

# xToolbox

## Manual

Version 1.3.0

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*Main changes compare to V1.2.0:*

- *The functionality is unchanged, only a few very small fixes are made*
- *But the user interface is completely updated to make it easier and more logical*
- *The manual is updated with new screenshots + some texts have changed*

# 1 Introduction and installation

## 1.1 What is xToolbox?

xToolbox is a perfect companion for xOrganizer. It contains a collection of tools that can help you manage your X-Plane related files. For instance when you:

- Move scenery or other X-Plane folders to another disk (manage links)
- Add, remove or rename scenery packages
- Use ortho (photo) scenery

xToolbox now is a **64bit application that uses parallel processing to utilize all CPU cores** (for the more demanding tasks). It contains 4 modules:

### *Link manager*

There are several reasons why you might want to move folders outside the main X-Plane folder:

- Insufficient space on the disk where X-Plane is installed
- Share folders between different X-Plane installations to use the exact same content
- Save disk space by sharing folders between X-Plane installations

With the right tool creating links is not an issue at all and soon you have your X-Plane folder filled with links. But as you add more and more, or move or rename stuff you can quickly loose the overview.

Summary:

- **Quickly create or remove links (junction, symbolic link or shortcut)**
- **See:**
  - **To which actual content folders (usually scenery packages) all the links point to**
  - **If you forgot to link content**
  - **If all links are still valid and working (check for bad links)**

The link manager works very well in combination with xOrganizer (see below)!

### *Batch rename*

In general choosing and maintaining a naming system with your scenery in X-Plane is advisable. If you don't use a tool like xOrganizer, which helps you manage the order of the scenery\_packs.ini, a **naming scheme can help you to keep overview create the right order (for instance by using a prefix)**.

NB: a lot of scenery packages already follow some sort of order, like zOrtho4XP\_+xx+xxx.

xToolbox can help you with renaming packages to fit your system. It also helps by extracting and showing data of airports (**ICAO, airport name and country**) and tiles (**latitude / longitude and country**). You can use this information to rename your packages.

Summary:

- **Rename based on the airport / tile data of a package**
- **Change the name by adding text or replacing text**

### *Photo scenery (orthos)*

Photo scenery generated with G2XPL or Ortho4XP is very popular. A lot of people generate these packages themselves, but there are also various sources sharing them.

Occasionally photo packages cause X-Plane to crash, which can be very frustrating if you are in a long flight. Fortunately xToolbox can help you detect problems with photo packages by checking the presence and integrity of all files.

Especially the check on DDS images is important, as this is the most common problem leading to crashes. But xToolbox can also filter out complete black or white images and even images with too much clouds obscuring the ground.

Online shared packages often contain JPG images (to save space) which need to be converted to DDS images before X-Plane can load them. xToolbox offers an easy and fast conversion.

Summary:

- **Check presence and integrity of all files**
- **Check DDS images including black/white images (and images with clouds)**
- **Convert JPG images to DDS images (for downloaded packages)**
- **List the zoom level of ortho packages**

### *Manipulate scenery*

Sometimes you would like to change the coverage of certain scenery packages, by splitting/merging folders or disabling an overlap.

Summary:

- **Split or merge photo packages**
- **Copy a parts of a scenery packages: for instance overlays for a certain area**
- **Disable (non) overlapping parts of scenery packages**

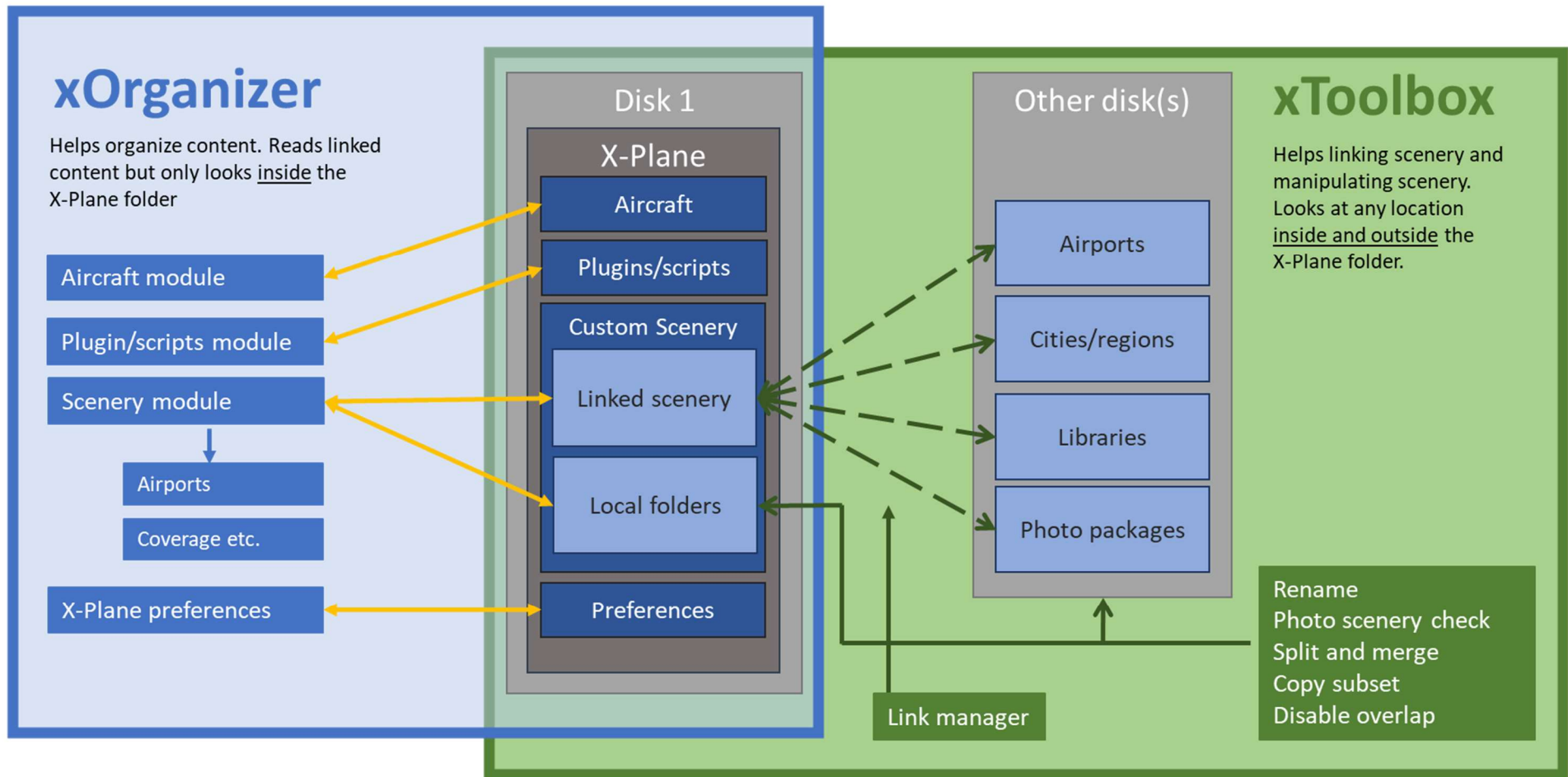
## 1.2 How xOrganizer (sold separately) and xToolbox work together

xOrganizer and xToolbox complement each other:

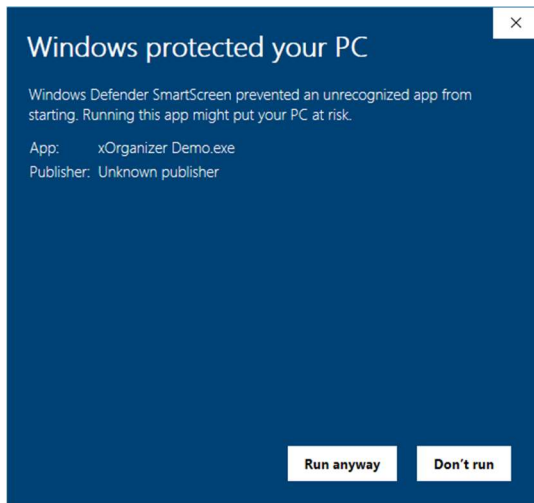
- **xOrganizer** helps you organize your X-Plane installation, in such a way that you exactly see and experience the content (scenery, plugins/scripts, preferences and aircraft) you want when you run X-Plane. xOrganizer will read any linked content, but will not by itself look outside the actual X-Plane folder.
- **xToolbox** helps you link content outside the X-Plane folder (usually another disk) to the X-Plane folder. Furthermore it can help you with renaming, checking and changing scenery folders, regardless of the actual location (inside or outside the X-Plane folder).

**Advanced tip:** as a backup for scenery that is removed by accident xOrganizer keeps removed packages in its database for 10 days. If you regularly link and unlink scenery packages with xToolbox this can be helpful: xOrganizer will restore the relinked (“readded”) packages at the exact same location in the order. You may want to set the number of days higher (see xOrganizer settings).

## How xOrganizer and xToolbox work together



## 1.3 Installation and requirements



xToolbox needs no installation at all. Just unzip the file you downloaded to any location with normal access rights. This could be the root of a drive, the My Documents folder, etc., but NOT any of the system folders like Program Files or Windows.

The first time you run xToolbox it is possible that your virus scanner or Windows Defender gives a warning. This is because they search in their online databases and treat any relatively unknown application as potentially harmful, but not because they actually found anything unusual in the code.

Just tell your scanner to trust xToolbox. For Windows Defender you have to select “Run anyway”.

The system requirements for xToolbox are:

- Windows 7 or newer, but only 64 bits
- Optimal minimum display size: 1280x768 (you might need to scale the application to 80%, see settings)
- .Net Framework 4.6.1 or newer (normally installed by default by Windows).  
xToolbox will warn you if the right version is missing. If Windows Update does not help you can download the .NET framework directly from Microsoft: search for “.net download runtime framework”.

## 2 Link manager

### 2.1 Quick start PDF

This chapter will give more background information on some topics. Please refer to the Quick start PDF for a step by step explanation (how to link unlink content).

### 2.2 Types of links

If you move folders outside the X-Plane folder you somehow will have to make a link to these folders.

#### 2.2.1 Pros and cons of the different types of links

There different types of links you can use (with their pros and cons):

	Shortcut	Junction	Symbolic link
Difficulty	Easy, can be created with Windows Explorer	Medium, tool or terminal window needed	Medium, tool or terminal window needed
X-Plane use	Only Custom Scenery	Any folder	Any folder
Admin rights needed	No	No	Yes
If the source is moved or renamed	Windows will try to update it (resolve)	The link will turn invalid	The link will turn invalid
Link to another disk	Yes	Yes	Yes
Link to network location	Yes	No	Yes
Drive format supported (location of the link)	FAT and NTFS	Only NTFS	Only NTFS
Relative path	No	No	Yes

Although **shortcuts** work pretty good, they can only be used for scenery packages in the Custom Scenery folder of X-Plane. If you would like to for instance to move or share aircraft in the Aircraft folder it will not work.

If you move the folder that the shortcuts points to, Windows will often be able to automatically update your shortcut. It uses a search algorithm and a 'distributed link tracking service' that tracks the content behind a link that has been moved (xToolbox and xOrganizer use these too).

**Symbolic links** are the most versatile type of link. But the fact that you need administrator rights to create them is a disadvantage (in some cases with annoying User Account Control messages). See below.

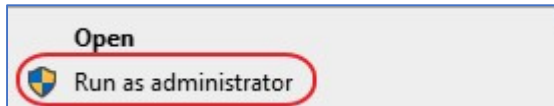
In general **junctions** seem the **best solution** to use with X-Plane, because they will work with any X-Plane folder and creating them is quick and easy (with the help of xToolbox or another tool). According to some sources junctions are also the best choice performance wise (simple and optimized), but this will hardly be measurable when using them for X-Plane.



### 2.2.2 Symbolic links and administrator rights

xToolbox can write symbolic links, but only if you **run xToolbox as administrator**.

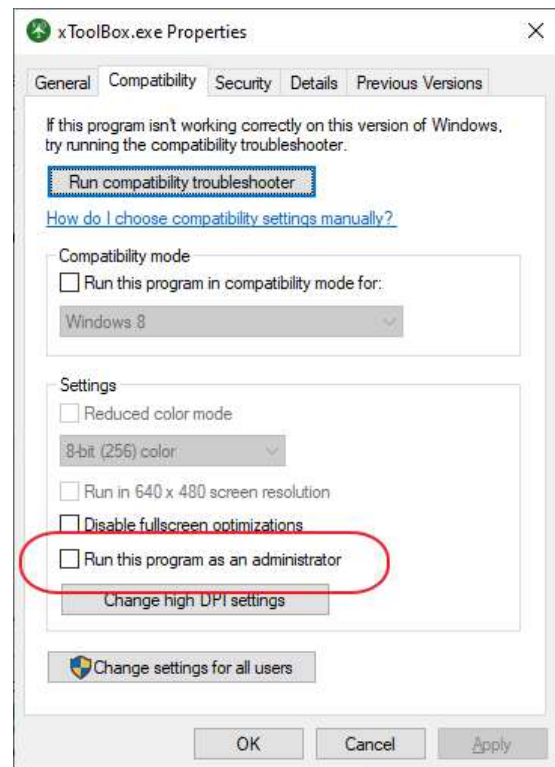
To do this you can right click on xToolbox.exe (in Windows Explorer) and choose run as administrator from the context menu:



If you would like xToolbox to **always** run with administrator rights, you can change it with the properties (again in Windows Explorer):



On the right you see the checkbox to need to check in the Compatibility tab.



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#### **Note:**

If you run an application as administrator you will not see any mapped network drives. This is default Windows behavior. It is possible to change this by adding a registry key. Please only edit your Windows registry if you have experience with it.

In Registry Editor, locate and then click the following registry subkey:

**HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System**

- Right-click Configuration, click New, and then click DWORD (32-bit) Value.
- Name the new registry entry as **EnableLinkedConnections**.
- Double-click the **EnableLinkedConnections** registry entry.
- In the Edit DWORD Value dialog box, type 1 in the Value data field, and then click OK.
- Exit Registry Editor, and then restart the computer.

Source: <https://support.microsoft.com/nl-nl/help/3035277/mapped-drives-are-not-available-from-an-elevated-prompt-when-uac-is-co>

## 2.3 Storage and target folders

The underlying idea of the Link manager is that you have **storage folders** on the left and **target folders** on the right.

**A storage folder is a folder where content folders are actually stored. In most cases scenery packages, but plugin and aircraft folders are also possible.** This will often be on a different hard drive than the one where X-Plane is installed.

**The target folder is the folder that X-Plane uses. In most cases the Custom Scenery folder but the plugins or aircraft folder is also possible.**

Each target folder that you add to xToolbox has a collection of one or more storage folders.

Storage folders are added automatically if xToolbox finds existing links in the target folder. Of course you can also add new storage folders yourself. Storage folders can only be removed from xToolbox if there are no active existing links to the target folder.

**xToolbox only works with folders, not with files.**

## 2.4 Storage folder structure

To order your scenery you could create for example a structure like this:

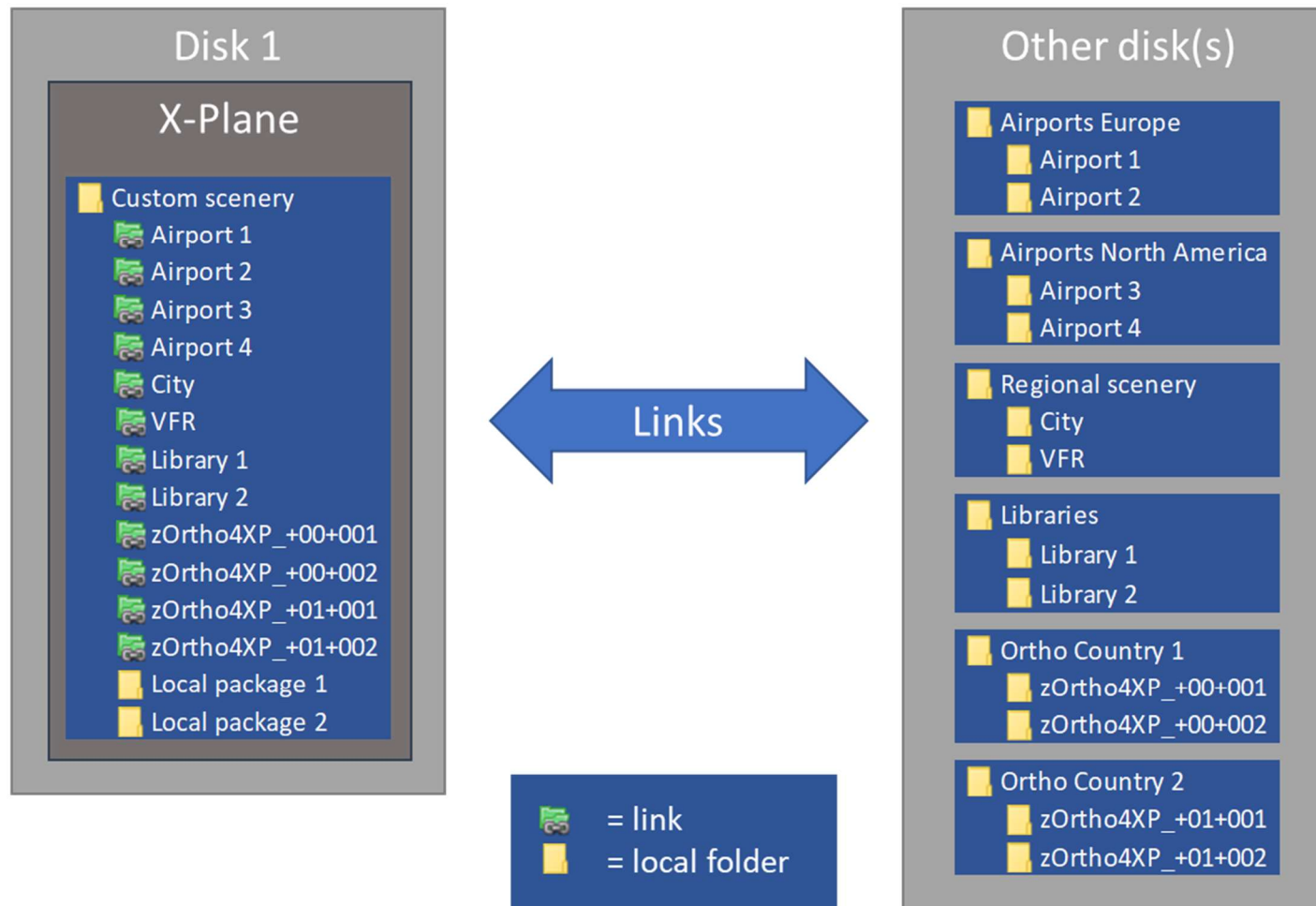
- D:\Airports
  - EHAM Schiphol
  - KPHX Phoenix
- D:\Libraries
  - 3D People
  - OpenSceneryX
- D:\Ortho France
  - zOrtho4XP+xx+xxx
- D:\Ortho Germany
  - zOrtho4XP+xx+xxx

In this example D:\Airports would become a storage folder in xToolbox and the underlying folders the content folders. The target folder could be something like: C:\X-Plane 11\Custom Scenery.

The next page shows an overview of this structure.

**A similar folder structure could be made for aircraft, plugins or any other content you might like to link to your X-Plane installation.**

## How to organize your scenery on multiple locations (example)



## 2.5 Prevent problems with storage folders

### 2.5.1 Circular references

With links it is possible to create an infinite loop, where links directly or indirectly point to each other. This could cause a situation where Windows “locks-up”.

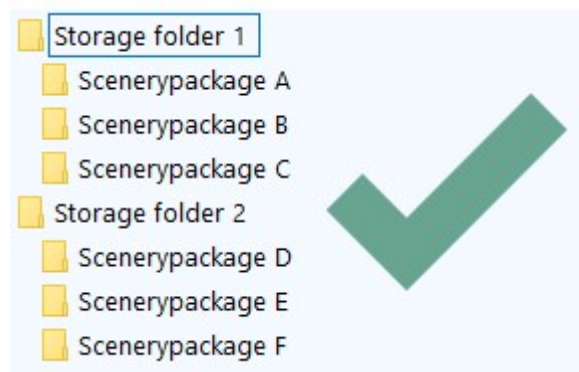
Although this will not happen soon, xToolbox tries to prevent this by checking a new storage or target folder with the present folders: they should not be part of each other paths in any way. For the same reasons xToolbox will not work with links found in a storage folder.

### 2.5.2 Nested folders

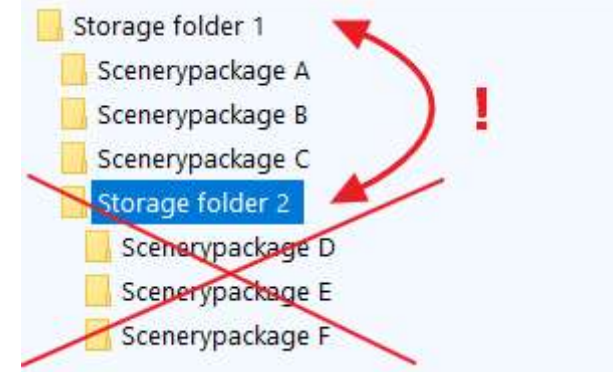
Please note: this paragraph is very important for scenery packages. However, if you understand how xToolbox works you could use subfolders for instance with aircraft (X-Plane does scan all folder levels there).

When accessing the Custom Scenery folder, X-Plane only looks at the top level folders. Placing scenery packages in a subfolder does not work, X-Plane will simply ignore these. That is why you should NOT place storage folders inside storage folders (nested folders)!

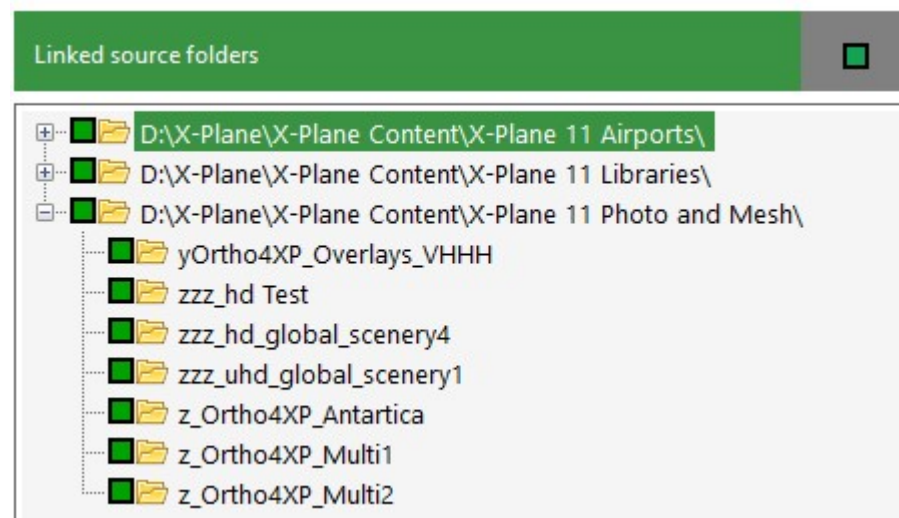
This is correct:



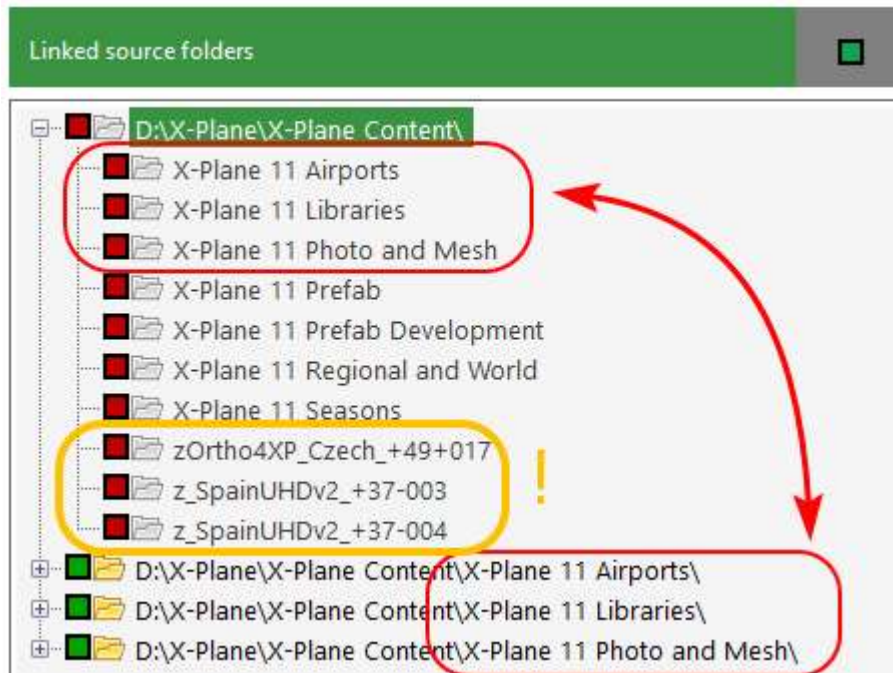
And this is NOT correct:



Another correct example:



And an incorrect example:



Here you see that the first “X-Plane 11 Airports” folder is part of the storage folder “X-Plane Content”. xToolbox will treat “X-Plane 11 Airports” as a content folder and not a storage folder!

→ if you make a link it will be useless because it does not link to a scenery package.

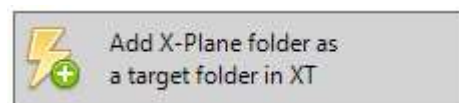
It will do not much harm, but a structure like this can easily become very confusing.

In the example above it would be best to move the zOrtho and zSpain packages (marked orange) to the Photo and Mesh folder and remove “X-Plane Content” as a storage folder in xToolbox.

NB: xToolbox will always warn you not to add nested folders (one folder part of another)!

## 2.6 First start: add a target folder

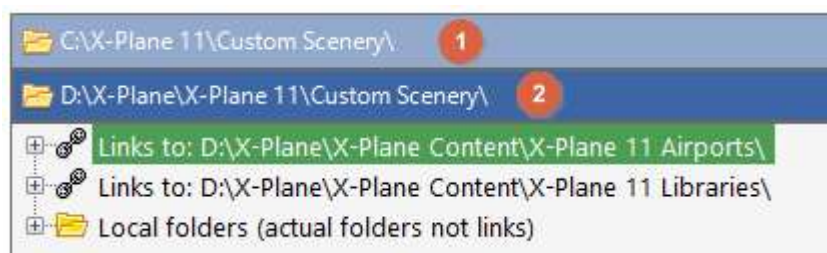
When you first start xToolbox it will show an empty overview. The first think you need to do is to add a new target folder.



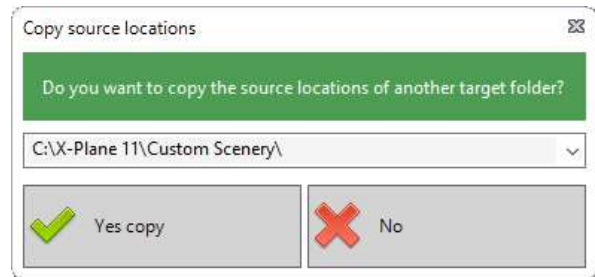
**If the target folder already contains links they will show up with their storage folders.** If the target folder is empty or only contains local folders only the right overview will be filled.

**You can add several target folders to xToolbox.** You can select them with the navigator by clicking on the blue bars.

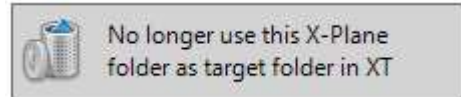
**Each target folder has its own set of storage folders.**



When a new target folder is selected, xToolbox will ask if you want to copy the storage folders of another target folder (if there is another target folder of course). This can for instance be useful if you have a beta copy of X-Plane and want to link the same scenery.



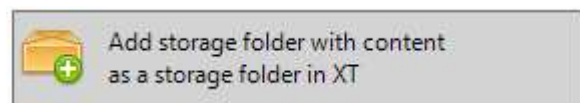
Target folders can be removed from xToolbox any time without affecting the folder itself.



See the Quick start PDF for a step by step description with screenshots.

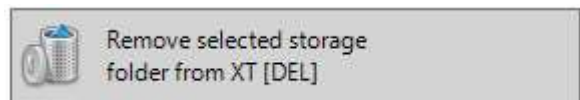
## 2.7 Add and remove storage folders

Use this button to add new storage folders. A storage folder a parent folder containing folders with X-Plane content (in most cases scenery packages).



See the Quick start PDF for a step by step description with screenshots.

To remove a storage folder you can use this button or the context menu (see paragraph below). Please note: this is only possible if there are NO links from this location to the target folder present.



## 2.8 Creating and deleting links

In the overview of storage folders you see colored checkboxes:



Color of the checkboxes	Storage folder	Content folder (in most cases scenery packages)
Red	Nothing selected	Not selected -> when writing: no link will be created + existing link will be deleted.
Green	Everything selected	Selected -> when writing: link will be created + existing link is kept.
Yellow	Mix selected / deselected	-



As soon as you change anything in the selection on the left, the label and the button in the middle change from green/inactive to red/active:

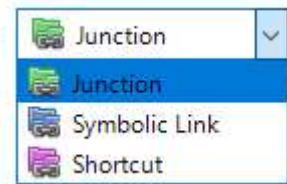


This indicates that the change in the selection is not yet written (synced) with the target folder. Click the red Sync button and xToolbox will create/delete links to match your selection.

xToolbox can use the following types of links:  
See 2.2 for the pros and cons of the link types.

See the Quick start PDF for a step by step description with screenshots.

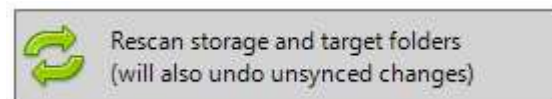
Type used to write links:



## 2.9 Rescan (and undo)

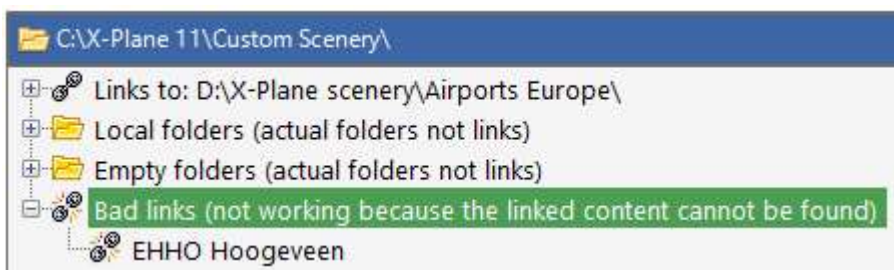
With the rescan button xToolbox will reread the target folder and storage folders.

Any changes made in the selection of the content folders on the left that are not yet synced will be reset: the overview will again reflect the actual situation on disk.

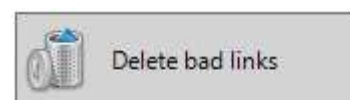


## 2.10 Bad links and deleting them

Any links in the target folder that no longer work because the link with the actual content is lost, is called a bad link. This usually happens because the content folder was moved, renamed or deleted.



The easiest solution is let xToolbox delete the bad links with this button or delete them yourself and recreate new links if needed.

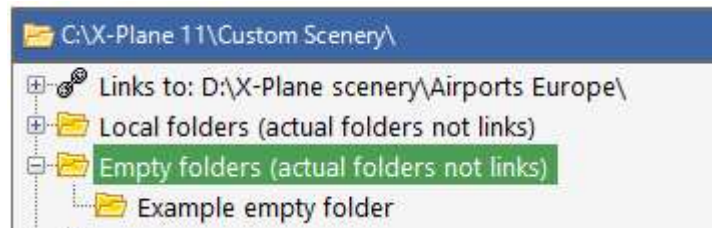


## 2.11 Empty folders and deleting them

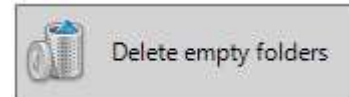
If you copy a folder filled with links, for instance when you create an extra X-Plane installation to test a beta, you end up with a lot of empty folders. The link information is lost when copying.

With xToolbox this is not a problem as you can easily recreate the links by enabling the packages in your storage folders (in the right overview) and click 'Write to target folder'.

To make it easy to spot which folders are empty they are listed separately in a similar way as bad links (see above).



Delete them with this button:

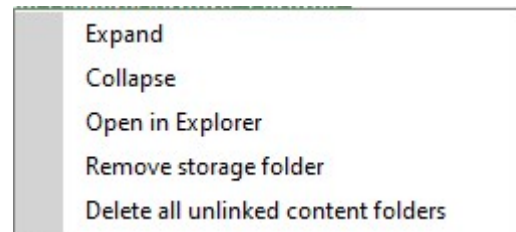


## 2.12 The target folder is renamed or moved

If xToolbox cannot find a target folder it will automatically ask you to relocate it. Just point to the new location or the renamed folder and everything should work as before.

## 2.13 Context menu

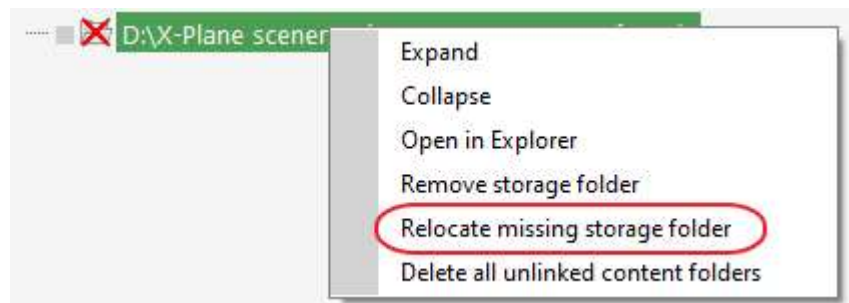
If you right click on a storage folder, you will see a context menu with extra options. Most of them speak for themselves and are also available with the buttons below.



In the overview of the target folders the context menu will show an option to open the item in the Windows File Explorer.

## 2.14 The storage folder is renamed or moved

If xToolbox cannot find a storage folder it will mark it gray with '[Not Found]' added to the name.



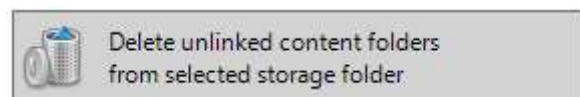
To relocate the storage folder right click with the mouse and choose

'Relocate missing storage folder' from the context menu. In most cases you will need to recreate the links because they are pointing to the old location.

You can of course also remove the storage folder from xToolbox.

## 2.15 Delete unlinked content folders

Please use this option with care!



With this button you can delete all content folders in the selected storage folder that are currently NOT linked.

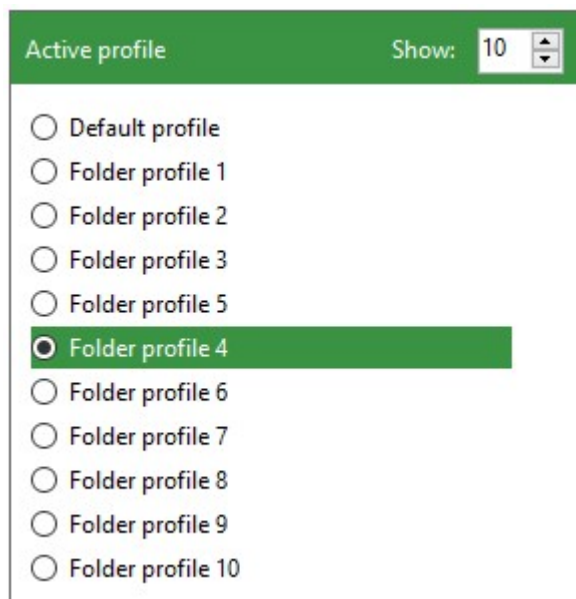
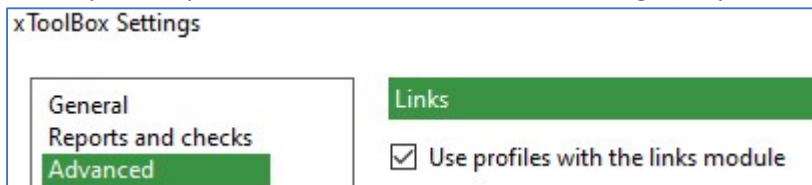
Before anything happens, xToolbox will show you a windows with a list of the content folders that you are about to delete. Even after confirming xToolbox will ask you if you are sure. But deletion is final and cannot be undone!



## 2.16 Profiles

Profiles in xToolbox are used to store the (de)selected state of storage folders. By selecting a profile you can load these states. You can use profiles if you often link and unlink content folders in a certain combination (perhaps a flying area).

To use profiles you need to enable them in the settings (they are off by default):



xToolbox can store up to 15 profiles for you.

### *Renaming user profiles*

By default, the user profiles are named Profile 1 and up but you can give them a more meaningful name by double clicking on the profile.

### *Default profile*

The default profile is always refreshed when xToolbox starts (or refreshes). It reflects the state of the target folder at that moment.

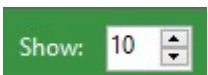
However, you can use the default profile to quickly enable or disable things and hit 'Write to target folder'.

### *Switching between profiles*

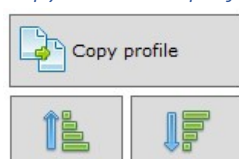
If you click on a profile, the overview will directly show the states of that profile.

New profiles always start with everything disabled. Just enable the storage folders you would like in that profile and this will be stored. Please keep in mind that any change you make is stored automatically: there is no need to save the changes.

### *Hide/show profiles, no deletion*

With the small box on the right side of the bar  you can select the number of profiles that are visible. So, if you only have 3 profiles you can simply hide the rest. **Note:** profiles cannot be deleted only hidden from sight!

### *Copy and order profiles*

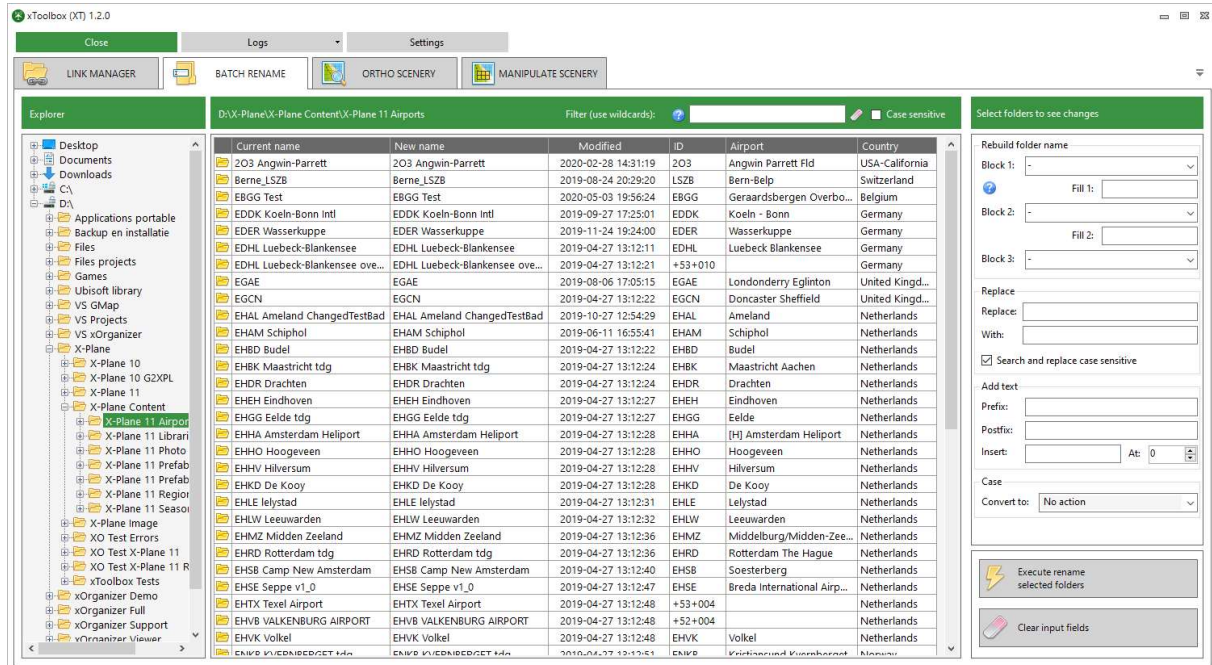


With the copy button you can copy all states of one profile to another.

The move up/down buttons help to create the order you would like for the profiles (and move unused profiles to the bottom).

### 3 Batch rename

The batch rename module works straightforward. On the left you will see an overview similar to Windows Explorer. The overview in the middle shows the contents of the selected folder, while the overview on the right will show the same folders with a preview of the effects of renaming:



Note that xToolbox adds an extra information (extracted from the folder and apt.dat file and the xToolbox database):

- **Airports: ICAO, airport name and country**
- **Tiles: latitude / longitude and country**

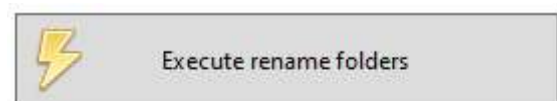
You can use this information when renaming a folder.

The preview of the effect of renaming is only visible for those folders that are selected in the middle overview. You can use shift and control to make any selection of single or multiple folders.

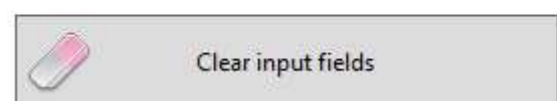
Any illegal characters (like \* ? \ /) will be filtered out automatically.

#### 3.1 Buttons

To let xToolbox actually rename folders you can press the execute button.



To clear the rename fields you can use the clear button.



**NB: only selected folders are renamed:**

	EGAE	EGAE Londonderry Eglinton
	EGCN	EGCN Doncaster Sheffield

### 3.2 Rebuild folder name

The rebuild text block probably needs the most explanation.

With this block you can rebuild the folder name:

*Block1 Fill1 Block2 Fill2 Block3*


Each block can be filled with the dropdown list:

- Current text: copies the current name
- ID, airport name or country: fills in the scenery data
- zOrtho4XP\_: fills in this text

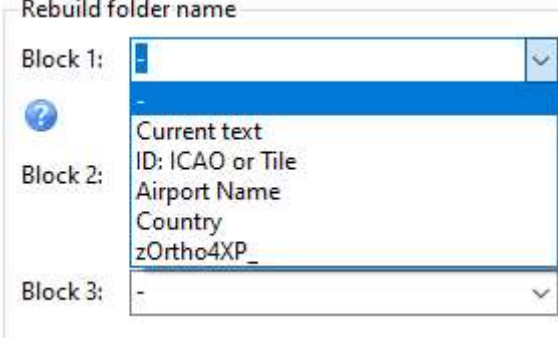
BUT: you can also type in any text you want in any of the blocks!

The Fill1 and Fill2 fields can be used any way you like, but also to add a – sign or white space between the blocks.


This selection will rename

 EGAE


To: **EGAE Londonderry Eglinton-United Kingdom**



This selection will rename

 EHAM Schiphol

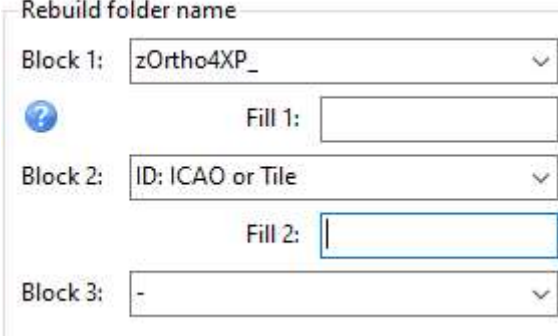
To: **EHAM Schiphol (Netherlands)**



This selection will rename

 Phototile 22-113

To: **zOrtho4XP\_+22+113**



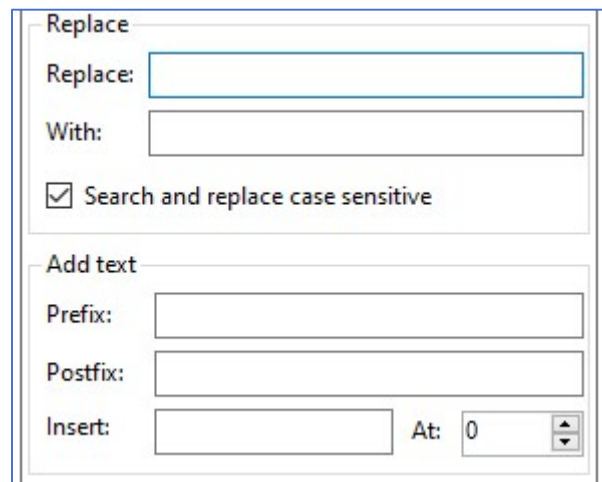
### 3.3 Replacing text and adding or inserting

These functions will probably be more familiar. With replace you can replace any part of the name (case sensitive or not).

**Prefix** will add text before the current name (for instance 0\_ if you would like to group a certain type of scenery packages).

**Postfix** does the same, but at the end of the current name.

**Insert** will insert the supplied text at the exact position given in the numeric box.

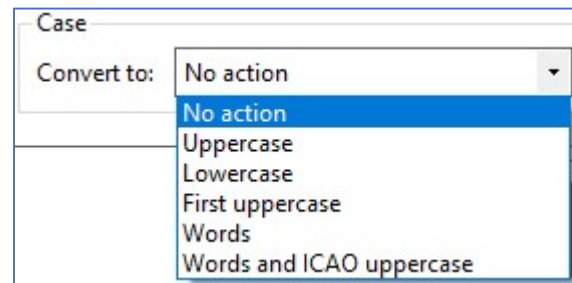


The image shows two stacked dialog boxes. The top one is titled 'Replace' and contains two text input fields: 'Replace:' and 'With:'. Below these is a checkbox labeled 'Search and replace case sensitive' which is checked. The bottom dialog box is titled 'Add text' and contains three text input fields: 'Prefix:', 'Postfix:', and 'Insert:'. To the right of the 'Insert:' field is a numeric input field labeled 'At:' with the value '0' and a small up/down arrow icon.

#### Change case

Most options of the casing conversion will look familiar.

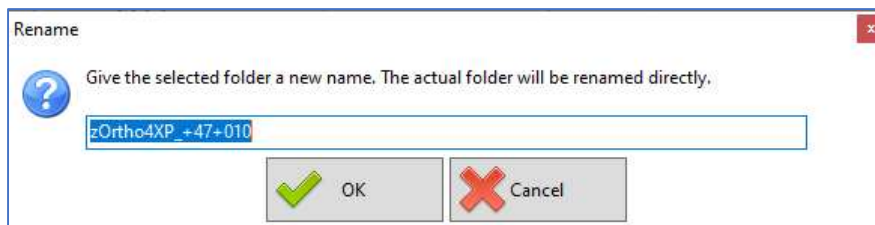
The words option will make every new word start with uppercase. The ICAO version does the same, except xToolbox will try to find the airport code (ICAO) with a regex search and keep the code fully uppercase.



The image shows a dialog box titled 'Case'. It has a label 'Convert to:' followed by a dropdown menu. The dropdown menu is open, showing a list of options: 'No action' (highlighted in blue), 'Uppercase', 'Lowercase', 'First uppercase', 'Words', and 'Words and ICAO uppercase'.

### 3.4 Rename single folder (double click)

You can directly rename a folder by double clicking on the row in the overview and provide the new name:



The image shows a dialog box titled 'Rename'. It has a question mark icon and a text label: 'Give the selected folder a new name. The actual folder will be renamed directly.' Below this is a text input field containing the text 'zOrtho4XP\_+47+010'. At the bottom are two buttons: 'OK' with a green checkmark icon and 'Cancel' with a red X icon.

Any illegal characters (like \* ? \ /) will be filtered out automatically.

## 4 Photo scenery

### 4.1 Structure of a photo package

Photo scenery contain different types of files which are related:

File type	Contains	Refers to	Folder
DSF	Mesh triangles with used terrain definition and location (lat/lon)	Terrain definitions (TER files)	Earth nav data
Terrain (TER)	Terrain definitions used to paint terrain patches	DDS files PNG files	Terrain
Images (DDS and PNG)	DDS images: actual satellite image PNG images:masks	-	Textures

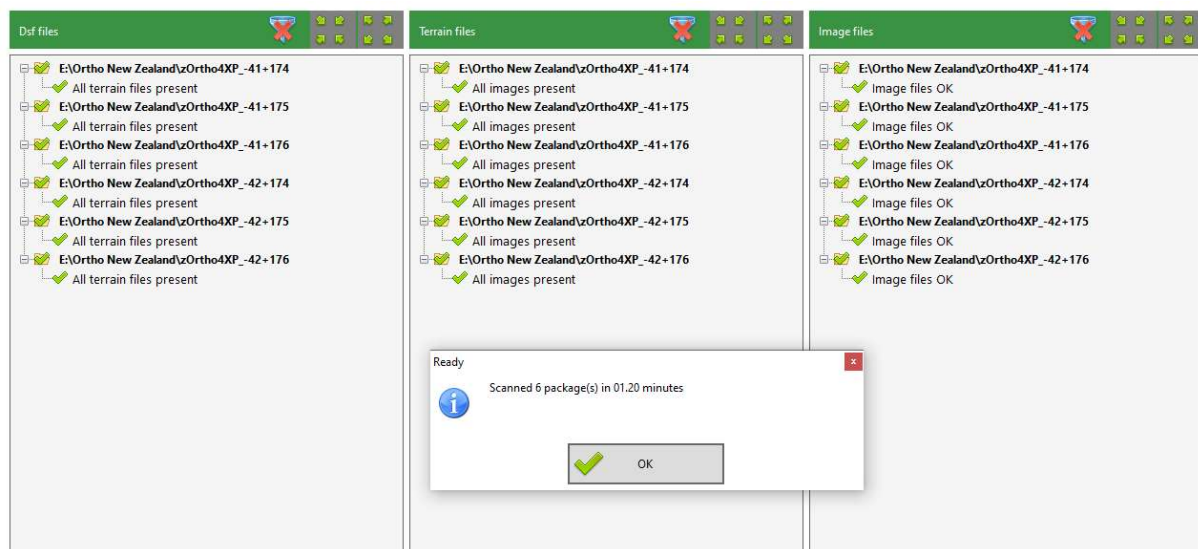
In each package the DSF files refer to the terrain files and the terrain files refer to the DDS and PNG images. All files should be present and valid. xToolbox check these relations:

- DSF ⇔ terrain files
- Terrain files ⇔ DDS and PNG files

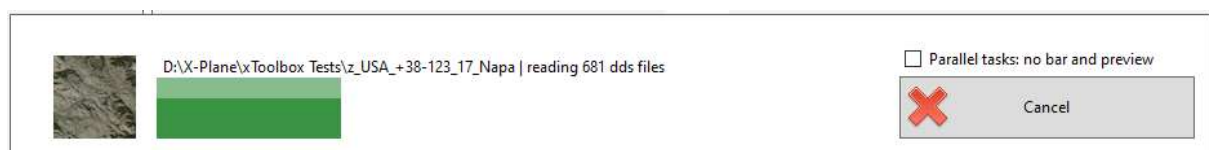
Furthermore it can check if the terrain and DDS files are valid and not corrupted. This last check costs a lot of processing power, because each DDS image is decompressed to check the actual content.

### 4.2 Scan results

The results of each scan are divided in 3 columns referring to the DSF file(s), terrain files and image files. A scan of a valid folder with photo packages results in the following overview:



During the scan a progress bar is shown and (if applicable) a preview of the DDS image:



The bar and preview can be disabled during parallel processing tasks which gives a small performance gain (approx. 2%).



### 4.3 Scan options

Before you select one or more photo packages you should decide which checks you want to be performed (see 4.1 for the explanation of the structure of a photo package).

#### Check images

Problems with the images seem the most common, which can be:

- Missing DDS images [2]
- Corrupt DDS images [3]

#### Convert JPG images to DDS images

Sometimes DDS images are missing because they were not yet converted from JPG. xToolbox will tell you if the corresponding JPG is found. In these cases the problem is simply solved by letting xToolbox run the conversion for you [4].

After the conversion you could let xToolbox check the new DDS image and delete the no longer needed JPG file [4]. The deletion will be executed only if the resulting DDS image is indeed valid.

Checks to perform

- ☒ Dsf files: all terrain files present 1
- ☒ Terrain files: all images present (\*) 2
- ☒ Images: valid and not not corrupted (\*) 3

(\*) most common problems

Check	White	Black
Percentage	15	Percentage 75
RGB	190	RGB 40

Perform with or without the checks above:

- ☒ Convert jpg images to dds images if dds image is missing 4
- ☒ Delete jpg images if dds image is present

Starting with version 1.0.3 works in 64bit with parallel processing, also when converting JPG files. It **uses all CPU cores and CUDA** (if a Nvidia GPU is available that supports it).

#### Check black or white images (and images with clouds)

Not only can xToolbox check the integrity of DDS images, it can also check the colors to filter out black or white images (also a problem that can occur with photo packages) [5].

The same check can be used to detect images that are covered with clouds (so you see white patches in X-Plane instead of the ground, see image below). To get the best results you can tweak the settings:

- Percentage = the percentage of pixels that are black or white
- RGB = the "whiteness" or "blackness" of the pixel -> 255 is 100% white and 0 is 100% black.

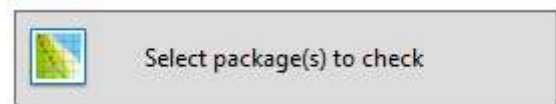
As background: xToolbox checks if all color channels of the pixels (of a 16x16 mipmap) are above or below the given value. If all channels have the same value the color varies from black to white on a grayscale. All pixels with an alpha channel of zero (transparent) are ignored.

On the right side a preview of the image is show + the actual location in the 1x1 degree tile:



#### Start a scan

With the Select button you can select photo package(s).



You can use the **mouse + SHIFT/CONTROL** to select multiple packages. Or use **CONTROL-A** to select all packages in a folder you opened.

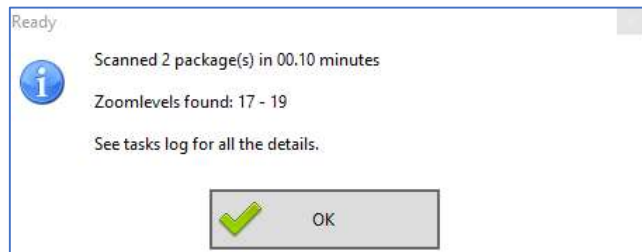
After selecting the photo packages the scan will start immediately.

**NB:** xToolbox will automatically read junctions and symbolic links, but shortcuts are ignored. It is advisable to let xToolbox scan the original location (where the link is pointing to).

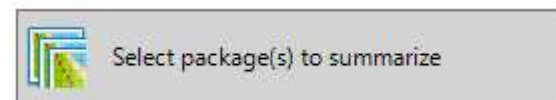
#### 4.4 Zoomlevels

With any scan where terrain files are checked the zoomlevel of a package is automatically calculated. At the end of a scan xToolbox will report the minimum and maximum zoom zoomlevel found.

More details are available in the tasks log.



If you would like a list of only the zoomlevels you can use the button down the right bottom. After the scan the complete list can be found in the task log.



#### 4.5 Scan performance and selection size

Please note that scanning photo packages can take a considerable time. Of course it depends on your CPU and the drive: HDD or SSD.

In general a HDD will be the bottleneck limiting the scan speed and with a SSD the CPU. On a system with an i7-4790K, 32Gb and a SSD, scanning 80Gb of photo scenery takes 3.5 minutes.

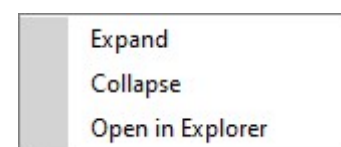
It is possible to let xToolbox scan your whole Custom Scenery folder. It will skip all non-photo packages automatically. But it might be better to **limit the amount of packages scanned at once**. Not only will it take a while, but the list of results could be hard to read.

NB: it might be worth to consider **storing your photo packages in folders per country**. This makes it easier to manage and gives better overview. To find out which photo package belongs to which country the Rename module might help (it will list the country).

One last remark: **xToolbox will only scan photo packages** with a normal folder structure with an Earth nav data folder + terrain folder + textures folder. It will also recognize **Winterized packages**, but all other types of packages are skipped.

#### 4.6 Context menu

When you right click on a top node in the overviews, you will see a context menu.



The overview with the images (right) also has a context menu for the “Image file invalid” node. With this function you can delete all invalid images.

Delete images

The context menu for the black and white images show the option to copy the filename to the clipboard or open the image in the Windows Explorer.

Copy filename to Clipboard  
Select file in Explorer

## 4.7 Examples of detected problems

With the buttons on top you can set a filter to only show results that need you attention. The other two buttons collapse or expand the overview.

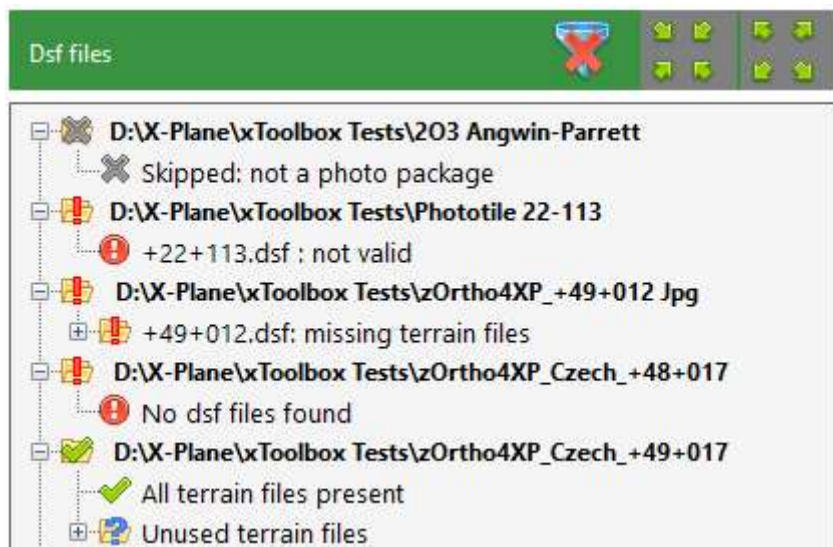


On the right you can see some examples of errors. **NB: these errors are created on purpose to show all possible problems. In reality this many errors are unlikely.**

Some dsf and terrain files are missing and one dsf file could not be read.

**These errors cannot be repaired: the only solution is to completely recreate or redownload the package.**

The unused terrain files are not referenced and should normally be safe to delete. However, it can also be ignored as it does not harm.

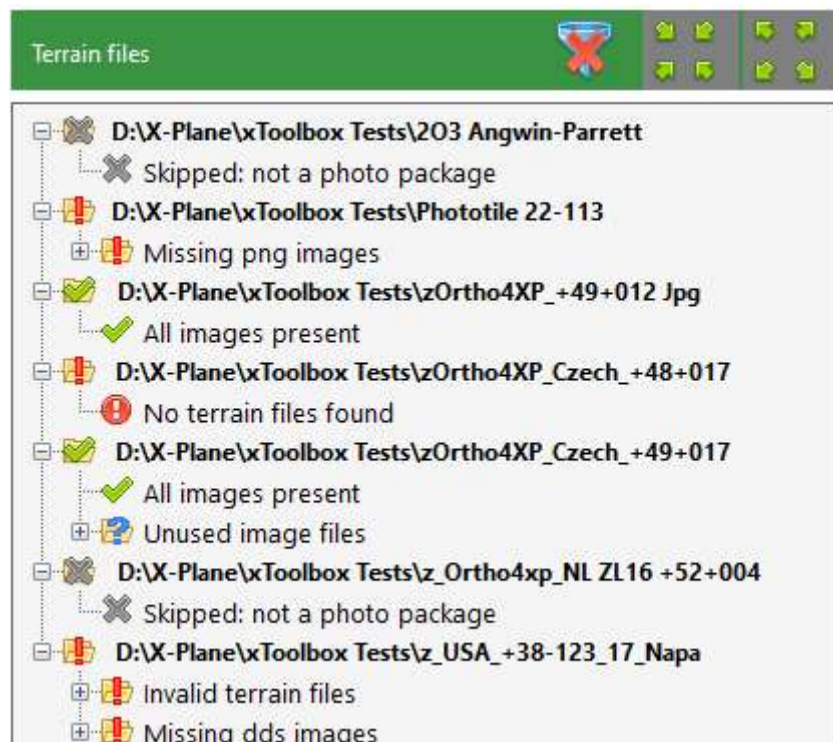


Here are some terrain files are missing or invalid.

**These errors cannot be repaired: the only solution is to completely recreate or redownload the package.**

**If dds images are missing and you still have the original jpg images, you could try to rerun the conversion (jpg -> dds).**

The unused images could be deleted, although they can also be ignored because they do no harm

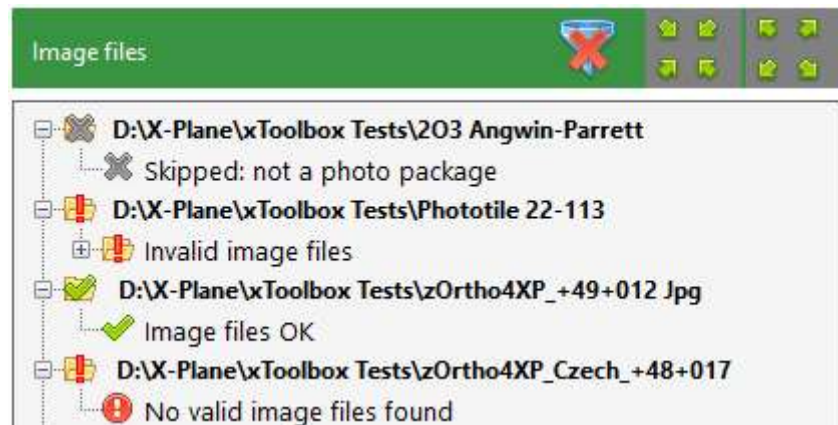




Here dds images are missing or invalid.

If you still have the original jpg images you could try to rerun the conversion.

Otherwise recreating or redownloading is the only solution.



#### 4.8 How to solve problems

The check on photo packages is aimed at detecting problems to prevent a frustrating X-Plane crash in the middle (or end) of a long flight.

If problems are detected, in most cases the only solution is to partly or completely recreate the photo package with the original tool or to try to redownload the package from a different location if it is from an online source.

If the problem is related to corrupt DDS images and the original JPG files are still available, you could try to rerun the conversion (with xToolbox or other scripts).

## 5 Manipulate scenery

With this module you can tailor (the coverage of) scenery packages exactly as you want.

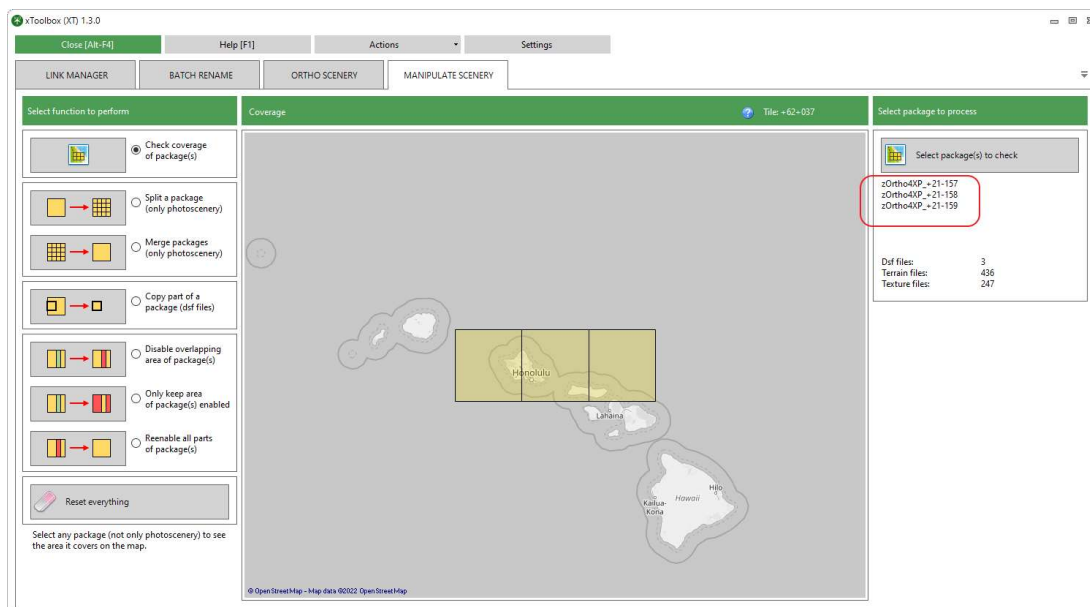
### 5.1 Check of the files found

With all the described functions xToolbox will check which files are found in the selected folders and summarize them. It will also report if folders are missing:

- Earth nav data: should always be present
- Terrain / textures: should always be present for photo packages, but not for overlays etc.

### 5.2 Check coverage

This option simply shows the coverage of the selected scenery packages:



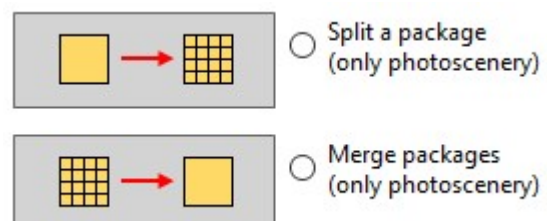
The box below the selected packages will show the number and types of files found:

Dsf files:	3
Terrain files:	436
Texture files:	247

### 5.3 Split and merge photo package

With the **split** option you can split up a photo package that contains multiple tiles into several single packages.

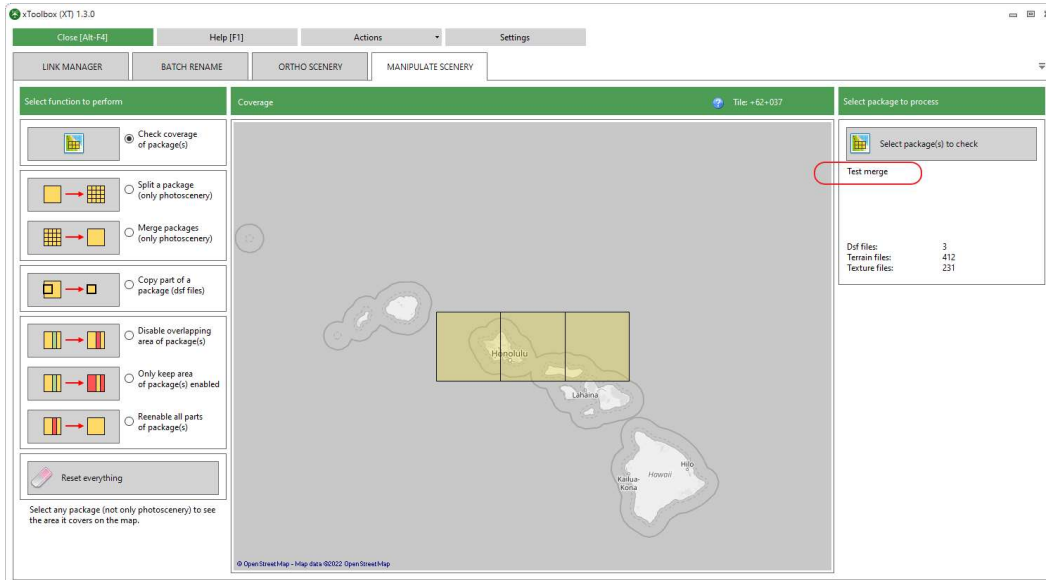
With **merge** you can of course do the exact opposite.



Neighboring tiles contain a small overlap. As a result the merged packages will contain a slightly lower number of files. The exact numbers can be found in the log file.

With the split function the exact opposite happens: based on the dsf files, xToolbox will collect all the necessary terrain files and based on the terrain files the necessary image files (with the small overlap as result).

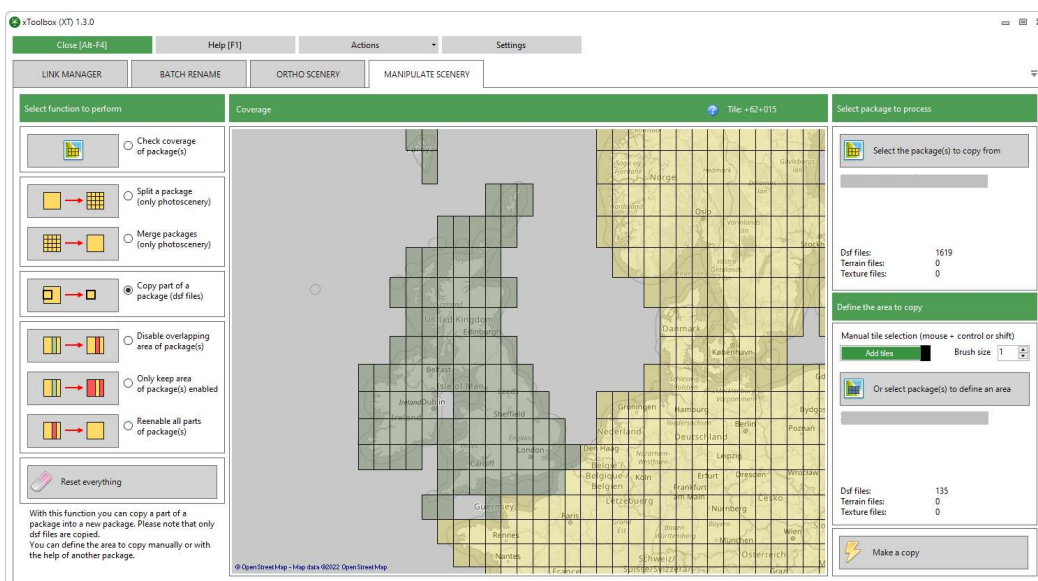
The map will show the tiles to split or to merge (same packages as the example in 5.1 but now merged as one package):



## 5.4 Copy sub-area of a package

With this function you can copy a part of a package. An example could be that you have a folder with photo scenery packages for a country and you would like to copy all overlays for that same country from a large folder with overlays.

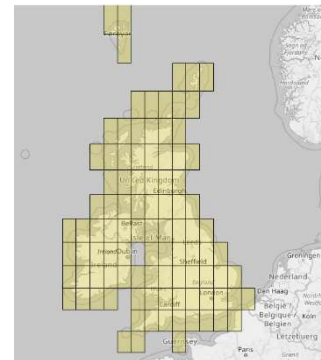
In the screenshot below the names of the packages are grayed (just random packages), but the blue tiles represent the packages in the country folder and the yellow tiles the large folder with overlays. Notice that the overlap is a bit blue/greenish:



The blue just defines the area you want to copy, here the area covering the UK. You can select packages to define this area (for instance Orbx TE packages), but you also draw the area manually (or a combination of both).

To edit the blue area you can use control and shift to make selections in the map. Use the switch to switch between adding tiles (green) and removing tiles (red). The brush defines the number of tiles you select with each click (while holding control).

You will be asked to name the new package and to choose a location:



With the check coverage function you can check the copied package (recognize the same area defined by the blue tiles above):

**NB:** this function is meant to collect overlays but can be used for other types of packages. Don't use this function for photo packages, because it will not copy the terrain and texture files!

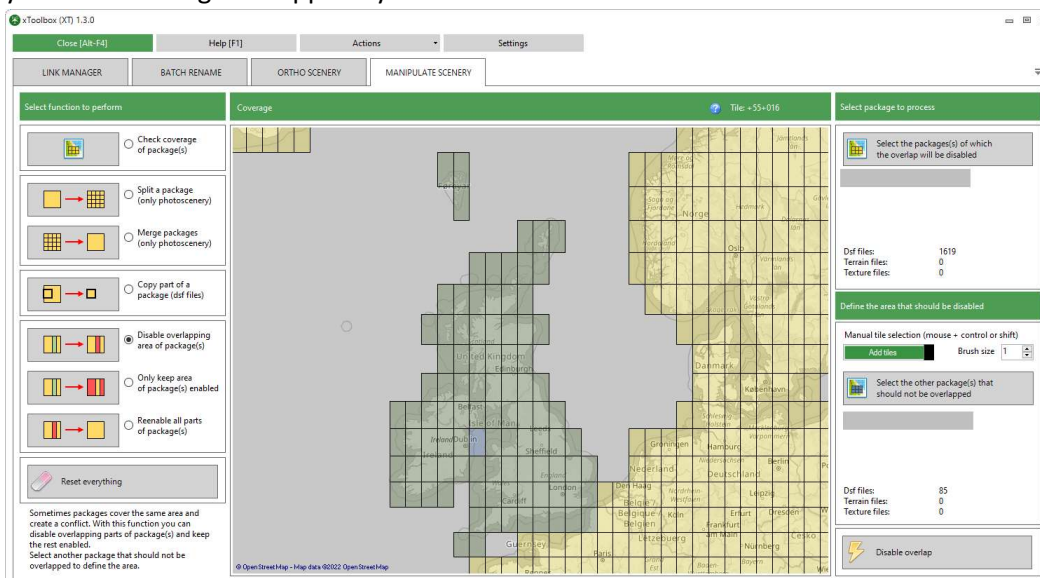
Please note that some packages contain a library file and objects: these are not copied automatically. In these case you can manually copy these files or consider using the "Disable overlap" function. With the overlap function you can keep the parts you want to use and disable the rest.

## 5.5 Disable overlap (to prevent conflicts)

If two packages that you both want to use overlap it can be useful to disable the overlap. This way the order in the scenery\_packs.ini is no longer an issue.

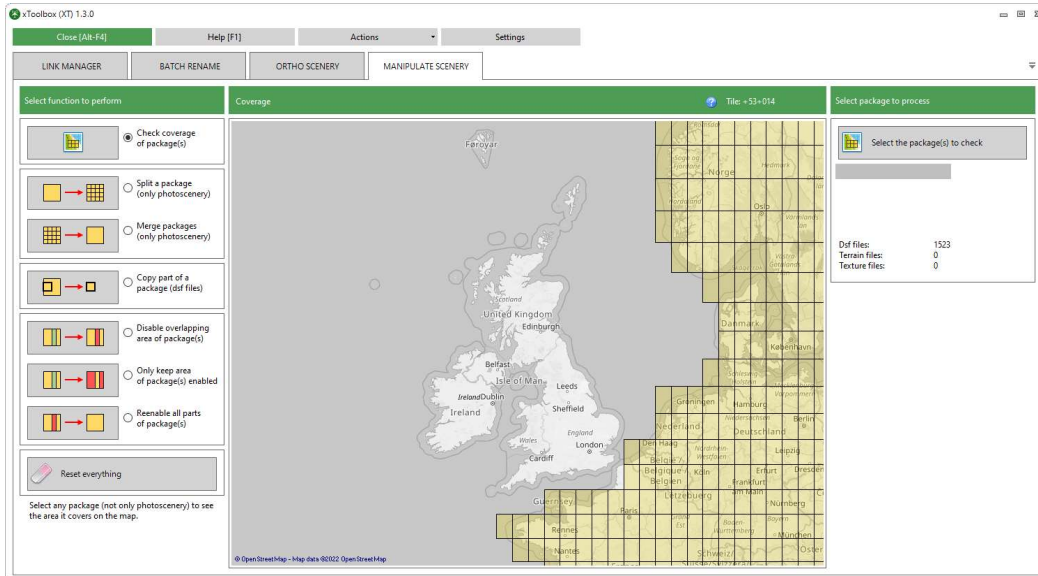


In the screenshot below the names of the packages are grayed (just random packages), but you see yellow tiles being overlapped by the blue tiles:



This can happen for instance if you install both Orbx UK and X-Europe, where you want to exclude the UK from X-Europe.

Just execute and afterwards use the “check coverage” function to check the result. The overlapping blue tiles in the previous image are shown as yellow and as you can see there are now no enabled tiles in the UK anymore:



xToolbox adds the extension .xorg to each disabled dsf file (same method xOrganizer uses). This way X-Plane will not (and cannot) load these tiles.

To enable the tiles again: see below.

## 5.6 Disable non-overlap

This function does the opposite as the normal overlap function: it disables the non-overlapping tiles and keeps the overlapping tiles.



In the example above the UK would still be enabled and the rest disabled.

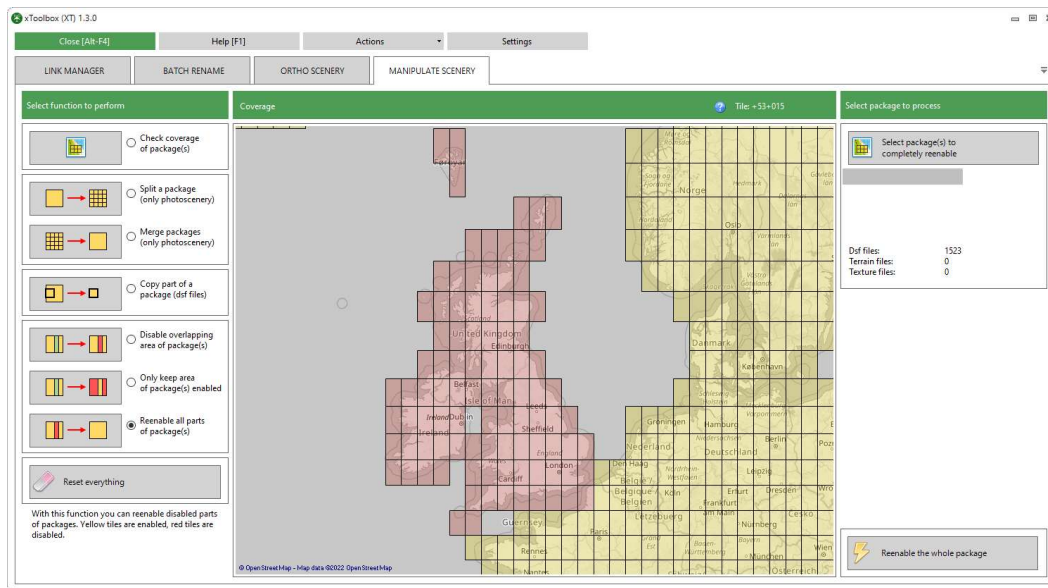
This function can be useful if you only want a package to cover a certain area. It has some similarities to the copy subset function. Only here nothing is copied, but the selected area is kept while the rest is disabled.

## 5.7 Reset disabled overlap

If you want to reen able tiles you can simply select this function. It will remove all .xorg extensions.



The disabled tiles from paragraph 5.4 are shown in red:

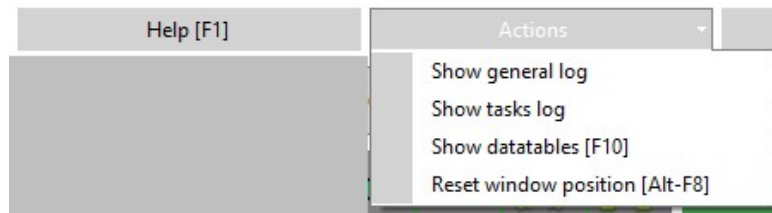


After reenabling the whole package will be active again, including the tiles in the UK.



## 6 Help and actions menu

The help menu will show a window with links to this Manual and Quick start PDF + links to the online 4xplane knowledge base and the x-org support forum.



With the actions menu you can see the logs:

- General log: start up information and general logging
- Tasks log: more detailed information of the scans performed

Reset window position [F8] can help you if the xToolbox window cannot be resized etc. because it is shown off screen (sometimes happens when monitors are switched).

The data tables [F10] will show all the details scanned by xToolbox. This might be useful if you want to copy some information for further investigation:

The image shows a window titled 'ShowXoDataTables' with a 'Scan data' button. Below the button is a table with columns: ReparseSet, ReparseParent, ReparsePoint, ReparseName, ReparseType, ReparseOrder, and ContentParent. The table contains 15 rows of data, including various airport and landmark locations like EHHV Hilversum, EHKD De Kooy, EHLE Ielystad, Global Airports, KSEA Demo Area, LOWI Demo Area, and various X-Plane Landmarks (Chicago, Dubai, Las Vegas, London, New York, Sydney, Washington DC). At the bottom of the window are buttons for 'Save as csv', 'To clipboard', and 'Close'.

## 7 Settings

### General

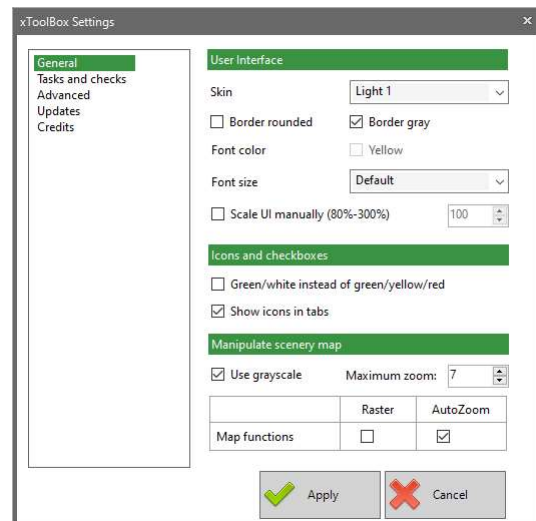
With skin you can choose the UI colors that you like best, also with yellow font color for extra contrast.

The font size can be changed to small, default and large.

The scaling is set automatically by Windows, but you can overrule this and choose anything between 80% and 300%.

Use green/white will give the checkboxes a different color, instead of red/green.

Grayscale will change the map appearance.

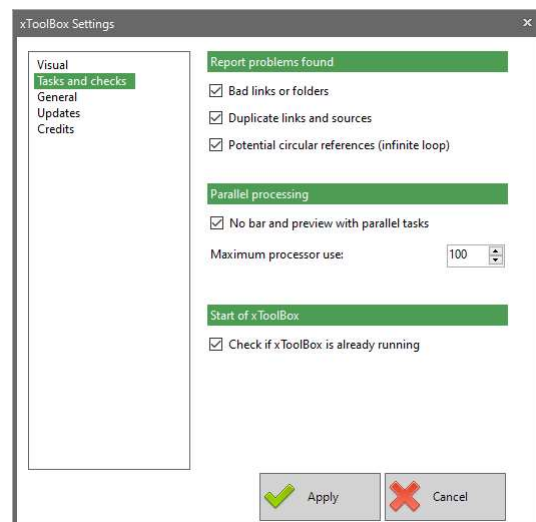


### Tasks and checks

xToolbox will always perform checks when scanning links, but you can turn off the messages.

By default deselected bad links found (see paragraph) will be deleted when writing links. If you don't want the bad links to be deleted you can keep them selected (checkbox green in the overview) or turn off this option.

With parallel processing tasks xToolbox by default uses all processors, limiting the capacity for other applications. You can lower the % to 25%, 50% or 75%. The other option (no bar and preview) gives a small performance gain of approx.2%.

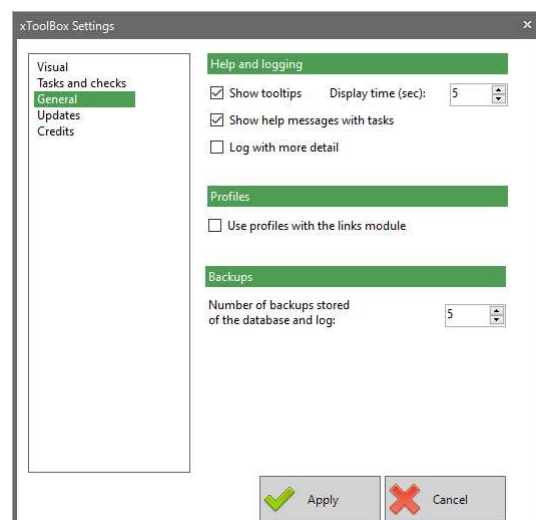


### General

For the profiles see the separate paragraph.

If you want you can switch off the tooltips (or decrease the display time) + the pop-up help messages that are shown when selecting clicking a task. Log more detail will add some extra logging.

The database only contains the settings of xToolbox and the target + storage folders. But if you want you can change the number of backups made.





## Updates

xToolbox by default checks for updates, but this can be switched off here. The check will be performed with the interval specified here (in days), but with the button you can also check this right away.

