

Imperfections in Garmin's Aviation Databases

The following compilation errors are present in the aviation databases sold by Garmin from their website for various aviation handheld GPS units. If anyone would like to checkout the panel-mount models, please let me know what you find.

1. Invisible Waypoints

Units affected: GPS 92, 96, 96C, 195, 196, 295, 296, 396, 496, and III Pilot.

Cycles affected: All databases since the model became available.

Certain waypoints are not visible on the map page if you fly past (or scroll to) the area in which they should be displayed. They only become visible if they are included in the active route. The reason is that any waypoint which has a longitude roughly between W179deg40min and W180 fails to be included in the internal index, and is due to the fact that the binary resolution employed does not exactly fit the decimal limits of plus and minus 180.

<u>Waypoint</u>	<u>Country</u>	<u>Databases Affected</u>
APT NFNM Matei	Fiji/Tonga - NF	pac amr atl
INT ALDOZ	Alaska - PA	amr
FALAV	Alaska - PA	amr
ARTOP	USA - P	pac amr
BOILS	USA - P	pac amr
NEILS	USA - P	pac amr
MAZZA	USA - P	pac amr
FROTH	USA - P	pac amr
IDOCA	USA - P	pac amr
MILDA	USA - P	amr
DUNAK	Fiji/Tonga - NF	pac
POPAS	Fiji/Tonga - NF	pac
ATOLL	Fiji/Tonga - NF	pac
PARZO	Fiji/Tonga - NF	pac
90S80	New Zealand - NZ	pac
APOTO	New Zealand - NZ	pac
GONAX	New Zealand - NZ	pac
INTIB	New Zealand - NZ	pac
KADEN	New Zealand - NZ	pac
POPIR	New Zealand - NZ	pac
BABAK	Russia - UH	pac atl
NDB LK Lakeba	Fiji/Tonga - NF	pac
OI Ono I Lav	Fiji/Tonga - NF	pac

MT Matei	Fiji/Tonga - NF	pac	
NB Uelkal	Russia - UH	pac	atl
WJ Mys Schmidta	Russia - UH	pac	atl

2. Search for Airport by Facility Name

Units affected: GPS III Pilot

Cycles affected: atlantic since 9908, and all areas since 0307.

This really is due to a database compilation error, which results in the search for an airport by its facility name not working. Do not be put off by tales of it never working, or never being intended to work, it works just fine without the compilation problem. The situation came about when they were forced by space limitations to remove all the brief "out-of-area" airport details from the database (these are still present in other models). It is actually quite a serious error, because they failed to remove all the associated names, and left the facility name internal index full of rubbish entries. When you re-make one of these databases you get an immediate saving of 258k bytes (atl) and the search facility works again. In fact, had they fixed this problem, there would have been no need to split the world up into five lumps instead of three.

3. Duplicate SUA entries

Units affected: all models

Cycles affected: all cycles

This is rather less serious, since the numbers involved are less than ten areas in each database, but nevertheless there are instances of SUAs which are identical in every respect. There is no obvious effect that the user can observe.

4. Corrupt SUA Entries

a) Units affected: all models

Cycles affected: pacific 0307 and later, perhaps earlier.

The first entry in the SUA(b) section - areas not associated with an airport - is an exact copy of the first entry in the SUA(a) section (GOROKA) except that its name pointer is rubbish (too large).

b) Units affected: GPS III Pilot, GPS 92

Cycles affected: europe (eer) 0507 onwards

They really blew it with this one, they added a whole batch of 529 new SUA(b) areas, but the compiler didn't recognise the airspace type and overwrote the pointers to the names.

See complete list here: [SUACorruptNames0509.txt](#)

c) Units affected: All since early 2008, but not 696/Aera.

Area "SUA(b) MATHIATIS (D)-21 {Danger Area P0} 0 to 100000" appears with only a single vertex point.

d) Units affected: All models except 696/Aera
Cycles affected: Atlantic 1004 (perhaps earlier)

Another serious problem, this time a single 2deg x 2deg square in Europe fails to display 49 danger and warning areas. The problem is caused by a limit of 256 entries in the SUA index, and this square now has 305 SUAs which have at least part of their boundary within it. Because SUA(b) is last in the database, the last 49 of these areas are omitted from the index and therefore do not appear on the map display. Here is a list from 296 cycle 1112:

TISSALT, TREMELO, VERLAINE, GLIDER AREA WEELDE, ZOERSEL
TRA KLEVE (R)-312, REEK (D)-62, REEK (D)-62, RIEL (D)-63, RIEL (D)-63
(G)-12, (G)-12A, HAGHORST, LITHOIJEN, RHENEN/GREBBEBERG (R)-19
GLIDER AREA AMEIDE, GLIDER AREA AMERICA, GLIDER AREA DE PEEL
GLIDER AREA EINDHOVEN, PJE AREA ETTEN-LEUR
GLIDER AREA GENDT, GLIDER AREA GILZE-RIJEN
GLIDER AREA GRIENDTSVEEN, GLIDER AREA IJSSELSTEIN
GLIDER AREA LOPIK, GLIDER AREA MALDEN
GLIDER AREA MAURIK, GLIDER AREA MOERGESTEL
GLIDER AREA MOERGESTEL, GLIDER AREA NISTELRODE
GLIDER AREA NOORDELOOS, GLIDER AREA NUMANSDORP
PJE AREA OUD GASTEL, PJE AREA REGTE HEIDE
PJE AREA RHOON, PJE AREA RIJSBERGEN
GLIDER AREA SCHALKWIJK, PJE AREA SCHIJF
GLIDER AREA SCHINVELD, GLIDER AREA SEPPE
GLIDER AREA STERKSEL, GLIDER AREA VOLKEL
PJE AREA WERNHOUT, PJE AREA WIJK BIJ DUURSTEDEN
GLIDER AREA WOENSDRECHT, FEITSCH, FEITSCH
CHOOZ (P)-38, AISNE (R)-45N1

The square is roughly N50 E004 to N52 E006. If you aviate in this area you ought to be very annoyed about this.

17th Dec 2011

