

GPS PLUS Version 2.4.0

GPS PLUS can now export the WGS84 geographic coordinates into different numerous Reference and Coordinate Systems for most countries all over the world (GPS PLUS Version 2.4.0 and higher)

The GPS PLUS software is furthermore free, but two additional options must be purchased when the user would like to use it.

- 1) Geo Transformation – Convert WGS84 Coordinates into different grid systems
The license key will be delivered to you by email after making the purchase.
The price per User license is Euro 300,- , the price per site license is Euro 1000,-

Choose any of those Geo Transformation licensing models:

User license	For personal use or small groups. Each user needs a user license, e.g a two users license cost 2 * Euro 300 = Euro 600
Site license	Gives the right to use the Geo Transformation for all users at one physical address, e.g. one office, one company, or one university

- 2) Email Autoread client – Read and convert automatically all received emails with attached SMS files, like a GSM ground station.
The license key will be delivered to you by email after making the purchase.
The price per User license is Euro 150,- , the price per site license is Euro 1000,-

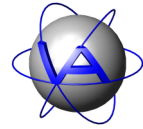
Choose any of those Email Autoread client licensing models:

User license	For personal use or small groups. Each user needs a user license, e.g a two users license cost 2 * Euro 150 = Euro 300
Site license	Gives the right to use the Geo Transformation for all users at one physical address, e.g. one office, one company, or one university

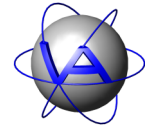
Added new features GPS PLUS Version 2.4.0, February 28, 2005

1. User selectable Reference system

1. Default reference system
2. ETRS89 (Europe), geocentric, GRS80
3. WGS84 (World wide GPS), geocentric, WGS84
4. WGS72 (World wide), geocentric, WGS72
5. ED50 (Europa), Potsdam, Hayford/International
6. S42/83 (East Europe), Pulkowo, Krassowskij
7. BD50 (BE), Royal de Belgique, Hayford/International
8. BD72 (BE), Ukkel, Hayford/International



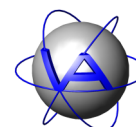
9. ED50 (DK), Potsdam, Hayford/International
10. DHDN/PD (DE 1995 $<\pm 5\text{m}$), Rauenberg, Bessel
11. DHDN/PD (DE 2001 $<\pm 3\text{m}$), Rauenberg, Bessel
12. DHDN/PD (DE old states south $<\pm 1\text{m}$), Rauenberg, Bessel
13. DHDN/PD (DE old states middle $<\pm 1\text{m}$), Rauenberg, Bessel
14. DHDN/PD (DE old states north $<\pm 1\text{m}$), Rauenberg, Bessel
15. S42/83 (DE states MV/LSA $<\pm 1\text{m}$), Pulkowo, Krassowskij
16. RD/83 (DE state SN $<\pm 1\text{m}$), Rauenberg, Bessel
17. PD/83 (DE state TH $<\pm 1\text{m}$), Rauenberg, Bessel
18. SOLDNER (DE state BY $<\pm 1\text{m}$), Munic, Laplace
19. EST97 (EE), geocentric, GRS80
20. S42 (EE), Pulkowo, Krassowskij
21. KKJ (FI), Helsinki, Hayford/International
22. ED50 (FI), Potsdam, Hayford/International
23. ED50 (NO FI), Potsdam, Hayford/International
24. RGF93 (FR), geocentric, GRS80
25. NTF (FR), Paris Pantheon, Clarke IGN
26. ED50 (FR), Potsdam, Hayford/International
27. GGRS87 (GR), Dionysos, GRS80
28. ED50 (GR), Potsdam, Hayford/International
29. HELLENIC (GR $<\pm 3\text{m}$), Athens, Bessel
30. OSGB36 (GB/IE), Herstmonceux, Airy
31. IRELAND65 (IE), Slieve Donard, Airy modified
32. ROMA40 (IT), Monte Mario, Hayford/International
33. ROMA40 (IT peninsular), Monte Mario, Hayford/International
34. ROMA40 (IT Sardinia), Monte Mario, Hayford/International
35. ROMA40 (IT Sicily), Monte Mario, Hayford/International
36. ED50 (IT, Sardinia), Potsdam, Hayford/International
37. ED50 (IT, Sicily), Potsdam, Hayford/International
38. LKS92 (LV), geocentric, GRS80
39. S42 (LV), Pulkowo, Krassowskij
40. LKS94 (LT), geocentric, GRS80
41. S42 (LT), Pulkowo, Krassowskij
42. LUREF (LU), Habay, Hayford/International
43. ED50 (MT), Potsdam, Hayford/International
44. RD/NAP (NL), Amersfoort, Bessel
45. NGO1948 (NO), Oslo, Bessel modified
46. MGI (AT/CZ), Hermannskogel, Bessel
47. S42/58 (PL Uklad 1965), Pulkowo, Krassowskij
48. S42/83 (PL), Pulkowo, Krassowskij
49. DLX (PT), Lisbon, Hayford/International
50. D73 (PT), Melrica, Hayford/International
51. ED50 (PT), Potsdam, Hayford/International
52. RT90 (SE), Stockholm, Bessel
53. SWEREF99 (SE), geocentric, GRS80
54. CH1903+ (CH 1993), Zimmerwald, Bessel
55. CH1903 (CH), Bern, Bessel
56. CHTRS95 (CH), geocentric, GRS80
57. GRANIT87 (CH), Zimmerwald, Bessel
58. S-JTSK (SK), Hermannskogel, Bessel



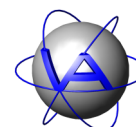
- 59. D48 (SI), Hermannskogel, Bessel
- 60. MADRID1870 (ES $\pm 7m$), Madrid, Struve
- 61. ED50 (ES EST99 peninsular), Potsdam, Hayford/International
- 62. ED50 (ES ZNW99 northwest), Potsdam, Hayford/International
- 63. ED50 (ES BAL99 Balearic isl.), Potsdam, Hayford/International
- 64. S-JTSK (CZ), Hermannskogel, Bessel
- 65. HD72 (HU), Szölöhegy, GRS67
- 66. ED50 (CY), Potsdam, Hayford/International
- 67. User defined geodetic datum shift
- 68. No geodetic datum shift
- 69. No datum shift and no ellipsoid transition

2. User selectable Coordinate system

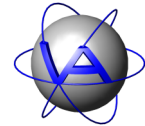
Coordinate System	Notation of 1st Ordinate	Notation of 2nd Ordinate
Geographic coordinates (Greenwich) [deg, min, sec]	Sdddmmss	Sddmmss
Geographic coordinates (Greenwich) [deg]	Sddd	Sdd
Geographic coordinates [deg, min]	Sdddmm	Sddmm
Geographic coordinates (Greenwich) [sec]	Ssssssss	Ssssssss
Geographic coordinates (Greenwich) [gon]	Sggg	Sggg
UTM coordinates (northern hemisphere)	sskkmmm	Skkkmmm
UTM coordinates (southern hemisphere)	sskkmmm	kkkkmmm
UTMref (MGRS) coordinates	zzsxyeeeeennnn	
Gauss-Krueger (3 degree wide strips)	sskkkmmm	Skkkkmmm
Gauss-Krueger (6 degree wide strips)	sskkkmmm	Skkkkmmm
GEOREF-Code (Aircraft Navigation)	aabbnmm	
QTH-Code (Maidenhead)	ffssbb	
Baltic Transversal Mercator Coord. TM Baltic93	kkkkmmm	kkkkmmm
Belgian Lambert50 coordinates	kkkmmm	kkkmmm
Belgian Lambert72 coordinates	kkkmmm	kkkmmm
German Lambert mean coordinates	Skkkmmm	Skkkmmm
German Lambert zone west coordinates	Skkkmmm	Skkkmmm
German Lambert zone east coordinates	Skkkmmm	Skkkmmm
German Lambert Esri-ArcData coordinates	Skkkmmm	kkkkmmm
German Lambert LCC12 coordinates	Skkkmmm	kkkkmmm
German Soldner Munic	Skkkmmm	Skkkmmm
Prussian Land Register Kucklinsberg (1,RU)	Skkkmmm	Skkkmmm
Prussian Land Register Paulinen (2,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Markushof (3,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Turmberg (4,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Kauernik (5,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Thorn (6,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Heinrichsthal (7,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Gollenberg (8,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Gnesen (9,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Josephsberg (10,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Schroda (11,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Pschow (12,PL)	Skkkmmm	Skkkmmm



Coordinate System	Notation of 1st Ordinate	Notation of 2nd Ordinate
Prussian Land Register Rummelsberg (13,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Groeditzberg (14,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Kaltenborn (15,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Bahn (16,PL)	Skkkmmm	Skkkmmm
Prussian Land Register Greifswald (17,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Greifswald (17+,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Mueggelberg Berlin (18,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Mueggelberg Berlin (18+,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Goetzerberg (19,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Torgau (20,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Burkersroda (21,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Inselsberg (22,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Magdeburg (23,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Ostenfeld (24,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Rathkruegen (25,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Bungsberg (26,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Celle (27,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Kaltenborn (28,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Silberberg (29,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Windberg (30,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Hermannsdenkmal (31,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Muenster (32,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Bochum (33,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Homert (34,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Kassel (35,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Schaumburg (36,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Fleckert (37,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Koeln (38,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Langschoss (39,DE)	Skkkmmm	Skkkmmm
Prussian Land Register Rissenthal (40,DE)	Skkkmmm	Skkkmmm
Estonian Lambert Coordinates L-EST97	Skkkmmm	kkkkmmm
Estonian Transversal Mercator Coord. TM Baltic93	kkkkmmm	kkkmmm
Finish Transversal Mercator Coord. KKJ zone 1	kkkkmmm	kkkkmmm
Finish Transversal Mercator Coord. KKJ zone 2	kkkkmmm	kkkkmmm
Finish Transversal Mercator Coord. KKJ zone 3	kkkkmmm	kkkkmmm
Finish Transversal Mercator Coord. KKJ zone 4	kkkkmmm	kkkkmmm
Finish Transv. Mercator Coord. VVJ Uniform zone 35	Skkkmmm	kkkkmmm
French Lambert93 coordinates	kkkkmmm	kkkkmmm
French Lambert zone II etendu	kkkkmmm	kkkkmmm
French Lambert zone I (north)	kkkkmmm	kkkkmmm
French Lambert zone II (centre)	kkkkmmm	kkkkmmm
French Lambert zone III (south)	kkkkmmm	kkkkmmm
French Lambert zone IV (Corse)	kkkkmmm	kkkkmmm
Greek Transversal Mercator Coordinates GGRS87	kkkkmmm	kkkkmmm
Greek UTM Coordinates zones 4-5	skkkmmm	kkkmmm
Greek Transversal Mercator Coord. TM3 west zone	kkkmmm	kkkmmm
Greek Transversal Mercator Coord. TM3 middle zone	kkkmmm	kkkmmm
Greek Transversal Mercator Coord. TM3 east zone	kkkmmm	kkkmmm
Geographic coordinates (Athens) [deg, min, sec]	Sdddmmss	Sddmmss
Geographic coordinates (Athens) [deg]	Sddd	Sdd



Coordinate System	Notation of 1st Ordinate	Notation of 2nd Ordinate
British Transverse Mercator coordinates	kkkkmmm	kkkkmmm
British National Grid (BNG)	aeeeeennnnn	
Irish Transverse Mercator coordinates	kkkkmmm	kkkkmmm
Irish National Grid (ING)	aeeeeennnnn	
Italian Gauss-Boaga west zone	kkkkmmm	kkkkmmm
Italian Gauss-Boaga east zone	kkkkmmm	kkkkmmm
Latvian Transversal Mercator Coord. LKS92	kkkmmm	kkkmmm
Lithuanian Transversal Mercator Coord. LKS94	kkkkmmm	kkkmmm
Luxemburgian Transverse Mercator	kkkmmm	kkkmmm
Netherlands Stereographic coordinates	kkkmmm	kkkmmm
Norwegian Transv. Mercator NGO1948 zone 1	Skkkkmmm	Skkkkmmm
Norwegian Transv. Mercator NGO1948 zone 2	Skkkkmmm	Skkkkmmm
Norwegian Transv. Mercator NGO1948 zone 3	Skkkkmmm	Skkkkmmm
Norwegian Transv. Mercator NGO1948 zone 4	Skkkkmmm	Skkkkmmm
Norwegian Transv. Mercator NGO1948 zone 5	Skkkkmmm	Skkkkmmm
Norwegian Transv. Mercator NGO1948 zone 6	Skkkkmmm	Skkkkmmm
Norwegian Transv. Mercator NGO1948 zone 7	Skkkkmmm	Skkkkmmm
Norwegian Transv. Mercator NGO1948 zone 8	Skkkkmmm	Skkkkmmm
Austrian west zone (BMN) M28	kkkmmm	kkkmmm
Austrian central zone (BMN) M31	kkkmmm	kkkmmm
Austrian east zone (BMN) M34	kkkmmm	kkkmmm
Austrian Gauss-Krueger zone M28	Skkkmmm	kkkkmmm
Austrian Gauss-Krueger zone M31	Skkmmm	kkkkmmm
Austrian Gauss-Krueger zone M34	Skkmmm	kkkkmmm
Austrian Lambert coordinates (old system)	kkkmmm	kkkmmm
Austrian Lambert coordinates (new system)	kkkmmm	kkkmmm
Polish Gauss-Krueger 2000/15-24 (3 degree strips)	skkkmmm	kkkkmmm
Polish Gauss-Krueger coordinates 1992/19	Skkkmmm	Skkkmmm
Polish Stereographic 1965 zone 1	kkkkmmm	kkkkmmm
Polish Stereographic 1965 zone 2	kkkkmmm	kkkkmmm
Polish Stereographic 1965 zone 3	kkkkmmm	kkkkmmm
Polish Stereographic 1965 zone 4	kkkkmmm	kkkkmmm
Polish Transverse Mercator 1965 zone 5	Skkkmmm	Skkkmmm
Polish Stereographic GUGiK coordinates	kkkkmmm	kkkkmmm
Polish Gauss-Krueger 1942/15-24 (3 degree strips)	skkkmmm	kkkkmmm
Polish Gauss-Krueger 1942/15-21 (6 degree strips)	skkkmmm	kkkkmmm
Portugese Transversal Mercator DLX coordinates	kkkkmmm	kkkkmmm
Portugese Transversal Mercator D73 coordinates	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT90 7.5gonV 0:-15	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT90 5gonV 0:-15	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT90 2.5gonV 0:-15	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT90 0gon 0:-15	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT90 2.5gonO 0:-15	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT90 5gonO 0:-15	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R01 Skåne	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R02 Halland	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R03 Karlshamn	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R04 Göteborg	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R05 Vänern	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R06 Småland	kkkkmmm	kkkkmmm



Coordinate System	Notation of 1st Ordinate	Notation of 2nd Ordinate
Swedish Transv. Mercator RT R07 Örebro	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R08 Gotland	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R09 Stockholm	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R10 Gävle-Dala	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R11 Umeå	kkkkmmm	kkkkmmm
Swedish Transv. Mercator RT R12 Luleå	kkkkmmm	kkkkmmm
Swedish Transversal Mercator Coord. (13° 35')	kkkkmmm	kkkkmmm
Swedish UTM Coordinates zone 33	kkkkmmm	kkkkmmm
Swiss grid coordinates (LV95)	kkkkmmm	kkkkmmm
Swiss grid coordinates (LV03)	kkkmmm	kkkmmm
Slovakian Krovak S-JTSK coordinates	Skkkmmm	Skkkmmm
Slovenian Transversal Mercator Coord. D48	kkkmmm	kkkmmm
Slovenian Transversal Mercator Coord. D48+	kkkmmm	kkkkmmm
Spanish Lambert MADRID coordinates	kkkkmmm	kkkkmmm
Czech Krovak S-JTSK coordinates	Skkkmmm	Skkkmmm
Hungarian EOv coordinates	kkkkmmm	kkkmmm
1st user defined coordinate system	1st value	2nd value

Meaning of notation characters:

General:

S - sign

k - kilometre; depending on coordinate system it may contain an offset

m - metre

Geographic coordinates:

d - degree

m - minutes

s - seconds

g - gon (400 gon = 360 degree)

Gauss-Krueger and UTM:

s - number of meridian strip.

UTMref:

z - meridian strip (zone) from 1 to 60

s - character for geographic latitude strip

x - character for the 100 km field, eastern direction

y - character for the 100 km field, northern direction

e - metre part of the east value

n - metre part of the north value

Digits of the e- and n-component may vary but must be equal

British and Irish National Grid:

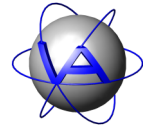
a - character for the 100-km area

e - metre part of the east value

n - metre part of the north value

Digits of the e- and n-component may vary but must be equal

QTH-Code:



- f - field identifier characters
- s - grid square identifier characters
- b - sub square identifier charac

3. Bug fixed:

- Corrected: Statusbar vanished if program returned to normal size from maximized size
- Corrected: The ID's and Phone Numbers did only correlate to each other if they are already sorted in the INI-file and have the same number of digits.
- Corrected: If the computers date was before 1.1.2000 the program displayed an error message every second from start on
- Added: GSM Status form now shows network provider and signal quality
- Added: User can now change the GSM mode of the collar directly or via GSM
- Changed: File access errors when reading and writing files will now be handled more secure
- Added: When storing or reading Activity data, GPS data, Mortality data, Keys, Schedules, and SMS files a configurable data path is now used. The data path can be set in File - Options - Misc - Base Data Path.
- Added: In GPS Chart the lines connecting the positions can now be hidden
- Corrected: When storing an SMS in PDU format and the default name already existed, the extended name (_a, _b ...) wrongly used SMS as extension to check the existence of the file name, but used PDU to write the file.
- Changed: Differentiated the "Beep"-sound: Now windows tunes are used.
- Corrected: Work around for delphi cardinal-type bug in computing seconds from a date-string (overflow occured).
- Corrected: Typo in Calc Lifetime: "Disbaled"
- Changed: The command window ("waiting for contact" etc.) now has no OK button any more and uses a different font size. Messages that need a button now use Windows MessageBoxes.
- Changed: Removed the "SET"-button from the PIN-field in the options form
- Changed: On windows 9X/ME the user is warned if GPS_Plus.ini reaches 58K (Maxsize of ini-file: 64K)
- Corrected: Reading mortality from terminal didn't recognize empty data received
- Changed: Reading or Erasing data in Terminal: The Read/Erase button is now disabled if a collar is selected that hasn't the capability for this data
- Added: Collars with a firmware version of at least 1.6 will send schedules back as acknowledgement when accpeting a new GPS or VHF-schedule. GPS Plus stores such SMS messages in the InBox-folder as VHF_Schedule... and GPS_Schedule... in text format.
- Changed: Received mortality SMS messages will now always be stored in text format in the InBox-folder as Mortality_... independant of the Non-Data SMS Handling settings. The table file will further on be written in the Mortality folder.
- Corrected: SMS messages with no data lead to a dead lock of the program
- Changed: GPS Position Chart and Acitivity Chart now show the file name in their windows caption (without path)
- Changed: It is now possible to open as many GPS Data Viewer, GPS Position Chart, Activity Data Viewer, and Activity Chart forms as the memory of your computer allows