CoTaCo : COndor TAsk COnverter
User manual

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CoTaCo : COndor TAsk COnverter V4.4

CoTaCo is a basic tool to convert **Condor** flight plans (.fpl) to **XCSoar** tasks (.tsk) or **LK8000** tasks (.lkt) or **SeeYou** tasks (.cup) or **JSON** files (.json). Both .cup file formats are supported.

It only handles **Condor 2 & 3.**

It is possible to create a profile file (.prf) with the following information:
- airspace file (if penalty zones have been defined)
- map (.xcm)
- glider polar (.xcp) (fixed ballast is taken into account)
- turnpoints file (.cup)

Maximum departure (including a possible safety margin) and minimum finish altitudes are directly written to the converted file. If minimum or maximum altitudes are specified for a turnpoint, they will be written at the end of the turnpoint name (**XCSoar** only**)**

"Window" type turnpoints will be converted to "line".
AATs zones are supported for both **XCSoar** and **LK8000**
Condor penalty zones are converted to OpenAir format (.txt)

It is possible to run a batch file after execution (e.g. to transfer files to another device)

It is also possible to import a task defined in a .cup file into a Condor flight plan (.fpl).

INSTALLING

Uncompress the Zip file in the desired folder (which has to be writable)

The **CoTaCo** folder should contain :

- ChangeLog.txt:	description of the updates
- CoTaCo.bat :	sample batch mode script (courtesy Erik P.)
- CoTaCo.exe :	executable file
- CoTaCo_Manual_EN.pdf :	This file : English Version of the manual
- CoTaCo_Manual_FR.pdf :	French Version of the manual
- CoTaCo_form.frm:	forms definitions
- CoTaCo_form_FR.frm	=
- CoTaCo_Setup_form.frm	=
- CoTaCo_Setup_form_FR.frm	=
- LISEZMOI.txt :	French Version of README.txt
- README.txt :	French Version of LISEZMOI.txt
- sample_transfer_script.bat :	sample file transfer script (courtesy Yannick Burgevin)
- Template.fpl :	sample Condor flightplan for .cup imports
- zlibwapi.dll :	zlib library

After the first use, you may also find:

- CoTaCo_maps.txt : list of **XCSoar** maps (see below)
- CoTaCo_LK8000_maps.txt: list of **LK8000** maps (see below)
- CoTaCo.ini : settings file

This file will be created automatically at the first execution of the program if it does not exist.

On this occasion it will be necessary to indicate the path to the destination folder for the converted tasks
If you already have a **CoTaCo.ini** file from an earlier version, it may be re-used : it will be updated and the old version will be renamed to CoTaCo_0000.ini or _0001, etc. if an older file already exists.

It is possible at any time to edit this file with a text editor (Notepad or other) to adapt it to your configuration and wishes. See format below

USAGE

If you want to use drag-and-drop mode to start the converter, it is recommended to create a shortcut on your desk. It is then possible to drag and drop a flight plan file to the shortcut to convert it.

Otherwise the converter can be started by double-clicking the icon.
A form opens to select the file to convert.

On first execution a setup form opens. It can be opened again from the GUI

It can also be started from a DOS prompt, either with the GUI or in CLI (Command Line Interface) mode. This can be useful if used in batch mode on a server.

GUI : type CoTaCo.exe at the ">" prompt

COMMAND LINE SYNTAX

> CoTaCo.exe [-help] [-v] [-line] [-nogui] [-wait] [-auto] [-silent]] [-en/-fr] [-xcs|-lk8|-cup|-json] [-nosc] [-chkwp] [-aat|-aat:TIME] [-manst] [-AATmanst] [-fma:ALT] [-mxspd:SPD [-FAI] [-nomxalt] [flight_plan.fpl] [task.tsk]

all arguments and options are optional

-help: displays the command line syntax
-v: verbose mode
-line: run in command-line mode
- nogui : run without the V4 GUI
-wait: wait for last version of the Condor default flight plan before starting
-auto: if, in the .ini file for “Flightplans path” is a file, start without opening a selection window.
-silent: suppress status messages after conversion
-en/-fr: force language
-xcs/-lk8/-cup/-json : select target application
-nosc : disable the post-run script
-chkwp: get the Lat/Lon values from the corresponding .cup or .apt files when available otherwise use the ones in the .fpl (always ON for LK8000 & SeeYou)
-aat or –aat:TIME the task will be converted to AAT (Area Assigned Task), TIME in minutes
-manst: manually arm start (XCSoar & LK8000, default=no)
-AATmanst: manually arm start (AAT races - XCSoar & LK8000, default=no)
-fma:ALT : force Finish Min Altitude to ALT (e.g. –fma: 500[U], U=[m|ft], no unit->auto-convert)
-mxspd:SPD : max. start speed=SPD (e.g.–mxspd :170[U], U=[kph|kt],], no unit->auto-convert)
-en/-fr : force language
- FAI: sectors of 500m radius and 360° will have an additional sector of 20km/90° added (.cup and .json)
-nomxalt: disables writing of maximum altitudes (.cup files)

flight_plan.fpl: input file (search in Condor default FlightPlans folder if only filename)
task: converted file, if not specified, defaults to flight_plan (.tsk, resp .lkt, .cup)

Note: if command line options are set, they will be written to the CoTaCo.ini file if you click on the [Save .ini] button. Make sure you review the options before saving the file if you run CoTaCo from the command line with options.

USER INTERFACE

The GUI uses two forms.

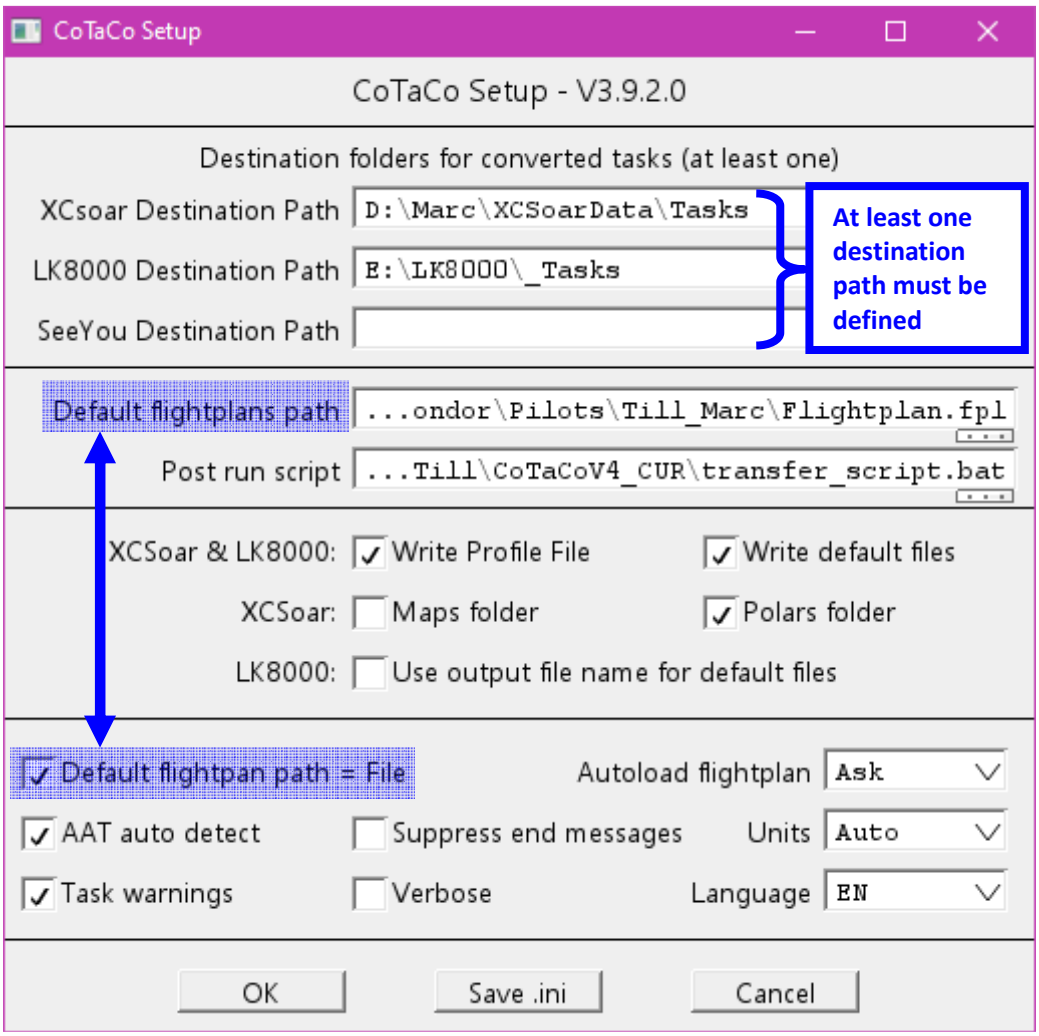
Configuration form

The setup form opens the first time CoTaCo is run in order to setup the .ini file

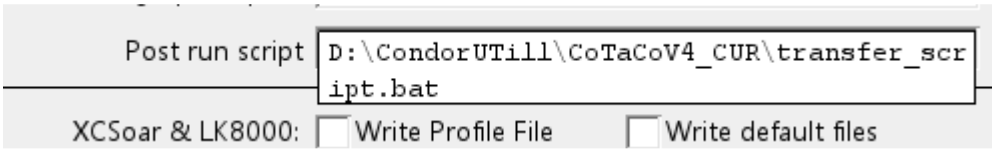
File and folders input boxes: double-click to open the file/folder picker.
If you want to clear the value, click once (the box turns light-blue) then hit the DEL key

Required data

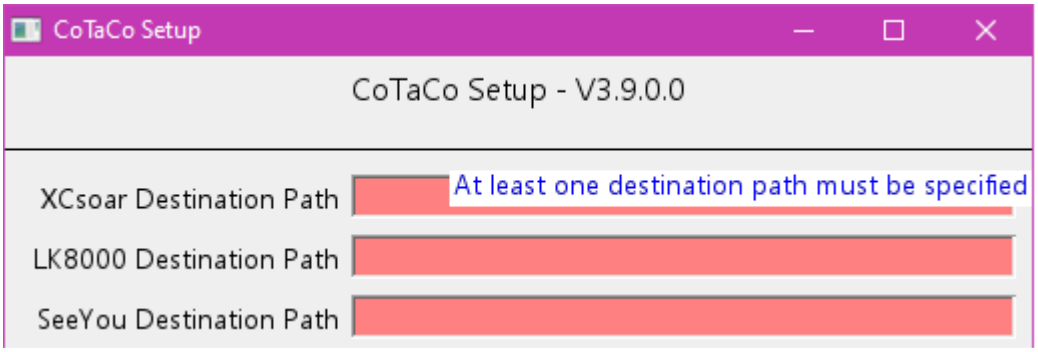
You must fill in at least one of the destination paths(s) corresponding to the application(s) you want to use so that CoTaCo can work
"Default flightplans path" indicates the default location where CoTaCo will look for flight plans
This can be either a folder or a file depending on the corresponding checkbox (see below)



The [...] button under an input box indicates that the value is longer than the input box size.
Place the cursor on the [...] button and depress the left mouse button to see the whole string

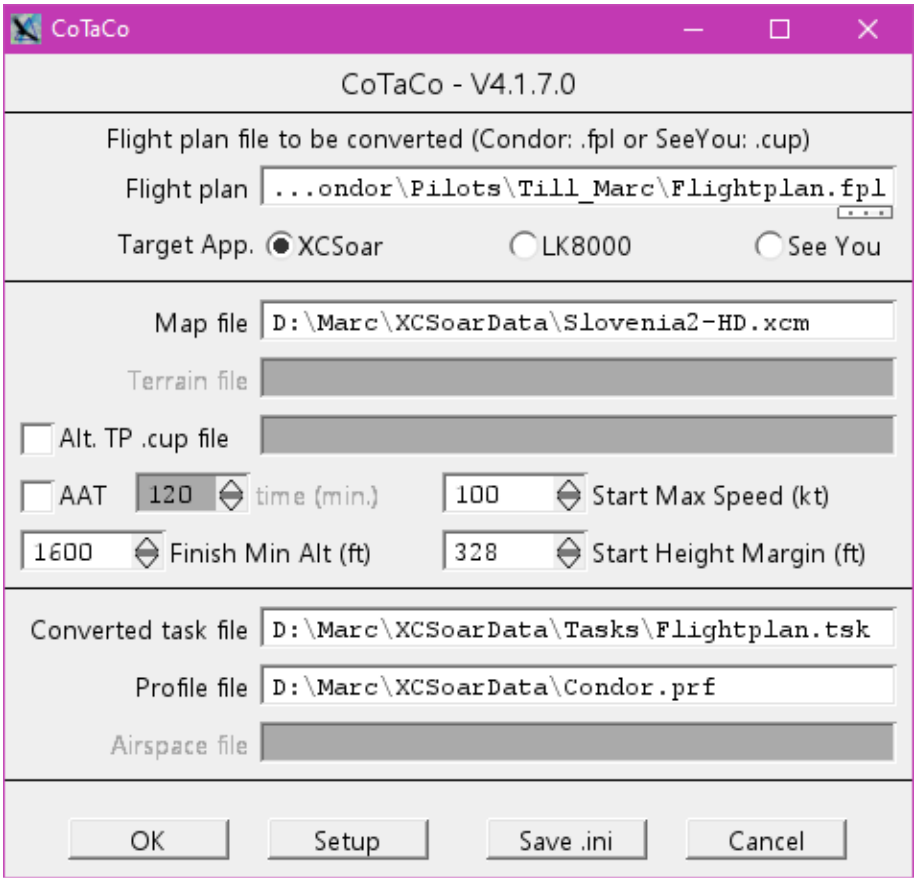


If, after clicking on [OK] or [Save .ini] an input box turn red, it means that it is not valid.
Place the cursor in the box and depress the right mouse button to display the error message



Input form.

Depending on the target application, the input file (or absence thereof) and selected options, some fields will be grayed out



COMMON FEATURES

Automatic conversion and "wait" mode

If **Default flightplans path** (**Flightplans path** in the .ini file) corresponds to a file, CoTaco can be started automatically without opening a selection window.
To do this, set **Load Flight Plan>Load** (**Autoload=1** in the **CoTaCo.ini** file**)** or add the **-auto** option on the command line.

It is also possible to start **CoTaCo** before **Condor** has started and have it wait for the default flight plan to be written (**DOCUMENTS\Condor\Pilots\YOUR_PILOT_NAME\Flightplan.fpl)**. This can be useful especially if you use a script to run utilities before starting **Condor.**
To do this, set **Autoload flightplan>Wait** (**Autoload=2** in the **CoTaCo.ini** file**)** or add the **-wait** option on the command line.

Task warnings

Task warnings (maximum departure altitude, minimum arrival altitude, minimum and maximum turnpoint altitudes, cloud penalty and regatta start) can be displayed in a pop-up window. Check the **Task warnings** box (**Task warnings=1** in the . ini file).
It is possible to write these warnings in a text file that can be read by a speech synthesis software (this may be useful when using Virtual Reality). **Task warnings file** (only in the CoTaCo.ini file)

Post-execution script

If you want to automatically transfer the converted files to another device (phone, tablet, etc.), it is possible to run a script (.bat, .ps1, .vbs, etc.) after writing the files.
The path is specified by **Post run script** (**Post run script** in the . ini file)
A sample script file (for LK8000, thanks to **ybucq**) is provided in the distribution

Folders and files

The destination folder for converted jobs can be on a remote computer, provided that you have write access.
Existing files with the same name will be overwritten without warning!

Turnpoint names and files

It can be interesting to create .cup files containing both turnpoints and airports.
This can be done using CondorWPFileGen.exe
See here: http://www.condorsoaring.com/forums/viewtopic.php?f=1&t=13020

If you have just installed a new landscape in Condor, before trying to convert a flight plan located in this landscape, make sure to launch Condor, open the flight planner and select the new landscape. Otherwise you may get an error message about the corresponding .cup file

Finish minimum altitude

Some competitions allow you to arrive below the minimum finish altitude, which is not allowed by Condor.
In this case, enter a non-zero value in the corresponding field of the dialog box.
It will be ignored if a finish minimum altitude is set in Condor
This will be written to the .tsk or .lkt files.
The -fma:ALT option is available on the command line (see above)

Start maximum speed

Some competitions impose a maximum speed for crossing the start line, which is not taken into account by Condor 2.
In this case, enter a non-zero value in the corresponding field of the dialog box.
It will be written to the .tsk or .lkt files.
The -mxspd:SPD option is available on the command line (see above)

AAT

For Condor2, it is recommended to let **CoTaCo** try to determine if the task is an AAT by setting the **AAT Auto detect** checkbox in the configuration form **(AAT=2** in the **CoTaCo.ini** file**).** The mode will be activated if at least one turnpoint has a radius greater than or equal to 5000m. In case the file is opened automatically, the form will be opened to fill in the AAT duration
It is possible to deactivate this mode by unchecking the **AAT** box

For Condor 3, AAT and AAT time are determined from the FPL

From a DOS prompt or a batch script: add the **-aat** or **–aat:TIME** option on the command line (TIME in minutes, no space after ":")

Note: If CoTaCo was launched with the "Wait" option, the form may be hidden in the background if Condor is not in "Windowed" mode.
Hint : Use the icon in the taskbar to bring it to the foreground

If the file name of the flight plan does not contain "-AAT", it will be appended to the end of the converted file name, e.g. flight_plan-AAT.tsk, except in the case of default files (default.tsk or default.lkt)

Airspace

For Condor 3, the airspace zones selected in the FPL will be written to a reduced OpenAir file named CondorAirspace.txt.
In order to reduce that file size, only airspace affecting a rectangle around the task will be written.
It is possible to change corresponding parameters in the CoTaCo.ini file:
Crop_Airspace, Airspace_margin, Delete_Inactive_AS

Penalty areas

Penalty areas are converted to **OpenAir** format
They are written in a file with the same name with "-PZ" added e.g. FLIGHT_PLAN_NAME-PZ.txt

FAI sectors

For .cup and .json files, it is possible to replace the 500m radius and 360° sectors by FAI sectors (same + 1 sector of 20km /90°)
To activate this option add **-**FAI on the command line or set **FAI_Sectors=1** in the **CoTaCo.ini** file

XCSoar

Folders and files

The destination folder for the converted XCSoar files is defined as **XCsoar Destination Path** (**XCsoar Destination Path** in the . ini file). The name of the converted file will be by default identical to the name of the . fpl file,

If the destination folder name contains "**Tasks**" the profile and **Default.tsk** files will be written to the folder above it, otherwise to the same folder.

If the **Write Default Files** box is checked (**Write Default Files=1** in the **CoTaCo.ini** file**) CoTaCo** will create either a **Condor.tsk** file in the destination folder or a **Default.tsk** file in the **XCSoar** root folder (or the same folder, see above),

Profile file (recommended)

If the **Write Profile File** box is checked (**Profile file** different from **"0"** in the **CoTaCo.ini** file**)** a profile file will be created (see below). The default name is Condor.prf

If the profile file does not exist, it will be created from the **default.prf** file (which must have been created by XCSoar and exist in the XCSoar root folder), otherwise it will be updated.

XCSoar on another device

If you are using **XCSoar** on a tablet or a phone and do not have direct access from the PC to the **XCSoar** root folder (**XCSoarData**) on the device, it is recommended to create on your PC an **XCSoarData** folder (with possibly a **Tasks** sub-folder)

You will also need to copy the **default.prf** profile file to your PC if you wish to create a profile file.

Turnpoint Names

XCSoar truncates the name of the turnpoints to 5 characters (by default), which prevents the display of the min/max altitudes. It is possible to display the full name by going to the **XCSoar** menu:
Config/System/Maps/Waypoints/Label format

NB: if **XCSoar** finds a turnpoint in the .xcm map file, all the information (including its name) will be taken from the file and not from the .tsk file, this can lead to the loss of the altitude display.

It can be interesting to create .cup files containing both turnpoints and airports. This can be done by using CondorWPFileGen.exe and copying the resulting file to the root folder of **XCSoar**. See there:
http://www.condorsoaring.com/forums/viewtopic.php?f=1&t=13020

Polars and ballast

If you decide to create a profile file, the fixed ballast will be taken into account for the polar file, assuming you are using the polar files for all **Condor 2** gliders which are available here:
https://www.condorutill.fr/index.php#Polars
The water-ballast cannot be defined in the profile file, so you will have to enter the value directly in **XCSoar** (**Config/Flight**).

Maps

It is possible to download maps from the page: https://xcsoar.org/download/maps/
It is also possible to generate them on the page: http://mapgen.xcsoar.org
Custom made maps for Condor landscapes are also available in the Condor-Club goodies
https://www.condor.club/srchgoodies/166/

If writing the profile file is activated, **CoTaCo** manages the correspondence between the landscapes of **Condor** and the **XCSoar** maps.

The **CoTaCo_maps.txt** file is created or updated by **CoTaCo** from the **Map File** box. If the map corresponding to the Condor landscape of the flight plan is already known, it will be displayed (it is possible to modify it), otherwise it will have to be indicated.
You can also edit this file with a text editor (especially for modifications)

File format (lines beginning with # are not read) :
Landscape_Name=XCSoar_map
for example. : AA2=ALPS_HighRes.xcm

LK8000

It is necessary to check the box **LK8000** (**Target=LK8000** in the file CoTaCo.ini or option -lk8000 defined on the command line).

Folders and files

The destination folder for the converted XCSoar files is defined by **LK8000 Destination Path** (**LK8000 LK8000 Destination Path** in the . ini file). The name of the converted file will by default be identical to the name of the .fpl file,
If **LK8000 Destination Path** contains **_Tasks,** CoTaco will assume that there is a standard LK8000 folder tree, the files will be written to the folders provided, otherwise all to the same folder.

Depending on the **Write Default File(s)** and **Use output file name for default files** checkboxes (**Write Default Files** parameter in the **CoTaCo.ini** file)
CoTaCo will create:
No box (0) : ***Name***.lkt, ***Planner***.lkt, ***Name***.prf (where ***Name*** is the name of the .fpl file to convert)
The first one (1) : Default.lkt, DEFAULT_AIRCRAFT.acf, DEFAULT_PROFILE.prf
Both (2) : ***Dest***.lkt, ***Dest***.acf, ***Dest***.prf (***Dest*** is the file name defined by **Converted task file)**

Profile file (recommended)

If the **Write Profile File** box is checked (**Profile file** different from **"0"** in the **CoTaCo.ini** file**)** a profile file will be created (see below). The default name is **DEFAULT_PROFILE.prf.** If the profile file does not exist, it will be created from the **DEFAULT_PROFILE.prf** file (which must have been created by LK8000 and be found in the _Configuration folder of **LK8000**), otherwise it will be updated.

Warnings file

if **Task warnings=1** in the .ini file a **NOTEPAD.txt** file will be written in the **LK8000 _Configuration** folder

Polars and ballast

CoTaCo will always create an .acf file. In order for it to be filled in correctly, you will have to copy the polars for all the Condor 2 gliders (.xcp and .plr) into the _Polars folder (or into the common destination file if you do not have the standard LK8000 tree structure). The fixed ballast will be taken into account
The polar files are available here: https://www.condorutill.fr/index_fr.php#Polars
The water-ballast cannot be defined in the profile file, so you will have to enter the value directly in **LK8000**

LK8000 on another device

If you are using **LK8000** on a tablet or phone and do not have direct access from the PC to the **LK8000** root folder (**LK8000**) on the device, it is recommended that you create an **LK8000** folder on your PC (preferably with the standard tree structure)

You will also need to copy the profile file **DEFAULT_PROFILE.prf** to your PC if you want to create a profile file.

Maps and terrain

It is possible to download maps from the page: https://lk8000.it/download/maps.html.
High resolution maps can also be generated with the LKMaps Utility:
http://www.vololiberomontecucco.it/LKMAPS_Desktop/LKMAPS_Desktop.exe.
https://www.postfrontal.com/forum/topic.asp?TOPIC_ID=8500

If the writing of the profile file is activated, **CoTaCo** manages the correspondence between the landscapes of **Condor** and the **LK8000** maps

The **CoTaCo_LK8000_maps.txt** file is created or updated by **CoTaCo** from the **Map File** and **Terrain File** boxes. If the map corresponding to the Condor landscape of the flight plan is already known, it will be displayed (it is possible to modify it), otherwise it will have to be indicated, same for the terrain file.
You can also edit this file with a text editor (especially for modifications)

File format (lines starting with # are not read) :
Landscape_Name=LK8000_map,LK8000_terrain
for example. : AA2= ALPS.LKM, ALPS_1000.DEM

SeeYou

Creation of a .cup file

You have to check the **SeeYou** box (**Target=CUP** in the CoTaCo.ini file or -cup option defined on the command line)
It is possible to disable the writing of maximum departure or turnpoints altitudes.
To do this use the **-nomxalt** option on the command line or set **CUP_max_alt=0** in the **CoTaCo.ini** file

Folders and files

The destination folder for converted SeeYou files is defined as **SeeYou Destination Path (SeeYou Destination Path** in the . ini file). The name of the converted file will by default be identical to the name of the .fpl file,

The .cup file will be written with the "new" .cup format (including "***rwwidth***" in the header line).
If you want to use the "old" format, set **CUP format=0** in the **CoTaCo.ini** file

If the path defined by **SeeYou Destination Path** contains **Tasks,** CoTaco will assume that there is a tree structure, any files other than the .cup file will be written to the root folder

Importing a SeeYou task (.cup) into a Condor flight plan (.fpl)

The input task file must have the extension .cup.

Only the first task in the .cup file will be processed.

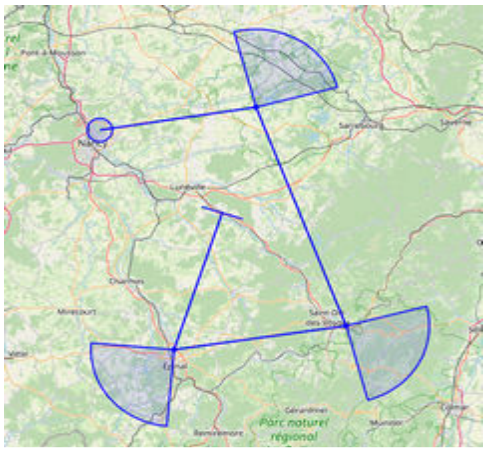
The **Template.fpl** file will be used to generate the Condor flight plan (.fpl). It is possible to modify it to fit your preferences, as long as you respect the Condor format.

All turn points used in the task must be present in the .cup file.
Only the maximum altitudes are taken into account.

If the departure airport is specified in the cup file, make sure that it corresponds exactly to the Condor airport. Otherwise, if the turnpoint name is "???", the Condor airport closest to the departure point will be selected.

JSON files

It is possible to create a .json file that can be used to display the task on the **https://cunimb.ne**t or **https://live.glidernet.org/** sites
Input file may be either .fpl or .cup
To activate this option add **-json** on the command line or set **Target=json** in the **CoTaCo.ini** file



To display the file "locally", click on **OnLine** at the top of the right-hand window of the websites, **OnLine** is replaced by **Menu**, then click on **Tasks** and indicate the file to open.

To return to the previous display, click on Menu

CoTaCo.ini FILE CONTENTS AND CORRESPONDING FORM FIELDS

Lines starting with # are comments

CoTaCo Version = version number of the program that wrote the file – please do not edit
INI File Setting Only

Target = Target software (XCSoar/LK8000/CUP/json - default=XCSoar)
Main form : "XCSoar"/"LK8000"/"SeeYou" radio buttons
json: INI File Setting Only

Condor 2 path = Condor 2 installation folder (default or AUTO = auto-detected)
INI File Setting Only

Condor root folder = Condor 2 user files folder (default or AUTO = auto-detected)
INI File Setting Only

XCsoar Destination Path = path to destination folder (or file) for converted XCSoar tasks
Setup form : "XCsoar Destination Path"

LK8000 Destination Path = path to destination folder (or file) for converted LK8000 tasks
Setup form : "LK8000 Destination Path"

SeeYou Destination Path = path to destination folder (or file) for converted SeeYou tasks
Setup form : "SeeYou Destination Path"

Alt Cup file = Alternate CUP file for turnpoints
Main form : "Alt. TP .cup file" (check box and file picker)

Flightplans path = default path for flightplans - if unspecified : last folder searched
if you fly mostly online, the most practical would be :
DOCUMENTS\Condor\Pilots\MY_NAME\Flightplan.fpl
if you fly mostly offline: DOCUMENTS\Condor\FlightPlans
Setup form: "Default flightpan path" and "Default flightpan path = File" check box

AutoLoad = 1: if "Flightplans path" is a file, start without opening a selection window ;
2: wait for the current Condor flight plan to be updated
Setup form: "Autoload flightplan" drop down list

Language = Language (AUTO/EN/FR)
Setup form: "Language" drop down list

verbose = verbose mode (0 = disabled, 1 = enabled) useful only if assistance is needed
Setup form: "verbose"

AAT = the task is an AAT (0 = disabled, 1 = enabled, 2 = auto-detect)
Setup form: "AAT auto detect" check box
Main form: "AAT check box" and time input box

Task warnings = display task rules warning messages (0 = disabled, 1 = enabled)
Setup form: "Task warnings"

Task warnings file = Task rules file name, default=none
File may be used to "speak" Task Rules on demand with VoiceAttack or similar.
If only a file name is specified, it will be written to the CoTaco installation folder.
INI File Setting Only

Silent = suppress task rules and summary end pop-up messages
Setup form: "Silent"

Write Default Files = write default files
XCSoar: copy task to Default.tsk (0/1)
LK8000: (0/1/2) 1=overwrite all default files, 2=write all files with outfile name
Setup form: "Write default files"
Setup form: "Use output file name for default files" (LK8000 only)

Use Polars folder = the polars and maps are stored in specific folders (Polars/Maps)
(0/1/2/3, default=1)
XCSoar uses a Polars folder on Windows PCs, but not on Android devices
Setup form: "maps folders" and "polars folders" check-boxes

Start height margin = safety margin for start altitude.
Main form: "Start height margin (m)"

Start max speed = maximum speed for crossing the start line
Main form: "Start Max Speed (m)"
Command line: -mxspd:SPD

Profile file = profile file name (name, 0=NO, default = Condor.prf)
Main form: "Profile file" file picker
Setup form: "Write Profile File" check-box

Airspace file = airspace file name (name, default=FLIGHT_PLAN_NAME-PZ.txt)
Main form: "Airspace file"

Crop_Airspace = do not write the airspace zones not affecting the task
INI File Setting Only

Airspace_margin = margin around the rectangle surrounding the task
INI File Setting Only

Delete_Inactive_AS = do not write the unselected airspaces or comment them out
INI File Setting Only

Units = Altitude Units for task warnings : 0=Auto, 1=metres, 2=feet
Setup form: "Units"

CUP format = format of the converted .cup file (SeeYou): 0=Old, 1=New
INI File Setting Only

FAI_Sectors=convert sectors (500m/360°) to FAI sectors
INI File Setting Only

CUP_max_alt=write maximum altitudes in the .cup file
INI File Setting Only

Ask_for_template=ask for the name of the template .FPL file to convert a .cup file
INI File Setting Only

Post run script = script (.bat, .ps1, .vbs, etc.) to be executed after file conversion
Setup form: "Post run script"

SUPPORT

Please report any bugs to: cotaco@marc-till.com

ACKNOWLEDGEMENTS

Thanks to Erik P. and ybucq for their scripts.

The GUI uses components from "tiny file dialogs" under a zlib license
http://https://sourceforge.net/projects/tinyfiledialogs/

The Cpw library is open-source software, licensed under the Lua License.
https://mathies.com/cpw/about.html

DISCLAIMER