

Audiotrieve, LLC

InBoxer v1.0

Users Guide

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Audiotrieve

InBoxer Users Guide

1. The InBoxer Concept

Welcome to InBoxer, the software that protects your Inbox and knocks out spam.

InBoxer is a plug-in for Microsoft Outlook that removes unwanted mail from watched mail folders and places them in a separate folder. It never deletes your email messages.

InBoxer is a Bayesian anti-spam filter. The term Bayesian, when used to describe a spam filter, generally means two things:

- The filter uses examples of actual email and spam messages, as well as other information, to classify new mail into categories.
- The filter uses Bayesian mathematics to calculate how likely it is that each received message fits into the category.

This section describes some of the concepts used to create InBoxer. These concepts are important for understanding why InBoxer works the way it does.

Note: To get started right away, skip directly to Section 2.

What Is Bayesian Filtering?

U.S. Supreme Court Justice Potter Stewart once said that he could not define pornography, but he said “I know pornography when I see it.” The same might be said about defining spam. Each person defines spam and junk email differently. For

example, your brother may consider all unsolicited commercial email to be spam. Your co-worker may want all email messages related to certain hobbies. You may wish to receive messages confirming that products you ordered have shipped, but you may not wish to receive new product notices from the same vendor.

Because spam may only be defined by example, traditional spam filters have two critical limitations:

- Vendors cannot create a set of rules and sender lists¹ that effectively block spam. Spammers will find gaps to exploit. Even continual updates to the rules work for just a short period of time because customers and spammers receive filter updates at the same time.
- Vendors cannot create a set of rules that work effectively for everyone.

Bayesian filters are based on the proven and tested work of Thomas Bayes (1702-1761), a Presbyterian minister from Tunbridge Wells, 35 miles southeast of London. He demonstrated how to categorize items by analyzing examples and other information.

Bayesian calculations indicate how likely it is that an item falls within a certain category based on information collected from samples and other information for each possible category. The process first creates statistical models for the categories using Bayesian methods. Then, the process compares the items to be categorized to those models. The Bayesian calculation produces a number, usually shown as a percentage, which indicates how likely it is that the item is part of each category. Generally, items are assigned to the category with the highest probability estimate.

Lists can also augment Bayesian filters. For example, InBoxer allows for “Trusted Senders” and “Trusted Domains” (sometimes called a “whitelist”) that guarantee that

¹ A rule is a statement that says if a certain condition is met, then the mail is spam. For example, one rule might state that if certain offensive words appear in a message then that message is spam. But spammers exploit this by creating subtle changes that will not be caught, such as changing the word “lover” to “l-o-v-e-r” to beat the test. A sender list is a specific type of rule that may instruct a system to block messages from selected senders or domains. For example, a company may add the email address of somebody who sent offensive mail to a block list.

you will receive all messages from senders on the trusted lists, no matter how “spammy” the message might be.

Do All Bayesian Filters Work the Same Way?

While Bayesian methods date back to the 1700s and have been proven in countless implementations, the way in which they are implemented is critical to success. There is no industry standard for a Bayesian anti-spam filter. Based on significant experience in developing and using language technologies, the In Boxer team believes that there are three critical factors to consider when evaluating Bayesian anti-spam filters.

1. **The Data Collected.** Since Bayesian systems start with the collection of examples, a system can only be as good as the quality and appropriateness of the data collected. If the samples are not representative of the group or individual target, as can be the case with some filters, the results may not be accurate.

InBoxer collects samples from the user’s own mail folders in order to create a highly personal filter. If there are not enough messages available, InBoxer can add statistics from carefully selected examples. This lets users tune InBoxer to fit their interests. For example, your InBoxer installation can become smart enough to allow a newsletter about your favorite hobby into the Inbox, even if other people might consider the message to be spam. It can even learn the difference between an intimate note from a user’s spouse and offensive mail from a bulk mailer.

2. **Tokenization.** Each vendor must break up each message into smaller “tokens” which can be analyzed. For example, one word is an obvious token. Other tokens might include punctuation marks, proper names, strings of text that mix words and numbers or words and punctuation marks, email addresses, the time the message was sent and more. In some cases, the same word could be part of different tokens depending upon where it is used. For example, InBoxer considers a word in the subject line to be a different token than the same word in the body of the message.

Building ideal tokens requires significant study and experimentation.

InBoxer is based on the work of well-known language modeling experts who know how to make optimal choices.

3. **Mathematical Programming.** While Bayesian mathematics are well understood, the proper implementation is very important and not a given. InBoxer reflects the work of expert programmers and mathematicians with extensive experience in creating systems from statistical models.

InBoxer also includes many other features and capabilities that make it superior to other products.

2. Using InBoxer

InBoxer is extremely easy to use and to operate. It works quietly in the background checking mail messages as they arrive. Most users find that they only need to follow two steps to get excellent results:

1. Select Express Setup at installation time.
2. Check messages in the InBoxer-Review folder.

You do not need to launch a separate program or learn a new program interface. Some users may decide to optimize the system as described in Section 3.

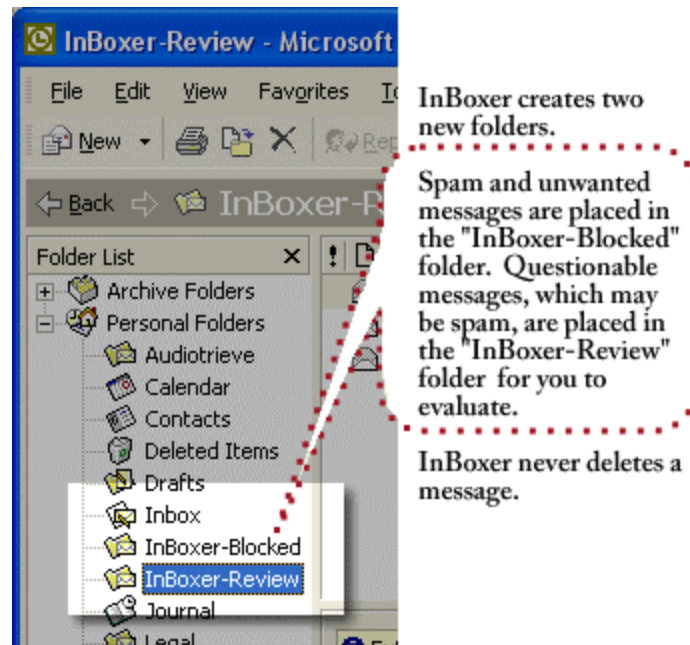
We strongly recommend that all first-time users select **Express Setup** at installation time. This section assumes that you used **Express Setup** and that the system is working. (Section 4 provides a few steps to check this if you need it.)

Checking InBoxer Features

When you first install InBoxer, it creates two Outlook folders and puts two buttons on your Outlook toolbar:

New Folders

InBoxer creates two new folders at installation. These are named **InBoxer-Blocked** and **InBoxer-Review**. These folders usually appear just below the Inbox folder, as shown below. However, in certain Outlook configurations, particularly those that use Microsoft Exchange, they may appear within the Inbox folder. If you see a “+” next to the Inbox folder, click it to expand the list and see the InBoxer folders.



As messages arrive in the Inbox, Outlook first processes any rules you may have defined. Then InBoxer filters the messages in the folders it is watching. If InBoxer believes a message is spam or other junk email, it moves it to the **InBoxer-Blocked** folder. If InBoxer thinks the message might be spam or junk, but is not sure, it places it in the **InBoxer-Review** folder for user action.

New Buttons

InBoxer also creates two new buttons on the Outlook toolbar. One or both button may display depending upon the folder being used. (In most cases, only one button appears. Both buttons appear when using the **InBoxer-Review** folder.)



InBoxer creates new buttons on the menu bar. If InBoxer makes a mistake, use these buttons to correct them. A single click makes the correction.

Press **BLOCK** to identify a message as spam or unwanted email. Press **KEEP** to identify a message as good.

InBoxer learns by example and usually will not make the same mistake again.

These buttons teach InBoxer about message content and move messages to appropriate folders. You use these buttons as follows:

- If you see a message in **InBoxer-Review** or **InBoxer-Blocked** that should be considered a good message, click **Keep**. This moves the selected message back to the Outlook Inbox. InBoxer learns that you consider messages like this one to be good.
- When you see a message that is spam, junk, or otherwise just unwanted, but the message is not in the **InBoxer-Blocked** folder, click **Block**. This moves the blocked messages to the **InBoxer-Blocked** folder. InBoxer adds information about the message to the statistics for analyzing future messages. InBoxer usually will not make the same mistake again.

Messages are never deleted by InBoxer; only moved to the InBoxer-Blocked and InBoxer-Review folders. To delete messages, you simply move them from the InBoxer-Blocked folder to the Deleted Items folder either by dragging or by clicking Delete (as you usually would when using Outlook).

If you prefer, you can also move one or more messages at a time to or from the InBoxer-Blocked folder by dragging and dropping them. InBoxer updates its statistics and learns more about what should be considered spam any time messages are moved in or out of watched folders.

If you make a mistake or simply change your mind about a particular email message, you can simply select the message and then click the **Keep** or **Block** buttons from the toolbar. InBoxer immediately adjusts.

Using InBoxer Efficiently

InBoxer is a highly personalized system that creates unique filters for each user. You may be able to improve InBoxer's performance by following a few simple steps.

Prepare Your Inbox for Setup and Training

InBoxer learns by example and becomes more accurate as you use it. You can accelerate this process by cleaning your Inbox before running Setup. Simply delete or move obvious junk email from the Inbox. You can either do this before you install InBoxer, or follow these steps:

1. Move spam and unwanted email from your Inbox to the folder named **InBoxer-Blocked**.
2. Re-train InBoxer by selecting the **InBoxer** pull down menu, then selecting **Advanced** → **Setup Wizard** → **Express Setup**.

Review Your Filtered Spam

Once taught, InBoxer rarely repeats a mistake. A simple review process teaches InBoxer what you want.

1. Review the messages placed in the **InBoxer-Review** folder. You can do this at any time, but it's best to check every few days or when the folder has more than 100 messages in it. Simply click **Keep** while reading a good message and click **Block** while reading spam or junk email teaches InBoxer. You can also select a group of messages and click **Keep** or **Block** to teach InBoxer even faster.
2. Move any misfiled messages (either by hand or with the **Keep** or **Block** buttons) to the proper location.

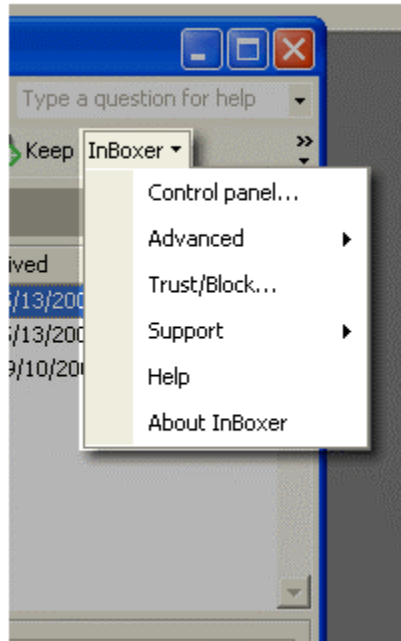
Note: If you make a mistake, click the button with the opposite function to undo the training. For example, clicking the **Keep** button for an item in the **InBoxer-Blocked** folder undoes the training caused by the **Block** function.

3. (Optional) Elect to **Trust** users, domains or every name in your Contact List by highlighting a message with the user or domain you want and selecting **InBoxer → Trust/Block** to see your options. Once a user is trusted, InBoxer allows all messages from that account regardless of their content. The **Block** user and domain items have the same function. Instructions for Trusting users may be found in Section 3.

Note: Be very careful blocking domains. For example, you could automatically block every user from AOL.COM or MSN.COM with a single click. If this happens, you can undo the **Block** by clicking on **Unlist Domain**, which appears in the **Trust/Block** menu when you highlight or read a message from that domain.

4. Optimize your installation if you find you want to teach InBoxer more about your environment after a week or so of use. Advanced users can go to the **InBoxer Control Panel** to fine tune many functions as described in the following section.

3. Optimizing: Using the InBoxer Menu



The InBoxer drop-down menu has many features that let you optimize, adjust, and fine-tune InBoxer for your needs.

Control Panel

You can adjust how InBoxer processes messages from the **Control Panel**. Change these settings with care. Some settings can prevent InBoxer from working at all. Section 4 contains diagnostic tips and suggestions for fixing problems.

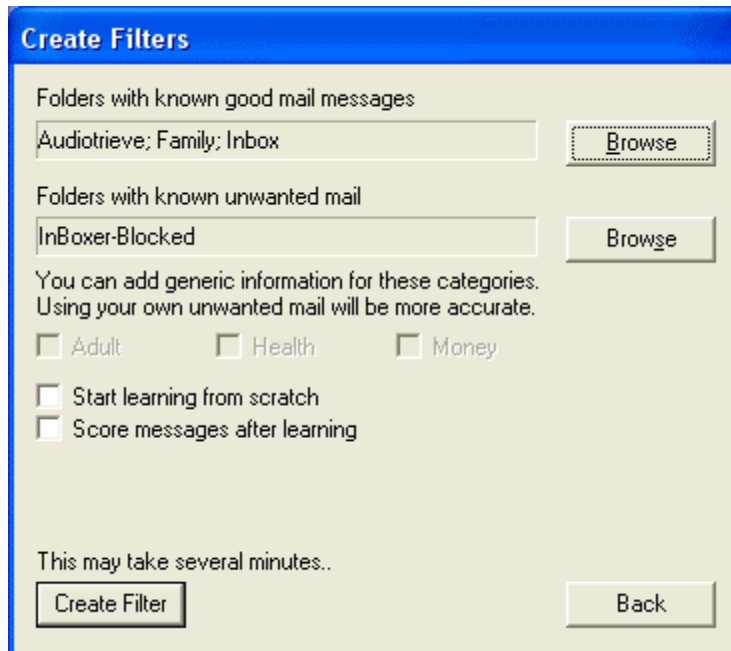
Select **InBoxer → Control Panel** to see the dialog.



The Control Panel dialog has two areas:

- **Create Filters** summarizes the data InBoxer is using to create filters. The numbers displayed change as InBoxer learns.
- **Apply Filters** enables the filter, and shows you which folders InBoxer is watching and using to file messages.

To adjust how InBoxer learns from your messages, click **Change** in the **Create Filters** area.



The area named **Folders with known good mail messages** tells InBoxer where to find examples of messages that you want to read. The names of the currently selected folders appear. By default, InBoxer only uses the Inbox to define good mail messages. In the example above, the folders Audiotrieve and Family also contain good messages.

You can make InBoxer more accurate by including folders with other known good mail in this dialog. This is especially true if you use Outlook rules to move messages to multiple folders. To change or add folders, click **Browse** to select from a list of all known Outlook folders.

The area named **Folders with known unwanted mail** shows the names of the folders used to define spam, junk, or other unwanted mail. You can also make InBoxer more accurate by adding folders with other known spam messages in this dialog. For example, if you already have folders named **Junk Email** or **Spam**, simply click **Browse** and select them from a list of all known Outlook folders.

Several other options are available on this dialog box:

- If InBoxer believes that there are too few messages in the **Folders with known unwanted messages**, it suggests that you add carefully selected statistics collected by experts to augment the calculations. Three types of

statistics are available: Adult, Health, and Money. In the example above, the choices are not available as there are thousands of messages in the selected folder.

- If you need to retrain InBoxer for some reason, select **Start Learning From Scratch** to wipe out any previously collected statistics. Use this option only if the previous filter has serious errors and you want to start over. Generally, this option is not needed.
- If you are interested in exactly how InBoxer is processing your message, or if you may want to move your messages later, select **Score Messages After Learning** to re-process all messages in the folders that are being watched, but not to move them. Each message receives a new percentage number based on the new filters. Moving is done in a separate step defined below.

When you are ready, click **Create Filter**. When you are done, click **Back** to return to the Control Panel.



In the **Apply Filters** area of the Control Panel, you can influence how InBoxer processes messages after it builds the filter.

At installation, the **Enable Filters** box is checked so InBoxer can process messages. Removing the check disables InBoxer. (It may be re-enabled at any time.)

The text box in the **Apply Filters** area indicates what the filter is doing.

- **Watching** names the folders being monitored and filtered. By default, InBoxer watches the Inbox. However, if you have rules or macros that automatically move messages to other folders, you may want to add those folders to the watch list by clicking **Change**.
- **Unwanted mail in** names the folder where InBoxer moves spam, junk email and other unwanted mail.
- **Possible unwanted mail** names the folder where InBoxer moves questionable messages for your review.

To change the folders or to adjust the sensitivity of the folders, click **Change**. The **Apply filters** dialog appears.

Apply Filters

Watch the following folders

Inbox

Browse

Block

If messages have a score higher than: 90

these messages should be

Moved to folder InBoxer-Blocked

Browse

Review

If messages have a score higher than: 15

these messages should be

Moved to folder InBoxer-Review

Browse

Good messages

All other messages will be left alone.

Cancel OK

The **Watch the following folders** text box identifies which folders InBoxer monitors and filters. InBoxer watches only the Inbox by default. To change or add folders, click **Browse** to select from a list of all known Outlook folders.

The **Block** and **Review** areas let you adjust InBoxer's sensitivity.

- The **Block** adjustment automatically moves messages with a certain message statistics score or higher to the **InBoxer-Blocked** folder. By default, a message that scores 90 or above is blocked. If the number is higher, fewer messages will be blocked.

If you find that InBoxer classifies too much obvious spam for review, you can adjust the **Block** slider. Some users report using numbers as low as 60. However, a low number increases the risk of a good message being classified as spam. See the *Message Analysis* description in the Advanced section (below) to help determine a proper number.

If you like, you can also choose a new folder for spam. (**Note:** Renaming the folder from the Outlook folder list has the same effect.)

- The **Review** adjustment determines when messages are moved to the **InBoxer-Review** folder. Messages with statistics less than the Review score are considered good. By default, a message statistics score of 15 or above, but less than the **Block** threshold, results in a message being identified for review. If the number is higher, more messages will be defined as good.

If you find that too many messages that are questionable or obviously good are classified for review, you can adjust the **Review** slider. Some users report using numbers as high as 25. However, a low number increases the risk of a spam message being classified as good. See the *Message Analysis* description in the Advanced section (below) to help determine a proper number.

If you like, you can also choose a new folder for possible spam. (**Note:** Renaming the folder from the Outlook folder list has the same effect.)

Advanced

The Advanced function contains several useful functions: Message Analysis, Setup Wizard, Export Statistics, and Import Statistics.

- The **Message Analysis** option creates a detailed report of how InBoxer scored a message. It gives you the final score that indicates how likely InBoxer believes that the message is spam, and informs you of the most significant words and tokens used in the evaluation.

The statistics are useful for troubleshooting. If you have a message that you think has been classified incorrectly, you can look at the statistics for the message and see how InBoxer scored it. The report is formatted as an email message, so you can easily send statistics to InBoxer customer support for help with troubleshooting.

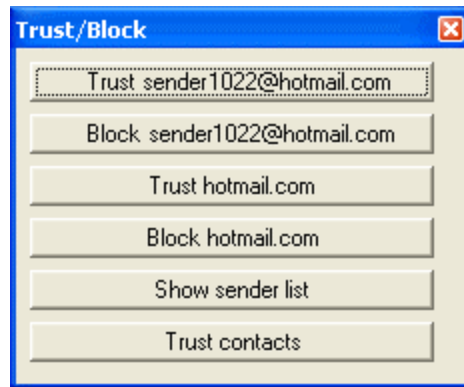
- The **Setup Wizard** offers the same Setup choices available at installation. You launch **Express Setup** here if you want to re-train the system or to diagnose whether InBoxer is working.
- The **Export Statistics** and **Import Statistics** options let you transfer already-trained data to another system. For example, you can move the statistics to your laptop before a trip and then move them back when you return. Or you may move the statistics from your office system to your home system as often as you wish. Enterprises can also create an enterprise-wide set of statistics and then import them into each PC.

To move the InBoxer information, select **Export Statistics** from the Control Panel. Move them to another machine by using **Import Statistics**. It is simple and probably will not need to be done more than once.

Note: You must manually Trust or Block any senders on a per-machine basis, since that function is not controlled in the statistics database.

Trust/Block

The **Trust/Block** menu lets you trust (so-called "white list" or block (so-called "black list") specific email addresses or entire domains. The benefit is that "trusting" a person or domain gives you complete confidence that messages will get through no matter the content of that message. For example, if you have a friend who sends you a risqué joke via email, the message will still be delivered. It can also be used to prevent certain people from reaching you. The **Trust/Block** menu has six options.



When you read or highlight a message, the **Trust/Block** dialog box shows that sender name and domain, as appropriate. In the above example, the sender is named sender1022@hotmail.com. (**Note:** The word "sender" in this example is part of the sender's address, not part of the menu command.)

- The first two buttons apply only to the specific email address. Click **Trust** to receive all messages from the sender and **Block** to block all messages from the sender, regardless of content.
- The middle two buttons apply to entire domains, which are usually companies. In this case, pressing **Block hotmail.com** prevents any messages from hotmail.com, no matter who the sender may be. Use this option with caution -- it moves messages into **InBoxer-Blocked**.

When you use **Trust** or **Block**, InBoxer behaves as if you had used the **Keep** or **Block** button while reading a message. Therefore, blocking an offensive sender also trains InBoxer to block similar messages from other senders. This limits the ability of a spammer to send similar messages from multiple addresses.

Once you trust or block a sender or domain, the related menu item changes to **Unlist**, which lets you undo the action. For example, if you accidentally block the entire domain hotmail.com, the **Block hotmail.com** button changes to **Unlist hotmail.com** when you highlight or read any message from that domain. Use this button to resume normal filtering operation on that domain.

The last two buttons let you perform two more general functions.

- **Show sender list** produces a report on all trusted and blocked addresses. The report is formatted as an email message, so you can easily send it to InBoxer customer support for help with troubleshooting.
- **Trust Contacts** automatically adds every email address in your Outlook Contacts List to the Trusted List with just one click. Use this option to receive any kind of message from any of your defined Contacts.

Some of the tasks you may accomplish from this menu are as follows:

- Add an entire domain, which is often the same as an entire company, to the trust list. For example, most users will add his or her employer's domain so that all internal communications will be received regardless of content.
- Ban a spammer. All future messages from this address will be automatically placed in the **InBoxer-Blocked** folder. In addition, InBoxer learns that all future messages similar to the blocked messages are likely to be spam.
- Ensure that all newsletters from a trusted source are received by adding the sender to the Trusted List. Usually this is not necessary, but there is no harm in taking this extra precaution.

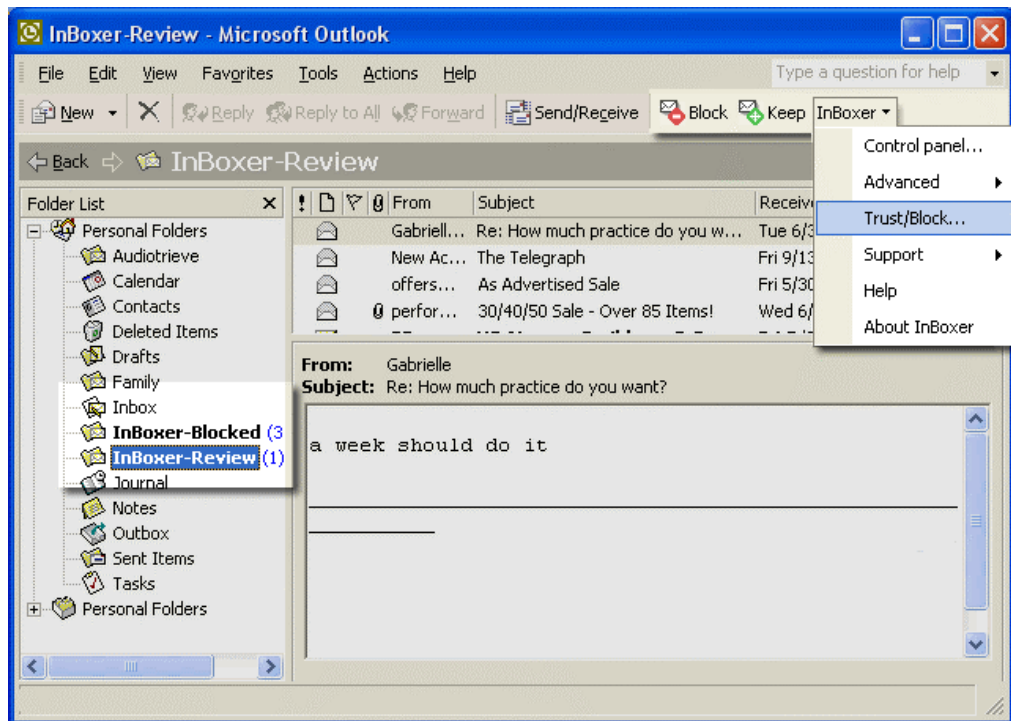
Support

Our personalized email support lets you automatically mail critical log files with their comments. Select Contact Support in the support menu to launch a new message and attach technical log files that will help our team diagnose any problems. No confidential information about the content of your messages is contained within our logs.

4. Troubleshooting: Is InBoxer Working?

If you have any doubts that InBoxer is installed properly, we suggest running **Express Setup** again. You can do this either by removing InBoxer from your computer (with the computer control panel's Add/Remove Software function) and re-installing InBoxer, or by selecting **InBoxer → Advanced → Setup Wizard** from the Outlook toolbar. Check that **Express Setup** made the following choices (which may be changed later, if you wish).

- You now have Outlook **InBoxer-Blocked** and **InBoxer-Review** folders. These folders usually appear just below the Inbox folder, as shown below. However, in certain Outlook configurations, they may appear within the Inbox folder. If you see a "+" next to the Inbox folder, expand it to reveal the InBoxer folders.
- The **InBoxer** menu appears on the Outlook toolbar. (The dialog below shows how the menu appears if you select **InBoxer**).



If you see the folders but not the buttons, make sure that you are displaying Outlook's standard toolbar:

1. Select **View → Toolbars → Customize** to display the toolbar options dialog.
2. Select the **Toolbars** tab, make sure the **Standard** item is checked in the list, and click **Reset**.
3. Restart Outlook to have any change take effect.

If everything looks all right here, there are several things you can check from the Control Panel, as shown in the following list.

Note: This list simply summarizes the Control Panel settings. Change them, if necessary, as described in Section 3.

- Make sure that the **Enable Filters** box is checked.
- In the **Create Filters** box, check that the message says that there are at least 100 good and 100 unwanted messages in the database. If not, you need to add more email folders or add the default statistics from the **Change** option.
- Check the **Apply Filters** box to see that it says that it is “watching” the Inbox, in addition to any other folders where new messages might appear. If no folders are selected, InBoxer is not processing new messages. (Some users have Outlook rules that move new messages automatically to other folders. If this is your situation, you need to add those folders to the watch list from the **Change** option.)
- Check the **Apply Filters** dialog to see that the **InBoxer-Blocked** and **InBoxer-Review** folders are selected for moving messages. If you like, click **Change** to see the Block and Review settings. Under both **Block** and **Review**, make sure that the action drop-down box under **these messages should be** is set to **Moved**, and that the proper folder is named. If the box says **Untouched**, InBoxer will not move the message no matter what its score might be. If the box says **Copied**, the original will remain in the Inbox.

- Also check that the **Apply Filters** dialog, lists the proper folders for Block and Review, usually **InBoxer-Blocked** and **InBoxer-Review**. The names can be changed or deleted if the original folders are moved or deleted within Outlook. Reset the folders using **Browse**.
- From the **Apply Filters** dialog, check the sensitivity of InBoxer. By default, InBoxer moves messages with a 90% probability score to **InBoxer-Blocked** and messages with a score between 15% and 90% to **InBoxer-Review**. However, these settings are adjustable in the Control Panel. If Review is at 100% and Blocked is at 100%, messages will not be moved.
- From the **Trust/Block** menu, check the status of senders. If, for example, you elected to Trust all messages from the domain AOL, MSN, Hotmail and Yahoo!, you may get a large number of undesired messages that are not filtered. The fastest way to check is to select **Show sender list** in the **Trust/Block** menu. To remove a Trust or Block, highlight or read a message that you believe is obviously in the wrong place. If **Unlist** appears next to the sender or domain name on one of the **Trust/Block** buttons, a Trust or Block is in effect. Click the button to undo the setting.

5. Conclusion

Thank you for selecting InBoxer to handle your spam problem. Our goal is to give you the highest quality experience with the most effective product on the market.

More information about InBoxer and a series of Frequently Asked Questions are posted on our web site at www.inboxer.com. For personalized technical support, please email support@inboxer.com or use the phone number on the web site. For all other questions or comments, please write info@inboxer.com.