



G-Simulations Kneeboard

User Manual Version 2.0



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1. System Requirements

To use the G-Simulations Kneeboard, you need:

- **Microsoft Flight Simulator 2020**
- **.NET Runtime 4.5.2** (usually pre-installed)

2. Feature Overview

Main Features

VR Compatible

Fully optimized for Virtual Reality headsets

Virtual Keyboard

Input without physical keyboard

In-Game Panel

Direct access within the simulator

Navigation Log

Professional flight planning like in real aviation

Weather Log

Current weather information at a glance

Document Viewer

Checklists and documents directly in the simulator

 **Moving Map**

Interactive map with airspaces and navigation aids

 **Teleport Function**

Quick position changes without menu

 **Notepad**

Handwritten notes with mouse

 **Calculator**

Aviation-specific calculations

 **Customizable**

Create your own color schemes

 **Open Source**

Map source code freely available

3. Installation

Installation via Simmarket SimInstaller

Note: If you are using the Simmarket SimInstaller, skip the panel installation steps and proceed directly to the [Kneeboard Server Installation](#).

Manual Installation

Step 1: Extract Download

- 1 Extract the downloaded file **Kneeboard Server_x_x.zip**
- 2 You will receive a folder containing In-Game Panel files and Kneeboard Server installation files

Step 2: Install Panel

- 1 Navigate to the extracted folder
- 2 Locate the folder "**gsimulations-ingamepanels-kneeboard**"
- 3 Move this folder to your **Community folder**

 **Tip:** The default path of the Community folder is:

```
C:\Users\  
[YourName]\AppData\Local\Packages\Microsoft.FlightSimulator_[...]\Loca
```

Step 3: Install Server

- 1 Open the folder "**Kneeboard Server**"
- 2 Run "**Kneeboard Server Setup.msi**" or "**setup.exe**"

3

Follow the installation wizard

4. Kneeboard Features

4.1 Navigation Log

The Navigation Log is a professional tool for flight preparation, as used in real aviation.

What is a Navigation Log?

A Navigation Log centralizes all important information for a safe flight:

- Waypoints and routes
- Time calculations
- Fuel planning
- Weather information
- Notes and special remarks

 **Benefits:** With the Kneeboard, you now have the ability to create and manage flight plans directly in the simulator - just like in real aviation. No more external tools or notepads needed!

Usage

- 1 Open the Kneeboard in the simulator
- 2 Select the "**Navigation Log**" tab
- 3 Enter your flight data
- 4 Synchronize with the browser for extended editing

Navlog Interface

0
Dezember 09, Dienstag 2025 15:08 UTC

Navlog Documents Map Notepad Formulas

Aircraft reg.:	D-AIZI	Date:		Pilot in com.:									
Blockout:		Blockin:		Log-time:									
Type of flight	Notes												
VFR													
IFR													
Z/Y													
Airport & ATIS Advisories			Airport Frequency										
Departure	Information	Arrival	Departure	Arrival									
	ATIS code		Nuernberg	Maastricht-aachen									
	Transponder		ATIS	ATIS									
	Ceiling & Visibility		Delivery	FSS									
	Wind		Ground	Radar									
	Allimeter		Tower	Approach									
	Sid/Star		Departure	Tower									
	Runway		Radar	Ground									
	Time check		Field Elev.	1044	Field Elev. 375								
Clearance													
Clearance													
Routing													
Altitude													
Frequency													
Transponder													
Waypoints IFR													
Check point	Nevelid	CRS	ALT	Wind		MH	Dist.	GS	Time off		GPH		
	Ident.			Dir.	Vel.				Leg	Est.		ETE	ETA
	Freq.			Temp.					Dev.	Rem.		ATA	Rem.
DEP NUB1A	EDDN	099	1044	255	18	095	6.3	285	2	17:32	262		
DEP NUB1A	DN490			2	-3	266		00:02		7003			
		279	5200	255	18	095	8.0	285	2	17:32	262		

The Navlog interface with all input fields

Header Section

- **Aircraft reg.** - Enter aircraft registration (e.g., D-AIZI)

- **Date** - Flight date
- **Pilot in com.** - Name of the pilot in command
- **Blockout/Blockin** - Departure/arrival time (block)
- **Log-time** - Total flight time

Flight Type Area

- **VFR** - Visual Flight Rules
- **IFR** - Instrument Flight Rules
- **Z/Y** - Mixed flight rules (IFR to VFR or vice versa)
- **Notes** - Free text field for notes

Airport & ATIS Advisories

Table for Departure and Arrival:

Field	Description
ATIS code	Current ATIS information (Alpha, Bravo, etc.)
Transponder	Squawk code
Ceiling & Visibility	Cloud base and visibility
Wind	Wind direction and speed
Altimeter	QNH setting
SID/Star	Standard Instrument Departure / Arrival
Runway	Active runway
Time check	Time synchronization

Airport Frequency

Radio frequencies for Departure and Arrival:

Frequency	Description
ATIS	Automatic Terminal Information Service
Delivery	Clearance delivery
Ground	Ground control
Tower	Tower control
Departure/Approach	Departure/approach control
Radar	Radar control
Field Elev.	Airport elevation in feet

Clearance

Section for noting ATC clearances:

- **Clearance** - Issued clearance
- **Routing** - Cleared route
- **Altitude** - Cleared altitude
- **Frequency** - Next frequency
- **Transponder** - Assigned squawk

Waypoints IFR Table

Detailed waypoint table for IFR flights:

Column	Description
Check point	Waypoint name
Navaid Ident./Freq.	Navaid identifier and frequency
CRS	Course to waypoint (Magnetic Course)
ALT	Planned flight altitude

Column	Description
Wind Dir./Vel.	Wind direction and velocity
MH/Dev.	Magnetic heading / Deviation
Dist. Leg/Rem.	Leg distance / Remaining distance in nm
GS	Groundspeed in knots
ETE/ATE	Estimated/Actual Time Enroute
ETA/ATA	Estimated/Actual Time of Arrival
GPH	Gallons per Hour (fuel consumption)

4.2 Documents

The Document Viewer allows you to display your own files directly in Flight Simulator.

Supported Formats

- **PDF Files** (.pdf) - Automatic conversion to images
- **Image Files** (.jpg) - Direct display

How It Works

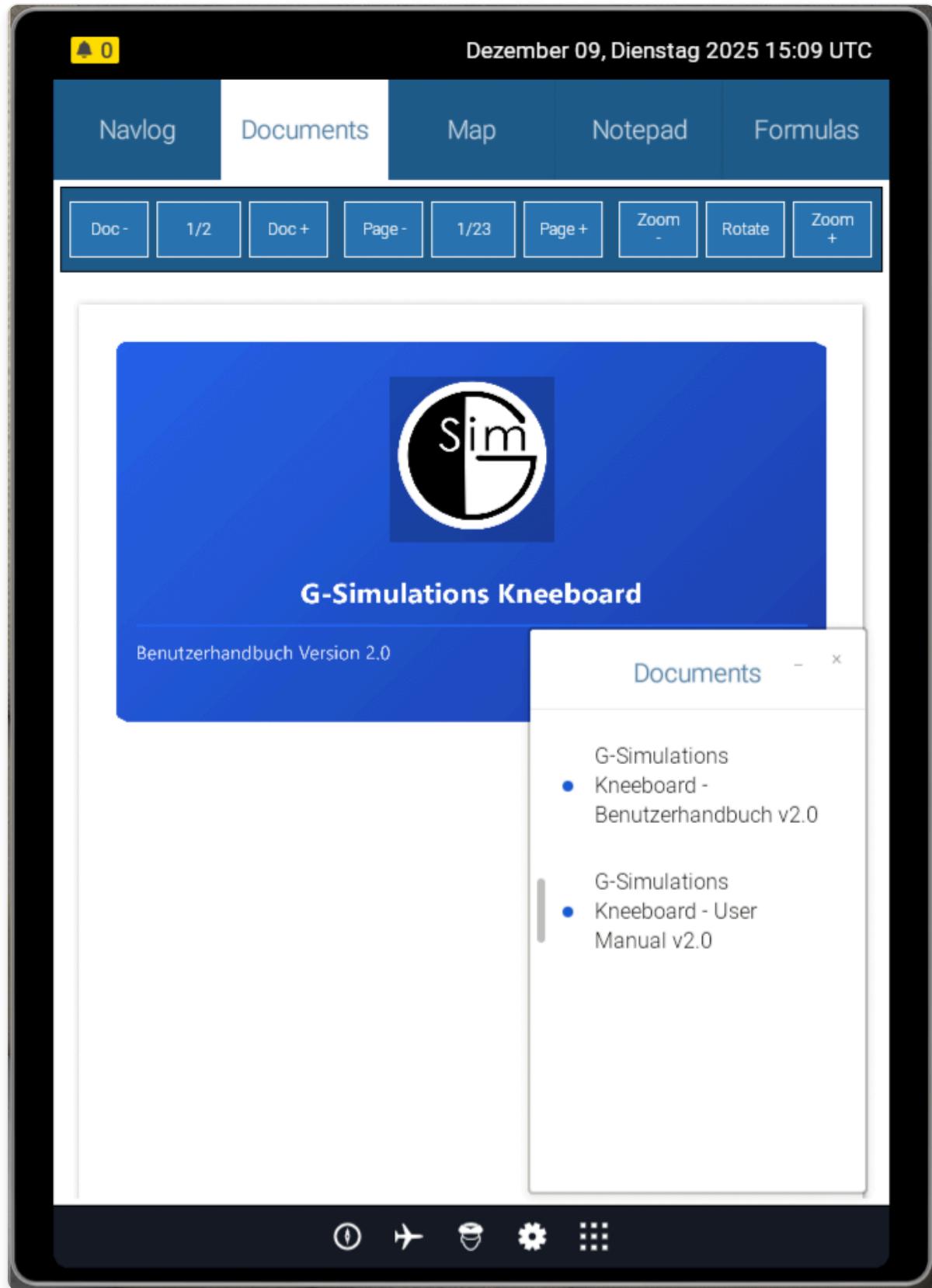
1. The Kneeboard automatically converts all PDFs into image files
2. These are then displayed in the simulator
3. Ideal for: Checklists, approach charts, airport diagrams, personal notes

 **Important Note:** The Documents and Map tabs are only visible when the Kneeboard Server application is running!

Adding Documents

- 1 Open the Kneeboard Server application
- 2 Click on "Add a file"
- 3 Select your PDF or JPG file
- 4 The file will be automatically converted and available in the simulator

Document Interface



The document viewer with toolbar and document list

Toolbar

The toolbar at the top offers the following controls:

Button	Function
Doc -	Switch to previous document
1/2	Display: Current document / Total count
Doc +	Switch to next document
Page -	Go to previous page
1/23	Display: Current page / Total pages
Page +	Go to next page
Zoom -	Zoom out
Rotate	Rotate document 90° clockwise
Zoom +	Zoom in

Document List

Click on the document area to display the list of all available documents. The popup shows all documents grouped by folder. A blue dot marks the currently selected document.

4.3 Moving Map

The Moving Map is an enhanced version of the simulator's standard VFR map.

Features

Different Map Views:

- Topographic view
- Monochrome view
- Satellite view

Aviation Information:

- Airspaces - color-coded
- Control Zones
- Navaids (Navigation Aids)
- Hotspots and Points of Interest
- Airports and Airfields

Teleport Function:

- Quick position changes without main menu
- Adjustable flight direction
- Configurable flight altitude
- Selectable flight speed

 **Important Note:** The Map tab is only visible when the Kneeboard Server application is running!

Map Interface



The Moving Map with Flightplan Panel

Status Bar

Current flight data is displayed at the top:

- **IAS** - Indicated Airspeed (in knots)
- **HEAD** - Heading (in degrees)
- **ALT** - Altitude (in feet)

Left Control Bar

Symbol	Function
+ / -	Zoom in/out on map
Keyboard Symbol	Open virtual keyboard for search input
Q (Magnifier)	METAR search - retrieve weather data for airports
Crosshair	Center map on current aircraft position
Target	Activate teleport mode
Globe	Reset map view and route
Trash	Delete current flight plan from map

Right Control Bar

Symbol	Function
Layers Symbol	Toggle map layers (airspaces, navaids, etc.)
Back Arrow	Return to previous map view
Radio Symbol	Open VATSIM Controllers Panel
Compass Symbol	Open Airports Panel (nearby airports)

Flightplan Panel

The Flightplan Panel shows the active flight plan:

- **Departure/Arrival** - Origin and destination airport with ICAO code

- **SID/STAR** - Assigned standard departure/arrival procedures
- **Waypoint List** - All waypoints with course, altitude, and distance
- **X-Button** - Remove individual waypoints from route
- **Total** - Total route distance in nm

Elevation Profile



The elevation profile shows terrain and planned altitudes

- **Terrain elevation** (brown area) - Terrain along the route
- **Planned flight altitude** (blue line with dots) - Your planned altitudes
- **Waypoints** - Names and altitude values at positions
- **Red dot** - Current position on the route
- **Min/Max Elevation** - Minimum and maximum terrain height
- **Distance** - Total distance in nm

VATSIM Controllers Panel



Dezember 09, Dienstag 2025 15:11 UTC

Navlog

Documents

Map

Notepad

Formulas



Active VATSIM controllers in your area

Shows all active VATSIM controllers, grouped by function:

- **CENTER** - En-route control (e.g., PAR_CTR)
- **APP./DEP.** - Approach/departure control
- **TOWER** - Tower control

- **GROUND** - Ground control
- **DELIVERY** - Clearance delivery
- **ATIS** - Automatic Terminal Information Service

 **Tip:** Click on a controller to copy the frequency to clipboard.

Airports Panel



Dezember 09, Dienstag 2025 15:11 UTC

Navlog

Documents

Map

Notepad

Formulas



Airports near the current map position

Lists airports in the area:

- **ICAO Code** - International airport code
- **Name** - Full name of the airport
- **Type** - Airfield Civil, Glider Site, Heliport, etc.

- "show more..." - Load more airports

Click on an airport to center the map on it.

Teleport Dialog



Teleport your aircraft to any position

Setting	Description
Altitude (ft)	Set flight altitude in feet
Heading (deg)	Set flight direction (0-360°)
Airspeed (kt)	Set flight speed in knots
+/-	Increase/decrease values incrementally
OK	Execute teleport



Usage: Click anywhere on the map to open the teleport dialog.

4.4 Notes

The Notepad is an indispensable tool for VR pilots and anyone who needs quick notes during flight.

Use Cases



VATSIM/IVAO Flights

Note ATC instructions without having to ask again



VR Flights

No physical keyboard or pen needed



Clearances

Quickly note longer clearances



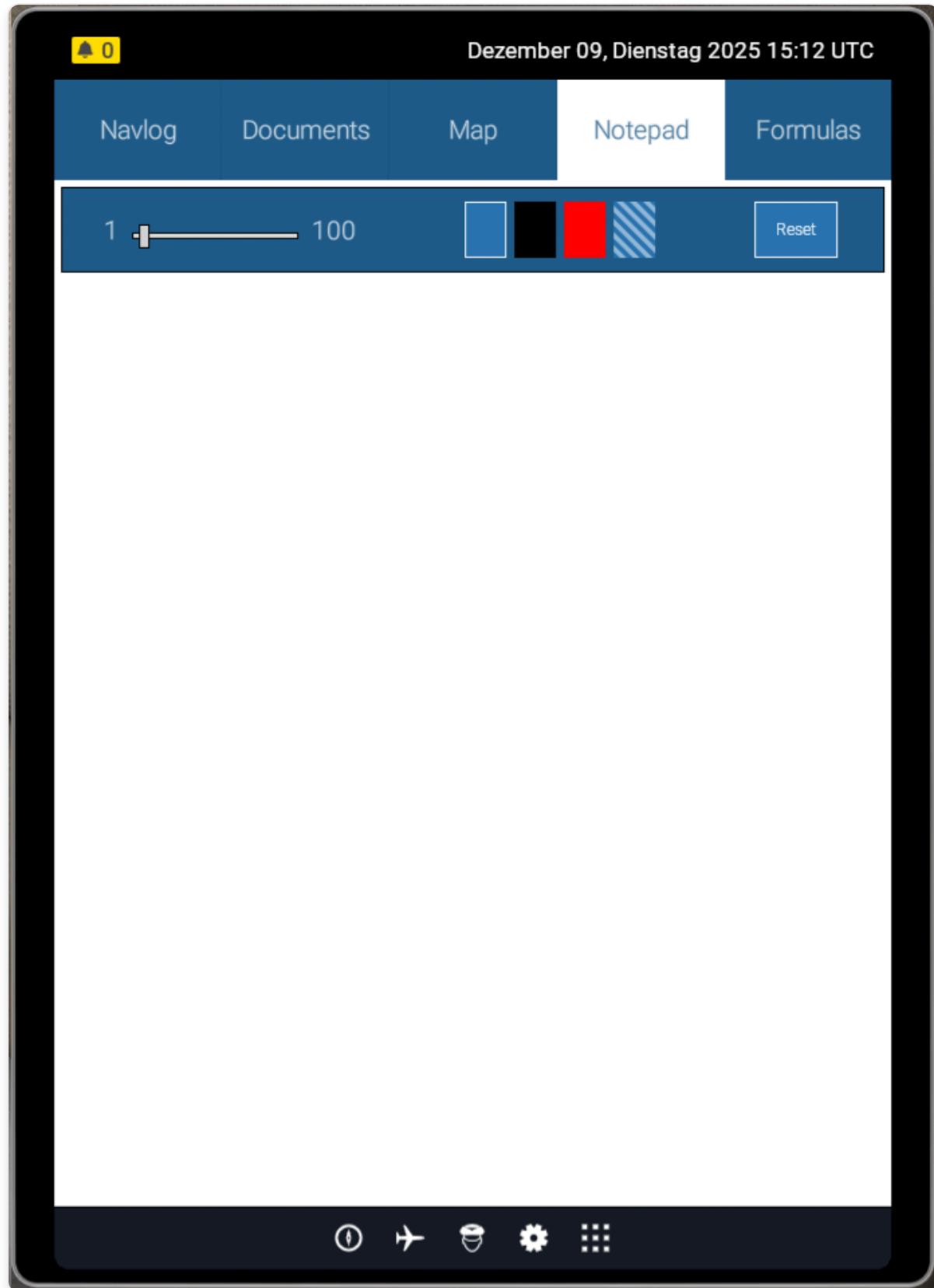
Frequencies

Record important radio frequencies

How It Works

- Write directly on the virtual paper with your mouse
- Different pen colors available
- Delete and start fresh anytime
- Notes persist throughout the entire session

Notepad Interface



The Notepad with toolbar

Toolbar

Element	Function
Slider (1-100)	Set pen thickness - from fine (1) to broad (100)
Light Blue	Light pen color (clearly visible on white background)
Black	Standard pen color for normal notes
Red	Highlight color for important information
Striped	Eraser for selective deletion
Reset	Clear entire drawing and start fresh

Drawing Area

The white area serves as virtual paper:

- Draw with mouse button held down or via touch
- Notes persist throughout the entire flight session
- Ideal for ATC clearances, frequencies, or waypoints

4.5 Calculator

The Aviation Calculator offers aviation-specific calculations without mental arithmetic or external tools.

Available Calculations

Category	Calculations
Time Calculations	Flight Time, ETA, Groundspeed
Navigation	Descent Point, Standard Rate Turns, Descent Rates
Speeds	TAS to IAS, Wind correction, Groundspeed
Unit Conversions	mb to inHg, Feet to Meters, Knots to km/h

Formula Overview

The screenshot shows a mobile application interface with a dark theme. At the top, there is a yellow notification icon with '0' and the date 'Dezember 09, Dienstag 2025 15:13 UTC'. Below the header, there are five tabs: 'Navlog', 'Documents', 'Map', 'Notepad', and 'Formulas'. The 'Formulas' tab is selected and displays a list of aviation formulas.

Initiating descent

$$\text{Distance} = \frac{\text{Height difference (ft)}}{1000} \cdot 3 = \text{nm}$$

Standard rate full circle

$$\text{Bank angle} = \frac{\text{True self speed (kts)}}{10} + 7 = ^\circ$$

Reject curve

$$\text{Distance} = \frac{\text{Bank angle (}^\circ\text{)}}{2} = ^\circ$$

Convert mb / in.hg

$$\text{in.hg} = \frac{\text{Millibar (mb)}}{33.856} = \text{in.hg}$$

Rate of Descent

$$\text{VS} = \text{GS (kts)} \cdot \text{DEG (Grad)} \cdot 1.77 = \text{ft/min}$$

Convert TAS / IAS (VFR)

$$\text{TAS} = \text{IAS} + \text{IAS} \cdot 0.02 + \frac{\text{Height (ft)}}{1000} = \text{kts}$$

Head-wind component

$$\text{Head / Tail} = \cos (\text{Wind dir. (}^\circ\text{)} - \text{Course (}^\circ\text{)}) \cdot \text{Win} = \text{kts}$$

(+ = Head / - = Tail)

Cross-wind component

$$\text{Left / Right} = \sin (\text{Wind dir. (}^\circ\text{)} - \text{Course (}^\circ\text{)}) \cdot \text{Win} = \text{kts}$$

(+ = Left / - = Right)

Wind correction angle

$$\text{WCA} = \frac{\text{Crosswind component (kts)}}{\text{True self speed (kts)}} \cdot 60 = ^\circ$$

At the bottom of the screen, there is a navigation bar with icons: a circle with a dot, a plane, a cap, a gear, and a grid.

The formula overview with all calculations

Initiating descent

$$\text{Distance (nm)} = \text{Height difference (ft)} / 1000 \times 3$$

Calculates the point where descent should begin. For a height difference of 10,000 ft, this results in 30 nm before the destination.

Standard rate full circle

$$\text{Bank angle } (\circ) = \text{True airspeed (kts)} / 10 + 7$$

Calculates the required bank angle for a standard rate turn (3°/second, 2 minutes for 360°).

Convert mb / in.hg (Pressure conversion)

$$\text{in.hg} = \text{Millibar (mb)} / 33.856$$

Converts Millibar (European QNH) to Inches Mercury (US standard). Important for flights in the USA.

Rate of Descent

$$\text{VS (ft/min)} = \text{GS (kts)} \times \text{DEG (degrees)} \times 1.77$$

Calculates the required descent rate for a specific glide path angle. At 120 kts and 3° glide path: $120 \times 3 \times 1.77 = 637$ ft/min.

Convert TAS / IAS (VFR)

$$\text{TAS} = \text{IAS} + (\text{IAS} \times 0.02 \times \text{Height (ft)}) / 1000$$

Quick conversion from Indicated Airspeed (IAS) to True Airspeed (TAS). TAS increases by approximately 2% per 1000 ft of altitude.

Head-wind component

$$\text{Head/Tail (kts)} = \cos(\text{Wind dir} - \text{Course}) \times \text{Wind speed}$$

Calculates the head or tailwind component: Positive value = Headwind, Negative value = Tailwind

Cross-wind component

```
Left/Right (kts) = sin(Wind dir - Course) × Wind speed
```

Calculates the crosswind component: Positive value = Wind from left, Negative value = Wind from right

Wind correction angle

```
WCA (°) = Crosswind component (kts) / True airspeed (kts) × 60
```

Calculates the crab angle against crosswind to maintain the desired track over ground.

5. Kneeboard Server

Server Functions

The Kneeboard Server is the background application that enables advanced features:

- **Document Conversion** - Converts PDFs into simulator-compatible image files
- **Local Server** - Streams data into the simulator (since MSFS doesn't allow direct file access)
- **Navigation Log Management** - Create, save, and load Navigation Logs
- **Browser Integration** - Edit Navigation Logs in your browser
- **Simbrief Integration** - Import flight plans directly from Simbrief
- **Map Provision** - Provides the Moving Map for the simulator

5.1 Server Installation

Perform Installation

- 1 Run "Kneeboard Server Setup.msi" or "setup.exe"
- 2 Follow the installation wizard
- 3 Installation will proceed automatically

5.2 Server Usage

The Kneeboard Server works in the background and enables the display of documents, images, and the flight map.

Why is a Server Needed?

Microsoft Flight Simulator prohibits direct file system access by In-Game Panels for security reasons. The Kneeboard Server bypasses this restriction by:

1. Starting a local web server on your computer
2. Providing the data through this server
3. Converting PDFs into image-based formats
4. Streaming the content into the simulator

 **Note:** This happens entirely locally on your computer - no internet connection required!

5.3 First Steps

First Start Wizard

When starting the Kneeboard Server for the first time, you will be guided through the setup:

Step 1: Configure Autostart

You will be asked if you want to start the Kneeboard Server automatically with Microsoft Flight Simulator 2020.

- **Yes** - The server starts automatically (recommended)
- **No** - Manual start required
- **Cancel** - Make the decision later

Step 2: Select Document Folder

- 1 Click on "Select"
- 2 Choose a folder for converted documents
- 3 Recommendation: Create a new folder like C:\Users\[YourName]\Desktop\MSFS_Documents

Examples: C:\FlightSim\Kneeboard_Documents D:\MSFS\Kneeboard_Files

Step 3: Server is Ready

After configuration, the status bar displays: "**Status: Server is running...**"

5.4 Management

Managing Folders

Adding Folders

- 1 Click on the "Add folder" icon (📁 +)
- 2 A new folder will be created
- 3 Name the folder (e.g., "Checklists", "Charts", "Approach Plates")

Organization Tips:

- Checklists - For aircraft-specific checklists
- Charts - For approach and departure charts
- Airports - For airport diagrams
- Notes - For personal notes and references

Removing Folders

- 1 Select the folder to delete
- 2 Click on the "Delete folder" icon (🗑)

⚠ Warning: All files in the folder will also be deleted!

Managing Documents

Adding Documents

- 1 Select the desired target folder
- 2 Click on "Add a file" (📄 +)
- 3 Select a PDF or JPG file
- 4 The file will be automatically uploaded, converted, and made available

Removing Documents

- 1 Select the file to delete
- 2 Click on "Delete a file" ()
- 3 All converted data will be deleted

Note: The original file remains at its original location.

Managing Navigation Logs

Display/Edit Navigation Log in Browser

- 1 Click on "Show browser kneeboard" ()
- 2 Your default browser will open
- 3 The Navigation Log will be displayed
- 4 All changes are automatically synchronized

Benefits of Browser View:

- Larger screen
- Easier text input
- Copy & Paste functions
- Simultaneous editing during flight

Saving Navigation Log

- 1 Click on "Save a Navlog file" ()
- 2 Select a save location
- 3 Enter a descriptive name (e.g., "EDDF-LOWW_2025-01-15")
- 4 The file will be saved in Kneeboard format (.navlog)

Loading Navigation Log

1

Click on "Open a Navlog file" (📁)

2

Select the desired .navlog file

 **Warning:** All current entries will be overwritten! Save the current log before loading a new one!

5.5 Simbrief Integration

Setting Up Simbrief Username

1 Click on "Information" ()

2 Enter your **Simbrief User ID**

3 Save the setting

Where do I find my Simbrief User ID?

1. Log in to [SimBrief.com](#)
2. Go to your profile
3. The User ID will be displayed there

Loading Last Simbrief Flight Plan

1 Click on "Open a Navlog/flight-plan file" ()

2 Select "**SimBrief Import**"

3 The latest flight plan will be automatically loaded

Important:

- Make sure your Simbrief User ID is correctly entered
- You need an active internet connection
- The flight plan will be imported into the Navigation Log

Loading Flight Plan

1 Click on "Open a Navlog/flight-plan file" ()

2 Select a flight plan file (.pln, .fms, etc.)

3 Make sure the Map tab is selected in the in-game panel

 **Warning:** All previous waypoints will be overwritten!

Supported Formats:

- MSFS .pln files
- Little Navmap flight plans
- Simbrief flight plans
- Other common formats

6. Tips & Tricks

Best Practices

Enable Autostart

Never forget to start the server again

Organize Folders

Structure documents by aircraft type or region

Save Navigation Logs

Keep successful routes for future flights

Use Simbrief

Professional flight planning in seconds

Browser View

Use the browser view for flight preparation on the ground

Common Issues

Problem	Solution
Documents/Map tabs are not visible	Start the Kneeboard Server application
Simbrief import doesn't work	<ul style="list-style-type: none">• Check your Simbrief User ID• Ensure you have an internet connection• Create a new flight plan on SimBrief.com
PDFs are not displayed	<ul style="list-style-type: none">• Check the document folder configuration• Restart the server• Add the file again

7. Support & Contact

Email Support

support@g simulations.com

Website

Visit the official website

Community

Consult the community forums

Updates

Check regularly for updates

Changelog

Version 2.0

- Current version with all described features
- Full VR support
- Simbrief integration
- Extended map features
- Revised and extended manual

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Developer: Gsimulations

This manual was created for version 2.0 of the G-Simulations Kneeboard.

Revised and extended for optimal user experience