adapt the Windows directory. Of course you can add additional files or directories.

9 First steps; trouble shooting

If you restrict the access to files it could happen that the application gets an error. E.g. if you protect WINWORD.OPT, WinWord will claim (when you close it) that it cannot save its settings. This is not an error but a message and can be very useful in a multi user environment!

But there are applications that need write access to certain files to work properly. The problem is they often will not give you a correct error message ("cannot write to ...") but tell you anything or just refuse to work. E.g. if you use a HD Deskjet and protect DESKJETC.INI the printer driver reports an error in a DLL when you try to print.

The following steps tell you how you can configure HD95Protect step by step to avoid these problems or to find out the reason for a problem.

Again I strongly recommend to use the strategy "do not modify file attributes"! (It is assumed in the following steps that you do it).

9.1 First steps

Install HD95Protect with default values:

Language/Sprache: English

Installation path: C:\HD95PROT

(or a network path)

Protection: Do not modify file attributes

Automatic start by: No automatic start

(add this feature later!)

Copy files: (checked)

(Enter password and license data)

Install

Klick on "Start / Shutdown / Start to MS-DOS-mode", "Ok". Now you are on DOS level, Windows is not loaded (!).

```
winattr +
```

(winattr.bat is part of HD95Protect)

```
attrib +r c:\config.sys
```

```
attrib +r c:\autoexec.bat
```

If you now reboot and double click on HD95PROT.EXE your Windows files and start files are protected. Start your applications! There should be no errors.

(If there is an error look at "What are the files an application needs access to?")

Edit c:\windows\system.ini:

Change the line

```
shell=Explorer.exe
```

to

```
shell=Explorer.exe c:\hd95prot\hd95prot.exe
```

(or your network path) to start HD95Protect automatically.

Now you can go on to protect your first application (if all are closed you can do it in the DOS box):

```
attrib +r c:\xxx\*. * /S
```

(where xxx is the directory where the application is installed)

Test it to see if it works properly. If there is a problem look at "What are the files an application needs access to?" to find out the files you should not protect.

Continue with the next application.

9.2 Transferring the installation to other stations

On a network you can transfer this installation to other stations in a very simple and quick way via the network (for stand alone PCs use a floppy disk).

Tip: Create a batch file to perform the following steps!

If you installed HD95Protect to a local drive copy all files to a network directory (to the floppy disk), create c:\hd95prot on the new station, copy the files to it and set them to readonly.

Edit and modify SYSTEM.INI as told above.

Add the attrib commands you found out for your applications to WINATTR.BAT

Start WINATTR + at the new station in MS-DOS-mode (not in a DOS box!).

Tip: If you use HD95COPY / FAT32CP on a network all file attributes are preserved: Configure one station, create the backup file and restore it to the other stations - and all work is done !!!

10 Version history

1.0 (April 1997) Beta version, tested on school networks in Innsbruck

1.1 (September 1997) First official release

1.2a (9. Nov. 1997) Problems fixed if virus shield is loaded

1.3a (11.12.1997) New keys ASKSTART and NOSTART for HD95PROT.INI

1.3b (17.1.1998) When HD95Protect is closed Windows shuts down for security reasons.

11 Disclaimer

HD95Protect has been developed and tested very carefully. But I expressly disclaim any warranty of any kind and any liability for consequential damages. You use this program on your own risk.

12 License

HD95Protect is NOT free software. You can use the test license for 30 days. If you find it useful and decide to use it you have to register. If you continue to use the software after the evaluation period without purchasing a license, you are in violation of international copyright laws.

There are two differences between the test version and the registered version:

In the test version you are not asked for the password.

In the test version after a few minutes a dialog appears where the user is asked whether the protection of the drive should be deactivated (to test on just click on NO).

The purchase of a license never gives you the right to pass the license on to anyone else!

If you pay by bank transfer please send me an EMail, a FAX or a letter with your address to send you the registration key! The information I get from the bank is sometimes not sufficient!

The registration fee for HD95Protect 1.1 is

for a single user license

ATS 600,-

(DM 100,- or US\$ 70,-)

(if you pay by check please use ATS or US\$; otherwise the bank fees are very high!)

The single user license gives you the right to use the program at one computer.

for a network license for one organisational unit (e.g. one department, one classroom)

ATS 1500,-

(DM 230,- or US\$ 150,-)

(if you pay by check please use ATS or US\$; otherwise the bank fees are very high!)

The network user license gives you the right to use the program at all computers in a room connected by a local area network.

The site user license gives you the right to use the program at all computers of a firm at one location.

You may pay by

- mail or money order to

Gottfried Siehs

Tiergartenstrasse 99

A-6020 Innsbruck

Austria / Europe

- check

- bank transfer to:

PSK Bank Innsbruck, Konto-Nr. 7786.901, BLZ 60000

(Dr. Gottfried Siehs)

(If you pay by bank transfer please use ATS; otherwise the bank fee is very high!)

You get a registration key that you can enter to the setup program. Please be careful - you have to enter your registration data exactly as you get them, including spaces.

12.1 HD95Protect as package with HD95COPY and/or FAT32CP

If you have to administrate a network of many identical configured PCs, HD95COPY or FAT32CP is the ideal supplement to make your life easier!

You can use HD95COPY to restore your local drive including long file names from DOS level without reinstalling Windows 95! On a network you can set individual parameters like computername or IP address automatically during the restore!

Just start the station from a floppy disk. Load the drivers for the medium where the backup file is (network, CD-ROM, removable media ...). Format the disk and start HD95COPY or FAT32CP. Reboot - ready!

There are command line parameters for automatic batch processing.

HD95COPY supports FAT16, FAT32CP is the identical program for FAT32.

If you register HD95Protect and HD95COPY and/or FAT32CP you get for HD95COPY and FAT32CP a discount of 50%. E.g. a network license of HD95Protect and HD95COPY is available for ATS 1.995,- (1500+990/2) or US\$ 210,- (150+120/2).

13 Updates

You can download the current version of the programs from <http://www.geocities.com/SiliconValley/Lakes/8753>

I want to further develop my programs. Let me know your suggestions - I will try to include them in new releases!

14 Appendix: What else can I do to protect my disk?

Remember: HD95Protect can only be as secure as your password! Therefore choose it with care (not too short, not the name of your dog ...)

As an extension of the file system of Windows 95 this protection is effective even for Windows applications and for the DOS box. It is not effective if you start your PC to "pure DOS mode". Therefore you should deactivate this option. That is what you can do:

14.1 BIOS-Setup

Set the boot sequence to C:,A: to prevent booting from floppy disk.

Set a password to use the BIOS setup.

14.2 MSDOS.SYS

Remove the file attributes from C:\MSDOS.SYS by

```
attrib -r -s -h c:\msdos.sys
```

Load it to an editor and insert the following lines in section [Options] resp. alter them to

```
BootKeys=0
```

```
BootMulti=0
```

14.3 Registry

When you shut down Windows you get a menu item "Boot to DOS". Deactivate it by an entry in the registry.

Just double click on the file DOS_OFF.REG contained in the HD95Protect package (you can activate it again by double clicking on DOS_ON.REG).

The same way you can prevent your user from using the registry editor: Double click on REG_OFF.REG (you can activate it again by double clicking on REG_ON.REG).

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