*Thunder*BYTE

Anti-Virus Utilities

Congratulations! By purchasing the ThunderBYTE Anti-Virus utilities you have taken the basic step in building a massive anti-viral safety wall around your precious computer system. Setting up the appropriate defense, using the TBAV utilities, is a 'personal matter'. Therefore, we highly recommend to read the manual thoroughly, so you are well aware of all different kinds of security measures you may take.

The shareware version of TBAV for Windows can be used for a period a three weeks. After that, the program will start complaining that you didn't register TBAV for Windows. Furthermore, some items will be disabled. The following features will be disabled once the evaluation period has expired:

- You will not be able to save the TBAVWIN settings, in order to restore the settings if you use TBAVWIN again.
- The Background scanning feature is disabled.
- You cannot view information about any virus that TBAVWIN detects.

This help file contains the information you need if you want to use the TBAVWIN utility. This program enables you to use the ThunderBYTE Anti-Virus utilities from within Microsoft Windows.

The topics of this help file are:

Topics concerning the TBAVWIN program:

What is ThunderBYTE Anti-Virus ?

ThunderBYTE Anti-Virus (TBAV) is a comprehensive toolkit designed to protect against - and recover from - computer viruses. While TBAV focuses heavily on numerous ways to prevent a virus infection, the package would not be complete without various cleaner programs to purge a system, in the unlikely event that a virus manages to slip through. The package therefore consists of a number of programs each of which help you to prevent viruses to do their destructive jobs.

Overview of the TBAV package

Collecting software information: TbSetup

TbSetup is a program that collects information from all software found on your system. The information will be put in files named Anti-Vir.Dat. The information maintained in these files can be used for integrity checking, program validation, and to clean infected files.

Enable memory resident TBAV utilities: TbDriver

TbDriver does not provide protection against viruses by itself, but must be loaded in advance to enable the memory resident ThunderBYTE Anti- Virus utilities, such as TbScanX, TbCheck, TbMem, TbFile and TbDisk to do their job properly.

Scanning for viruses: TbScan

TbScan is both a very fast signature scanner and a so-called heuristic scanner. Besides its blazing speed it has many configuration options. It can detect mutants of viruses, it can bypass stealth type viruses, etc. The signature file used by TbScan is a coded 'TbScan.Sig' file, which can be updated by yourself in case of emergency. TbScan is able to disassemble files. This makes it possible to detect suspicious instruction sequences and to detect yet unknown viruses. This generic detection, named heuristic analysis, is a technique that makes it possible to detect about 90% of all viruses by searching for suspicious instruction sequences rather than using any signature. For that purpose TbScan contains a real disassembler and code analyzer.

Another feature of TbScan is the integrity checking it performs when it finds the Anti-Vir.Dat files generated by TbSetup. 'Integrity checking' means that TbScan will check that every file being scanned matches the information maintained in the Anti-Vir.Dat files. If a virus infects a file, the maintained information will not match the now changed file anymore, and TbScan will inform you about this.

TbScan performs an integrity check automatically, and it does not have the false alarm rate other integrity checkers have. The goal is to detect viruses and not to detect configuration changes!

Automatic scanning: TbScanX

TbScanX is the memory resident version of TbScan. This signature scanner remains resident in memory and automatically scans those files which are being executed, copied, de-archived, downloaded, etc. TbScanX does not require much memory. It can swap itself into expanded, XMS, or high memory, using only 1Kb of conventional memory.

Check while loading: TbCheck

TbCheck is a memory resident integrity checker. This program remains resident in memory and checks automatically every file just before it is being executed. TbCheck uses a fast integrity checking method, consuming only 400 bytes of memory. It can be configured to reject files with incorrect checksums, and/or to reject files that do not have a corresponding Anti-Vir.Dat record.

Reconstructing infected files: TbClean

TbClean is a generic file cleaning utility. It uses the Anti-Vir.Dat files generated by TbSetup

to enhance file cleaning and/or to verify the results. TbClean can however also work without these files. It disassembles and emulates the infected file and uses this analysis to reconstruct the original file.

Restoring infected boot-sector, CMOS and partition tables: TbUtil

Some viruses copy themselves into the hard disk's partition table, which makes them far more difficult to remove than bootsector viruses. Performing a low-level format is an effective, but rather drastic measure. TbUtil offers a more convenient alternative by making a precautionary back-up of uninfected partition tables and the boot sector. If an infection occurs, the TbUtil back-up can be used as a verifying tool and as a means to restore the original (uninfected) partition table and bootsector without the need for a destructive disk format. The program can also restore the CMOS configuration for you. If a back-up of your partition table is not available, TbUtil will try to create a new partition table anyway, again avoiding the need for a low-level format.

Another important feature of TbUtil is the option to replace the partition table code with new code offering greater resistance to viruses. The TbUtil partition code is executed before the boot sector gains control, enabling it to check this sector in a clean environment. The TbUtil partition code performs a CRC calculation on the master boot sector just before the boot sector code is activated and issues a warning if the boot sector has been modified. The TbUtil partition code also checks and reports changes in the RAM lay-out. These checks are carried out whenever the computer is booted from the hard disk.

It should be noted that boot sector verification is imperative before allowing the boot sector code to execute. A virus could easily become resident in memory during boot-up and hide its presence. TbUtil offers total security at this stage by being active before the boot sector is executed. Obviously, TbUtil is far more convenient than the traditional strategy of booting from a clean DOS diskette for an undisturbed inspection of the boot sector.

Resident safeguard: TbMon

TbMon is a set of memory resident anti-virus utilities, consisting of TbMem, TbFile and TbDisk. Most other resident anti-virus products offer you the choice to invoke them before the network is loaded and losing the protection after the logon procedure, or to load the anti-viral software AFTER the logon to the network, resulting in a partially unprotected system. The ThunderBYTE Anti-Virus utilities however recognize the network software and take appropriate actions to ensure their functionality.

Controlling memory: TbMem

TbMem detects attempts from programs to remain resident in memory, and makes sure that no program can remain resident in memory without permission. Since most viruses remain resident in memory, this is a powerful weapon against all those viruses, known or unknown. Permission information is maintained in the Anti-Vir.Dat files.

Preventing infection: TbFile

TbFile detects attempts from programs to infect other programs. It also guards read-only attributes, detects illegal time-stamps, etc. It will make sure that no virus succeeds in infecting programs.

Protecting the disk: TbDisk

TbDisk is a disk guard program which detects attempts from programs to write directly to disk (without using DOS), attempts to format, etc., and makes sure that no malicious program will succeed in destroying your data. This utility also traps tunneling and direct

calls into the BIOS code. Permission information about the rare programs that write directly and/or format the disk is maintained in the Anti-Vir.Dat files.

TbLanMsg currently only works on Lantastic networks. Versions for other networks will be available soon!

Keep record of all ThunderBYTE messages: TbLog

TbLog is a TBAV log file utility. It writes a record into a log file whenever one of the resident TBAV utilities pops up with an alert message. Also when TbScan detects a virus a record will be written.

This utility is primarily intended for network users. If all workstations have TbLog installed and configured to maintain the same log file, the supervisor is able to keep track of what is going on easily. When a virus enters the network he is able to take determine which machine introduced the virus, and he can take action in time.

A TbLog record consists of the timestamp on which the event took place, the name of the machine on which the event occured, and an informative message about what happenend and which files were involved. The information is very comprehensive and takes just one line.

Define your own signatures (in case of an emergency): TbGensig

Since TBAV is distributed with an up-to-date, ready-to-use signature file, you do not really need to maintain a signature file yourself. If, however, you want to define your own virus signatures, you will need the TbGensig utility. You can use either published signatures or define your own ones if you are familiar with the structure of software.

Remove infected files: TbDel

The DOS 'DEL' command does not actually erase a file. It simply changes the first filename character in the directory listing and frees up the space by changing the disk's internal location tables. TbDel is a small program with just one but important purpose: it replaces every single byte in a file with zero characters before deleting it. The entire contents are therefore obliterated and totally unrecoverable.

Overview of the TBAVWIN program

TBAVWIN is a front-end interface utility for use with the ThunderBYTE Anti-Virus utilities. TBAVWIN requires Microsoft Windows 3.1 or above and, of course, the ThunderBYTE Anti-Virus utilities package, version 6.xx. TBAV for Windows is the MS-Windows equivalent of the TBAV program, which operates solely with the MS-DOS operating system.

When you have executed the TBAVWIN program, you will see several menu options. The TbSetup menu item enables you to setup and configure your computer system for use with the ThunderBYTE Anti-Virus utilities. For instance, when you have installed a new program on your harddisk, you can use TbSetup to extract checksum information from this program. This checksum information will be used by TbScan and TbCheck to make sure no virus will attach itself on your new program.

With the TbScan menu item of the TBAVWIN program you are able to execute the virus scanner program.

To ease the use of the TBAVWIN program, you can view the various documentation files or on-line help information supplied with the TBAVWIN package through the Documentation and Help menu items.

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We offer several inducements to you for registering. First of all, you are entitled to support for the ThunderBYTE Anti-Virus utilities, which can be quite valuable at times.

Some very enhanced features (like the TbScan option 'extract') are only available to registered users. Once you have become a registered user, these advanced options will be made available to you. Your registrations allow us to enhance our products and to keep them up to date!

The registration key

Registered users receive the information and instructions to generate their TBAV.KEY. The key file will contain important information such as the licence number and the name of the licensee. The key file TBAV.KEY is NOT to be sold or transferred in any way. The ThunderBYTE Anti-Virus utilities do search for the key file in the current directory. If they do not find it there, they search the same directory where the program file itself resides.

If the key file is corrupt or invalid, the ThunderBYTE Anti-Virus utilities continue without error message although your version of the ThunderBYTE Anti-Virus utilities will then be treated as an unregistered SHAREWARE version. If your key is only valid for some of the ThunderBYTE Anti-Virus utilities, the other utilities will ignore it when run.

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The TbSetup menu item

Some information about TbSetup

TbSetup is an indispensible tool, adding support to the rest of the ThunderBYTE Anti-Virus utilities, even though it does not take an active part in actual virus detection or cleaning itself. TbSetup organizes control and recovery information giving extra power to the other utilities. The information is gathered, mainly from program files, into a single reference file called Anti-Vir.Dat, one each per directory.

The TbSetup program recognizes some files that need special treatment. An example of such a file is a disk image file of a network remote boot disk. - Such a file that actually represents a complete disk - should be scanned completely, and for all viruses. TbSetup will put a mark in the Anti-Vir.Dat file to make sure that TbScan scans the complete file for all viruses.

TbSetup is the one program where the rule applies: The less you use the program, the better your protection against viruses! Why? Keep in mind that an Anti-Vir.Dat file stores vital information needed to detect a virus, as well as data for subsequent recovery and for cleaning. But consider what would happen if you were to execute TbSetup after a virus entered the system: the information in the Anti-Vir.Dat file would be 'updated' to the state of the infected file, wiping out all traces of data needed to reconstruct the file of the original, uninfected state. Never use TbSetup when there is the slightest evidence of a virus in your system. Once the Anti-Vir.Dat files have been generated as part of the initial setup, any subsequent usage of TbSetup should be confined to directories with new or changed program files.

The TbSetup Menu

The TbSetup menu consists of four items. There are two submenus to set or clear some options of the TbSetup program. To read more about them, please select one of the two lines below.

TbSetup options
TbSetup flags

TbSetup can use a special file to recognize files that need special treatment. The name of this file can be entered by choosing Data file pathname. To view this file, choose View data file.

The TbScan menu item

Some information about TbScan

TbScan is a virus scanner: it has been specifically developed to detect viruses, Trojan Horses and other such threats to your valuable data. Most viruses consist of a unique sequence of instructions, called a signature. Hence through checking for the appearance of such signatures in a file we can find out whether or not a program has been infected. Scanning all program files for the signatures of all known viruses helps you to find out quickly whether or not your system has been infected and, if so, by which virus.

TbScan is the fastest scanner on the market today, therefore it invites users to invoke it from within their AUTOEXEC.BAT file every morning. Thanks to its design, TbScan will not slow down if the number of signatures increases. It doesn't matter whether you scan a file for 10 or a 1000 signatures.

TbScan can detect yet unknown viruses. The built-in disassembler is able to detect suspicious instruction sequences and abnormal program layouts. This feature is called 'heuristic scanning' and it is partially enabled by default. Heuristic scanning is performed on files and bootsectors.

The TbScan Menu

The TbScan menu item consists of five topics, of which four items are submenus. TbScan offers you the possibility to make a log-file while scanning. In order to view this file, you must select the View log file option. The options that TbScan offers can be enabled or disabled by using one of the following submenus:

TbScan options
TbScan advanced options
If virus found
Log file options

The Configure TBAV ***submenu***

Wait after program execution

By enabling this option, TBAVWIN will display the message: "Press any key..." after executing an external utility.

Sound options

TBAVWIN has four options for generating alert sounds. The first option is to always generate this sound if a virus is found. The second option only generates the sound once. If more viruses are found, the alarm will not be sounded. The third option is to only generate sounds during background scanning (e.g. during a scheduled scan process, or when a virus has been intercepted on-the-fly). With the last option all sounds are disabled.

File view utility

TbSetup and TbScan generate a datafile and a logfile respectively. By default, you can view these files from the TBAVWIN menu using an internal file view utility. By using this option you are able to attach your favorite external file view utility. Enter the complete path and the file name, including the extension.

The TbSetup|Data file pathname ***dialog***

TbSetup uses a data file for all special program files on your disk that need special treatment. The pathname of this file can be entered using this dialog box. Pressing OK will cause the pathname you entered to be used. If you press CANCEL all changes will be discarded.

The TbSetup|Options ***submenu***

Prompt for pause

When you enter option 'pause' TbSetup will stop after it has processed the contents of one window. This gives you the possibility to examine the results.

Only new files

If you want to add new files to the Anti-Vir.Dat database, but prevent the information of changed files from being updated use option 'newonly'. Updating the information of changed files is dangerous because if the files are infected, the information to detect and cure the virus will be overwritten. Option 'newonly' prevents the information from being overwritten but it still allows information of new files to be added to the database.

Remove Anti-Vir.Dat files

If you want to stop using the ThunderBYTE utilities you do not have to remove all the Anti-Vir.Dat files yourself. By using this option TbSetup will neatly remove all Anti-Vir.Dat files from your system.

Do not change anything

If you want to see the effect of an option without the risk that something is activated you do not want, use option 'test'. If that options is specified the program will behave as it would normally, but it will not change or update anything on your hard disk.

Hide Anti-Vir.Dat files

The Anti-Vir.Dat files are normally not visual in a directory listing. If you prefer to have normal - i.e. visible - files disable this option. *Note that this option only applies for new Anti-Vir.Dat files.*

Make executables read-only

As TbFile guards the read-only attribute permanently it is highly recommended to make all executable files read-only to prevent any modifications on these files. TbSetup will do the job if you enable option 'read-only'. Files that should not be made read-only are recognized by TbSetup.

Clear read-only attributes

This option can be used to reverse the operation of option 'read-only'. If you enable this option all read-only attributes of all executable files will be cleared.

Sub-Directory scan

By default TbSetup will search sub-directories for executable files, unless a filename (wildcards allowed!) has been specified. If you disable this option, TbSetup will not process sub-directories.

The TbSetup|Flags ***submenu***

Use normal flags

This is the default setting for TbSetup. However, if you're an experienced user, you might want to set or reset flags manually.

Set flags manually

This option is for advanced users only. With this option you can manually set permission flags in the Anti-Vir.Dat record. This option requires a hexadecimal bitmask for the flags to set. For information about the bitmask consult the TbSetup.Dat file. The flags you can change are the ones listed in the 'Define flags to be changed' box.

Reset flags manually

This option is for advanced users only. With this option you can manually reset permission flags or prevent flags to be set in the Anti-Vir.Dat record. This option requires a hexadecimal bitmask for the flags to reset. For information about the bit mask consult the TbSetup.Dat file. The flags you can change are the ones listed in the 'Define flags to be changed' box.

The TbScan|Options ***submenu***

Prompt for pause

When you activate the 'pause' option TbScan will stop after it has checked the contents of one window. This gives you the possibility to examine the results without having to consult a log file afterwards.

Quick scan

TbScan will use the Anti-Vir.Dat files to check for file changes since the last time. Only if a file has been changed (CRC change) or is not yet listed in Anti-Vir.Dat it will be scanned. Normally TbScan will always scan files.

Non-executable scan

With this option TbScan will scan non-executable files (files without extension COM, EXE, SYS or BIN) too. If TbScan finds out that such a file does not contain anything that can be executed by the processor the file will be 'skipped'. Otherwise the file will be searched for COM, EXE and SYS signatures. TbScan however will not perform heuristic analysis on non-executable files. Since viruses normally do not infect non-executable files it is not necessary to scan non-executable files too. We even recommend not to use this option unless you have a good reason to scan all files.

A virus needs to be executed to perform what it is programmed to do, and since non-executable files will not be executed a virus in such a file can not do anything. For this reason viruses do not even try to infect such files. Some viruses however will write to non-executable files as a result of 'incorrect' programming. If so, these non-executable files will never harm other program or data files, but do contain corrupted data.

Bootsector scan

Enabling this option will force TbScan to scan the bootsector as well.

Subdirectory scan

By default TbScan will search sub-directories for executable files, unless a filename (wildcards allowed!) is specified. If you disable this option, TbScan will not scan sub-directories.

Fast scrolling

TbScan shows the processed file in a scrolling window. There are two methods of scrolling: fast scrolling where the files are displayed on top of the previous ones if the window becomes filled, and the conventional slow method of scrolling where the files at the bottom 'push up' the previous ones. By default TbScan uses the faster but less attractive method of scrolling.

The TbScan|Advanced options ***submenu***

High heuristic sensitivity

Auto heuristic sensitivity

Low heuristic sensitivity

TbScan always performs a heuristic scan on the files being processed. However, only if a file is very probably infected with a virus, TbScan will report the file as being infected. If you use option 'High heuristic sensitivity', TbScan is somewhat more sensitive. In this mode 90% of the new, unknown, viruses will be detected without any signature, but some false alarms may occur. If you use option 'Low heuristic sensitivity', TbScan will report an unknown virus in only a few cases. If you choose 'Auto heuristic sensitivity', TbScan automatically adjusts the heuristic detection level after a virus has been found. This provides you maximum detection capabilities in case you need it, while the amount of false alarms due to heuristics remains small in normal situations. In other words: as soon as a virus has been found, TbScan will anticipate and proceed as if option 'High heuristic sensitivity' has been specified.

Extract signatures

This option is available to registered users only. See the chapter 'TbGensig' (IV-5) of the manual on how to use the option 'extract'.

Configure executable extensions

By default, TbScan only scans file with a filename extension which indicates that the file is a program file. Viruses which do not infect executable code simply do not exist. Files with the extension EXE, COM, BIN, SYS, OV? are considered to be executable.

However, there are some additional files which have an internal layout that makes them suitable for infection by viruses. Although it is not likely that you will ever execute most of these files, you may want to scan them anyway.

Some filename extensions that may indicate an executable format are:

```
*.DLL *.SCR *.MOD *.CPL *.00? *.APP
```

The first four extensions indicate Windows executable files. They normally display "This program requires Microsoft Windows" when you try to execute them, so you probably won't run these files often under DOS. Even when they are infected by a DOS virus they are not likely a threat since you don't execute them. Therefore TbScan does not scan them by default. To make TbScan scan these files by default, select this option and fill out the extensions you want to have scanned. The question mark as wildcard is allowed.

Warning! Be careful about which extensions you specify: scanning a non- executable file causes unpredicatble results, and may result in false alarms.

The TbScan|If virus found ***submenu***

Present action menu

If TbScan detects a virus, the program will display a menu containing the possible actions to be taken: just continue, delete, kill or rename the infected file.

Just continue (log only)

If TbScan detects an infected file it prompts the user to delete or rename the infected file, or to continue without action. If you select this option, TbScan will always continue. We highly recommend you to use a log file in such situations, as a scanning operation does not make much sense without the return messages being read (see 'Command line options').

Delete infected file

If TbScan detects a virus in a file it prompts the user to delete or rename the infected file, or to continue without action. If you specify the 'delete' option, TbScan will delete the infected file automatically, without prompting the user first. Use this option if you have determined it is a virus infection. Make sure that you have a clean back-up, and that you really want to get rid of all infected files at once.

Kill infected file

This option is nearly the same as the 'delete' option. However, with the DOS 'undelete' program you can recover a deleted file, but if a file has been deleted with the 'kill' option, recovery is not possible anymore.

Rename infected file

If TbScan detects a file virus it prompts the user to delete or rename the infected file, or to continue without action. If you select the 'rename' option, TbScan will rename the infected file automatically, without prompting the user first. By default, the first character of the file extension will be replaced by the character 'V'. An .EXE file will be renamed to .VXE, and a .COM file to .VOM. This prevents the infected programs from being executed, spreading the infection. At the same time they can be kept for later examination and repair.

The TbScan|Log file options ***submenu***

Log file path/name

With option logname you can specify the name of the log file to be used. TbScan will create the file in the current directory unless you specify a path and filename after selecting this option. If the log file already exists, it will be overwritten. If you want to print the results, you can specify a printer device name rather than a filename (logname=lpt1). *Note: you have to combine this option with option 'log'.*

Output to logfile

When you use this option, TbScan creates a log file. The log file lists all infected program files, specifying heuristic flags (see: appendix B of the manual) and complete pathnames.

Append to existing log

If you use this option, TbScan will not overwrite an existing log file but append the new information to it. If you use this option often, it is recommended to delete or truncate the log file once in a while to avoid unlimited growth. *Note: you have to combine this option with option 'log'.*

No heuristic descriptions

If you enable this option TbScan will not specify the descriptions of the heuristic flags in the log file. The heuristic flag descriptions are listed in appendix B of the manual.

Loglevel

These levels determine what kind of file information will be stored in the log file. The default log level is 1. You may select one of five log levels:

0 Log only infected files. If there are no infected files do not create or change the log file.

1 Log summary too. Put a summary and timestamp in the log file. Put only infected files in the log file.

2 Log suspected too. Same as loglevel=1, but now also 'suspected' files are logged. Suspected files are files that would trigger the heuristic alarm if option 'heuristic' had been specified.

3 Log all warnings too. Same as loglevel=2, but all files that have a warning character printed behind the filename will be logged too.

4 Log clean files too. All files being processed will be put into the log file.

The Documentation|Virus List ***dialog***

You are confronted with an extensive list of viruses. You can pick a virus out of this list, and by pressing the 'Show Information' button, a window will appear which lists all information about that specific virus.

The Documentation|What's New list ***dialog***

Here you see a list of all 'WhatsNew' files located in your TBAV directory. The file which comprises the information concerning the most recent distribution is located at the bottom of the list.

The Documentation|Virus Information ***dialog***

You have just asked for information about a virus, and now you see all information that is available about this virus. We not only present you information about this virus, but also we give a hint how to get rid of this virus in case your system is infected with it. You can use the scroll bar to scroll through the text.

The Background Scan ***dialog***

File I/O Monitor

If TbScanX was installed before starting MS-Windows, TBAVWIN can intercept all file I/O being done. In this way, TBAVWIN becomes a resident virus-scanner under Windows ! TBAVWIN should of course be active to enable this feature, so you must put TBAVWIN on "the background", or minimize TBAVWIN.

Application Execution Tracker

If enabled, TBAV for Windows will scan all application that are executed from within MS-Windows, for viruses. In this way, you can be sure that no virus infects your precious files !

Background Scan

ThunderBYTE Anti-Virus for Windows contains a built-in scheduler. When activating the scheduler, some files or paths on your computer system are automatically scanned when a certain, adjustable period of time has elapsed. This period of time can be specified in the edit control. By clicking the 'Enable Background Scan' checkbox, you can disable or enable the scheduler. The target for background scan can be specified by clicking the button called 'Target'.

The Network Options ***dialog***

The network-workstation version of ThunderBYTE Anti-Virus for Windows communicates with a central server application. The settings for this communication can be altered here.

Asynchronuous timeout

The time a workstation has to respond to an asynchronous request. Must be between 5000ms and 99999ms.

Message scan time

Determines how often should TBAVWIN check the communication directory for messages sent to it. This time must be between 100ms and 9999ms.

Blocking message scan time

How often should TBAVWIN check if there is an answer from a blocking request (a blocking request immediately polls the server). Must be between 100ms and 9999ms.

Blocking request timeout

The time a workstation has to respond to a blocking request. Must be between 5000ms and 99999ms.

The Virus Found ***dialog***

While scanning, ThunderBYTE detected a virus within a file. You are confronted with some information about this virus, and you must choose one out of six different actions that you can take:

Delete infected file

If TbScan detects a virus in a file it prompts the user to delete or rename the infected file, or to continue without action. If you specify the 'delete' option, TbScan will delete the infected file automatically, without prompting the user first. Use this option if you have determined it is a virus infection. Make sure that you have a clean back-up, and that you really want to get rid of all infected files at once.

Kill infected file

This option is nearly the same as the 'delete' option. However, with the DOS 'undelete' program you can recover a deleted file, but if a file has been deleted with the 'kill' option, recovery is not possible anymore.

Rename infected file

If TbScan detects a file virus it prompts the user to delete or rename the infected file, or to continue without action. If you select the 'rename' option, TbScan will rename the infected file automatically, without prompting the user first. By default, the first character of the file extension will be replaced by the character 'V'. An .EXE file will be renamed to .VXE, and a .COM file to .VOM. This prevents the infected programs from being executed, spreading the infection. At the same time they can be kept for later examination and repair.

Continue (log only)

If TbScan detects an infected file it prompts the user to delete or rename the infected file, or to continue without action. If you select this option, TbScan will continue. We highly recommend you to use a log file in such situations, as a scanning operation does not make much sense without the return messages being read.

Non-stop continue (log only)

If TbScan detects an infected file it prompts the user to delete or rename the infected file, or to continue. If you select the 'Non-stop continue' option, TbScan will continue without action. We highly recommend you to use a log file in such situations, as a scanning operation does not make much sense without the return messages being read.

Quit TbScanW

By choosing this option, the scanning process will simply be aborted.

About the ThunderBYTE developers

The ThunderBYTE Anti-Virus utilities were developed by ESaSS B.V., a Dutch company. The products of ESaSS B.V. are mainly related to the battle against computer viruses, but ESaSS B.V. also develops products in other areas of computer security. ESaSS B.V. has gained a lot of experience with and knowledge of viruses, assembler-written system software and personal computer hardware. Of course, ESaSS B.V. has a large collection of viruses to test their products on.

The ThunderBYTE Anti-Virus utilities are written by Frans Veldman. The TBAVWIN program is written by Bartjan Wattel and Frans Veldman.

How to contact ESaSS B.V.

The address of ESaSS B.V. is stated below. Frans Veldman can be contacted by email at `veldman@esass.iaf.nl` on the Internet. ESaSS B.V. can also be contacted at `100140,3046` at Compuserve, or on the Internet at `100140.3046@compuserve.com`.

ESaSS B.V.

P.O. Box 1380
6501 BJ Nijmegen
The Netherlands

Voice: +31 (0)8894 22 282
Telefax: +31 (0)8894 50 899
Support BBS: +31 (0)59 182 011

Automatically updating TBAV for Windows

TBAV-for-Windows can now automatically be updated! If TBAV-for-Windows is loaded each time MS-Windows is started, you can now configure TBAV-for-Windows in such a way, that an 'update' directory is automatically checked for new or changed files. If such files exist, they will be copied into the TBAV-for-Windows directory.

This offers great oppertunities for network administrators. For example, suppose you want each network-user to have the same settings for their local copy of TBAV-for-Windows. Simply specify a common-accessible network directory, and copy a predefined TBAV.INI file in that directory. This TBAV.INI will be copied to the TBAV-for-Windows directory of each workstation whenever TBAV-for-Windows is started. Hence, the configuration of TBAV-for-Windows at each workstation will be updated automatically.

In order to install the automatic update utility, you should either use the 'First-time' install option of the accompanying setup program, or you must incorporate some changes manually. In the latter case, you should add a new section to the each local TBAV.INI file, for example:

```
[TbLoad]                              ; section in TBAV.INI

UpdateDir=X:\SHARED\UPD_TBAV
Option=Newer files                    ; the other option is 'All files'
ProgramToLoad=TBAVWIN.EXE             ; required !
TimeStamp=02-24-1995, 06:33:00        ; fill this in yourself (please use
                                      ; the 'mm-dd-yyyy, hh:mm:ss' format)
```

Besides the change in TBAV.INI, you should also change the 'load=' entry in WIN.INI. This line will now (amongst others) refer to 'TBAVWIN.EXE'; this should be changed into 'TBLOAD.EXE'. For example:

```
[windows]                             ; section in WIN.INI

...
load=c:.exe
...
```

The settings can also be altered via TBAV-for-Windows (choose the item 'Automatic update configuration' in the 'Options' menu).

Please note that the automatic update feature is only available for registered users !