



# GARMIN®

## Data Card Guide





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This guide reflects information typically encountered when performing the indicated procedures. Some differences in operation may be observed when compared to information in this guide.

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Part Number	Change Summary
190-01464-00 Rev C	Various updates

Revision	Date of Revision	Affected Pages	Description
C	January, 2017	All	Updated per new database info

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## GENERAL INFORMATION

The purpose of this guide is to help manage and troubleshoot problems with the Secure Digital (SD) data cards. It does not supersede any information found in the Pilot's Guide.



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**CAUTION:** *DO NOT use the data cards for any purpose other than database storage. Using the data cards for personal storage can corrupt database information and/or damage the data card.*

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**CAUTION:** *DO NOT format Garmin data cards unless instructed to do so by Garmin Product Support. Formatting cards will delete all databases, requiring reloading from [fly.garmin.com](http://fly.garmin.com) and/or Jeppesen, possibly at additional cost.*

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The system uses Secure Digital (SD) cards to load and store various types of data. Not all SD cards are compatible with the system. Use only SD cards supplied by Garmin or the aircraft manufacturer.

A personal computer running Microsoft Windows or an Apple Macintosh computer should be used to load Garmin database updates to an SD card.

Some Garmin SD cards are larger than 2GB, therefore, are SD High Capacity (SDHC) cards. Not all SD card readers (internal or external to the computer) are capable of reading SDHC cards. Inserting an SDHC card into an incompatible SD card reader will not damage the card or the files, however, all the necessary data may not be read or written on the card. Check the computer or card reader manufacturer's website for a driver update.

It is recommended external card readers be connected directly to the computer. Slow performance may be experienced when the SD card reader is connected to a USB hub, computer screen port, or keyboard port.

Visit [fly.garmin.com](http://fly.garmin.com) to learn more about database downloads and system updates.

For additional assistance with SD cards and databases residing on these cards, call Garmin Product Support toll free at 866-739-5687 in the US, 7am-7pm CST, Monday through Friday. Non-US operators can call Garmin Europe at (44) 087 0850 1243 or Garmin Singapore at (65) 6348 0378.

## DATA CARD CARE

To avoid damage, data loss or corruption, the following guidelines should be followed when handling data cards.

- Garmin Supplemental Data Cards should only be removed from the PFD/MFD to update databases.
- Store data cards in a clean and dry location inside the aircraft.
- Do not save personal files on data cards.
- Properly eject data cards from the SD card reader after a database download has finished.
- Do not touch metal contacts on the backside of the data cards.
- Use only data cards provided by Garmin or the aircraft manufacturer.

## DATABASE CARD TYPES

### GARMIN DATABASES

The following databases are obtained from Garmin on a pre programmed Garmin Supplemental Data Card or downloaded from [fly.garmin.com](http://fly.garmin.com) and then loaded to the Garmin Supplemental Data Card. Refer to [fly.garmin.com](http://fly.garmin.com) for coverage areas. The Garmin Supplemental Data Cards remain in the bottom card slot of each display, and are only removed to update databases. The Navigation database should be loaded to a separate Navigation Database Update Card.

Database	Description	Update Cycle	Notes
Garmin Navigation Data or Jeppesen Navigation Data (see Note 1)	Airport, NAVAID, Waypoint and Airspace Info	28 days	Options include Garmin Navigation Database and Jeppesen Navigation Database. Stored internally on panel mounted devices after update
SafeTaxi	Geo-reference airport Diagrams	56 days	
Terrain (see Note 2)	Topographic map, Synthetic Vision	As req.	9 Arc Second required for SVT

Database	Description	Update Cycle	Notes
Obstacle	Man made structures over 200' AGL	56 days	
Basemap	Boundary, city, rivers, and road information	As req.	Contains non-aviation related info.
Airport Directory	Airport facility and FBO information	56 days	Provided by either AOPA or AC-U-KWIK. (N/A on GTN)
FliteCharts	Electronic versions of published approach, arrival, and departure charts	28 days	Disables 180 days after exp. date

Note 1) Starting with G1000 GDU version 15.10 and G2/3/5000 GDU version 6.50, Garmin began supporting a new format of the Navigation database known as ADB2. The ADB2 filename on the SD card is "nav\_db2.bin". G1000 GDU software versions prior to 15.10 and G2/3/5000 GDU software versions prior to 6.50 only support the ADB1 database format. The ADB1 filename on the SD card is "avtn\_db.bin". Database update tools will program both versions of the database onto the card and the avionics will use the database file appropriate for the system.

Note 2) Starting with G1000 GDU version 15.00, Garmin began supporting a new format of the Terrain database known as TDB2. TDB2 has been supported from the launch of G2/3/5000. The TDB2 filename on the SD card is "trn.dat". G1000 GDU software versions prior to 15.00 only support the TDB1 database format. The TDB1 filename on the SD card is "terrain.tdb" or "terrain\_9as.tdb". Users will need to know their GDU version so that they can choose the correct Terrain database for their system. TDB1 supports various resolutions including 30 arcsecond, 9 arcsecond, 6 arcsecond. TDB2 supports 4.9 arcsecond resolution.



Preprogrammed Garmin Supplemental Data Card Examples

## JEPPESEN DATABASES

Many of the Garmin databases described above can also be purchased from Jeppesen and updated using the Jeppesen Distribution Manager (JDM) software if desired. Jeppesen ChartView database must be purchased from Jeppesen, although it can be updated from fly.garmin.com.

For G1000, ChartView should be loaded to the Supplemental Data Card for the MFD. For the G2000, G3000, G5000, ChartView should be loaded to all Supplemental Database Cards.

Database	Description	Update Cycle	Notes
ChartView	Jeppesen terminal procedures	14 days	Disables 70 days after exp. date

## GARMIN FEATURE UNLOCK CARDS

Garmin Feature Unlock Cards are used to activate, or unlock, specific features such as TAWS-B, TAWS-A, Synthetic Vision Technology (SVT™), Video Input, Electronic Stability and Protection (ESP™), and Jeppesen ChartView (note that other unlock features may be available). After the feature is activated, keep this data card in the aircraft in case a service center needs to reactivate a feature after a software update or other system repairs.

If a Garmin Feature Unlock Card is lost, there is a replacement fee. Contact your OEM or Garmin Product Support to obtain a replacement card.

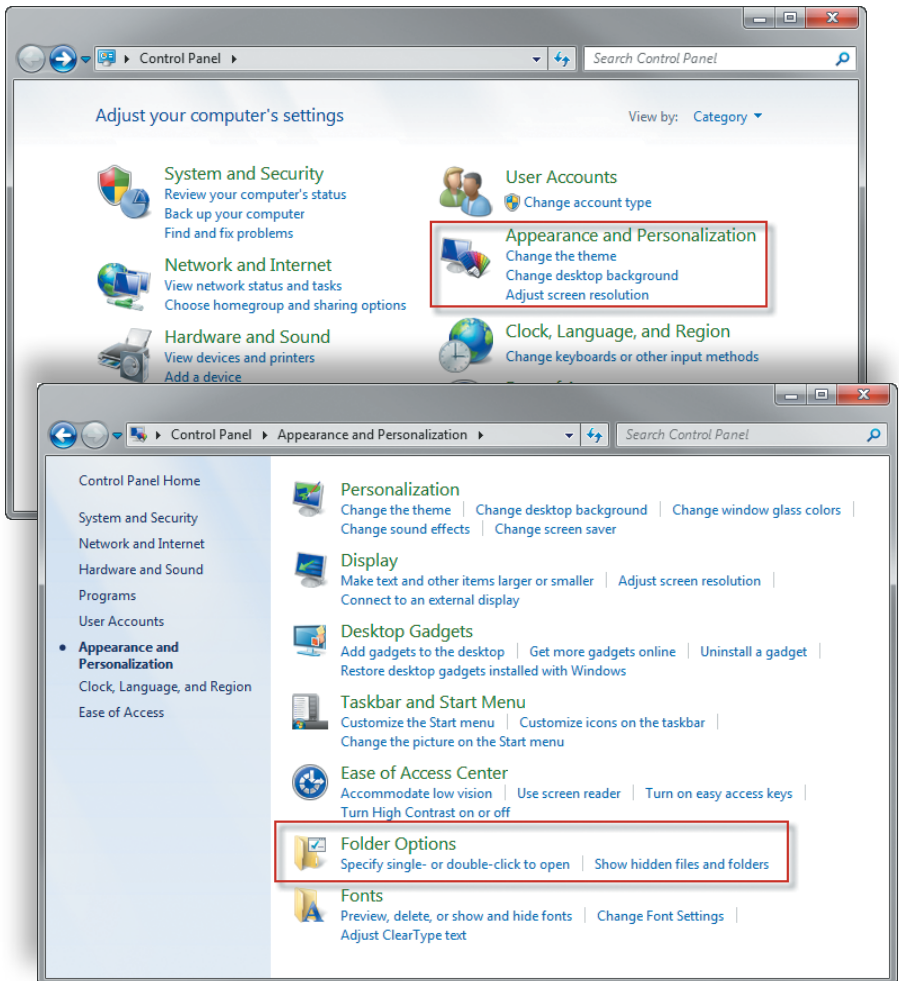


**Garmin Feature Unlock Card**

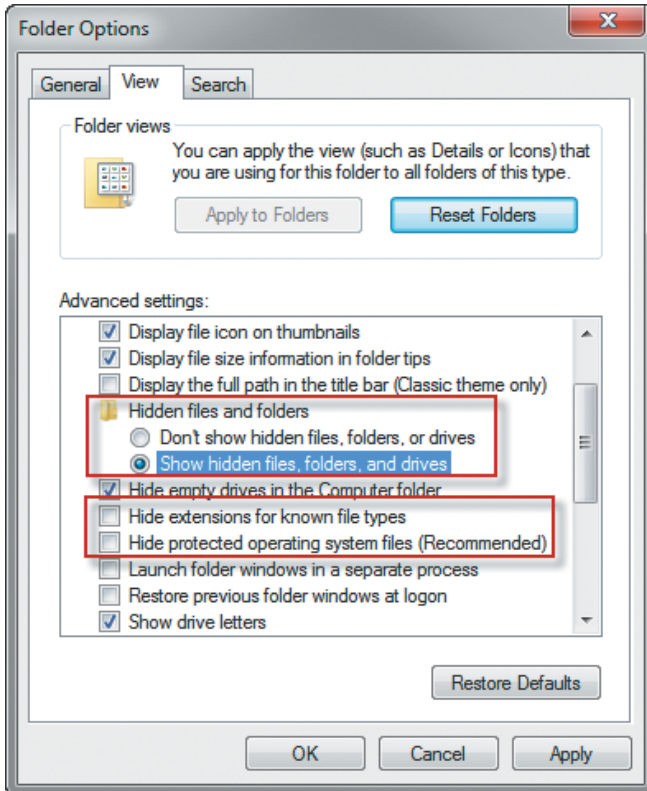
## VIEWING FILES ON DATA CARDS

From time to time, Garmin database files may need to be viewed on the data cards. If the files are not visible, it may be necessary to perform the following steps on Windows XP or Windows 7 in order to view the files.

- 1) Click on **Start**, then click **Control Panel**.
- 2) Click on **Appearance and Themes** (Windows XP) or **Appearance and Personalization** (Windows 7), then **Folder Options**.



- 3) In the Folder Options window, choose the **View** tab. In this tab, change the following three settings:
  - a) Select the "Show hidden files and folders" circle.
  - b) Uncheck the "Hide extensions for known file types" box.
  - c) Uncheck the "Hide protected operating system files (Recommended)" box. A pop up window may appear to confirm the selection.








- 4) All files should now be viewable on the data card.











## TYPICAL DATABASE FILES

The following examples are typical lists of database files found on specific Supplemental Data Cards.











### Garmin Supplemental Data Card Part Number 010-00330-41

Name ▲	Size	Type	Date Modified
 airframe_info.xml	1 KB	XML Document	3/23/2009 2:14 PM
 feat_unlk.dat	5 KB	DAT File	8/18/2009 12:49 PM
 terrain.adb	24,152 KB	ADB File	5/13/2008 6:20 AM
 terrain.odb	3,907 KB	ODB File	6/16/2009 11:56 AM
 terrain.tdb	91,591 KB	TDB File	5/12/2008 6:50 PM

### Garmin Supplemental Data Card Part Number 010-00330-42

Name ▲	Size	Type	Date Modified
 fc_tpc		File Folder	11/6/2009 11:07 AM
 airframe_info.xml	1 KB	XML Document	4/1/2005 5:49 AM
 apt_dir.gca	7,337 KB	GCA File	10/8/2009 1:23 PM
 avtn_db_stby.bin	12,192 KB	BIN File	11/6/2009 10:59 AM
 bmap.bin	12,433 KB	BIN File	7/17/2008 7:08 AM
 feat_unlk.dat	11 KB	DAT File	4/1/2005 5:49 AM
 safetaxi.bin	6,269 KB	BIN File	10/7/2009 9:34 AM
 terrain.adb	24,152 KB	ADB File	5/13/2008 5:20 AM
 terrain.odb	3,946 KB	ODB File	10/6/2009 1:59 PM
 terrain.tdb	91,591 KB	TDB File	5/12/2008 5:50 PM

### Garmin Supplemental Data Card Part Number 010-00330-43

Name ▲	Size	Type	Date Modified
 fc_tpc		File Folder	11/6/2009 8:56 AM
 airframe_info.xml	1 KB	XML Document	4/1/2005 4:50 AM
 apt_dir.gca	7,337 KB	GCA File	10/8/2009 1:23 PM
 avtn_db_stby.bin	12,192 KB	BIN File	11/6/2009 10:59 AM
 bmap.bin	12,433 KB	BIN File	7/17/2008 7:08 AM
 feat_unlk.dat	11 KB	DAT File	4/1/2005 4:51 AM
 safetaxi.bin	6,269 KB	BIN File	10/7/2009 9:34 AM
 terrain.adb	24,152 KB	ADB File	5/13/2008 5:20 AM
 terrain.odb	3,946 KB	ODB File	10/6/2009 1:59 PM
 terrain_9as.tdb	1,056,442 KB	TDB File	5/13/2008 12:25 AM

## Garmin Supplemental Data Card Part Number 010-00330-45

Name	Date modified	Type	Size
fc_tpc	9/12/2016 5:07 PM	File folder	
.evidf.dat	1/28/2016 1:55 PM	DAT File	1 KB
apt_dir.gca	9/23/2014 5:28 PM	GCA File	11,443 KB
bmap.bin	8/5/2015 10:49 AM	BIN File	19,829 KB
feat_unlk.dat	9/12/2016 5:23 PM	DAT File	11 KB
safetaxi.bin	9/23/2014 5:18 PM	BIN File	9,369 KB
terrain.adb	9/23/2014 5:40 PM	ADB File	21,694 KB
terrain.odb	9/23/2014 5:21 PM	ODB File	4,468 KB
trn.dat	9/12/2016 5:23 PM	DAT File	2,933,981 KB

## Garmin Supplemental Data Card Part Number 010-00330-4[A-F]\*

Name	Date modified	Type	Size
fc_tpc	1/28/2016 1:23 PM	File folder	
.evidf.dat	1/28/2016 1:55 PM	DAT File	1 KB
airframe_info.xml	6/4/2016 6:43 AM	XML Document	1 KB
apt_dir.gca	1/28/2016 1:22 PM	GCA File	6,917 KB
bmap.bin	1/28/2016 1:22 PM	BIN File	19,829 KB
feat_unlk.dat	6/15/2016 3:58 PM	DAT File	9 KB
safetaxi.bin	1/28/2016 1:22 PM	BIN File	9,905 KB
terrain_9as.tdb	6/15/2016 3:58 PM	TDB File	752,282 KB

\*Each card -4A through -4F contains Terrain data for a different geographic region as follows:

010-00330-4A - Americas-North

010-00330-4B - Americas-South

010-00330-4C - Atlantic-North

010-00330-4D - Atlantic-South

010-00330-4E - Pacific-North

010-00330-4F - Pacific-South



**NOTE:** The 010-00330-4[A-F] cards use a 6 arc second Terrain database although the database filename on the SD card is "terrain\_9as.tdb" which may imply incorrectly that it is a 9 arc second database.



## Garmin Supplemental Data Card Part Number 010-00474-44

Name	Date modified	Type	Size
fc_tpc	9/12/2016 5:07 PM	File folder	
.evidf.dat	1/28/2016 1:55 PM	DAT File	1 KB
apt_dir.gca	9/23/2014 5:28 PM	GCA File	11,443 KB
bmap.bin	8/5/2015 10:49 AM	BIN File	19,829 KB
feat_unlk.dat	9/12/2016 5:23 PM	DAT File	11 KB
safetaxi.bin	9/23/2014 5:18 PM	BIN File	9,369 KB
terrain.adb	9/23/2014 5:40 PM	ADB File	21,694 KB
terrain.odb	9/23/2014 5:21 PM	ODB File	4,468 KB
trn.dat	9/12/2016 5:23 PM	DAT File	2,933,981 KB

### Jeppesen ChartView Database

When the Jeppesen ChartView Database is copied to any of the previously mentioned Supplemental Data Cards, the following folders are added to the list of files.

Name	Size	Type	Date Modified
charts		File Folder	2/3/2009 10:59 AM
Fonts		File Folder	7/21/2008 3:52 PM

### Navigation Database

The Navigation Database should be loaded to a separate Navigation Database Update Card. The following are files typically seen after loading the Navigation Database to a data card.

Name	Size	Type	Date Modified
feat_unlk.dat	1 KB	DAT File	1/26/2009 10:44 AM
airframe_info.xml	1 KB	XML Document	5/15/2008 2:27 AM
ldr_sys		File Folder	8/28/2007 10:12 AM

## FILE DESCRIPTIONS

The following are descriptions of the various files shown in the preceding figures.

### **Airframe\_info.xml**

This file is placed on the card by the system during power-up. This file is not present on a new card that has not yet been inserted in a display card slot. This contains the system software level and the System ID number. If this file is deleted, it will be replaced after re-inserting the card in the display card slot and powering up the system. It will not interfere with the operation of the databases if it is missing.

### **Apt\_dir.gca**

This is the Airport Directory database file. It can only be used with GDU version software 10.00 and higher. Airport Directory databases offer detailed information for airports worldwide. This file includes the names and phone numbers of thousands of FBOs, plus ground transportation, lodging, restaurants, and more. Updates are offered every 56 days.

### **Avtn\_db\_stby.bin**

This file is copied from the Navigation Database card to the Supplemental SD card and is intended to store the upcoming Navigation Database cycle to support transition to the new cycle once the current cycle expires. It may become out of date if not maintained by the operator. Use of the Standby Database feature is optional.

### **Bmap.bin**

This is the Worldwide Basemap database. This file includes the locations of oceans, rivers, and lakes, cities and towns, major interstates and highways, and political boundaries. Updates to basemap data occur approximately once per year.

### **Charts**

This is a Jeppesen ChartView folder. It is only present after copying the ChartView database to SD card.

### **.dwt**

Files with .dwt extensions are files used to crossfill databases between displays in the system. If these files are deleted, the system will place them on the data card as needed.

## **.evidf.dat**

This file is added by fly.garmin.com when a database update is performed. The file makes it easier for Mac computers to perform database updates if needed in the future. Garmin's recommendation is to leave the file on the card.

## **Fc\_tpc**

This is the Garmin FliteCharts folder containing the chart files. Garmin FliteCharts are electronic versions of terminal procedures charts. Approach procedures are geo-referenced whereas departure and arrival procedures are not. Updates are offered every 28 days..

## **Feat\_unlk.dat**

This file is placed on the card when the databases are written to the card. It contains information about databases on the card and helps ensure integrity of the database files. If the file is missing, databases on the card will not be accessible by the system and databases may need to be re-programmed to the card.

## **Fonts**

This is a Jeppesen ChartView folder. It is only present after copying the ChartView database to SD card.

## **Safetaxi.bin**

This is the Garmin SafeTaxi database file. SafeTaxi identifies runways, taxiways, FBOs, and hangars at many airports, as well as the aircraft location on the airport. SafeTaxi is seamlessly integrated with basemap data, so the airport information appears on the basemap at the appropriate map range setting, with details increasing as the range setting decreases. SafeTaxi is geo-referenced, so pilots will see their aircraft icon move along the taxiway diagram on their navigation screen. SafeTaxi includes position information for hundreds of airports, and updates are available every 56 days.

## **Terrain.adb**

This is the airport terrain database file and is included in the terrain database download (30AS and 9AS). This file contains the elevation data which represents the topography around the airports contained in the database. Airport Terrain data does not include man-made objects (towers, airports, VORs etc.). Updates to Airport Terrain data occur approximately once per year.

## **Terrain.odb**

This is the obstacle database file. This file includes the locations of towers, tall buildings, and other vertical obstructions that could be a hazard to pilots. Updates are offered every 56 days.

## **Terrain.tdb, terrain\_9as.tdb, or trn.dat**

This is the terrain database file. The file contains the elevation data which represents the topography of the earth. Terrain data does not include man-made objects (towers, airports, VOR, etc.). Updates to terrain data occur approximately once per year. The terrain filename and resolution of the database used depends on the GDU software level selected when updating the database. Only one is needed by any given avionics system. If in doubt as to whether the correct Terrain file is installed, please contact Garmin Product Support.

## **Other files**

If other files are shown on the data cards that are not listed above, they may need to be removed to ensure proper operation. Contact Garmin Product Support before removing unknown files.



## Garmin Product Support

### The Americas

**Hours:** M-F: 7am-7pm (CST/CDT)

**Phone:** 1-866-739-5687

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**Hours:** M-F: 8am-5pm (GMT)

**Phone:** +44 (0) 87 0850 1243

### Asia Pacific

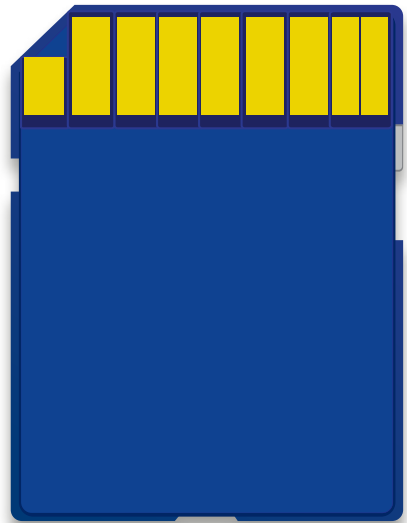
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