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## THE LINDER COMPANY Software



### Flight Assistant 2.2

*for (almost) every flight simulation*

Dear user,

Thanks for downloading this product by THE LINDER COMPANY Software. Please read this document carefully to avoid problems with the software.

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## 1. INSTALLATION

This program does not need any certain installation. Simply copy all the files and folders that are delivered with this package, i.e.

- *FlightAssistant.exe*
- *FlightAssistant.ini*
- *Language.ini*
- *Liesmich.pdf*
- *Readme.pdf*
- *Lisezmoi.pdf*
- *Command List Multi Crew Coordination.pdf*
- *Action List Multi Crew Coordination.pdf*

into a directory of your choice and launch the program. Please keep in mind that the program needs write access to the file "*FlightAssistant.ini*".

## 2. FEATURES

Flight Assistant is a program that provides a virtual co-pilot. You can give commands using a microphone, which the co-pilot executes then. For example, one could give the command "*flaps up*", and then the flaps will be raised automatically. Furthermore, the co-pilot responds to your commands, so that you receive a confirmation.

The program is nearly completely configurable. You are able to create new commands and even to edit the existing ones.

### 2.1 VERSION HISTORY

Version	New features in the corresponding version
1.0	<ul style="list-style-type: none"><li>- first official release</li></ul>
1.1	<ul style="list-style-type: none"><li>- power key added</li><li>- added a "<i>general settings</i>" dialogue</li><li>- enhanced error handling</li><li>- extended readme, FAQ added</li></ul>
1.2	<ul style="list-style-type: none"><li>- FAQ extended</li><li>- error handling enhanced again</li><li>- improved speech output</li><li>- fixed an error in the background picture</li><li>- scaling problem in the main and loading dialogue fixed</li><li>- new options in the "<i>general settings</i>" dialogue:<ul style="list-style-type: none"><li>▪ user may select whether to activate asynchronous command processing or not</li><li>▪ new key press emulation routine added (still experimental, may malfunction)</li><li>▪ support for numeric pad keys</li><li>▪ added "<i>no responses</i>" option to prevent "<i>wave device busy</i>" errors on some systems</li></ul></li><li>- fixed some stuttering problems during response playback</li></ul>
1.3	<ul style="list-style-type: none"><li>- multiple languages supported<ul style="list-style-type: none"><li>▪ Language.ini added</li><li>▪ new translations (the power key is now called "<i>Speak</i>" key)</li><li>▪ dialogue for language selection</li><li>▪ German, French and English language available right now</li><li>▪ French readme delivered with the program</li></ul></li><li>- list of all available commands can be printed</li><li>- program can be displayed as an icon in the system tray when it is minimized</li><li>- new option: beep when a command has been recognized</li></ul>
1.3.13	<ul style="list-style-type: none"><li>- Dutch language added</li><li>- a message appears when the XML format tags of a response are invalid (solves the "<i>Error -2147200958</i>" problem when a command has been recognized)</li><li>- more commands are delivered with the program</li></ul>
2.0	<ul style="list-style-type: none"><li>- new picture in the background of the main window</li><li>- improved user interface</li><li>- Bug fix: "<i>Speak</i>" key (PTT) should now work on every system (using Microsoft DirectInput 7 to detect the state of the input device)</li><li>- readme files now in PDF format, some mistakes fixed</li></ul>

- new commands added
- Italian language added
- program file size decreased
- Joystick support for "*speak*" key: now one of the joystick's buttons can be chosen for to activate the command recognition
- program does now also beep when a command has not been recognized
- improved error handling (developers may be contacted via e-mail/support forum)
- volume control added
- sound card for speech output may now be chosen
- commands editor improved (larger buttons, etc.)
- support for Pete Dowson's WideFS
- MS Flight Simulator data can now be read out using Pete Dowson's FSUIPC module
- tray icon now shows the recognition status via different colors
- *767: Pilot In Command* is now supported in improved key press emulation mode
- Dutch language support is unfortunately not available any more because of a lack of volunteer translators
- "*Miscellaneous*" button added
  - "*Contact*" and "*Homepage*" option implemented

- 2.1
- Dutch language support added again
  - some minor bugs fixed

- 2.2
- Spanish translation added
  - commands are now sorted in alphabetical order

### 3. REQUIREMENTS

To use Flight Assistant, your system should meet the following requirements:

- Pentium II 233 MHz or higher/equivalent processor
- 128 MB of RAM
- Windows 98/NT 4.0 SP 6a/2000/ME/XP
- A full-duplex sound card
- Microphone & speakers/headset
- Microsoft Speech (SAPI 5.1) and a speech recognition and Text-to-Speech engine; available as download at <http://www.microsoft.com/speech/download/sdk51>. The file that has to be downloaded is called "*Microsoft Speech 5.1 SDK*" and is about 68 megabytes large. Unfortunately, Microsoft does not provide a file that contains only the run-time libraries, so you have to download that file, I think. If you should find a smaller file that also works, please notify me.
- Microsoft Visual Basic 6 Runtime (<http://download.microsoft.com/download/vb60pro/Redist/sp5/WIN98Me/EN-US/vbrun60sp5.exe>).
- Microsoft DirectX 7 or a newer version (to retrieve the state of the input devices), is being installed during MS Flight Simulator installation.

## 4. USER INTERFACE

After launching Flight Assistant, a splash screen will appear for a few seconds first. Subsequently, you'll see a user interface with the following buttons:



**Picture 1: The main window**

- **Speak:** Switches the speech recognition on/off. When the button is pushed down, speech recognition is enabled.
- **Quit:** Terminates the program.
- **Settings:** Allows you to configure the program. See below for more information.
- **Miscellaneous:** Shows various ways of contacting THE LINDER COMPANY Software.

## 5. SETTINGS

There are some settings that allow you to configure Flight Assistant and the speech recognition engine. To access them, simply click the "Settings" button. A menu containing the following items will appear:

- **Engine\*:** General speech and Text-To-Speech options.
- **Audio\*:** Options regarding your sound devices.
- **Audio volume\*:** Audio volume control.
- **Microphone:** A microphone wizard that helps you installing and configuring your microphone.
- **User training:** A wizard that helps you to get your PC used to your voice. Very useful in order to increase the speech recognition accuracy.
- **Commands:** Runs the commands editor. For more information, see below.
- **General:** New since version 1.1. Lets you set some general options, for example the "Speak" key: If you enable this option, the key selected in the "General settings" win-

dow has to be held down to make the PC recognize your commands. That option is very useful if there are many noises in your environment that the computer could interpret as commands; after activating this option, it only recognizes commands when you press and hold the power key.

- **Language:** Allows you to choose the program language.

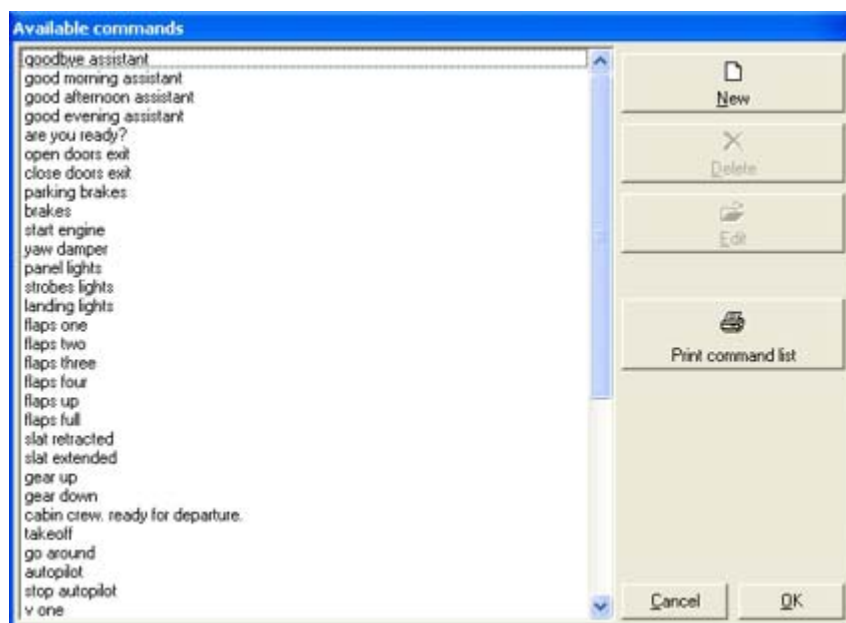
Depending on your system, the number of available options may differ. Options that are not available are grayed and cannot be clicked.

Items with a star (\*) might not be available because the current version of the MS Speech Engine does not support it.

## 6. COMMANDS EDITOR

The commands editor, which is launched after clicking on "Settings" and "Commands", allows you to edit the existing commands and create new ones.

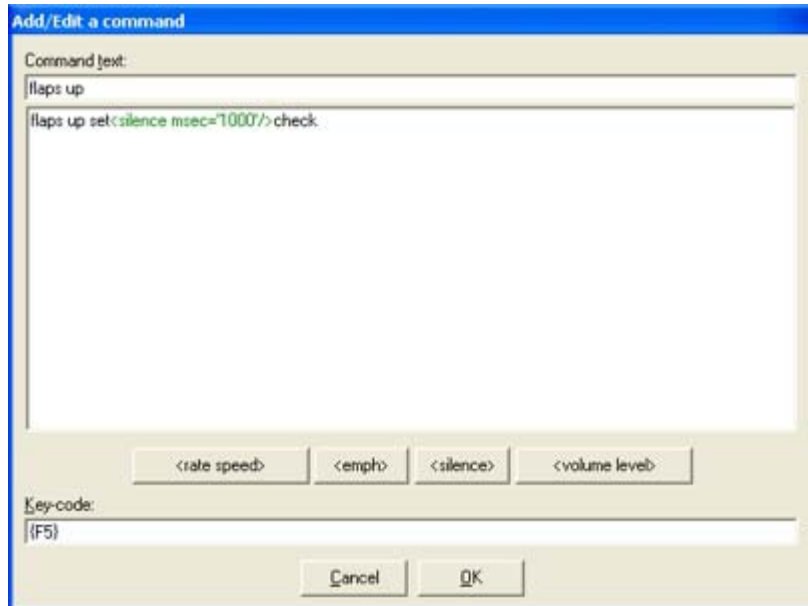
To edit an existing command, simply select the appropriate command and click on "Edit". A new window will appear where you may view and change the corresponding values.



**Picture 2: The commands editor**

The following values may be changed using the commands editor:

- **Command text:** The text spoken into the microphone by the user and to be recognized by the computer.
- **Spoken response:** The response that's spoken by your computer when the text entered in the "Command text" field is recognized.
- **Key-code:** The keys that are sent when the text is recognized. See below for further information.



**Picture 3: Editing a command**

To create a new command, simply click the "New" button. Now enter the new values in the appearing window and finally click "OK" to add the command to the list. The changes made are applied first when you click the "OK" button for a second time. If you click the "Cancel" button the changes are not applied.

New: You may print a list of all available commands using the "Print command list" button.

## 6.1 KEY-CODES

You may enter a key-code into the field "Key-code for this command" which is sent when the command is recognized. Standard keys, like "a", "x" or "1" may be entered directly. Special keys like "F6" or "END" require a special way of typing:

BACKSPACE	{BACKSPACE}
BREAK	{BREAK}
CAPS LOCK	{CAPSLOCK}
DELETE	{DEL}
ARROW-DOWN	{DOWN}
END	{END}
ENTER	{ENTER}
ESCAPE	{ESC}
HELP	{HELP}
HOME	{HOME}
INSERT	{INS}
ARROW-LEFT	{LEFT}
NUM LOCK	{NUMLOCK}
PAGE DOWN	{PGDN}
PAGE UP	{PGUP}
PRINT SCREEN	{PRTSC}
ARROW-RIGHT	{RIGHT}
SCROLL LOCK	{SCROLLLOCK}
TAB	{TAB}
ARROW-UP	{UP}
F1	{F1}
F2	{F2}
F3	{F3}

F4	{F4}
F5	{F5}
F6	{F6}
F7	{F7}
F8	{F8}
F9	{F9}
F10	{F10}
F11	{F11}
F12	{F12}
F13	{F13}
F14	{F14}
F15	{F15}
F16	{F16}

Additionally supported in "*improved key press emulation*" mode:

NUM PAD 0	{NUM0}
NUM PAD 1	{NUM1}
NUM PAD 2	{NUM2}
NUM PAD 3	{NUM3}
NUM PAD 4	{NUM4}
NUM PAD 5	{NUM5}
NUM PAD 6	{NUM6}
NUM PAD 7	{NUM7}
NUM PAD 8	{NUM8}
NUM PAD 9	{NUM9}

You can enter key-codes with the SHIFT, CTRL or ALT key using the following codes prior to the standard key code:

Key	Code
SHIFT	+
STRG	^
ALT	%

When those keys have to be pressed synchronously with other keys, simply include the codes in brackets. For example, when the SHIFT key shall be pressed together with the keys E and C, enter "+(EC)". When the SHIFT key shall be pressed together with E and afterwards C without SHIFT, type "+EC".

Examples for Flight Simulator 2002 (default key layout):

- Gear: "g" (as "g" is the key to raise/lower the gear)
- Flaps down: "{F7}"

## 6.2 TEXT-TO-SPEECH

As soon as the computer recognizes a command, an automatic response is played. The user can set this response (see above). As the computer does not always speak the way the user wants the computer to, there are also some options:

**<emph>Your text</emph>**

The text will be emphasized.

**<volume level="50">Your text</emph>**

Sets the volume of the spoken text. "100" represents full volume.

**<rate speed="+3">Your text</emph>**

Makes the computer speak the text faster. To make the computer speak slower, use negative numbers.

**<silence msec="500"/>**

Pauses the playback for the specified amount of time (e.g. 500 milliseconds).

There are also some other, less important options, which are not mentioned here. To get more information, simply contact us via e-mail or our support forum.

## 6.3 CONFIGURATION FILE

The supported commands are stored together with the key-codes and the responses in a file named "*Flight Assistant.ini*". You should not change this file manually, as it may cause big problems. Instead, you should make use of the integrated commands editor, which is delivered with this package and is accessible via "*Settings*", "*Commands*".

If you want to, you may give your configuration file(s) to other people or put it at your homepage. If you do so, please also refer to our homepage. The URL is mentioned in the beginning of this document.

## 6.4 LANGUAGE FILE

Within the file "*Language.ini*", the different program translations are stored. As the file is not encrypted, you may add your own translations easily, read more about that within the file. If you have added a new translation, we would be happy about a mail; perhaps we could deliver it with Flight Assistant.

## 6.5 FSUIPC INTEGRATION

The Flight Assistant allows you to read data directly from Microsoft Flight Simulator 98/2000/2002/2004. This is possible using the FSUIPC interface (an up-to-date version can be downloaded from <http://www.schiratti.com/dowson.html>). FSUIPC version 2.975 for FS 98/2000/2002 is freeware, whereas version 3, which is needed for Flight Simulator 2004, is shareware. Please note that FSUIPC is not required to run the Flight Assistant; however, you will not be able to read out any data without it.

To read out data from Flight Simulator, simply insert some special tags into the response text of the Flight Assistant. To read out the current wind data, for example, the following response text would be possible:

wind is *<wind-direction/>* at *<wind-speed/>*

The tags that are printed in italics are replaced with the corresponding data automatically. The following FSUIPC tags are available:

### Tag

*<airspeed/>*  
*<air-temperature/>*  
*<altitude-feet/>*  
*<altitude-metres/>*  
*<avionics/>*  
*<battery/>*  
*<flaps-down/>*  
*<fuel-pump/>*  
*<gear/>*  
*<heading/>*

### Bedeutung

Current air speed (in knots)  
Air temperature in degrees Celsius (SAT)  
Altitude (feet)  
Altitude (metres)  
Avionics switch on/off  
Battery switch on/off  
Flaps down/up  
Fuel pump on/off  
Gear down/up  
Heading



<spoilers-armed/>  
<wind-direction/>  
<wind-speed/>

Spoilers armed/off  
Wind direction  
Wind speed (in knots)

## 7. KNOWN ISSUES/PROBLEMS

- You should not enter the same key as a power and a command key. For example, if you set the "CTRL" key as a reaction to the "*gear down*" command, you should not set "CTRL" as power key, as it could result in unpredictable problems.
- On some systems, you might receive "*wave device busy*" error messages. Read more about it in the FAQ below.
- The improved key press emulation is still experimental, so it might contain some bugs. Sometimes FS 2002 just quits when you select this option. However, it solves some problems with third-party add-ons.
- You may add up to 999 commands and up to 255 languages.

There are no other problems known at the moment. If you should experience problems, please contact us via our support forum or via e-mail. However, you should read the answers to the FAQ (see below) first.

## 8. FREQUENTLY ASKED QUESTIONS (FAQ)

Within the following paragraphs, you will find answers to some frequently asked questions. Perhaps it will help you when you have problems with Flight Assistant. If you do not find an answer to your question, please send us an e-mail with a description of your problem or create a new post in our support forum.

**Q: Flight Assistant does not recognize my commands or it recognizes them incorrectly.**

A: You should do some user training. To do so, click "*Settings*" and "*User training*". Please notice that this option is only enabled if the engine supports it. Another solution to this problem could be a readjustment of your microphone; the microphone wizard could help you to do so. If it sounds like you were "*blowing*" into the microphone, you should move it away from your mouth. Another important aspect regarding this issue is also your sound card's driver; you should use up-to-date drivers to achieve best recognition results.

**Q: I receive some error messages after starting Flight Assistant or choosing an item in the "*settings*" menu.**

A: It seems like your Microsoft Speech 5.1 installation is corrupt or missing. You should try to uninstall it first and then install it again. If it does not work or you do not have Microsoft Speech 5.1, download the SDK from <http://www.microsoft.com/speech/download/sdk51>. Also, remember the fact that Flight Assistant needs the Microsoft Visual Basic 6 Runtime, which can be downloaded from the Microsoft homepage.

**Q: The responses of Flight Assistant are always like "*blah-blah*".**

A: You should check whether the right Text-To-Speech (TTS) engine is installed and/or selected. To do so, double-click the "*Speech*" item in the Windows control panel.

**Q: An error message appears during the execution of Flight Assistant.**

A: Perhaps your system is configured wrong or a component is missing. Also, consider the fact that it could be a program bug. If you think so, you may send an e-mail to us with an exact (!) description of the error or visit our support forum.

**Q: After giving a command I always receive an error -2147201018 (wave device busy).**

A: Unfortunately, MS Speech seems to have problems with some sound cards, e.g. the SoundBlaster 128 PCI. The only way to solve this problem right now is to deactivate all responses: Select the option "*no responses*" in the "*general settings*" dialogue. We are currently working on a solution to this problem.

**Q: Some items in the "Settings" menu are grayed.**

A: This behavior of Flight Assistant is quite normal. SAPI 5.1 or the default speech engine does not seem to support it right now. However, you can access this functionality using the "*Speech*" item in the control panel.

**Q: Sometimes Flight Simulator quits itself when using the improved key press emulation.**

A: We currently do not know a solution to this problem, but we are looking for it.

**Q: Can I use the numeric pad keys?**

A: Yes, you can, but only in improved key press emulation mode. You may select this mode using the "*General settings*" dialogue. This mode also solves some other problems, but might contain bugs. The appropriate key codes are listed above.

**Q: The "Speak" key function does not work.**

A: Check whether the selected key is assigned to a command in Flight Simulator. You could also try to activate the "*No responses*" option in the "*General settings*" window; some systems appear to have problems with the playback of the responses.

**Q: May I use Flight Assistant in combination with other simulations like Falcon 4, Combat Flight Simulator or Eurofighter Typhoon?**

A: Yes, you may. In theory, this is possible without any adverse effects because the Flight Assistant is a stand-alone application. However, you have to adjust the different commands, especially the key codes, depending on the simulation you are running. Unfortunately, we did not have the opportunity to test Flight Assistant in combination with other simulations; we would be happy about any user feedback.

**Q: May I add new languages/translations?**

A: Yes, it is possible. More information regarding this topic can be found in the language file itself, "*Language.ini*". If you have translated the program into a language that is not available yet, please let us know.

**Q: I cannot select one of my joystick buttons in the "*Speak*" key list field.**

A: You can only select one of your joystick's buttons if the joystick is connected to your computer. If this should not be true, it is not possible to choose these buttons.

**Q: May I use Flight Assistant in combination with WideFS?**

A: Yes, this is possible. WideFS is a program that allows users of Microsoft Flight Simulator to run the simulator on a PC different from the one where e.g. Flight Assistant is executed. In order to do so, you have to activate the "*SendKeyPresses*" option (using the INI file of WideFS). More information regarding this can be found in the WideFS manual.

**Q: Some commands are not executed when using the PTT function ("*Speak*" key). How can I solve this problem?**

A: This problem does usually only occur when you use the "*CTRL*", "*ALT*" or "*SHIFT*" key as the "*Speak*" key. We suggest the use of "*SCROLL LOCK*".

**Q: Are add-ons like "*767: Pilot In Command*" supported?**

A: Yes, they are. However, you have to use improved key press emulation mode ("*General settings*" window) to avoid problems.

## 9. MISCELLANEOUS/ABOUT

When you have got questions, critics or suggestions of improvement, we would be happy about an e-mail to the address mentioned above or a post in our support forum.

**Programming:** Timm Linder

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More programs and games can be found at our homepage. We do not take response for any damage that may occur as a result of the use of this program. Some names mentioned within this document may be trademarks or registered trademarks of certain firms. We are using them only for the purpose of information.

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