

TDS GTNXi Flight Simulator



User's Manual for Flight Simulator 2020 and 2024

Embrace a New Level of Innovative Avionics: The GTN Xi 750/650 touchscreen.

Using a large, very high-resolution display, offering you unparalleled vivid, ultra-high resolution terrain mapping, advanced graphical flight planning capabilities, geo-referenced charts and many more features, all available at a virtual touch. The GTN Xi will bring a new level of modernism to your virtual cockpit.

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Introduction

The TDS GTNXi puts safety first, as both an intuitive safety navigation device, along with beautiful, modern mapping features. It includes ultra-high-resolution mapping, terrain information, mapping features: water bodies, political borders, roads, cities.

Worldwide navigation data is included: airports, waypoints, VOR/NDBs, custom waypoints, visual reporting points, airport diagrams including taxiways.

To better assist in flying the perfect navigation procedure, geo-referenced charts can be displayed, or can be incorporated into the map mode.

Version 1.1.2.0 of the TDS GTNXi offers support for MSFS 2024. For this, the TDS GTNXi Pro or Pro Upgrade are required.

Version 1.1.0.0 of the TDS GTNXi brings support for the Pro Upgrade, an add-on page to the TDS GTNXi which features full Navigraph support for both navdata as well as worldwide charts.

Being designed from the ground up as a standalone program that runs alongside Flight Simulator 2020 or Flight Simulator 2024, you have the ability to run Flight Simulator on one monitor, while the TDSGTXi can be dragged onto a second monitor.

Starting with version 1.0.1.0, the TDS GTNXi includes full Virtual Cockpit support for add-on aircraft integration in both drawing the LCD display as well as mouse clickspots! We strongly recommend that all users download and install this new version. A full list of compatible aircraft can be found here:

<https://tdssim.com/gtnxivcintegration>

The TDS GTNXi is more than a GPS unit, it is also an audio panel, giving you the ability to tune COM and NAV frequencies, retrieve the most used frequencies, decode the Morse code identifier (some features are only available in the GTNXi 750). On top of this, both the GTNXi 750 and GTNXi 650 include a full ADS-B transponder which communicates with Flight Simulator.

The TDS GTNXi is a training add-on, used to help you get familiarized with the system. A very important training feature is the ability to control the default Flight Simulator Autopilot by using the NAV function, fly autopilot-coupled IFR approaches in both lateral and vertical modes, including fully coupled LPV approaches.

Realism Note

This software is designed for entertainment use ONLY, it is not designed as a flight training device, even though the quality of the product is exceptional and the fidelity of each key, knob, and digital touchscreen functionality are made to resemble a real GPS unit. The Pro Upgrade features a fully updateable navigation database and worldwide charts from Navigraph! Some functionality may not be simulated correctly or simulated at all.

Product Features

The TDS GTNXi is a standalone Windows Executable, able to communicate with Microsoft Flight Simulator (2020) or Microsoft Flight Simulator 2024, offering you the opportunity to move the GTNXi windows to a second monitor.

Starting with version 1.0.1.0, the TDS GTNXi can be fully integrated into the virtual cockpit (VC) of add-on aircraft, both screen display as well as touch screen/mouse control.

Two GTNXi's units included: GTNXi 750 and GTNXi 650

Included in the TDS GTNXi Flight Sim product are both the GTNXi 750 and GTNXi 650, which can be displayed at the same time, both communicating with Flight Simulator.

There is also the ability to change the navigation source from the 750 to the 650 when flying, enabling you to have one flight plan on the GTNXi 750 and another flight plan on the GTNXi 650.

Starting with version 1.2.9.0, the TDS GTNXi Pro/Pro Upgrade fully supports crossfill between the GTNXi, to the real-life aviation standard. The units will crossfill more items than just the active flight plan. Please refer to the appropriate **Crossfill** chapter in this manual.

Autopilot

The TDS GTNXi is able to couple to the default Flight Simulator autopilot and send roll and pitch commands. This includes fully autopilot coupled LPV approaches.

Radios/Audio Panel

The TDS GTNXi are able to control the Flight Simulator COM and NAV radio frequencies. Additionally, the GTNXi 750 has an integrated Audio Panel, offering you the ability to control audio navigation sources.

Unprecedented mapping

The TDSGTNXi has an unprecedented, high resolution map, including the ability to display color terrain, airport diagrams, water bodies, borders and other navigation information data.

Databases/Navigation Charts

The TDSGTNXi has full support for the Navigraph updateable navigation database (AIRAC) as well worldwide Navigraph Charts. Both features are part of the Pro Upgrade add-on released in February 2024. More information on the Pro Upgrade can be found in the dedicated section.

Weather

At this point, the TDS GTNXi does not support display of flight simulator weather.

ADS-B Traffic Page

The TDS GTNXi has a state of the art ADS-B transponder, giving you the ability to display Flight Simulator targets on the dedicated traffic page as well as on a main Map overlay.

TAWS - Situational Awareness

TAWS-A, TAWS-B, Terrain Proximity, HTERRAIN Proximity, HTAWS-B
Ability to select between Female and Male voice.

Additional Features

- Selected Altitude Range Arc - Receives data from the Flight Simulator Autopilot Altitude Selector Knob and displays the projected range arc on where you will reach the specified altitude, in both climb and descent.
- Dimmable Display - Easily customisable from the GTNXi interface
- Ability to modify sound volume - Easily customisable from the GTNXi interface

Simulator Requirement:

The TDS GTNXi for Flight Simulator is compatible with Microsoft Flight Simulator (2020) and the TDS GTNXi Pro or the Pro Upgrade for the base TDS GTNXi support Microsoft Flight Simulator 2024.

Minimum System Requirements:

PC running Microsoft Windows 10 64 Bit Version 1909 (November 2019 Update), Intel Core i5-8400 or AMD Ryzen 5 1500X, 16GB RAM, NVIDIA GTX 970 or AMD Radeon RX 590 with at least 4GB Memory, HDD Space: 4GB

Installation Instructions

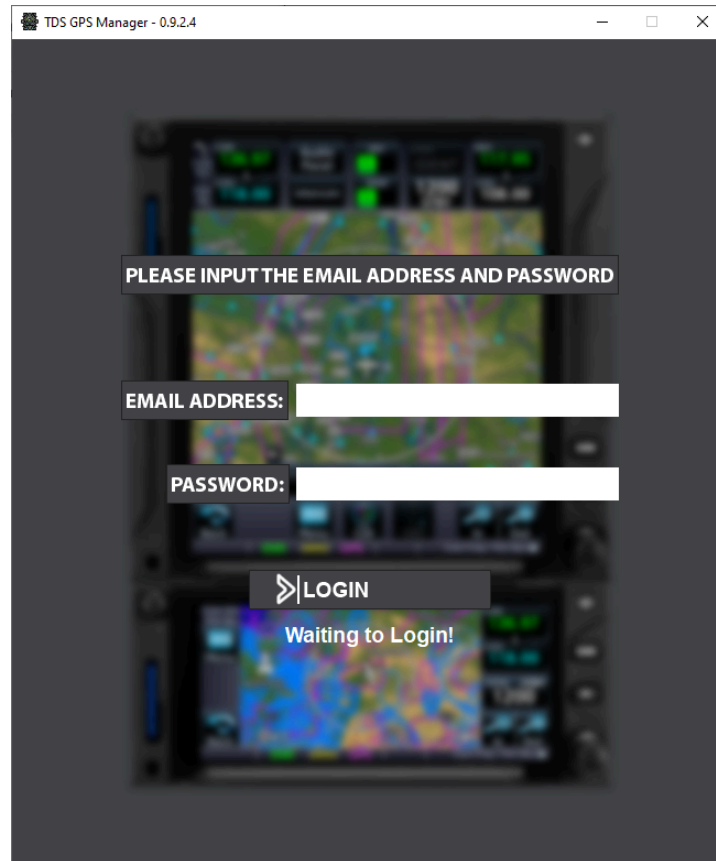
The TDS GTNXi can be easily downloaded and installed by following these simple instructions:

All download/installation procedures are performed via the proprietary TDS GPS Manager application. The application can be downloaded from the sales website, after purchasing the product.

After the application is downloaded, run it from the Downloads folder or the selected download location, file name:

TDSGPSManager.exe

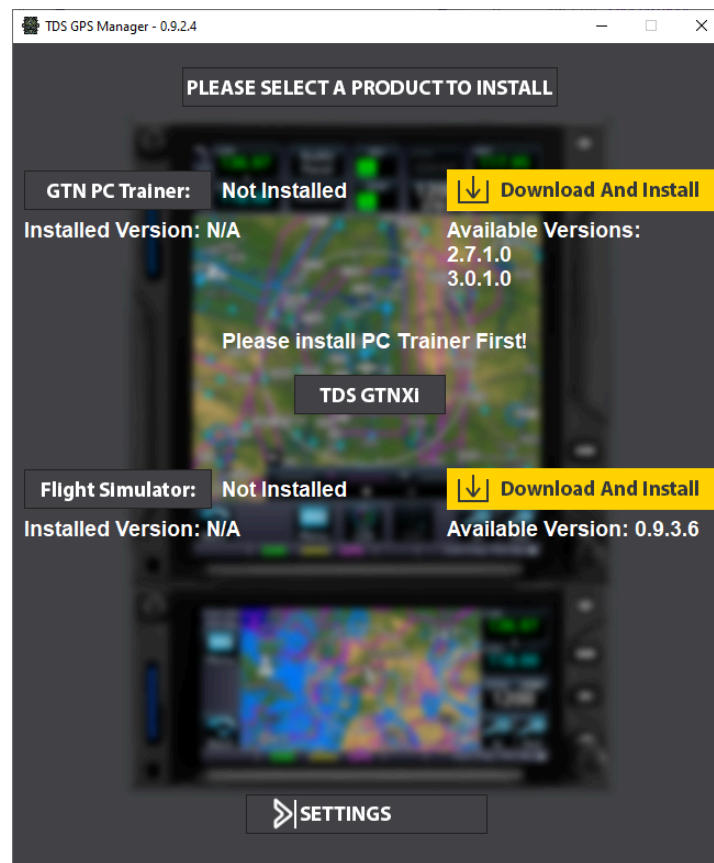
A login screen will be presented where the user has to input the login credentials (email address/password) which were used to register on the sales website, before purchasing the TDS GTNXi.



In case you do not remember the login credentials, please visit the My Account section of the sales website for more information:

<http://www.tdssim.com>

After successfully logging on, the GTNXi page will display. The first step is to install the required PC Trainer, this is done by pressing the Download and Install button.



Step 1: Installation of the PC Trainer

The first step is to download the PC Trainer, please wait for the download to complete, a progress percentage will be displayed on the screen.

After the download has completed, the installation will start automatically, press Next to advance through the installation screens in order to complete the installation of the PC Trainer.

Once the PC Trainer installation is complete, the actual GTNXi PC Trainer will download. After it has downloaded, the installation for this component will start, press Next to advance.

A complete PC Trainer installation can be confirmed by the version number on the left side of the interface and the yellow button displaying Reinstall.

A copy of the PC Trainer will be saved in this location:

C:\ProgramData\TDS\Trainers

Step 2a: Installation of the TDS GTNXi for Microsoft Flight Simulator 2020®

To download and install the TDSGTNXi for Flight Simulator, press the yellow Download and Install button to the right of the Flight Simulator 2020 label. The entire procedure is done automatically, at the end of the installation a message box will appear, confirming the installation status.

Step 2b: Installation of the TDS GTNXi for Microsoft Flight Simulator 2024®

To download and install the TDSGTNXi for Flight Simulator, press the yellow Download and Install button to the right of the Flight Simulator 2024 label. The entire procedure is done automatically, at the end of the installation a message box will appear, confirming the installation status.

The default installation directory of the TDS GTNXi for Flight Simulator 2020 or 2024 executable:

C:\ProgramData\TDS\GTNXi\FlightSimEXE

In case the Windows ProgramData directory has been moved to a different location, you can access the TDS GTNXi installation folder by running the Run command(Windows + R key on the keyboard) and typing:

%PROGRAMDATA%\TDS\GTNXi\FlightSimEXE

Installing and Using the Pro Upgrade

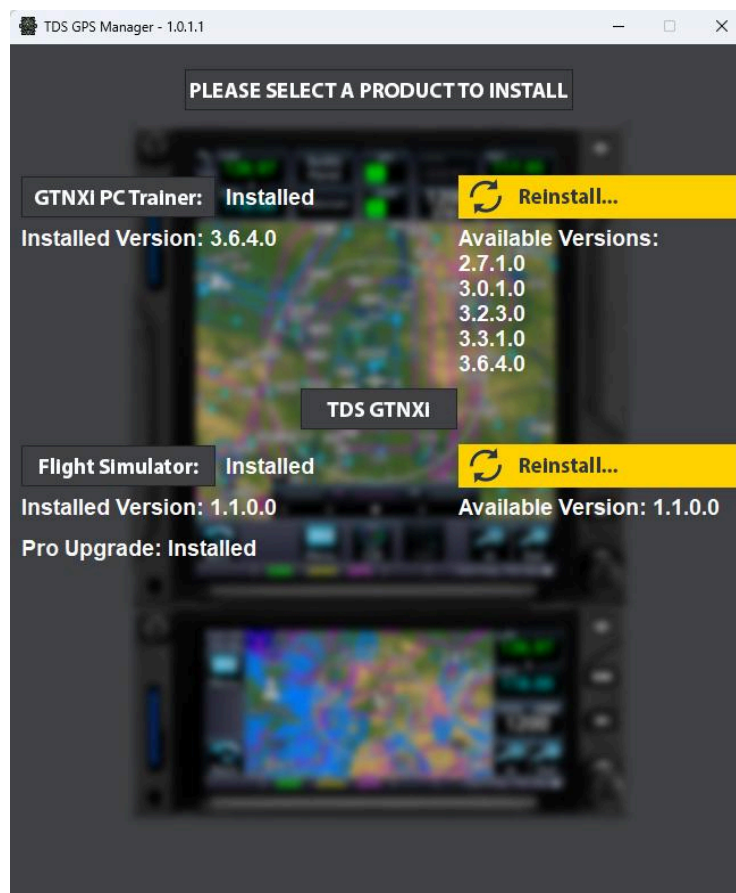
The Pro Upgrade is an add-on package for the TDS GTNXi which brings Navigraph support for both navdata as well as navigation charts!

Installation of the Pro Upgrade is automatic, as part of the TDS GTNXi Flight Sim version 1.1.0.0 (or higher) and the TDS GPS Manager version 1.0.1.1 (or higher)

We recommend downloading the latest TDS GPS Manager from the My Account section of the TDS Sim Software sales website:

<https://tdssim.com/Account/login>

If you have a previous version of the TDS GTNXi, just use the Upgrade/Reinstall button on the TDS GPS Manager.



The image above shows a correctly installed Pro Upgrade, the status Installed being displayed below the Installed Version. In addition, the TDS GTNXi Main Interface displays the Pro Upgrade installation status on the left side, right below the **NAVIGRAPH CHARTS** tab, as shown in the images of the next section.

Updating and using the Navigraph navdata

The TDS GTNXi Pro Upgrade offers support for Navigraph navdata, so you will always be able to fly using current navdata. There are no limitations to the Navigraph navdata as opposed to the already supplied TDS GTNXi navdata, which will ensure that the best possible experience is offered to TDS GTNXi users.

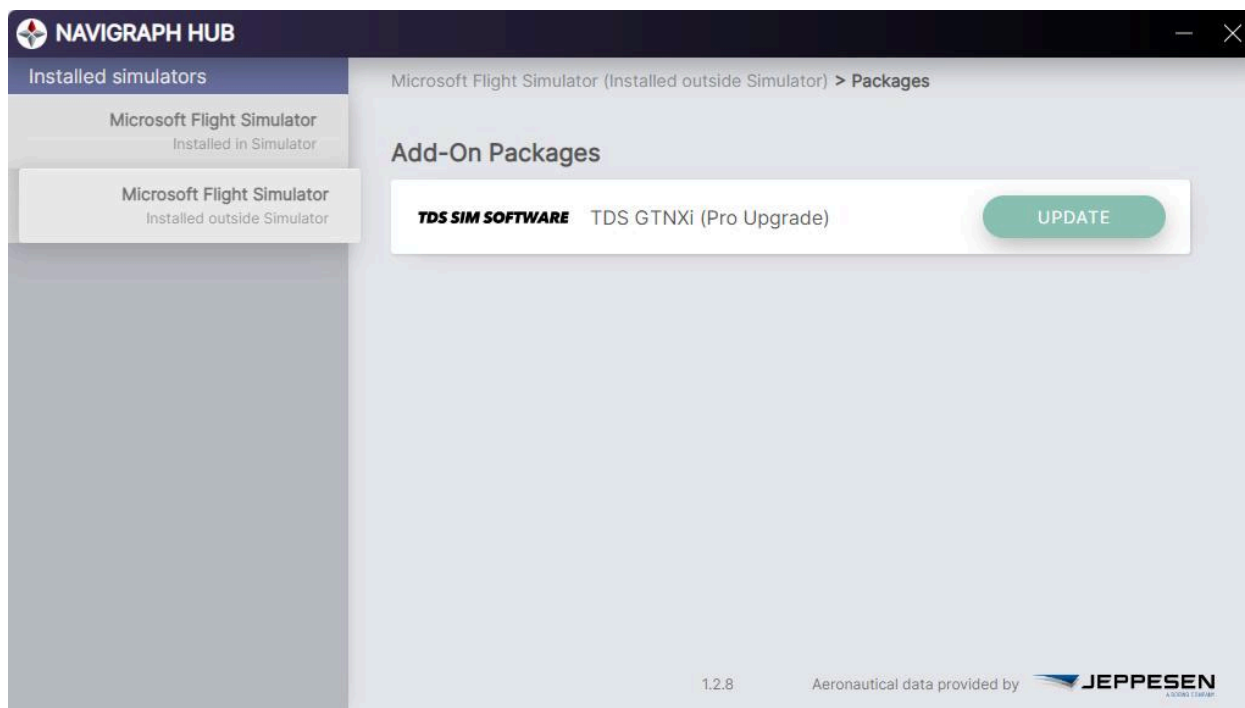
Important Note: An active Navigraph Unlimited or Navigraph Basic subscription is required, which can be obtained from:

<https://navigraph.com/>

The TDS GTNXi comes preloaded with the Navigraph AIRAC cycle 2302 (February 2023). Updating to the latest AIRAC cycle is performed from the Navigraph Hub, which can be obtained from here:

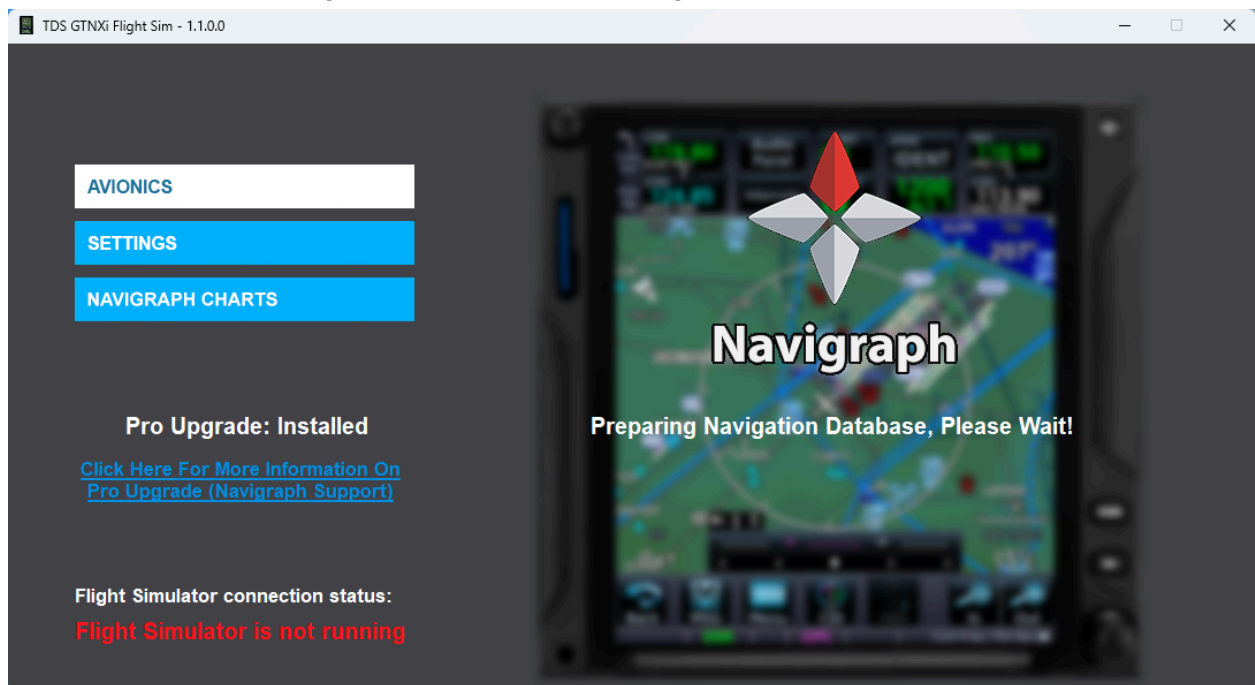
<https://navigraph.com/downloads>

After downloading and installing the Navigraph Hub, the TDS GTNXi is found in the Microsoft Flight Simulator - **Installed outside Simulator** tab



Important Note: In order to update the navigation database in the TDS GTNXi, both the TDS GTNXi as well as Microsoft Flight Simulator needs to be closed.

Upon startup of the TDS GTNXi, the database loading takes about 10 seconds, during this time the TDS GTNXi screens will be black as well as the TDS GTNXi interface displaying the information that the Navigraph database is preparing.



After the database has been loaded, the correct AIRAC cycle can be confirmed from the startup - Database Info page, as pictures below.



The top row of the database info will change to **Navigraph DB** if the Navigraph navigation database is used and has correctly loaded; if the PC Trainer database is used, the database name is: **Navigation**

If the TDS GTNXi is already started and in the Home page, the database cycle can always be confirmed from the System - System Status - Database Info section.

Even though navigation databases do not expire or automatically disable themselves in the TDS GTNXi, we strongly encourage using up to date navigation data for the best possible experience.

The location of the Navigraph database is:

C:\Users\%username%\AppData\Roaming\TDS\GTNXi\Database\MSFS

Where **%username%** is your username.

File name: **NavigraphDB.dat**

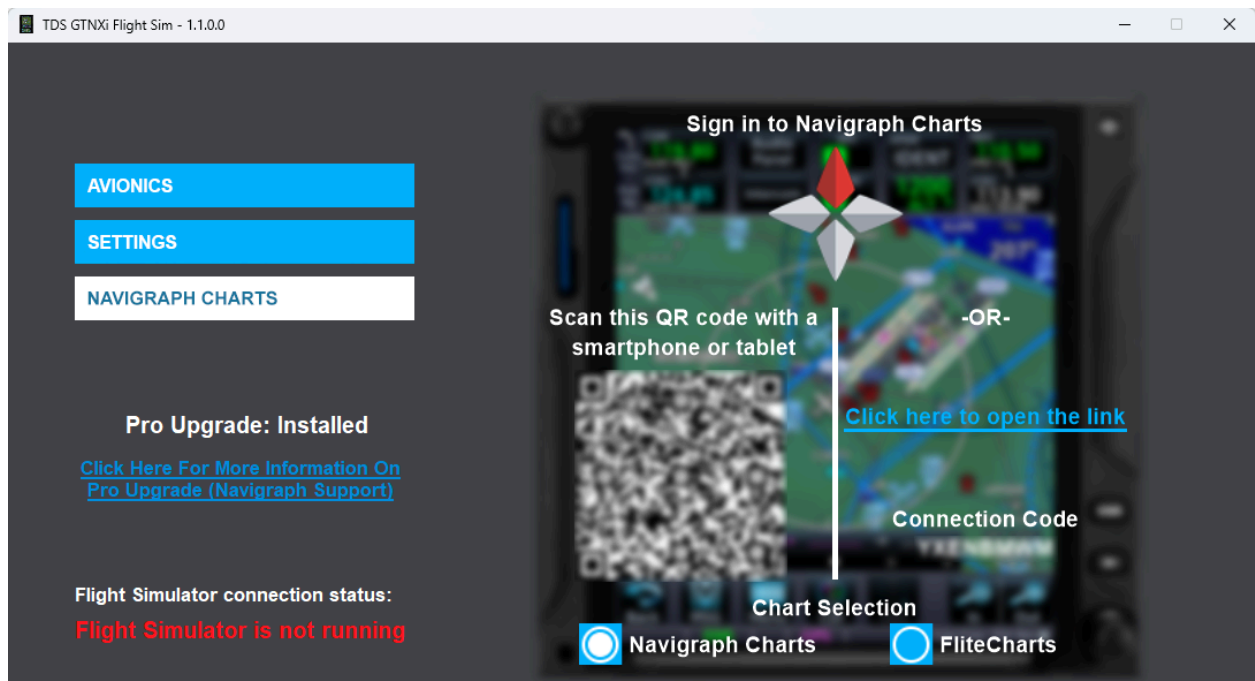
By manually renaming/removing the NavigraphDB.dat file, the PC Trainer database will be used. This process must be performed with the TDS GTNXi closed.

Connecting to Navigraph Charts

Connecting to Navigraph Charts needs to be done via the TDS GTNXi main interface, **NAVIGRAPH CHARTS** tab, as pictured below.

Important Note: An active Navigraph Unlimited subscription is required, which can be obtained from Navigraph:

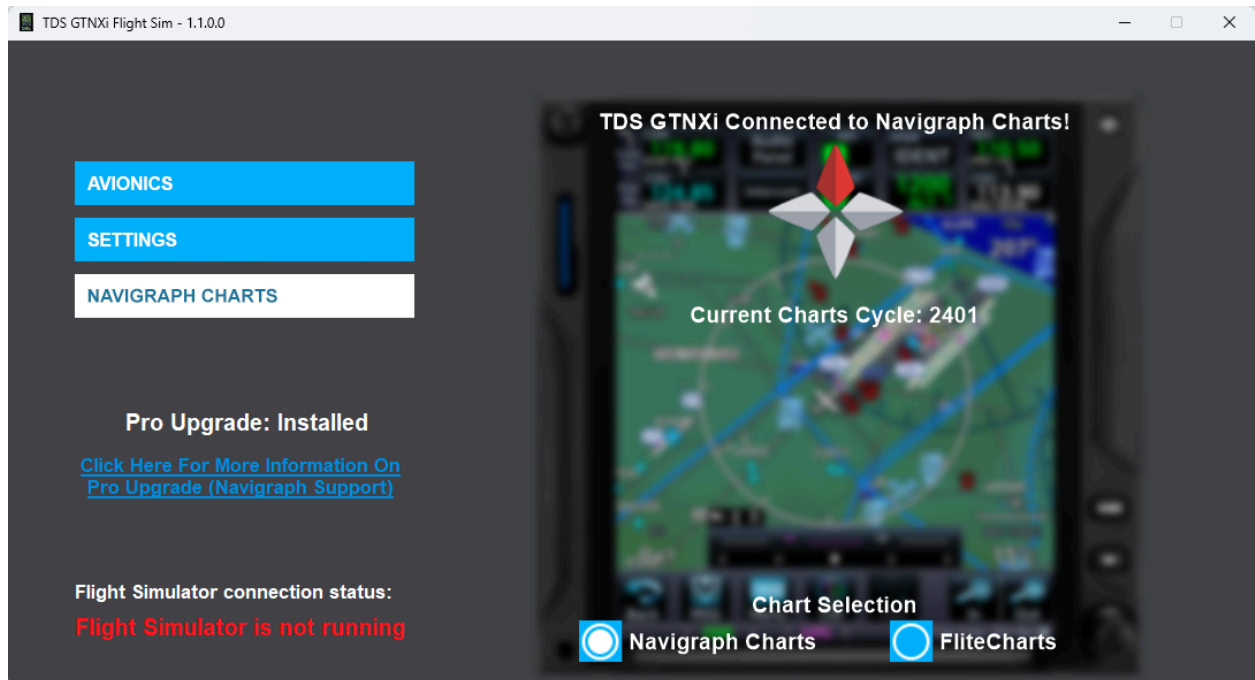
<https://navigraph.com/>



There are two connection options available: scanning the provided QR code with a phone/tablet and then logging in to the Navigraph Account or clicking on the link to the right side and logging in to the Navigraph Account, then approving the TDS GTNXi.

The connection code is provided in case a manual input is needed due to unforeseen circumstances, but it should not be used as the link generated by us contains all this information, in order to facilitate a connection to Navigraph.

Once a connection to Navigraph has been established, the **NAVIGRAPH CHARTS** tab will display the Navigraph logo as well as the current charts cycle. The connection token is saved between TDS GTNXi sessions, so there is no need to reconnect each time you start the TDS GTNXi. The time that the connection token can be used depends on the Navigraph server.

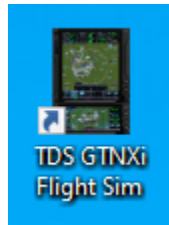


The Chart Selection option on the bottom of the interface allows for selection of the default FliteCharts, in case the user does not have a Navigraph Unlimited subscription. While we strongly advise using up to date navigation data and charts, this option is available for those wanting to use the provided North American FliteCharts. While the selection between the two options can be done in flight, we recommend making the selection before flight and keeping the selection within the flight.

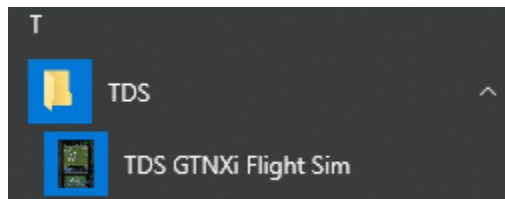
Important Note: As in real life, charts can only be displayed on GTN750Xi units. The 650Xi units being smaller in size, do not support charts.

Running the TDS GTNXi and Connecting to Flight Simulator

Once the TDSGTNXi for Flight Simulator 2020 or 2024 has been installed, a shortcut will be placed on the desktop, which can be used to start the TDS GTNXi. If you are going to use the TDS GTNXi in the Virtual Cockpit as an integrated solution, there is no need to start the standalone desktop shortcut as the startup processes are done automatically by Flight Simulator. At the moment, it is not possible to run both standalone as well as Virtual Cockpit Integrated at the same time.



Additionally, a shortcut is added in the Windows Start Menu, under the folder name TDS.



The TDS GTNXi and Flight Simulator must run on the same computer as Flight Simulator; the connection will be established automatically, as soon as Flight Simulator is running in Flight Mode, there is no user intervention needed.

Maintaining Audio Sound when Flight Simulator is not the active window

To maintain Flight Simulator sound when the window is not active, please follow these instructions:

With Flight Simulator loaded on the main menu startup screen, go to the Options tab, GENERAL, then select SOUND.

Make sure that "MUTE AUDIO IN BACKGROUND" is set to OFF.



Interface Features

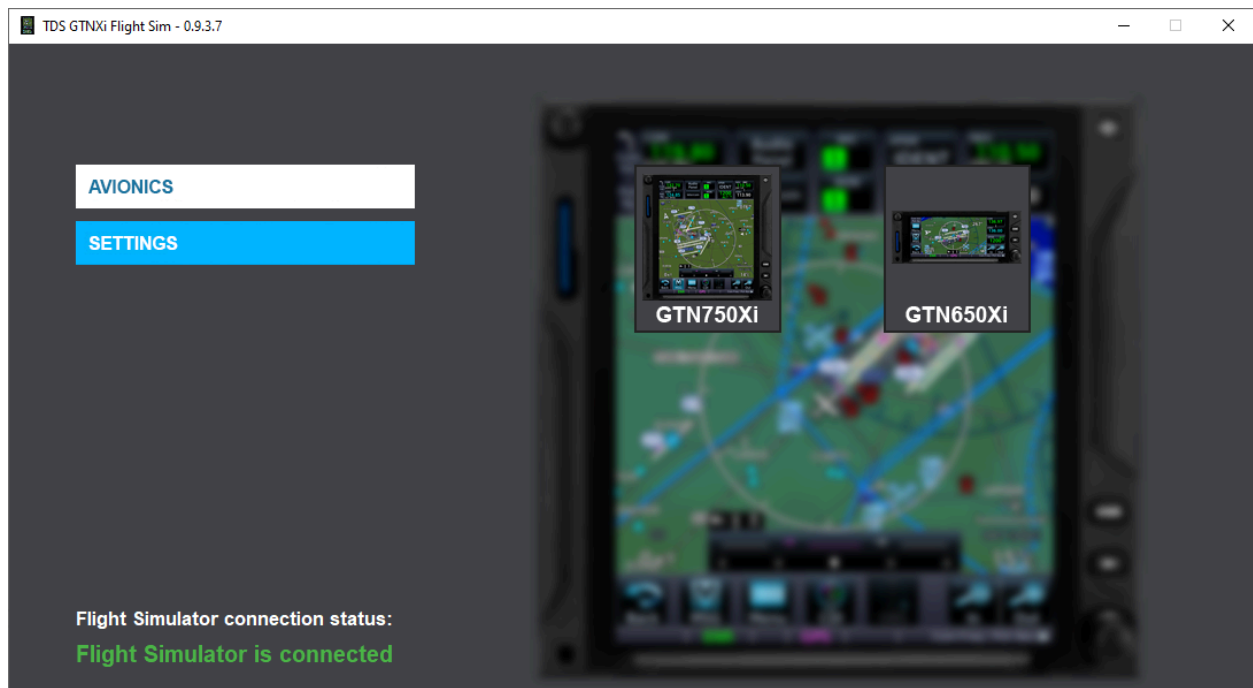
The TDS GTNXi Flight Simulator interface is split into two tabs:

- Avionics Tab
- Settings Tab

On the bottom right of the interface is the Flight Simulator connection status.

A green indication with the text: “Flight Simulator is connected” means that the TDSGTNXi is communicating properly with Flight Simulator.

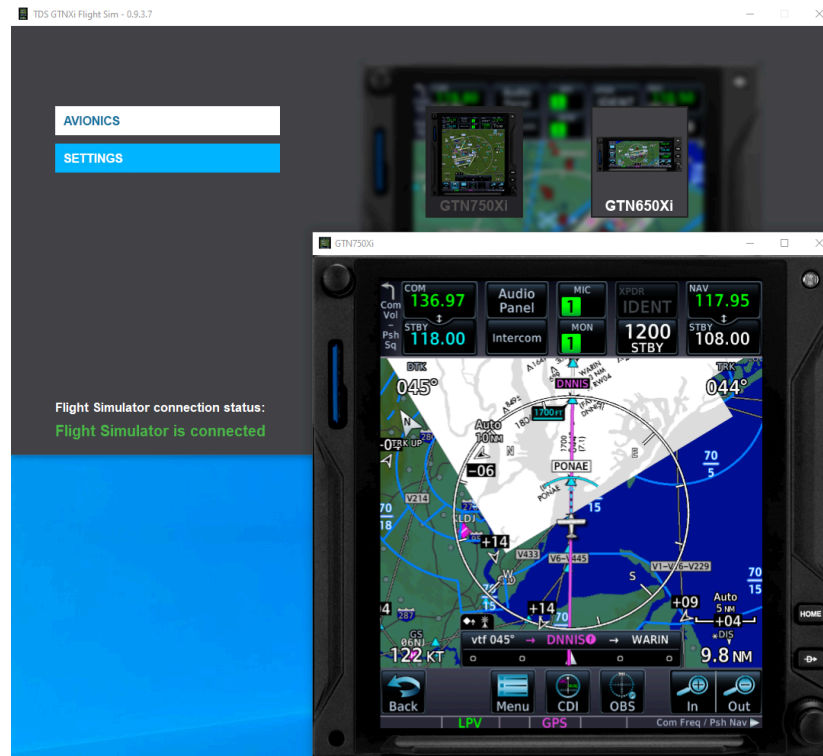
A red indication with the text: “Flight Simulator is not running” means that the TDSGTNXi is not communicating properly with Flight Simulator.



Avionics Tab

This tab lets you show and hide the respective GTNXi window, either GTNXi 750 or GTNXi 650. Both units can be shown and used in flight, in parallel.

Clicking on the **GTN750Xi** button will display a second window which shows the GTNXi 750



Clicking on the **GTN650Xi** button will display a third window, which shows the GTNXi 650



Settings Tab

The TDSGTNXi provides you the option to customize the product to best suit your specific needs.

General Page settings:

- Navigation Source Selection
- RealSimGear Hardware Compatibility

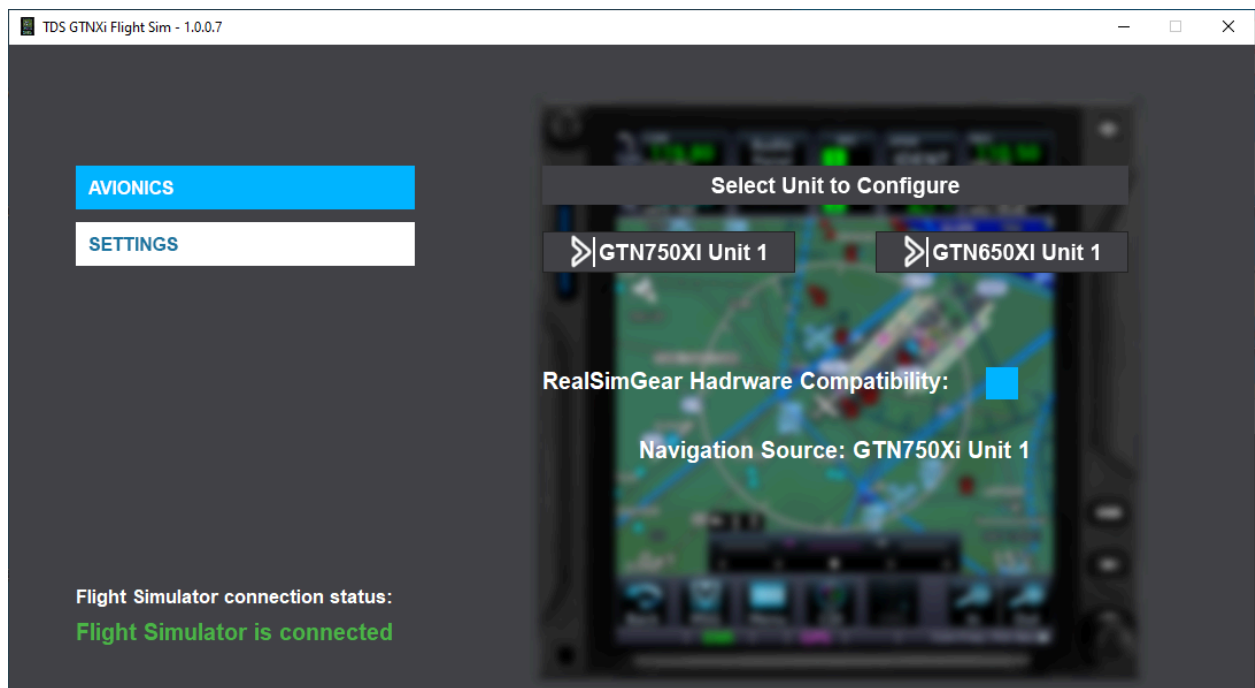
The settings for each unit are split into two types:

- Flight Simulator specific settings
- Device Settings

All settings can be configured from the User Interface, Settings Tab or from the INI File. We suggest that you configure them from the User Interface.

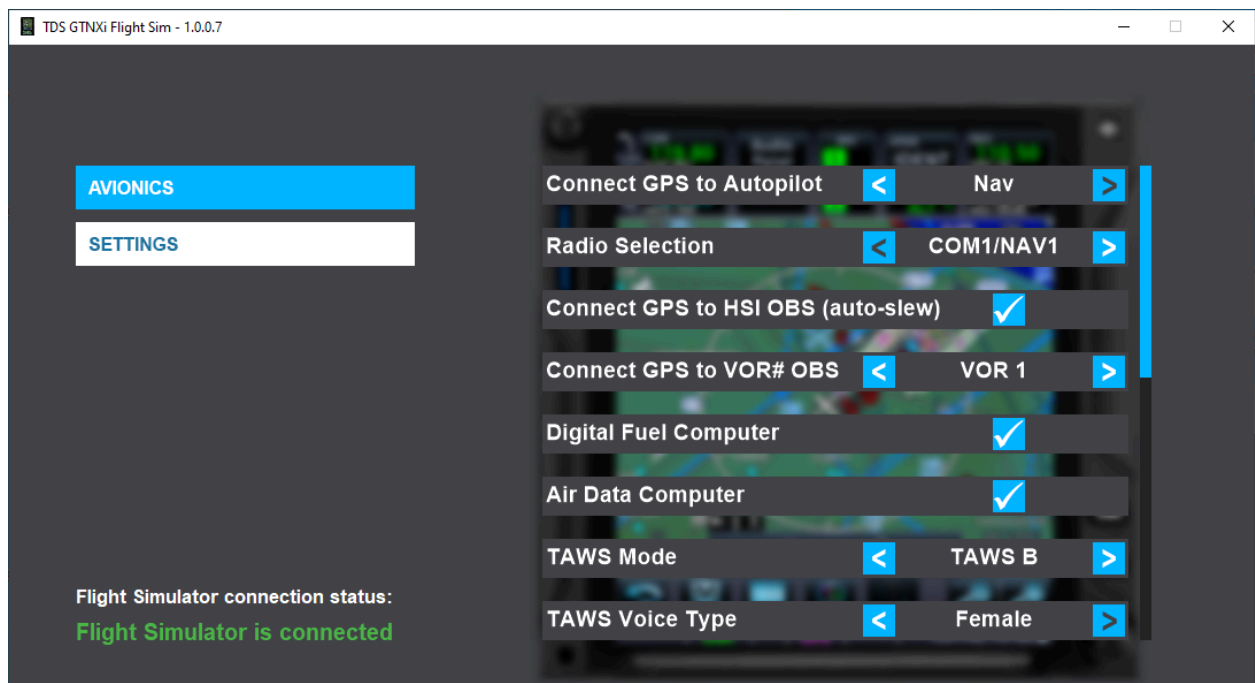
The location of the INI File is:

C:\ProgramData\TDS\GTNXi\FlightSimEXE\TDSGTN.ini



Checking the box **RealSimGear Hardware Compatibility** provides compatibility with RealSimGear hardware

GTNXi Selected Unit to Configure



Flight Simulator specific settings

Connect GPS to Autopilot	<p>Provides the ability to send roll and pitch commands to the Flight Simulator Autopilot when the VLOC/GPS switch is in GPS Mode. There are two autopilot driving options:</p> <ul style="list-style-type: none">• NAV = using the autopilot navigation mode (NAV and APR buttons), the preferred method because it provide glidepath support for LPV approaches• HDG = a fallback state that drives the heading bug, it does not provide glidepath support for LPV approaches
Radio Selection	Provides the ability to select between COM1/NAV1 and COM2/NAV2
Connect GPS to HSI OBS (auto-slew)	Checking this box correlates the MSFS HSI OBS Source with the GTNXi Course, whenever a new waypoint is being entered.
Connect GPS to VOR# OBS	Checking this box gives you the ability to change the OBS value of the GTNXi by using the Flight Simulator VOR CDI knob. The VOR source (VOR1 or VOR2) can be selected from the VLOC Source setting below. With the box unchecked, you can change the GTNXi OBS value using the on screen type-in pop-up

Device Settings

Digital Fuel Computer	Provides external sensor fuel data to the respective GTNXi unit
Air Data Computer	Provides external sensor air data to the respective GTNXi unit
CDI Key	Selects the display of the CDI key on the map page. If no CDI key is displayed, the respective GTNXi unit will default to GPS. Requires Unit Restart
Vertical Navigation Type	Select the desired vertical navigation type: VNAV, VCalc Requires Unit Restart
Crossfill Alerts	Enable system message alerts when the crossfill function is off due to one unit being turned off or a communications error
TAWS Mode	Select the TAWS mode: Terrain Proximity, TAWS-A, TAWS-B, HTAWS-B, H-Terrain Proximity
TAWS Voice Type	Select the TAWS voice: Female, Male
Transponder Settings	Select the default Transponder VFR button code: 1200 (US), 7000 (EU), INI File Note: INI File is a custom user option, please read the chapter titled “Setting a custom transponder VFR Key code in the Transponder Page”
Airplane Type	Change the airplane type icon in map mode
Airplane Color	Select the airplane color between: white and magenta
Fuel Type	Select the fuel type: AVGAS, JET-A, JET-B, DIESEL
Play Key Sounds	Play key sounds on the touchscreen
Play Audio Sounds	Play TAWS sounds from the respective GTNXi unit
Show Bezel	Provides the ability to show/hide the GTNXi bezel
Lock Aspect Ratio	Keep the aspect ratio to 1:1 when resizing the GTNXi Window
Hide Window Frame	Checking this box will hide the Windows title bar and lateral frames, providing a GTNXi only window. The only possibility to move the window is to show the bezel and drag the window from a non-GTNXi touchscreen clickspot
Custom Time Zone Offset	Ability to set and remember a custom local offset (time zone) from the System Setup page
Reset Window	Resets the GTNXi window to the default position/size

Position	
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Navigation Source Selection

Note: This feature has been deprecated, it will be removed in the future!

The TDSXi provides you with the ability to select the GPS Navigation source to drive the autopilot. The current options include:

- TDS GTNXi 750 Unit 1
- TDS GTNXi 650 Unit 1
- Flight Simulator GPS

The active Navigation Source is displayed on the main TDS GTNXi interface, SETTINGS tab. The message “**Navigation Source: Undefined**” is displayed when there is no connection to Flight Simulator.

To cycle between the available navigation sources, push the invisible button located on the top right corner of the GTN750Xi or GTN650Xi, as shown below:



Other Configurable Settings

Setting a custom transponder VFR Key code in the Transponder Page



Setting a custom transponder VFR key code is done via the INI file, which is located here:
C:\ProgramData\TDS\GTN\FlightSimEXE\TDSGTN.ini

To change the code for the desired unit: GTN750.1 or GTN650.1, please add this line:

Transponder.CustomVFRCode = 7000

Please note, the Transponder Settings option from the Main Interface / Settings tab must be set to "INI File", the corresponding ini file setting is: **Transponder.VFRCode = 0**

The range of the Transponder code must be from 0000 to 7777, with all digits starting at 0 and ending at 7. This means that the GTNXi will not accept any values of 8 or 9 in any digit places!

User Checklists

The GTNXi supports an electronic version of your aircraft's checklists. Checklists are stored in groups and as you complete a checklist item, you can advance to the next one.

When the GTNXi automatically detects the presence of a checklist file (**checklist.ace**), the Checklists key appears in the Utilities page:



Checklists are created using the Aviation Checklist Editor, found online at this link:
https://www8.garmin.com/support/download_details.jsp?id=5075

The file called **checklist.ace** must be saved in this location:
C:\ProgramData\TDS\GTNXi

The GTNXi will automatically load the user checklist on startup.

Custom Flight Plans

The GTNXi supports custom flight plans. The method is similar to importing flight plans from a datacard. They permit the user to create custom flight plans using flight planner tools and save them to separate files, which are used by the GTNXi. These flight plans can be previewed, activated or stored inside the GTNXi Flight Plan Catalog.

The flight plans must have the file format: **.gfp** and are stored at this location:

They are stored in this folder:

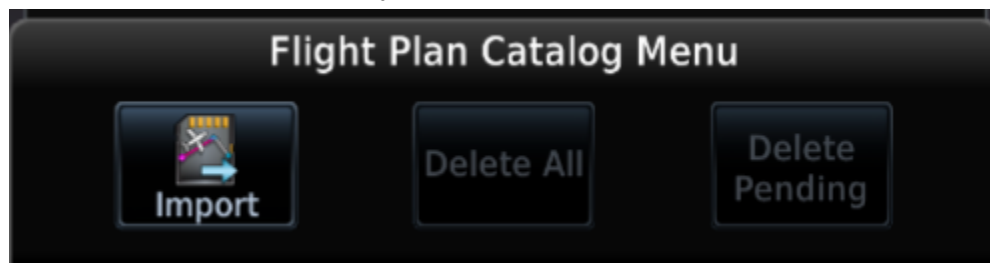
C:\ProgramData\TDS\GTNXi\FPL

Upon installation of the TDS GTNXi, a FPL folder will be created automatically containing a sample flight plan from CYOW to CYTZ, thanks to community member Les O'Reilly:

<https://www.youtube.com/c/LesOReilly>

Please note, the TDS GTNXi requires at least once flight plan to be available on startup, for the important button to become active. Subsequent flight plans can be added while in flight, without having to restart the software/individual unit. A flight plan is already provided with the TDS GTNXi installation, to facilitate the ease of inserting additional flight plans, during flight. We suggest that users keep at least one flight plan file in the FPL folder.

To activate a flight plan in the GTNXi, from the Home page, access the Flight Plan page, then click on the Menu key. Then access the Catalog function, then click on the Menu key. A pop-up menu should appear with an Import key.



Clicking on the Import key will display a list of all **.gfp** flight plans stored in the FPL folder. Select the desired flight plan to preview it, then you have the option to **Store** it inside the GTNXi's flash memory or automatically **Activate** it, so it can be flown.

Note: There is a maximum of 50 **.gfp** files that can be loaded from the FPL folder. This is a real life feature of the GTNXi and the TDS GTNXi abides to this. We suggest keeping the folder to a maximum of 50 files for the FPL folder.

User Waypoints

The GTNXi supports the ability to import user created waypoints from a file. The method is similar to importing user waypoints from a datacard. Each user waypoint will have a name, latitude longitude and optional comment.

Note: If a user waypoint is within 0.0001 degrees of latitude and longitude of a GTNXi database waypoint, then the GTNXi's database waypoint will be used.

To create a **user.wpt** file, open a spreadsheet program and each row contains an individual entry.

Column A: Waypoint Name

Column B: Comment

Column C: Latitude (decimal degrees)

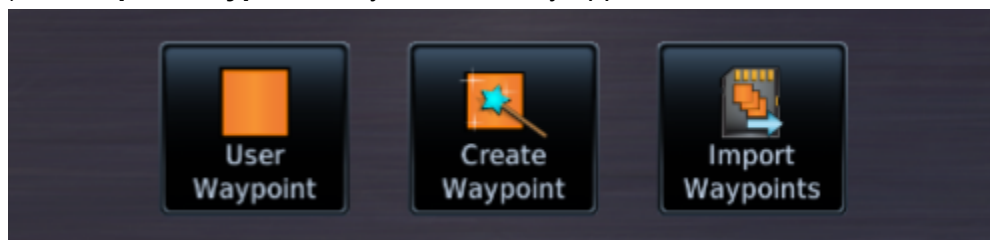
Column D: Longitude (decimal degrees)

The file must be saved a **.csv** file (comma separated values), then renamed to **user.wpt**

The file called **user.wpt** must be saved in this location:

C:\ProgramData\TDS\GTNXi

To import user waypoints, from the Home screen, press the Waypoints key to access the Waypoints page. When the GTNXi automatically detects the presence of a user waypoints file (**user.wpt**), the **Import Waypoints** key automatically appears:



Click on the **Import Waypoints** key to automatically import the waypoints, which will be imported in the **User Waypoint** page.

MSFS 2024 Default Aircraft Integration

Starting with version 1.3.0.0 of the TDS GTNXi, the TDS GTNXi Pro/Pro Upgrade can be fully installed and used as a VC integration option in default MSFS 2024 aircraft, as part of the innovative MSFS 2024 feature: SimAttachments.

We would like to thank TDS GTNXi community user Marc (Discord @marcfsx) for coming up with this innovative idea and for creating both the SimAttachments as well as the aircraft integration community mods!

The default MSFS integration contains of two parts:

- 1) The SimAttachments for the 750Xi and 650Xi bezels
- 2) The individual aircraft mods, which are installed in the MSFS 2024 Community folder

Installation of the SimAttachments is performed automatically by the TDS GPS Manager.

Important note: TDS GPS Manager version 1.0.1.5 (or higher) is required for the installation of the SimAttachments. This can be confirmed by the Flight Simulator 2024 Gauge version 3.0.0 (or higher).

The MSFS 2024 Community folder names are:

marcfsx-instruments-tdssim-gtnxi750

marcfsx-instruments-tdssim-gtnxi750

Installation of the individual aircraft mods require the above mentioned SimAttachments, otherwise the default MSFS 2024 aircraft could not display in the MSFS aircraft selection.

On initial feature release, there is day one support for:

Cessna 185 Skywagon (GTN 750 Xi and GTN 650 Xi)

Cessna 404 Titan (two GTN 750 Xi units)

Cessna 172 Skyhawk Classic (GTN 750 Xi and GTN 650 Xi)

Airbus H125 Helicopter (GTN 750 Xi and GTN 650 Xi)

With these mods planned after initial release: DA40, PC6 Gauge version, DV20, C152, Twin Otter, C207, V35B Bonanza

All the initially released mods feature dual GTN Xi support so users can take full advantage of crossfill.

The MSFS 2024 default aircraft mods can be downloaded from the TDS Sim Software website:

<https://www.tdssim.com/ProUpgrade/msfs2024mods>

Disclaimer: The SimAttachments as well as the community mods created by marcfsx do not impose any warranties or liability of any kind, they are to be used at your own risk.

Crossfill

Starting with version 1.3.0.0 of the TDS GTNXi, crossfill is fully supported in the TDS GTNXi Pro/Pro Upgrade.

Crossfill allows the ability for two GTNXi units to communicate with each other, exchanging important information. Crossfill has been developed at the aviation-level of detail, thus offering a real-life experience to the TDS GTNXi!

There is a general mis-understanding that only the active flight plan is crossfilled between the two GTNXi units, at least 15 items are crossfilled between the two units.

Information crossfilled between units includes:

- Active flight plan
- Flight plan catalog
- User-Defined COM/NAV frequencies
- User waypoints
- Nearest airport criteria
- Units (Nav angle, fuel, temperature)
- COM channel spacing
- CDI scale
- ILS CDI capture settings

More information on crossfill items can be found in the real GTN Xi manual.

To check the crossfill status and disable crossfill, you can always access the **Home/System/Status** Crossfill button

Crossfill is enabled by default and disabling crossfill in one unit will automatically disable crossfill in the second unit.

Re-enabling crossfill after making flight plan changes in one unit, will overwrite the flight plan in the opposite unit.

System message alerts are enabled by default, as a GTN Xi interface settings item, to let the pilot know when crossfill is turned off (disabled) or inoperative.

Due to internal software configurations, changing aircraft inside MSFS will result in all GTN Xi units restarting.

Note: TDS GTNXi Pro or Pro Upgrade are required for crossfill

The GTNXi PC Trainer V20.42.2 or higher is required for crossfill. Please use the TDS GPS Manager V1.0.1.4 or higher to check/update the GTNXi PC Trainer

Interfacing with Hardware

Sending events to simulate keys/knobs

The TDS GTNXi supports accepting MSFS events(K events) in order to control the keys/knobs. The events used by the TDS GTNXi are regular MSFS events. Such events can be triggered via XML/JS code, Spad.neXt, MobiFlight.

It is important to note that besides the actual event, a specified value must be sent. The value can be obtained from the table below, which describes the exact unit that the user wants to control.

Four devices can be controlled by using this method:

GTN750Xi Unit 1

GTN750Xi Unit 2

GTN650Xi Unit 1

GTN650Xi Unit 2

GPS_PAGE_KNOB_DEC GPS_PAGE_KNOB_INC	Bottom Right Inner Knob Decrease and Increase where: 0 = GTN750Xi Unit 1 16 = GTN750Xi Unit 2 8 = GTN650Xi Unit 1 24 = GTN650Xi Unit 2
GPS_GROUP_KNOB_DEC GPS_GROUP_KNOB_INC	Bottom Right Outer Knob Decrease and Increase where: 0 = GTN750Xi Unit 1 16 = GTN750Xi Unit 2 8 = GTN650Xi Unit 1 24 = GTN650Xi Unit 2
GPS_CURSOR_BUTTON	Bottom Right Knob Push where: 4 = GTN750Xi Unit 1 UP 20 = GTN750Xi Unit 2 UP 12 = GTN650Xi Unit 1 UP 28 = GTN650Xi Unit 2 UP 2 = GTN750Xi Unit 1 DOWN 18 = GTN750Xi Unit 2 DOWN 10 = GTN650Xi Unit 1 DOWN

	26 = GTN650Xi Unit 2 DOWN
GPS_MENU_BUTTON	<p>Home Key where:</p> <p>4 = GTN750Xi Unit 1 UP 20 = GTN750Xi Unit 2 UP 12 = GTN650Xi Unit 1 UP 28 = GTN650Xi Unit 2 UP</p> <p>2 = GTN750Xi Unit 1 DOWN 18 = GTN750Xi Unit 2 DOWN 10 = GTN650Xi Unit 1 DOWN 26 = GTN650Xi Unit 2 DOWN</p>
GPS_DIRECTTO_BUTTON	<p>DTO Key where:</p> <p>4 = GTN750Xi Unit 1 UP 20 = GTN750Xi Unit 2 UP 12 = GTN650Xi Unit 1 UP 28 = GTN650Xi Unit 2 UP</p> <p>2 = GTN750Xi Unit 1 DOWN 18 = GTN750Xi Unit 2 DOWN 10 = GTN650Xi Unit 1 DOWN 26 = GTN650Xi Unit 2 DOWN</p>
GPS_BUTTON2	<p>Top Left Knob, where:</p> <p>2 = GTN750Xi Unit 1 Decrease 4 = GTN750Xi Unit 1 Increase 18 = GTN750Xi Unit 2 Decrease 20 = GTN750Xi Unit 2 Increase</p> <p>10 = GTN650Xi Unit 1 Decrease 12 = GTN650Xi Unit 1 Increase 26 = GTN650Xi Unit 2 Decrease 28 = GTN650Xi Unit 2 Increase</p>
GPS_BUTTON1	<p>Top Left Knob Push where:</p> <p>4 = GTN750Xi Unit 1 UP 20 = GTN750Xi Unit 2 UP 12 = GTN650Xi Unit 1 UP 28 = GTN650Xi Unit 2 UP</p> <p>2 = GTN750Xi Unit 1 DOWN 18 = GTN750Xi Unit 2 DOWN 10 = GTN650Xi Unit 1 DOWN 26 = GTN650Xi Unit 2 DOWN</p>

Reading specific TDS GTNXi Data

The TDS GTNXi provides L: variables to those interested in this data, to drive custom solutions/AirManager.

TDSGTNXI_INSTALLED	1 means that the TDSGTNXI WASM Module is running
TDSGTNXI_LateralValueActive	If true, there is valid lateral navigation data
TDSGTNXI_LateralValueMeters	Lateral Deviation Value in Meters
TDSGTNXI_LateralDeviationScaleNM	Lateral Deviation Scale in Nautical Miles
TDSGTNXI_APCourseToFly	The deviation from the desired course to fly to actual track, in radians
TDSGTNXI_ApproachType	Oceanic = 0 Enroute = 1 Terminal = 2 Departure = 3 Missed Approach = 4 LNAV = 5 LNAV+V = 6 LNAV/VNAV = 7 LP = 8 LPV = 9 VISUAL = 10
TDSGTNXI_GlidePathValueActive	If true, there is a valid vertical navigation data
TDSGTNXI_GlidePathValueMeters	Glide Path Vertical Deviation in Meters
TDSGTNXI_GlidePathValueAngle	Glide Path Angle, working range is between -1.0 to +1.0
TDSGTNXI_ToFromFlag	0 = TF Flag Inactive; 1 = TF Flag To; 2 = TF Flag From
TDSGTNXI_NextWaypointDistanceNM	Distance to Next Waypoint in Nautical Miles
TDSGTNXI_NextWaypointDesiredTrackVal	Desired Track Value to Next Waypoint in Degrees
TDSGTNXI_NextWaypointBearingVal	Bearing Value to Next Waypoint in Degrees
TDSGTNXI_TotalDistanceNM	Total Flight Plan Distance in Nautical Miles

TDSGTNXI_TotalETE	Total Flight Plan ETE in seconds with the value being calculated past 30 knots ground speed, otherwise an invalid value of 359999.0 is displayed
TDSGTNXI_TotalETA	Total Flight Plan ETA in seconds based on Zulu Time with the value being calculated past 30 knots ground speed, otherwise an invalid value of 359999.0 is displayed
TDSGTNXI_OBSModeActive	If true, then OBS Mode is active inside the GTNXi
TDSGTNXI_InstrumentPanelSelfTest	If true, then Instrument Panel Self Test is active inside the GTNXi

Troubleshooting

Uninstallation

The TDS GTNXi can be easily and quickly uninstalled from the TDS GPS Manager. To uninstall the TDS GTNXi, open the TDS GPS Manager, login using your credentials, then access the Settings tab. You should see a screen as shown below, just select Flight Simulator and confirm the uninstall action.



Log Files

The TDS GTNXi provides the ability to log information, warning and errors. The information is saved into log files, as described below:

- **TDSGTNXiExeLog.txt** for the main executable
- **TDSGTNXi750Unit1Log.txt** for the GTNXi 750 Unit 1
- **TDSGTNXi650Unit1Log.txt** for the GTNXi 650 Unit 1

These Files are saved in the Windows Documents folder.

They provide the information needed to troubleshoot most problems.

Antivirus infection alert

During the installation or when running the TDS GTNXi, your antivirus may display an alert that a file may be infected with a virus. This is a **false positive** alert, all TDS GTNXi files are checked before being packaged and they do not contain any viruses.

These alerts are **false positives** and TDS GTNXi all files quarantined/deleted by the antivirus should be restored.

The files that may be quarantined/deleted by the antivirus program are:

TDSGTNXiFlightSimEXE.exe

TDSGTNServices.dll

Both files are located here:

C:\ProgramData\TDS\GTNXi\FlightSimEXE

In case the antivirus has quarantined/deleted any one of the two files, please restore the file from the quarantine or reinstall the TDS GTNXi from the TDS GPS Manager.

For all problems/questions regarding antivirus alerts, please post in the support forum.

FRAPS - Black Screen

The TDS GTNXi is currently incompatible with FRAPS, the incompatibility will lead to black screens on both GTNXi displays. The solution is to close FRAPS when using the TDS GTNXi

AVG/Avast Antivirus Users - Black Screen

In the very rare case when AVG/Avast Antivirus is installed and the customer experiences the GTNXi black screen, the solution is to add an antivirus exception for the TDS GTNXI Flight Sim installation folder and the PC Trainer executable folder or to temporarily disable real-time protection to confirm that this is the correct fix.

Since this is a moderately complex process, we suggest contacting tech support for instructions.

This problem has only been encountered with AVG/Avast Antivirus!

Performance Improvements

Below is a two step guide on improving performance of the TDS GTNXi within MSFS. We recommend that all users apply these performance improvements for a much improved experience.

Thanks to AirborneGeek for creating a YouTube video explaining all these performance steps in details:

<https://www.youtube.com/watch?v=naleflcBvWw>

Important Note: Microsoft Flight Simulator 2024 requires a new process exclusion as described below!

Step 1:

Thanks to TDS GTNXi user and streamer Clumsy:

<https://www.twitch.tv/theclumsygeek>

And with the great assessment pointed by Ryan Butterworth

We have been able to find a proper solution for customers experiencing performance degradation (FPS decrease) within MSFS2020/MSFS2024 and the TDS GTNXi.

As this problem occurs only on some machines and we can't correlate the exact cause, we can't have a general fix, but we can point users who experience problems to this fix.

To resolve the problem, you must add an exclusion to Windows Defender for these processes:

For Microsoft Flight Simulator 2020:

gtn_simulator.exe and **FlightSimulator.exe**

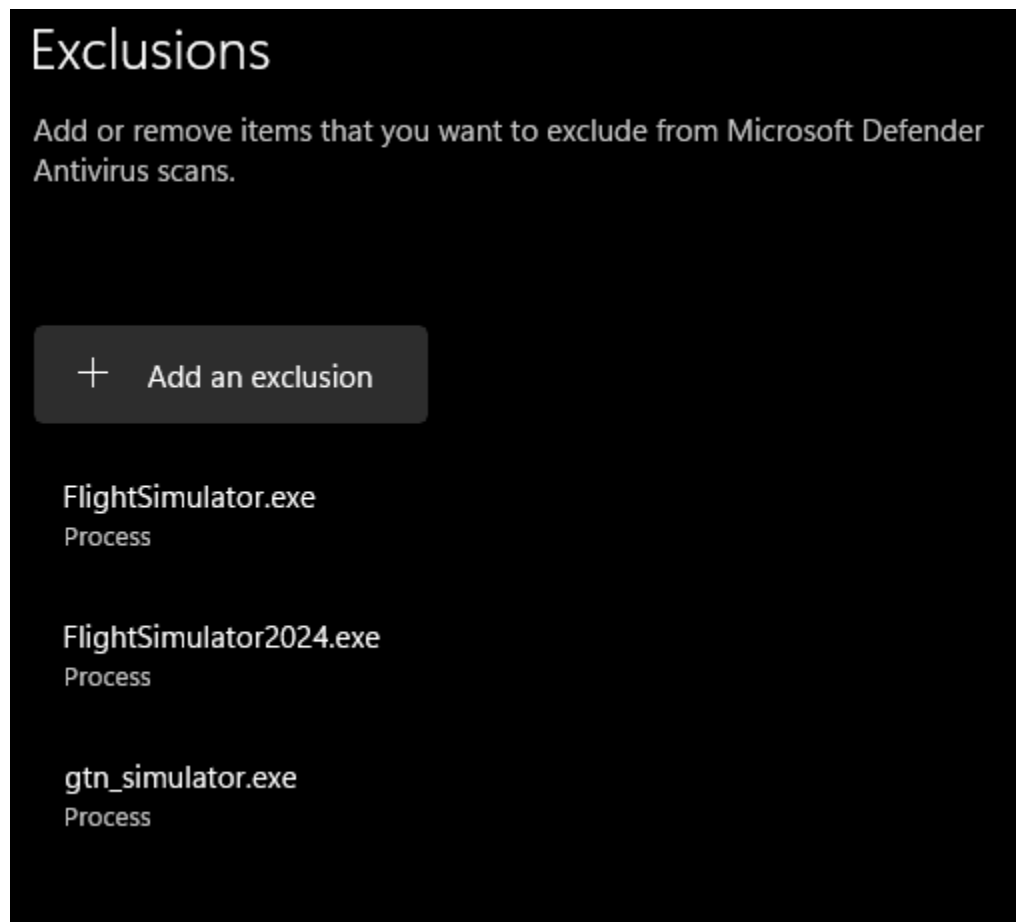
For Microsoft Flight Simulator 2024:

gtn_simulator.exe and **FlightSimulator2024.exe**

As described here:

<https://support.microsoft.com/en-us/wind...01afe13b26>

When clicking on Add Exclusion, select Process and then type the name and the extension, as shown above or in the screenshot below.



Step 2:

Enable a different drawing algorithm inside MSFS. With the Developer Mode active, access the Options Menu, then under the Experimental section, check the "Use NanoVG for XML gauges"

This should decrease the load on the Main Thread and hopefully provide a performance increase using the TDS GTNXi as a VC Integrated option.

Tech Support

To obtain tech support for the TDS GTNXi, please post your questions to the support forum:

forum.tdssim.com

You can also obtain support in the official TDS Sim Software GTNXi **Discord** channel:

<https://discord.gg/NupgPCUgsH>

To keep up to date with news, pictures and all other TDS SIm Software information, you can visit and **Like** our **Facebook** page:

<https://www.facebook.com/tdssimsoftware>

We stand by our products and we will treat all tech support questions with utmost importance. We do our best to answer your question promptly.

For all other inquiries, please email us at:

support@tdssim.com