

# TYPWiz 3

vers 3.9



*‘Our main aim is to make TYP files more accessible so that **anyone** can enjoy customising their own maps.’*

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TYPWiz 3 .....	1
Loading TYPWiz3 .....	6
What is TYPWiz3?.....	6
TYPWiz3 and other TYP editors .....	6
How do I get a TYPWiz3 Key? .....	7
Before you start.....	8
Important notice about City Navigator 2012+ TYP files .....	9
TYPWiz4 .....	10
Active Routing .....	10
Extra commercial & building pois .....	11
FREE Mapuploader 2 .....	12
What are TYP files? .....	13
Languages .....	14
Commands .....	14
Messages.....	14
How do I send TYP files to my Garmin? .....	15
Mapsource/Basecamp .....	15
Gmaptool.....	16
How do I extract TYP files from my TOPO IMGs? .....	16
How do I extract TYP files from my Mapsource / Basecamp Maps?.....	16
How to add a TYP file to a map which does not have a TYP file. ....	16
FAQs.....	16
TYP Format .....	17
Updates .....	17
Loading the program .....	18
Loading TYP Files .....	18
FID & PID.....	18
Codepages .....	18
Headers .....	19
Load Options.....	19
Preferences.....	20
Set default language.....	20
Thumbnail label properties .....	20
Change Background Colour.....	20
Show Font colours on thumbnail labels.....	21
New POI,Polygon or Lines from 0 X.....	21
Use default Header .....	21
Saving Preferences .....	21
Polygon Auto Tiling .....	21
POI Edit Picture size.....	21
Associating TYP files .....	21
Mouse Sensitivity .....	21
Loading Text Files.....	22
Loading MapTK prj Files .....	22
Saving TYP Files .....	22
Saving as text .....	22
Save a Copy as .....	22
Save Picture .....	22
Print .....	23

Getting started .....	23
Show / Hide Text Code Panel .....	23
Transparency .....	23
Copy a Polygon, Line or POI .....	23
Undo and Redo .....	24
Import Pictures .....	24
Select Area to copy and paste .....	24
Copying & Pasting .....	24
Use selected area as a stamp .....	25
Editing tools .....	25
Pencil ,Lines, Rectangles & Ellipses .....	25
Fill .....	25
Select Colour .....	25
Horizontal & Vertical Mirror .....	25
Rotate by 90° .....	26
Add a colour .....	26
Clear bitmap .....	26
Add Text .....	26
Colour Control .....	27
Changing Palette Colours .....	27
Change colours of grid or crosshairs .....	27
Pattern Fill .....	27
Brightness Control .....	27
Contrast Control .....	27
Black & White Control .....	27
Hue , Brightness & Saturation .....	27
Colour Balance .....	28
Black and white are not affected. ....	28
Change Grid colour .....	28
Type numbers .....	28
Levels of Opacity (alpha values) .....	29
Give Pixel Opacity .....	29
Give Same Colour Opacity .....	29
Polygons .....	30
Preview tiled polygons .....	30
Adding & Deleting .....	30
Draworder .....	31
Error message ‘draworder?’ .....	31
Editing,Adding and Removing Draworder .....	31
Search for a type number .....	32
Bulk Deleting of ‘empty’ placeholders .....	32
Filters .....	33
Pattern Fill .....	33
Repeat pixel fill .....	33
Repeat pixel fill .....	34
Night colours .....	34
Text .....	34
Extended Font styles & font sizes .....	35
Custom Font Colours .....	35
Transparency of polygons .....	36

Reverse colours .....	36
Lines .....	37
a) Non-bitmap Lines .....	37
b) Bitmap Lines .....	37
Night Colours .....	38
Extended Line types 0x100+ .....	38
Reverse button .....	38
Copying & Pasting .....	38
Draworder of Lines .....	38
Resize Lines .....	39
POIS .....	40
Adding .....	40
Deleting .....	40
Copying POIs .....	40
Borrowing bitmaps from another TYP file .....	40
Pasting Bitmaps .....	40
Night BMP .....	40
Resizing Night POIs .....	40
How to make your POIs bigger or smaller .....	41
POI zoom .....	41
Deleting unused colours .....	41
POI number of colours & True Colours .....	41
true color with colormode 16 .....	41
true color with colormode 32 - opacity .....	41
POI colormodes .....	42
Garmin Colours .....	43
Saving POI as bmp .....	43
a) for nuvi .....	43
b) for waypoint symbols .....	43
Changing geocache symbols in a gpx file .....	43
Changing size of icons .....	44
Zero colour POIs (advanced) .....	45
No bitmap example: .....	45
Two Colour Blending .....	46
Preview and Undo .....	46
Apply .....	46
Batch processing .....	47
TYP files and OSM .....	48
Checking Style types .....	48
Load Style Editor .....	48
Tips .....	48
Settings .....	49
Searching .....	49
Extended Types , 0 x 100+ .....	49
Tools .....	50
Text File Errors .....	50
Most common errors .....	50
Other problems: .....	51
IMG2TYP .....	52
Creating Logs .....	52

FAQs.....	53
I've created some POIS and they don't show on my Garmin/Nuvi.....	53
My POIs show up on Mapsource but not on my Garmin/Nuvi .....	53
I've created some highways and they don't show on my Garmin/ Nuvi.....	53
Some of my polygons don't show on my Garmin/ Nuvi.....	53
Why are my pois,highways only shown on my Garmin/ Nuvi ,not on Mapsource?	53
How do I quickly change a TYP in Mapsource? .....	53
Can I use any TYP file with ANY IMG? .....	53
How do I know which types have been used by an IMG file? .....	53
How do I define zoom levels?.....	54
Which mode is best for transparency?.....	54
How do I make the city etc names larger?.....	54
Gmapsupp.img .....	55
gmp2typ .....	55
POIS+ City Navigator 2010/2013 TYP files .....	56
GPSMapEdit & TYPWiz.....	57
Exploring IMG Format.....	58
IMG Explorer for Windows.....	58
Polygons .....	60
Polygon structure:.....	60
Polylines .....	61
Polylines Basic Type Structure .....	61
POIS .....	62
POI Structure.....	62
Garmins Mapsource Product Creator .....	62

## ***Loading TYPWiz3***

TYPWiz3 should run on XP, Vista & windows 7 both 32 & 64 bit .

With windows 7 64 MSCOMCTL.OCX many need to be registered manually - see

<http://social.answers.microsoft.com/Forums/en-US/w7programs/thread/f96acaa3-90d7-437a-a9cc-9130eb17fdb4>

If you have difficulty getting TYPWiz to work you may have to right click on TYPWiz3.exe and click properties → compatibility → Windows98.

## ***What is TYPWiz3?***

With TYPWiz3 you can *quickly* edit TYP files - see Youtube.

It includes some ‘wizard’ tools to speed up and simplify the often laborious editing process.

TYPWiz3 has been developed over 3 years and is designed to cater for current GPS devices. ***Some more advanced POI features may not work on older Garmin models.***

## ***TYPWiz3 and other TYP editors***

TYPWiz3 *does not use* cgpsmapper.

It takes *full advantage of Garmin’s recent 2014 NT TYP developments, ie offering True Color POIs with 16 levels of opacity and maximum sizes of 64x64.*

As a consequence, you may find that some TYP editors are unable to accurately read TYP or TXT files which include true color pois – see pois.

Mkgmap’s TYP file compiler correctly parses TYPWiz generated text files .

## ***How do I get a TYPWiz3 Key?***

Go Registration --> Obtain Premium TYPWiz3 Licence.

Purchase is via PayPal which accepts most cards.

***You do NOT need to have a paypal account!***

1) Click the 'Add to Cart' button.

2) *We shall send you your serial number/key allowing you full access to all features within 6 hours of purchase.*

***IF YOU HAVE NOT HEARD FROM US WITHIN 6 HOURS:*** [osm@pinns.co.uk](mailto:osm@pinns.co.uk)

### **Educational & Commercial Licences**

For details contact us at [osm@pinns.co.uk](mailto:osm@pinns.co.uk)

## ***Important notice about TOPO etc TYP files***

These large TYP files have new headers, often starting with &AE – see headers.

***Always keep a copy of the original TYP file.***

## ***Before you start***

*Yes, you can change colour of your maps, the width of your highways and the icons representing your pois (points of interests)*

***BUT, you need to find the unique TYP file which comes with your img maps.***

1) If you use another TYP file, it more than likely won't work, as all highways etc in your img map have been given a unique type number, which **MUST** be found in your TYP file. The os50.typ file found on our site could work up to a point . It is meant as an example not as a working typ.

Also the FID and PID need to match those found in the img file – see later.

2) If you start from an img file with NO TYP files, you need to retrieve these unique numbers. One way is to use my **IMG2TYP** , which collects **ALL** the type numbers and creates a TYP file which you can then edit in TYPWiz3.



## ***Important notice about City Navigator 2012+ TYP files***

These large TYP files have new headers, often starting with &AE – see headers.

TYPWiz does not allow you to save using the original topo typ filename. **Always keep a copy of the original TYP file.**

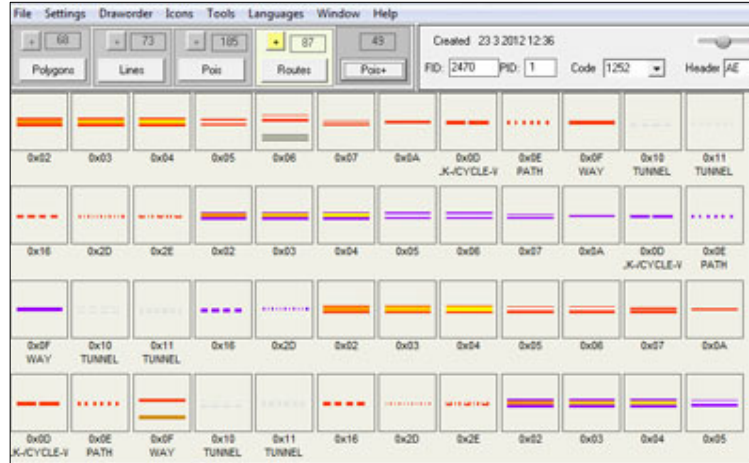
You can modify polygons and up to a point lines, but active routing (hiking/cycling etc) will currently be ignored.

You can click Tools → Show Extra POIs to see additional icons.

For more ‘see Commercial City & 2012 TYP files’ at end of this manual.  
More information is found in my TYP format pdf.

# TYPWiz4

a TYP editor designed specifically for TYP 2012/15 files.



## Active Routing

Garmin has introduced a new feature, called 'ActiveRouting'.



BEFORE



AFTER using TYPWiz4

This allows you to switch between different routing activities ,ie hiking,cycling etc . You can see its effect in Basecamp.

Unfortunately the colours are somewhat drab and difficult to see! - purple for cycling, and red for hiking, but can be edited in TYPWiz4 which should be available summer 2013.

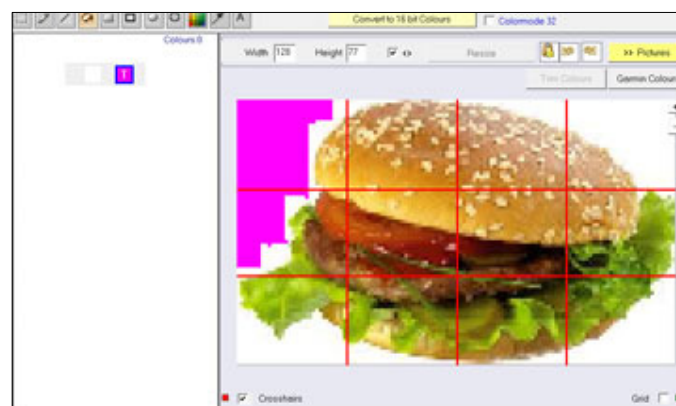
## Extra commercial & building pois

In addition, City Navigator TYP files contain extra pois - see POIS+ City Navigator 2010/2013 TYP files - used to show important buildings or hotels etc. These can also be edited.



## Editing True color pois

TYPwiz4 enables you to import and edit true color pois.



## ***FREE Mapuploader 2***

With this most popular GUI you *can create your own img maps* from Openstreetmap FREE data . Imagine having free maps of your own country!

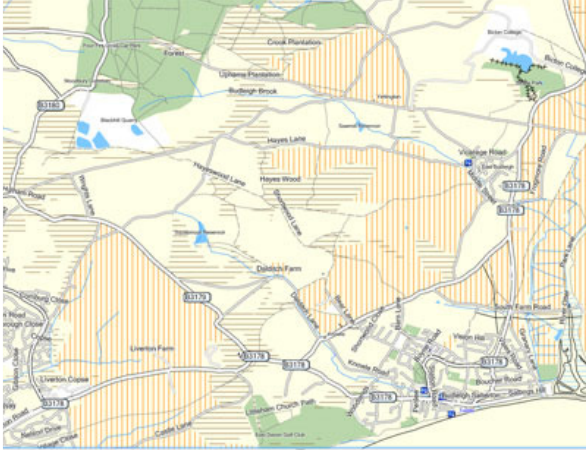
For more details see :

[www.pinns.co.uk/osm/mapuploader.html](http://www.pinns.co.uk/osm/mapuploader.html)

or search Youtube.

## What are TYP files?

A few years ago, Garmin introduced a new TYP file format to make their maps look more readable. This was a big step forward – at long last, you were able to distinguish between, say, different types of track, and 'incredibly', woods were not just faint horizontal lines – see 'before & after' pictures below.



Garmin's default, NO TYP, map



Highways are much clearer.  
Blue dotted cyclepaths are now visible.  
the Golf course doesn't look like a wood.  
by design, 'farm polygons' have not been rendered

So, with a TYP file you can decide ***which elements are shown and how***.

TYP files cater for POIs (points of interest), highways & other lines and polygons.

Each element has a unique type number (ie 0 x number) and although you can play around with the numbers, it is generally *advisable* to stick to Garmin's list.

If your TYP file does not include a particular poi, highway or polygon, it more than likely won't appear on your Garmin *unless it can use its own default icon*.

Again, it seems that *not all Garmin devices behave the same* – so there are no hard & fast rules.

TYP files make a big difference. However, many of us want to customize these files to suit our own personal needs; walkers and cyclists generally do not share the same interests and ensure their maps highlight different features.

Unfortunately, customizing TYP files, given many current TYP editors, requires a great deal of time and effort: often, you have to enter pixels, one at a time and there is no way of copying and pasting images.

This manual will show you how to:

- 1) Create your TYP file
- 2) Send your TYP file to your Garmin Device

## ***Languages***

TYPWiz3 is written in English but supports different languages.

From the main menu select Language → French etc

You need to restart TYPWiz when changing INTO English.

All language files are and should be placed in the 'languages' folder.

Please feel free to change any translation.

Download the French.zip file and modify contents accordingly.  
Save file as <mylanguage>.lan , ie greek.lan and place in the languages subfolder of TYPWiz3.

*Contact us if you are willing to share your file.*

## **Commands**

```
[command]=[translation] # [ English equivalent]
mfile=Fichier#File
mnewtyp=Nouveau#New
mopentyp=Ouvrir TYP#Open TYP
etc
```

## **Messages**

```
[number] : [ translation ] # [English equivalent]
```

```
3:Pas de données#No Data
```

Please note:

- Message Numbers shouldn't be changed.
- Message Numbers are followed by a single colon ' : '
- Length of Text ideally should not be longer then English equivalent

TYP converted to TXT retains English Command vocabulary

## How do I send TYP files to my Garmin?

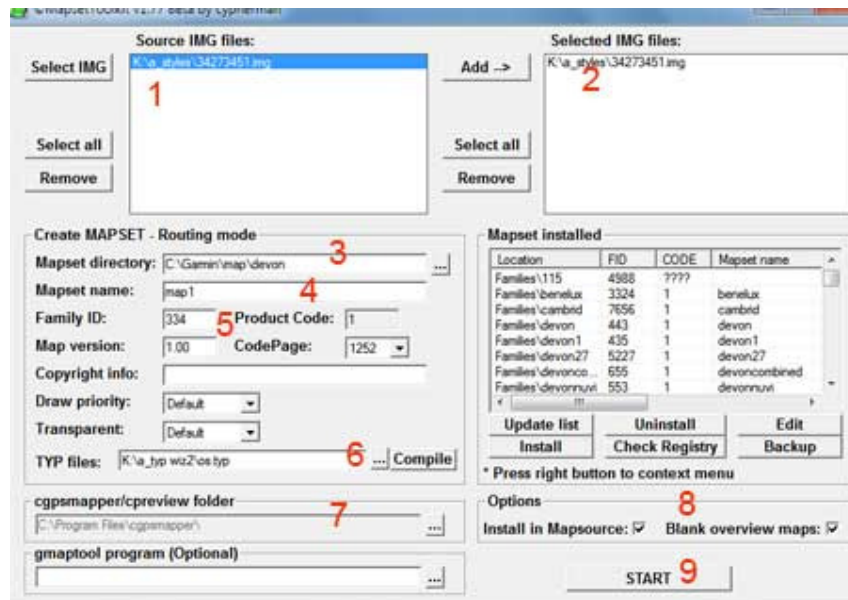
A TYP file gets bundled in with Garmin img files into **one** file called gmapsupp.img – multiple TYP files are NOT allowed. If you save a TYP file onto your Garmin it won't work – it has to be included in a gmapsupp.img - see section on Gmapsupp.

Next, you upload this gmapsupp.img to your Garmin.

This is done automatically if you use Mapsource. If you do not have a copy of Mapsource you can use *Gmaptool*.

### Mapsource/Basecamp

One way is to use a very useful program ,readily available , called MapsetToolkit. This program allows you to select your IMG file(s) **AND** TYP file.



- 1) Select IMG file(s)
- 2) Click Add
- 3) Select a folder , must show path , ie c:\garmin\maps
- 4) Give it a name
- 5) Enter new FID number for each map – see FID . Leave Product Code to 1
- 6) Locate your TYP file
- 7) Locate cgpsmapper.exe ( free download) , ie c:\program files\cgpsmapper
- 8) Tick 'Install in Mapsource' and 'Blank overview maps'
- 9) Click START Click "Yes" if prompted.

After a few seconds it will be installed.

I've written a GUI, **MapsourceUploader2** ,which makes the process somewhat easier if you are using OSM maps.



Once uploaded to Mapsource you can send it to your gps unit – follow Mapsource’s instructions.

### **Gmaptool**

With this useful tool you can create a gmapsupp.img by joining your TYP & IMGs. For more information see my img2typ manual.

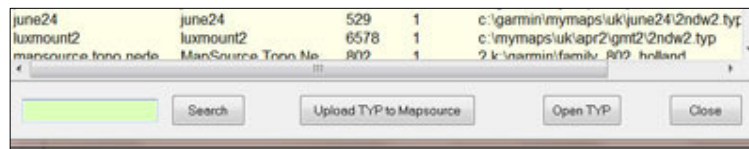
### ***How do I extract TYP files from my TOPO IMGs?***

From the main menu go Tools --> Extract TYP file from Gmapsupp. It loads *gmp2typ* which comes with the latest setup.

### ***How do I extract TYP files from my Mapsource / Basecamp Maps?***

From the main menu go Tools --> TYP files from Mapsource Maps and click on one of the TYP files. If the TYP file does not match the FID used by Mapsource the message 'FIDs clash . Correct this?' appears. By clicking OK you change the current TYP file's FID , matching the one held by Mapsource. It is important to keep both FIDs the same.

Use the search button to look for a map then click Open TYP.



### ***How to add a TYP file to a map which does not have a TYP file.***

Some maps do not come with a TYP file.

Load a suitable TYP file (use IMG2TYP ) then go Tools --> TYP files from Mapsource and click Upload TYP to Mapsource / Basecamp.

Your TYP file will acquire the appropriate properties and added to the registry.

### ***FAQs***

Why don't my POIs , highways show up on my Garmin?

What about Nuvis?

We've put various FAQs at the [end of this manual](#)



## ***TYP Format***

*TYPWiz* was produced as a result of unravelling the TYP file structure - details can be found on [www.pinns.co.uk/osm](http://www.pinns.co.uk/osm)

## ***Updates***

The program is updated regularly with new features or bug fixes.

By sending an email to the address found on the *TYPWiz3* download page you can obtain the latest *TYPWiz 3* and are guaranteed future updates.

## ***Loading the program***

When clicking on the *TYPWiz3* shortcut you may have to run it in XP mode.

Right click on the shortcut , select Properties, then click on Compatibility tab and tick the Run this program in compatibility mode: Windows XP (highest service pack).

## ***Loading TYP Files***

From main menu select File Open. Recently Garmin has introduced a new TYP file format which caters for 64 x 64 commercial POI bitmaps . TYPWiz3 supports true color pois. - for more information see my TYP Format.

*You can also drag & drop TYP files on to the main window.*

## ***FID & PID***

These define the family & product id of your map; they are shown at the top and can be altered; however, **it is recommended you leave the PID as 1.**

FID's can have 5 digits with max value of 65535.

**It is essential that FIDs and PIDs match those required by the IMG file.**

If you create a TYP file for any (TOPO) IMG make sure the FID and the PID of your TYP file **are the same** as contained in the IMG.

MapsetToolit will automatically do this for you when uploading to Mapsource.

## ***Codepages***

This option enables you to select your character set.

<b>code</b>	<b>language</b>
1250	Central & Eastern European
1251	Cyrillic, mainly Slavic
1252	West European
1253	Greek
1254	Turkish
1255	Hebrew
1256	Arabic
1257	Baltic
1258	Vietnamese

## ***Headers***

Headers are set to &5b but this can be altered in Preferences.

It is our advise to not change the headers. When starting a new TYP file,*nothing is gained by changing your header to &6E,&9C etc.*

When increasing headers you are preparing your typ file to include additional information, such as extra labels,icons or active routing.  
Such information cannot be supplied by a typ editor as it depends on the IMG file.

***If you lower NT 2012 header sizes ,you may lose a great deal of information!***

There is no need to lower the header sizes ,unless you desperately need to reduce the size of your typ file!

Header Size	Information
5B	Basic entry
6E	Extra icons if any
9C	Extra POI Labels
A4	Indexing a selection of POIs
AE	Active Routing

The larger the header the more information it contains; however ,imgs not created by Garmin , at present , are unable access such additional information.

## ***Load Options***

You can filter out elements by deselecting options. They only apply when you load TYP files

examples:

- 1) To ensure all line night versions are filtered out, untick the night option below 'Lines'.
- 2) If you wish to import , say POIs, from one typ file into another, then deselect lines and polygons and load your TYP file. Now save them as a txt file. Once saved as a txt file you can merge them into another txt file taking care only to delete any [ ] which does not contain [ \_point]

# Preferences

Click Settings → Preferences

The screenshot shows the Preferences dialog box with various settings and annotations:

- Background Colour:** A color selection box with an "Edit Colour" button. Annotation: "Change your background colour".
- Language on Labels:** A dropdown menu showing "0x00 unspecified". Annotation: "Change preferred language".
- Label Options:** A dropdown menu showing "Type & Text". Annotation: "Change font".
- Label Font:** A dropdown menu showing "Arial". Annotation: "Show an element's Font Colours on thumbnail labels".
- Label Font Size:** A text box showing "8".
- Show Font Colors:** A checked checkbox.
- New Polygon from 0 X:** A text box showing "001".
- New Polyline from 0 X:** A text box showing "001".
- New POI from 0 X:** A text box showing "060".
- Default POI Size:** A text box showing "32".
- Icon Custom Size:** A slider control.
- Show Errors:** An unchecked checkbox.
- Show Offsets in TXT:** A checked checkbox.
- Polygon Auto Tiling:** An unchecked checkbox.
- Default Header:** A dropdown menu showing "5B".
- Overwrite TOPO files:** An unchecked checkbox.
- Enable Logs:** An unchecked checkbox.
- New Log for Each Day:** An unchecked checkbox.
- Mouse Scroll Sensitivity:** A text box showing "99 %".

Annotations on the left side of the dialog box:

- "In overview show :
  - **text** (Highway)
  - **text & types** (0x12 Highway)
  - **types** (0x12)
- "Change font size"
- "Types numbers for all new Polygons, linesPOIs start from this value"
- "All new POIs are: (32 x32)"
- "For slower machines set value to say 50%"

## Set default language

You can set the default language string for all your thumbnails.

If the default language string is not found, the label of a thumbnail displays the unspecified or final language string entry encountered , ie 'vodni mlyn'.

## Thumbnail label properties

You can select to show text and type separately.

You can also change the font name and size of your thumbnail labels.

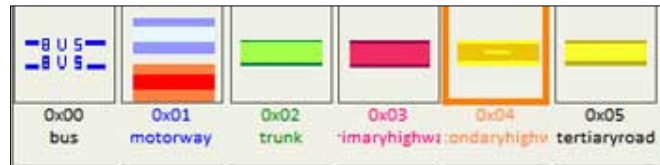
## Change Background Colour

You can change the background colour by clicking on Edit Colour. Colour preference is saved automatically.

### Show Font colours on thumbnail labels

Thumbnail Labels for Polygons and POIs are given a day or night colour, if available.

Day colours are used for Lines.



### New POI, Polygon or Lines from 0 X

New elements are calculated from this type value .

Enter a hexadecimal value between 1 and 1FF depending on element.

The program automatically checks if a type number exists.

### Use default Header

TYPWiz3 uses &5B as a default header. Headers are shown on status panel, bottom left of main screen. Ticking this option will force the program to save a TYP file using 5B as a header.

### Saving Preferences

Tick 'add twz to filename' if you wish to keep your original typ file .

### Polygon Auto Tiling

Deselect this option if you do not want to your changes to be updated in the preview shape.

### POI Edit Picture size

This feature has been introduced to cater for pcs with a limited memory capacity.

Set value to 90 /80 if you find there is insufficient memory to import pictures.

### Associating TYP files

To ensure TYPWiz3 loads a TYP when double clicking on it, the best way is to right click on a TYP file ,select Open and locate typ\_wiz3\_5.exe .

### Mouse Sensitivity

Some slower PCs may require the mouse sensitivity to be set at a lower level , ie 50%.

To ensure smoother scrolling, set value to 100%.

## ***Loading Text Files***

You can load text files provided they conform.

(The online typ editor does not cater for pois with levels of opacity or truecolors causing unexpected results with its decompiled text files)

Caution: if text contains errors , some elements will be displayed wrongly. Should this happen it is prudent to double click on the offending element,edit and press OK.

For more information - see **TextFile Errors**.

*Note: when more advanced POI options are included, other editors may struggle to read the txt file correctly,with one exception: mkgmap TYP compiler.*

## ***Loading MapTK prj Files***

From Main menu select Files --> Open txt/prj

Caution: MapTK offers limited TYP options. It does not handle nightversions,truecolor, alpha colors etc.

It is best to use prj files created by your self, rather than prj files generated using the 'TYP analysis' option . Problems tend to arise when parsing POIs created by other TYP Editors and reimported into MapTK.

## ***Saving TYP Files***

Click Save TYP to save typ file. TYPWiz3 adds twz if you prefer to keep the original – this can be unticked , see preferences.

A ‘permission denied’ error message appears when the current TYP file is used by another program, ie Mapsource or Basemap. Close ‘offending’ program and save again .

## ***Saving as text***

Save your work as a text file so it can be loaded into your favourite compiler – however there is at present only one compiler which can parse truecolor POIs with colormode 32, showing degrees of opacity , ie mkgmap.

By design, pois are **not** saved as colormode 0 .

*Caution: always create a backup of your original txt file if it hasn't been generated by TYPWiz. Like other editors, TYPWiz creates its own textfile.*

## ***Save a Copy as***

Use this option to create a backup file.

## ***Save Picture***

Select this option to create a snapshot of current thumbnails.

## ***Print***

Print gallery of current thumbnails.

## ***Getting started***

Download the OS.TYP file from [www.pinns.co.uk/osm/TYPWiz3.html](http://www.pinns.co.uk/osm/TYPWiz3.html)

Click on Polygons, Lines & POIs buttons to display thumbnails.

Click on each icon to reveal text code & double click to enter editor.

## ***Show / Hide Text Code Panel***

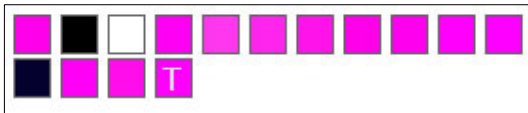
If you want a larger screen to display your elements you can hide the text code panel .

From main menu go:  
Window → Hide Code Panel or  
Window → Show Code Panel.



## ***Transparency***

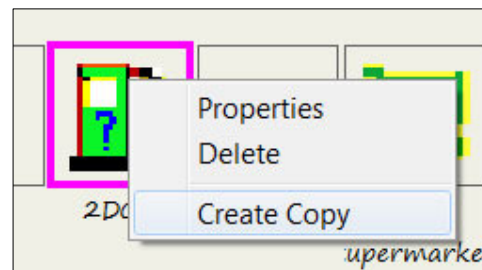
The editor shows transparency as magenta; if the palette does not include transparency a 'Make Transparent' button appears, top right. The element must contain a bitmap. This button is not be shown in colormode 32 as transparency is done using alpha=15 – see later.



To avoid confusion with other possible shades of magenta, a T in the box indicates colour used for transparency.

## ***Copy a Polygon, Line or POI***

Right click on the icon and select 'Create Copy'



## ***Undo and Redo***

It is only possible to undo or redo the pattern of a bitmap, **NOT**, the colour or size or anything else . So, the current palette may change when pasting an image!

You can also click CTRL Z to undo or CTRL R to redo.

## ***Import Pictures***

To import a picture click the cream coloured 'Import Pictures' button.

You can also select an area using selection tool or click CTRL A to select the whole area . Next, from the Editor select File → Import Picture

TYPWiz automatically optimizes the palette to the maximum colours allowed. Works best with POIs.

*Reduce the Edit POI picture size in preferences if you encounter problems.*

**There is no need to resize your pictures to say 32x32 or to reduce your number of colours to say 240!**

It is better to use the copy and paste method when importing into 2 colour elements, ie polygons and polyhedrons.

## ***Select Area to copy and paste***

Use this tool to select part of your bitmap. Key in CTRL A to select all.

Press ESC or click on frame surrounding bitmap to cancel selection.

Selections at present do not work with the 'Fill' tool.

## ***Copying & Pasting***

You can copy from one TYP file to another, or just copy an image from say the internet.

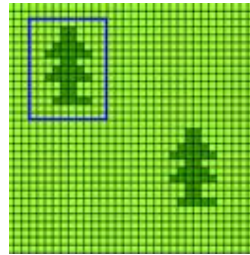
- 1) Use selection tool to select an area .
- 2) (press CTRL C to copy selection into memory)
- 3) Enter CTRL V to paste copied area.
- 4) Double click on pasted area to stamp into bitmap.

You can copy bitmaps from the internet or copy polygons etc from one TYP file to another. When pasting , TYPWiz optimizes the palette to its maximum colours.

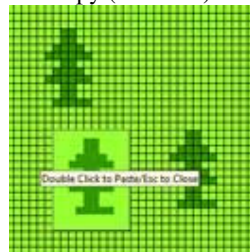
When pasting into 2 colour elements (polygons & lines) it reduces the palette to the 2 most contrasting colours.



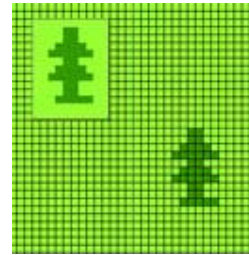
## *Use selected area as a stamp*



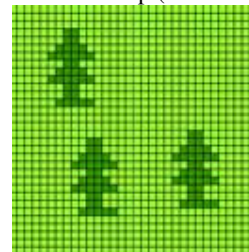
Draw around shape and copy (CTRL C)



Drag and move



Paste into blue rectangle to create a stamp (CTRL V)



Double Click (on selection) to Stamp  
Press ESC close selected shape

## *Editing tools*

This type editor uses various tools to speed up the editing process.  
Right Click or press Esc to cancel

### **Pencil ,Lines, Rectangles & Ellipses**

You can draw lines,rectangles & ellipses or enter one pixel at a time.  
You can draw rectangles or ellipses as outlines or filled.

Please note that . when rendering lines, ellipses or text, the result is affected by the number of pixels in a bitmap, ie the width and or height. You may have to select the pencil tool obtain the required effect.

### **Fill**

This option fills a region with your selected colour. Use CTRL Z to undo.

### **Select Colour**

Use the pipette tool to select a colour from your bitmap. The selected colour is highlighted in your palette.

### **Horizontal & Vertical Mirror**

Click these buttons to mirror the current bitmap . This also applies if you select part of an image using the select tool and paste an image, ideal for polygons.

**Rotate by 90°**

You can rotate by 90° the whole image or a bitmap pasted into a selected area. Click on the rotate button at the top.

**Add a colour**

This option is only available when additional colours can be added. Polygons and Lines are limited to 2 colours , day and / or night.

**Clear bitmap**

Select the 'fill' colour and from Menu go File → Clear Icon

This option does not apply to non bitmap lines.

**Add Text**

Text or individual letters can be added in any font, **bold** or *italic* when available .

Double click to paste onto bitmap. Try different symbol fonts or font sizes.

For best results we recommend a bold font type and font sizes higher than 150.

Right click and select 'Close' to return to Pencil Tool.

## Colour Control

### Changing Palette Colours

You can change your palette by **right** or **double** clicking on a palette colour.

You can also enter a hexadecimal number , right click and select ‘ Enter Hex Colour ’ followed by ENTER – ie FFA000 , no need for # or &.

Click frame to cancel.

### Change colours of grid or crosshairs

Click on the small square next to grid or crosshairs and select a colour

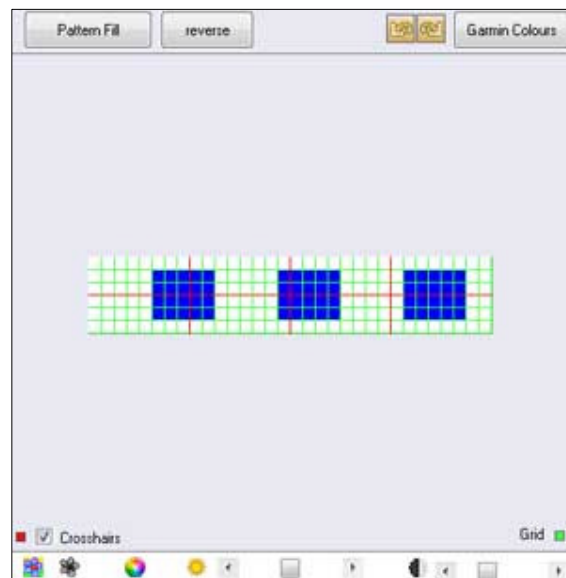
### Pattern Fill

Pattern fill applies to polygons or lines only.

It might be an idea to change the default grid colour to say green to highlight the crosshairs.

- 1) Select as small area as a pattern .
- 2) Click Pattern Fill button to tile the whole **polygon or line** with this pattern.

With this tool you can create amazing patterns very quickly and help you obtain regular patterns for your highways.



### Brightness Control



You can alter the brightness of your image by using the slider. The trim colours option will be disabled.

### Contrast Control

You can alter the contrast of your image by using the contrast slider. The trim colours option will be disabled.

Tip: Darken the image then apply contrast.


### Black & White Control

Click the black and white icon  to turn your image to shades of grey. Click colour icon  next to it to return to colour and *reset brightness ,contrast and hues values.*

### Hue , Brightness & Saturation

Click  to adjust colour hues ,brightness and saturation of an image.

## Colour Balance

Click  to adjust Colour Balance



Black and white are not affected.

*TIP: If you want to keep your whites make sure its 100% white. If in doubt change it to white .*

## Change Grid colour

Click on the colour next to 'grid' and select a different colour;colour will be saved.

## Type numbers

Type numbers are always expressed in hexadecimal , ie dec 10 = A , dec 15 =&1F. The highest *subtype* is &1F and **NOT** &FF as you would expect as it's the maximum value a byte can have – for more info see my **TYP Format**.

Types can be up to &2FF for POIs and &1FF for polygons and lines.

Elements with number values of &100+ are called 'extended' – see Extended Types and a list of Garmin's extended POIs .

## ***Levels of Opacity (alpha values)***

Mapsource and Basecamp are capable of showing pois with degrees of opacity. Such POIs are saved in 32 bit colormode.

Unfortunately, most GPS units ,it seems, only show opacity with alpha values 0 or 15.

First, convert your poi to 'true color' by clicking 'Convert to True Colors'

Next, check colormode 32 option to reveal 16 levels of opacity (0-15) and two new tools, coloured pink.

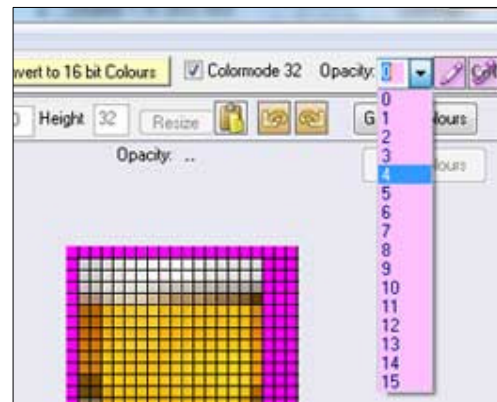
Note: alpha value 0 means totally opaque , 15 totally transparent.

### **Give Pixel Opacity**

This gives selected pixels an opacity value.

First, select a value from the opacity dropdown menu, ie 11.

Next click on pink pencil then select a pixel of the poi. When you hover over the image, you should see the opacity value of that pixel.



### **Give Same Colour Opacity**

This option is more commonly used ; it gives opacity to all pixels of the poi with the same selected colour. You can check this by moving your mouse over the image.

Unfortunately, not many gps systems seem to cope with degrees of opacity, but you can see the effect in Mapsource or Basecamp.

Note: POIs can not be edited in true color, so click 'convert to 16 bit colours', make your changes, then click 'convert to true colours'.

## Polygons

To see all the polygons click the polygons button.

Polygons are labelled showing draworder & type ,ie 3 0x10B03

Pasting onto bitmaps has been disabled as most clipboard images have more than 2 colours.

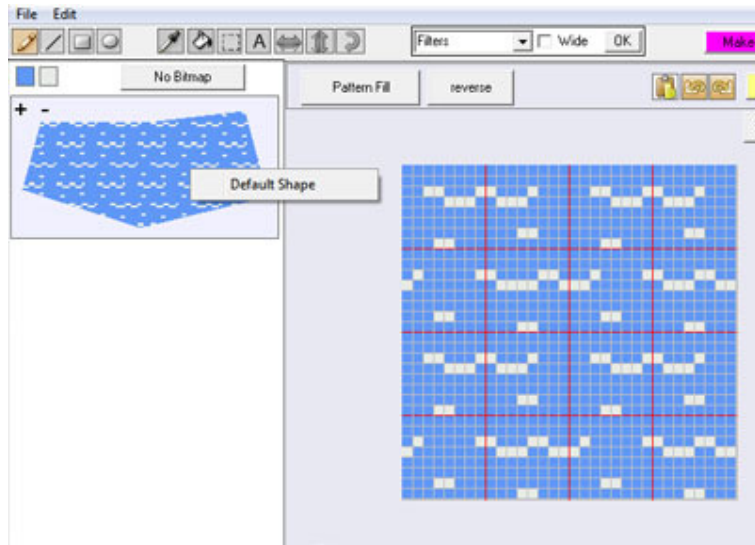
### Preview tiled polygons

It is often difficult to imagine how a polygon is tiled over a larger often irregular area.

Customize the area by left clicking near a point or right click and select 'Default Shape' to return to it's default shape.

Shapes are saved for future use.

Click the + and – sign to zoom in or out.



In preferences you can deselect the Polygon Auto Tiling option.

### Adding & Deleting

To add a new polygon , click the + button below the polygon button.

To delete right click on a thumbnail and select delete.

To delete a night version, click on its 'day' version and untick the 'night colours' option. All new elements are given a unique type which you can change using the editor.

Any new polygon with a draworder has to be sorted – this may take some time if you have 100+ polygons. This only gets done once.

You may also wish to check if you have collected 'empty' draworders/ placeholders – see Bulk Deleting of 'empty' placeholders.

When you delete a polygon , by design TYPWiz3 does not remove the placeholder.

## Draworder

Polygons can appear at different levels . The higher the number, the higher the level. An incorrect draworder may lead to a polygon being obscured by another, ie buildings , generally 0 x 13, could be hidden by another polygon (ie residential).

Polygons are shown in the order they appear in the polygon data block, which may not correspond to the draworder block – see my TYP format.pdf

Draworder number is shown before type: ie 3 0x13. Some may not have a draworder! To remove a polygon's draworder go → Draworder →Edit Draworder from the main menu – see below.

Polygon's without draworder will not be rendered, whereas those included in the draworder list but not created/defined by the user ,will by rendered using a Garmin default if there is one! These 'empty' polygons are known as placeholders.

Note: **Polygons with type &100 (with or without subtype) do not have a draworder. There are others ie 13508 which not only have no draworder, but colours could appear inverted as well for no apparent reason !** They could be reserved for marine charts. Their behaviour is still to be investigated.

**In all fairness, solid polygons should not overlap ; the reason they do is often due to poor mapping data.**

*To create a placeholder enter the editor and set draworder to 'none'.*

Note: **draworders for polygons must be sequential , without 'gaps'.**

So, if you insert a new polygon with draworder of 8 it gets reset to one above current highest level( ie 3)

Not:

Polygons	0x1	0x2	0x3	New 0x6
Draworder	1	2	2	8

But

Polygons	0x1	0x2	0x3	New 0x6
Draworder	1	2	2	3

### Error message 'draworder?'

The error message 'draworder?' appears if no draw order was found for a specific polygon. Use the editor to add a draworder.

### Editing,Adding and Removing Draworder

Some TYP files contain additional draworders used as 'placeholders'. You can add,edit or remove draworders using the draworder menu at the top of the main screen. Polygons are NOT deleted when removing draworders.

Use the Add option to add a placeholder.

### Search for a type number

Enter type number ; ie 023 or 10342 and scroll up or down to locate draworder. This feature is useful when you have lots of polygons.

### Bulk Deleting of 'empty' placeholders

Go Draworder → Redundant draworders

There are times when it is more convenient to remove placeholders which have no matching polygons. This can happen when you delete polygons **and forget** to remove the draworder. A whole list can build up ; most of us do not require such empty placeholders.

Removing them reduces the time it takes to sort new polygons. In addition, it reduces the size of your TYP file.

By default all empty placeholders are selected.

Unclick any which you do NOT want to remove, ie

in our example 0x10813, 0x10816, 0x10816 and 0x1EF08

Click Remove Selected.





## Filters

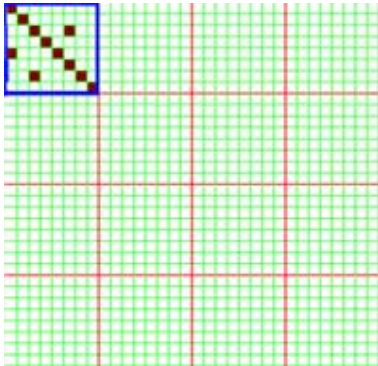
Filters are available to produce different background textures. Current filters are:

"Random"  
 "Vertical"  
 "Horizontal"  
 "Diagonal left"  
 "Diagonal  
 Right"  
 "Mesh"  
 "Squares"  
 "Diamond"  
 "Chess"  
 "Wave  
 horizontal"  
 "Wave vertical"  
 "Wave both"

Check or uncheck the 'wide' option *before* you select your filter.

Click the OK button to affect change.

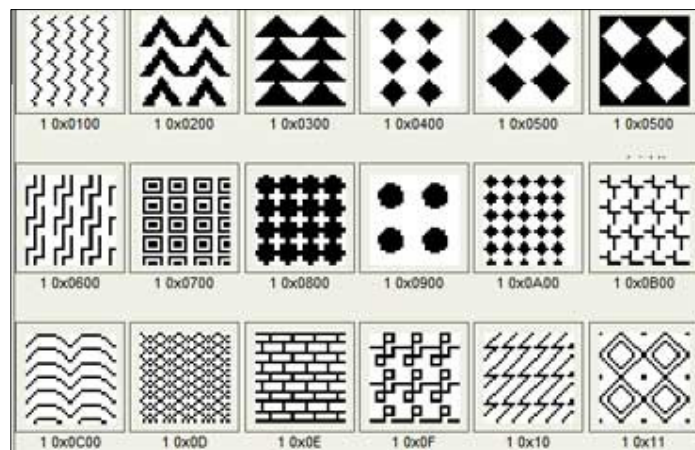
## Pattern Fill



1) Select as small area as a pattern .

2) Click Pattern Fill button to tile the whole **polygon or line** with this pattern.

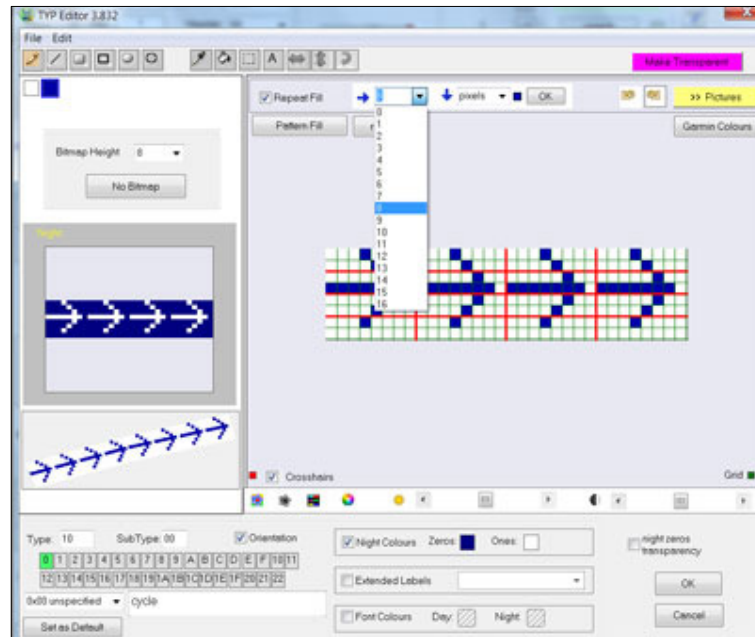
You can download the pattern.typ file from [www.pinns.co.uk/osm/TYPWiz3.html](http://www.pinns.co.uk/osm/TYPWiz3.html)



## Repeat pixel fill

Tick Repeat Fill to create your own patterns - applies to lines and polygons only.

Click OK to apply.



## Night colours

Many new GPS devices seem to ignore night colours altogether except nuvis or when your gps is in nautical marine chart mode. Tick Night Colours.

Click 'Night Zeros Transparency' to ensure all bitmaps 'zero' colours are transparent

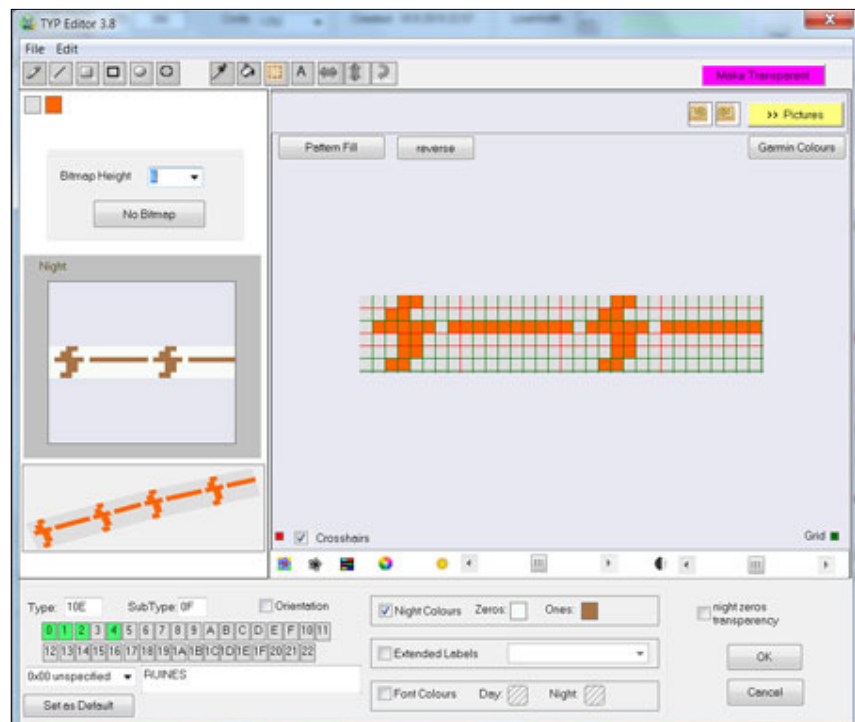
## Text

Select a language and add text; you can select multiple languages.

You can set your default language by clicking the Set as Default button.

Highlighted in green are the language numbers associated with the labels attached to the element currently edited.

Click on the green to show the label.



## ***Extended Font styles & font sizes***

You can change the font styles of your tag labels. Fundamentally, they are like font sizes.

Garmin Options are:

- Default
- No label ( this makes a tag label invisible; ie the operator/brand name is often obvious - Shell,Esso. However, most garmin units may by default suppress the labels,unlike mapsource or basecamp )
- Small Font
- Normal
- Large

This works for most gps models – nuvis tend not to show labels.

## ***Custom Font Colours***

To change the default day and night colours of tag labels click Font Colours and double click on a day or night colour. In theory,you can alter the default font colour even when a no label option has been selected.

You can see the effect in Mapsource & Basecamp.

Oregons/Dakotas etc tend to override this option except when rendering polygon texts and highway or route references.

## Transparency of polygons

Bitmap polygons can have transparency.

Click 'Create Bitmap' to create a bitmap polygon.

Only the background colour, ie the first colour, can be transparent, unlike lines.

This is no problem if your background colour happens to be the first colour.

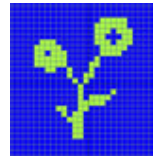
If it isn't, then in the past you had to redraw your polygon!

However, there is now a work around by clicking the 'reverse' button after making the first colour transparent. See below.

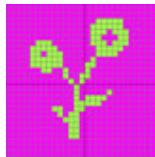
## Reverse colours



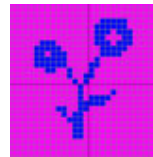
Original : blue is bk colour!



Click 'reverse' button



Make bk colour transparent



Make forecolour blue

## ***Lines***

To see all the lines click the lines button.

Lines are by default labelled showing type & description, ie '0x0E , Track'. This can be altered in Preferences.

Lines should not have types between &40 and &FF as these are reserved for one way systems, ie type 0x41 refers to a one way case of type 0x1 , 0x49 to a one way case of 0x09.

Pasting into bitmaps has been disabled, as most clipboard images contain more than 2 colours.

There are basically 2 kinds of lines:

### **a) Non-bitmap Lines**

Main highways are generally of this type. A line's width is defined by line & border widths.

Lines can have zero borders and have a zero width ; this creates a transparent non bitmap line . Transparent lines are useful for various reasons: eg if you make a transparent line routable it could serve as a routable basis for other highways. Non-bitmap transparent lines are , in theory, quicker to parse.

Borders do not need to be black! They can be any colour.

You can increase or decrease multiple linewidths by clicking +1 or – 1 button at the top -zero linewidths are not affected,.

Caution, large linewidths take longer to process on a GPS and check pylon and contour widths – it's better to keep the 'length' at 1 unit.

### **b) Bitmap Lines**

Use this option if you want to say draw footpaths,tracks,embankment, one way systems or anything which includes transparency ,ie when one colour is made invisible.

TYPWiz3 renders all know lines,both bitmap and non bitmap.

### **Orientation**

Check this option to enable orientation, bitmap rotation. Lines are drawn the direction they are plotted. It has to be said, that most modern gps devices have this option set by default! Non bitmap lines should have this unticked.

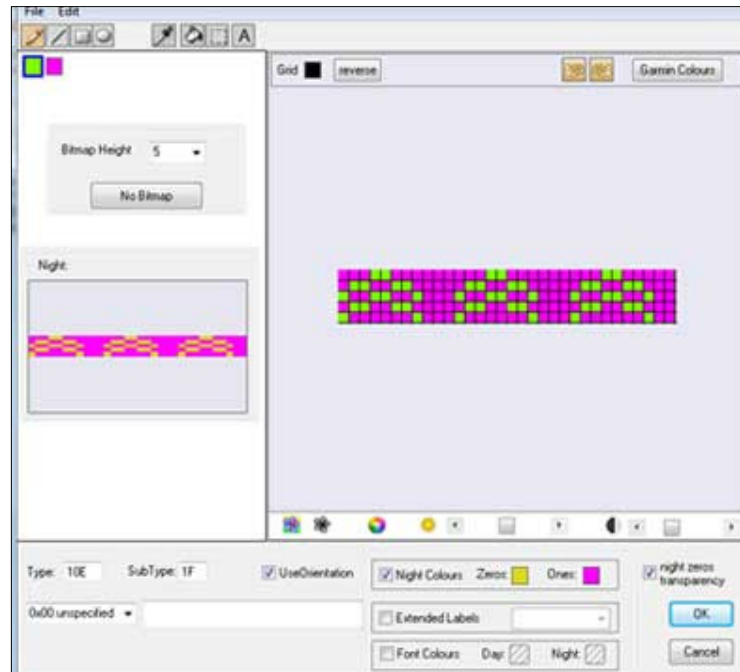
## Night Colours

The following applies to bitmap lines.

To include a different colour scheme for your unit to be used at night , depending on model, click Night Colours.

Note: both day and night versions use *one and the same* bmp.

Click Night zeros transparency to add transparency to all zero values in your bitmap – check text code.



## Extended Line types 0x100+

You can create special overlay effects by using extended types 0x100+.

For example, highways can have bridges; you could have a different ‘bridge’ line for each highway with types <100 or create just one universal bridge with transparency which can be placed on top of the highway. However, it should be said that draworders of lines are in general not supported.

Line Types can have a maximum of 0x1FF with subtype &1F.

TYPWiz3 does not support lines < 100 with subtypes.

## Reverse button

To swap foreground and background colours click ‘reverse’.

Note: this also applies to night versions.

## Copying & Pasting

Select the whole bitmap (CTRL A) or a smaller area using the selection tool and copy or paste your image. Remember, bitmaps can only have 2 colours.

## Draworder of Lines

Strangely, *Garmin does not allow you to edit or stipulate the draworder of lines* , unlike polygons.

As yet, there is no block in the img or typ file reserved for such a purpose.

To some extent ,the lower the typ number the higher the draworder - this applies to lower numbers (0x1 - 0x4) only and depends on your gps model!

To ensure bridges are rendered at the highest level, they need to be placed in a separate img file with a high priority, ie 27.

### **Resize Lines**

When changing the width of bitmap lines , bitmaps are automatically resized - detail may disappear when reducing width.

## ***POIS***

Click the POIs button.

POIs are labelled showing type and label ,ie 1201 , Traffic Lights. Again, change default settings in Preferences

### **Adding**

Click the + button below the POIS button and select size of length and width, with a maximum of 64.

### **Deleting**

Right click on a bitmap and select delete.

### **Copying POIs**

Right click on bitmap and select 'Create Copy"

### **Borrowing bitmaps from another TYP file**

Use the select tool to draw an area or select all (CTRL A), followed by CTRL C.

Right click and select Copy or enter CTRL C.

Next, load a different TYP file and select all or select an area paste ( CTRL V) your previous selection into a poi bitmap – see below.

### **Pasting Bitmaps**

Select an area and click the Paste button or enter CTRL V.

You can copy bitmaps from say Google and paste them onto a POI. It will automatically reduce its colour palette and resize to your bitmap dimensions, if necessary. However, remember that your colour palette will change and cannot be retrieved by clicking the undo button.

### **Night BMP**

Some GPS models are capable of showing 16 bit night pois.

Click ‘Has Night BMP’.

Garmin does not allow day and night dimensions to be different; so, if you change the width of your day poi, *TYPWiz* automatically adjusts the width of your night bmp. Day and night bmps do not have to share the same bitmap or number of colours. If you click ‘Has Night BMP’, *TYPWiz* will copy the current bitmap to your new night poi. Click on the night bmp to edit.

You can also tick the ‘night bmp’ option when you create a new poi.

To delete a night poi enter the day poi and untick ‘ Has Night BMP’

### **Resizing Night POIs**

Untick the ‘Has Night BMP’ , then change width/height ;finally reselect ‘Has Night BMP’ and click OK.



### **How to make your POIs bigger or smaller**

Often, we feel that some POIs are either too big or too small.

Enter new width or height and click 'Resize'

A poi is set to resize itself proportionally.

If you didn't want this to happen untick the box next to '< >'

### **POI zoom**

Click + or - buttons on right of poi to increase or decrease POI picture when editing

### **Deleting unused colours**

Click 'Trim Colours' to discard colours not used in the bitmap but listed in the xmp.  
This can not be undone.

### **POI number of colours & True Colours**

TYPWiz3 supports colormode 16 pois with up to 254 colours up to 64x64.  
Most pois of in any TYP file are of this genre.

However, if you want more colours there are 2 options:

- 1) true color with colormode 16
- 2) true color with colormode 32

### **true color with colormode 16**

You can have as many colours as you like

When editing true colour POIs you must convert the bitmap to 16 bit first – click on 'Convert to 16 bit Colours'. Once edited, click on the True Color button

### **true color with colormode 32 - opacity**

TYPWiz3 supports degrees of opacity for true colors.

## POI colormodes

Typwiz3 supports all 'colormodes':

Colormodes	transparency	opacity	truecolor
Colormode 0			
Colormode 16	√		
Colormode 32		√	
Colormode 0			√
Colormode 16	√		√
Colormode 32		√	√

Colormodes are not to be confused with the 4<sup>th</sup> number in an xpm which stipulates the number of characters needed to define a pixel.

16 16 250 1 Colormode 0  
 16 16 250 2 Colormode 16  
 16 16 250 1 Colormode 32

If your Garmin gps does not support levels of opacity then stick to colormode 0 or 16.

*To minimize TYP files, TYPWiz 3 saves non truecolor POIs as colormode 0 if no transparency or opacity is found.*

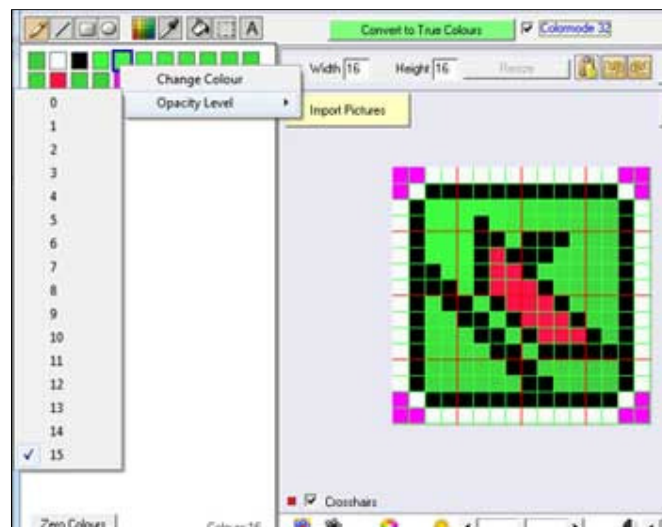
### Colormode 32 POIs (non truecolor)

Tick the 'Colormode 32' box, then right click on a palette colour (left of icon) and wait for the popup menu.

Select Opacity Level.

Note, all pixels with this colour will acquire the set opacity.

As stated earlier, the effect will be visible in Mapsource / Basecamp ; most gpx units do not parse alpha values 1-14.



To return to colormode 16 unclick the Colormode 32 box.

## Garmin Colours

The editor enables you to find the nearest match to the rather limited Garmin Palette. This is only useful for older Garmin models.

## *Saving POI as bmp*

### a) for nuvi

Nuvi owners can use Garmin's POI Loader to upload poi details & icons. To help you create correctly dimensioned icons double click on a POI and from the Editor select File → SAVE as POI BMP. Ensure the bmp has the same title as the folder.

Those of you who use osm data can use [nuvi osm2pois](#) , a gui which enabled you to select pois and send them to your nuvi.

### b) for waypoint symbols

All you waypoint symbols are stored in:

My Documents\My Garmin\Custom Waypoint Symbols.

The are numbered 000.bmp , 001.bmp etc up to a max of 063.bmp and have sizes of 16x16 and 24x24.

Create a new poi size 24x24 and click the yellow >>Pictures button . Point the the above named directory and click on a .bmp file. Make changes and go File → Save as POI BMP to save icon – make sure you've backed up your icons first.

The way these bmps can be transferred to your gps depends on your device.

With Oregons,Dakotas etc you need to rename your bmps:

001.bmp → Custom 0.bmp

## *Changing geocache symbols in a gpx file*

At present Garmin's geocache symbols can not be customised.

Replacing existing **<sym>Geocache</sym>** in your gpx file with say **<sym>Custom 0</sym>** has no effect.

However,if you are keen on replacing the symbols, you could extract the coordinates for each geocache , save your data as an .mp file and thus create a new img file using cgpsmapper or mkgmap.

Another solution, which defeats its purpose, is to save your data as a gpx file, replacing any reference to the cache other than the coordinates , so it won't appear as a cache, but more as a poi/waypoint .

## ***Changing size of icons***

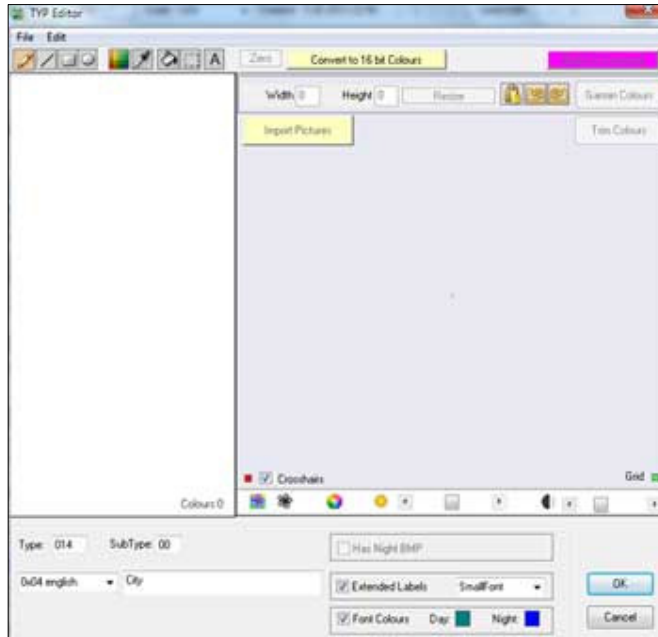
From the main menu click on 'Icons' and select a size (small to extra large) or use the slider at the top of the main screen. You can determine your own size in Preferences and select Custom to view your elements or drag slider right on to dark red.

## ***Zero colour POIs (advanced)***

TYPWiz3 supports POIs with no colours. These are ideal for text align purposes.

Confusingly, true color POIs can have the same xpm as zero color pois.

### **No bitmap example:**



In Colormode 0 you can get :

```
[_point]
Type=0x1E00
String1=0x00,City
ExtendedLabels=Y
FontStyle=SmallFont
CustomColor=DayAndNight
DaycustomColor:#008080
NightcustomColor:#0000FF
DayXpm="0 0 0 0" Colormode=0
[end]
```

This POI has no width and no length with green text **centered** above an invisible dot.

**Use this method to align your names of cities,towns ,villages or regions centrally.**

Although Mapsource cannot parse such zero bitmap POIs, Basecamp and your gps should have no problems.

- 1) Create a new poi of any size and double click on icon to enter the editor
- 2) Change both width and height to **zero**.
- 3) Click resize
- 4) If need be, change font colours
- 5) Select a 'no poin't type, ie 0x1E 00 – ie type:1E subtype:00 - see below

0x1400-0x153F Region name (no Point, big)  
0x1E00-0x1E3F Region name (no Point, middle)  
0x2800-0x283F Region name (no Point, small)

If you are using mkgmap to create your img file ,experiment with any of the above:

Click OK to finish

To return to a bitmap POI click the 'Convert to 16 bit colour' and add colours or load a bitmap.

## Two Colour Blending

From the main menu go Tools → Two Colour Blending or CTRL B

You may want part / all of your map to be shades of two colours. This option is more geared towards printing maps or showing them in brochures or on the net.

### *example 1*

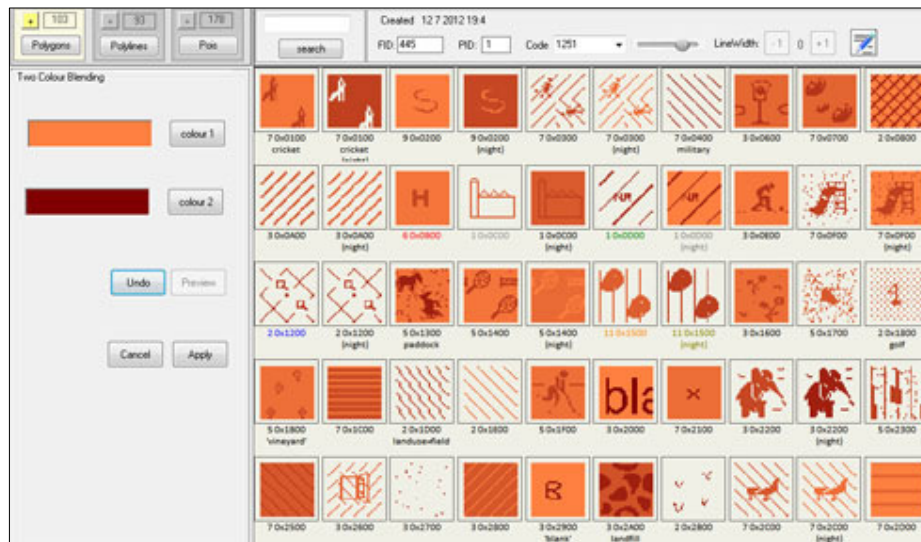
You could make your background greyish so your highways and pois stand out.

### *example 2*

You could create an old map effect by making all the highways a shade of yellow/organge.

### *example 3*

What would it look like if all the elements were a shade of the same colour?



Select 2 colours and TYPWiz3 will recalculate the palette for each element.

### **Preview and Undo**

This option allows you to experiment with different colours ; we suggest you select colours with contrasting brightness.

Click Undo to return to the original palettes.

### **Apply**

To apply the effect, select this option . A message appears:

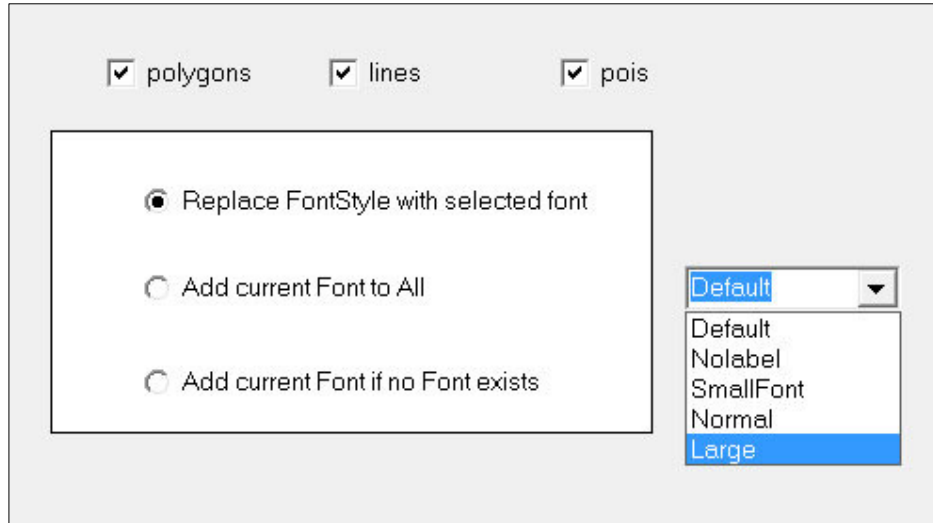
‘This cannot be undone. Are you sure?’

Although it cannot be undone, it hasn’t saved the new palettes.

We suggest saving such typ files using colour names, ie greyeffect.typ

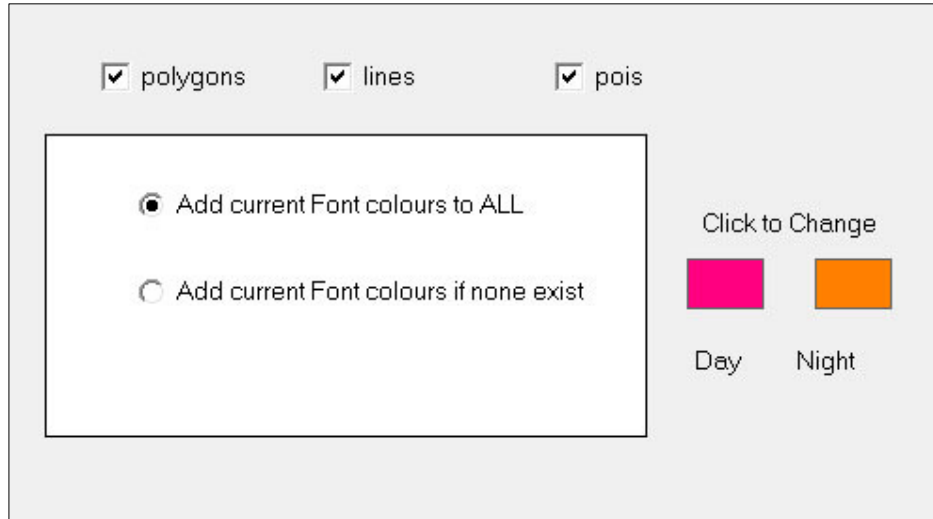
## ***Batch processing***

You can change the font styles of all elements, pois, lines & polygons in a single click. In this example any elements with existing fontstyles are now changed to 'Large'.



A dialog box for batch processing font styles. At the top, there are three checked checkboxes: 'polygons', 'lines', and 'pois'. Below these is a white rectangular area containing three radio button options: 'Replace FontStyle with selected font' (which is selected), 'Add current Font to All', and 'Add current Font if no Font exists'. To the right of this area is a dropdown menu currently showing 'Default'. The dropdown menu is open, showing a list of font styles: 'Default', 'NoLabel', 'SmallFont', 'Normal', and 'Large'. The 'Large' option is highlighted in blue.

You can also add fontcolors to all the elements.  
Click on the colours to change the font colour



A dialog box for batch processing font colors. At the top, there are three checked checkboxes: 'polygons', 'lines', and 'pois'. Below these is a white rectangular area containing two radio button options: 'Add current Font colours to ALL' (which is selected) and 'Add current Font colours if none exist'. To the right of this area, there is a label 'Click to Change' above two colored squares: a magenta square and an orange square. Below the magenta square is the label 'Day' and below the orange square is the label 'Night'.

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## ***TYP files and OSM***

When converting osm into img files you can use mkgmap.jar and 'styles' to customize your own maps.

Styles contain 3 essential files, polygons, lines and points to determine which type is rendered.

Without specifying a specific style, img files are rendered using a default style.

This default style doesn't include one way systems, platforms, hedges etc so they need to be defined separately in your own 'lines' file. For more information check out [http://wiki.openstreetmap.org/wiki/Mkgmap/help/Custom\\_styles](http://wiki.openstreetmap.org/wiki/Mkgmap/help/Custom_styles) and [http://wiki.openstreetmap.org/wiki/Mkgmap/help/Custom\\_styles](http://wiki.openstreetmap.org/wiki/Mkgmap/help/Custom_styles)

TYP files define the colour & look of your polygons, highways and pois.

Problem is, 'all type numbers' defined in a TYP file **MUST** be the same as those defined in a style:

If your TYP file defines a park as 0x21 then make sure it's defined as 0x21 in your polygons file. If not, it ain't gonna show on your Garmin.

### **Checking Style types**

To simplify this process, go Tools → 'Check Style Types' and load the correct file ; it will tell you , if it's not the correct one.

This basic checker lists anything found in your TYP file but **not** in the corresponding style file.

### **Load Style Editor**

Go Tools → Load Style Editor to launch the editor.

Go to 'Settings' → Locate Style Editor' to select your editor. Your selection will be saved when exiting *TYPWiz*.

**Make sure your editor is NOT Notepad**, as it corrupts the file.

Use Notepad+.

In our style editor search for the type number or a given name ,ie 'park' or 0x21 and make appropriate changes ensuring that the type numbers match.

**Please note, after changing your style you need to recompile your osm file.**

## ***Tips***

Often POI bitmaps are framed by wasted transparency, grey space. Use the select tool to select the 'picture' and press CTRL C to copy followed by CTRL V to paste.

Double click the selection.



## ***Settings***

Click settings to locate your style editor – for mkgmap.jar only

## ***Searching***

A basic search facility allows you to search all icon labels of any part of the code, ie text ,color etc

Enter some text and press RETURN or click Search.

Each result is highlighted and screen scrolled to the element found.

Press RETURN to find next result. Perhaps reduce your icon size to small . See below.

## ***Extended Types , 0 x 100+***

Polygons,lines and even pois can have type numbers : &100+ .

These are located ‘outside’ the RGN subdivisions of an IMG file (which hold the rest of the elements) and when parsed are placed at the top.

You need to be aware that your GPS Mapsource / Basecamp may not show some extended pois – for more information see my **Exploring IMG Format**.

Pois can have a type with max of **2FF1F** , so there is plenty of scope.

# Tools

## Text File Errors

Some considerable effort has been made to parse text files from other editors.  
As a rule, no commas or comments (;) should be included to mark the end of a line.

### Most common errors

1) bitmap does not have the correct number of pixels:

```
xpm="32 3 2 1"  
"0 c #C0C0C0"  
"1 c none"  
"00000000000000000000000000000000"  
"00001111110000011110000011110000000000"  
"00000000000000000000000000000000"
```

2) colour references are not included in the list of colours:

```
xpm="32 3 2 1"  
"0 c #C0C0C0"  
"1 c none"  
"33330000000000000000000000000000"  
"00001111110000011110000011110000"  
"00000000000000000000000000000000"  
In this example there is no reference to a colour "3"
```

3) the xpm contains the wrong width,height,number or colours or characters to represent a pixel:

```
xpm="32 4 3 1"  
"0 c #C0C0C0"  
"1 c none"  
"00000000000000000000000000000000"  
"00001111110000011110000011110000"
```

4) speech marks are left out from colours or bitmaps:

```
xpm= 32 2 1 1  
0 c #C0C0C0  
00000000000000000000000000000000  
00000000000000000000000000000000
```

5) Number of characters to represent a pixel in a POI is incorrect :

```
DayXpm="3 3 2 2" Colormode=16
"$ c #FFFFFF"
"% c #C0C0C0"
"$$$"
"$$$"
"$$$"
```

5) Carriage returns are essential for bitmaps and colours

6) If you are expecting degrees of opacity in true color pois with colormode 32 you must include a reference to its opacity next to or as part of the colour:

```
DayXpm="24 40 0 1" Colormode=32
"#FF00FF" alpha=15
"#FF00FF" alpha=10
"#FF00FF" alpha=1
"#FF00FF" alpha=9
"#FF00FF" alpha=0
```

Or alternatively

```
DayXpm="24 40 0 1" Colormode=32
"#FF00FFFF"
"#FF00FFAA"
"#FF00FF11"
"#FF00FF99"
"#FF00FF00"
```

### Other problems:

1) colours are not properly defined with a space on either side of the 'c'.

```
"% c#C0C0C0" or "%c #C0C0C0"
```

Should be: "% c #C0C0C0"

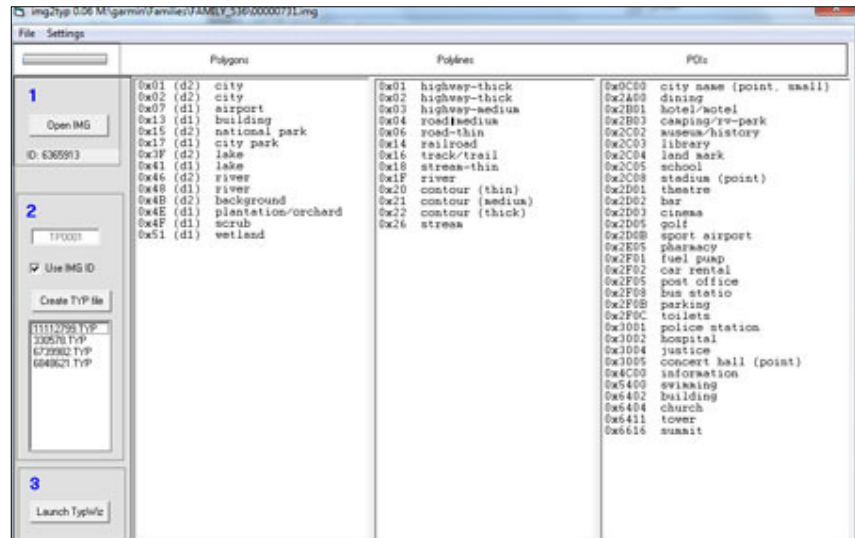
2) type number does not have 0x ie

```
type=2 should be : type=0x2
```

## IMG2TYP

This GUI for windows reads IMG files, locked or unlocked and creates a **unique** TYP file which you can edit in **TYPWiz3**.

Now you can add your own palette to any TOPO map.



If a matching TYP file does not exist an IMG is rendered using a default style, which is very basic and should show all polygons, lines or pois, even extended types & 100+, embedded in the IMG.

Does my IMG contain a certain polygon or poi? With IMG2TYP you can quickly check if your element has been rendered.

Use *Gmaptool* to join your IMG and TYP file into a *gmapsupp.img*. For more information see *img2typ* manual or search Youtube.

## Creating Logs

In Preference tick 'enable logs'. This will log & archive key changes. If you wish TYPWiz3 to create a new log for each new day then tick 'New Log for each Day'

To access your log go Logs --> Read Logs

This will point to the directory where your logs are kept, ie <TYPWIZ3> \logs

To delete the 'main' log go Logs --> Clear Main Log

## ***FAQs***

### **I've created some POIS and they don't show on my Garmin/Nuvi**

This is caused when

- 1) the type number ( 0 x something) does not correspond to a one used by your Garmin. With mkgmap use the style editor to change the type number
- 2) the type number has been reserved by Garmin for something else; try numbers 0x60 + ; this is at present a matter of trial and error.

You can check whether your img file contains your unrendered POI by downloading our [img2typ](#) . Simply load your IMG file into img2typ and check if your POI is listed. If you are using mkgmap.jar to create your img files then check whether your typ number is included in the points style file. If not it won't be generated.

### **My POIs show up on Mapsource but not on my Garmin/Nuvi**

Not all Garmins behave the same – some are more ‘flexible’ than others – Change the offending POI typ number

### **I've created some highways and they don't show on my Garmin/ Nuvi**

See questions above; but also check at *all zoom levels* . It may be set to show a certain highway at the highest zoom level.

### **Some of my polygons don't show on my Garmin/ Nuvi**

Make sure your draworder is high enough – set it to the highest level, compile and try again.

See questions above; but also check at *all zoom levels* . It may be set to show a certain polygon at the highest zoom level. Check your Garmin display settings –is it set to ‘highest / most’?

### **Why are my pois,highways only shown on my Garmin/ Nuvi ,not on Mapsource?**

Mapsource is not as advanced it seems as many Garmins. Try Basecamp.

### **How do I quickly change a TYP in Mapsource?**

You can quickly change the look of an IMG on Mapsource by using MapSetToolkit.

Find the list of mapsets loaded into Mapsource – under Mapset Installed. Select one and click the Edit button . Select a TYP file – click button opposite ‘TYP file:’ label - and click apply.

### **Can I use any TYP file with ANY IMG?**

Yes and NO . An img file consists of polygons,highways & pois, each with specific type number (0 x number). IF and this is a big ‘if’, these type numbers are ALSO found in your TYP file then your gps will make use of the information found in your typ file for a matching type.

### **How do I know which types have been used by an IMG file?**

You can use img2typ (windows only). Latest version includes extended types.

**How do I define zoom levels?**

Zoom levels are between 0 and 24; they are stored as chunks of elements in an img; you cannot change the zoom level with recompiling your img.

The easiest method is to change the mkgmap style sheets – look for the value after ‘resolution’ , ie resolution 24.

The lower the value the more you zoom out.

No need to have all the pois showing when zooming out – set their zoom levels to 24.

You may want to change the width of various highways when zooming out, ie make them smaller.

**Which mode is best for transparency?**

The easiest and just as effective is the default colour mode 16 – no need for all these alpha values, as most gps devices cannot parse opacity.

**How do I make the city etc names larger?**

Some gps devices , ie Oregon , allow you to change the sizes. If they don't, create pois with fonts set to large - you can even play around with colours, using types ranging from 0x0100 ,0x0200,0x300 ...0x0900,0x0a00 etc to 0x0f00.

Note: Mapsource/Basecamp do not support font colors for certain poi types , ie &100.

## ***Gmapsupp.img***

As stated earlier, your TYP file gets combined with img files.

*Why is it that on rare occasions, your TYP file seems not to work - all you get is map rendered in a default Garmin style, built in the device..*

The answer more than likely is a clash of FIDs and PIDs.

FIDs & PIDs are encrypted in the TRE subfile of an IMG - in a gmapsupp they are *also* stored without such encryption in a subfile (mapsourc.mps) . For more info read my 'IMG Explorer'

Unless you know what you're doing, it is best to alter the FID and PID in your TYP file.

To obtain the FID and PID of your img files load the gmapsupp.img into Gmaptool and click 'Detail'.

## ***gmp2typ***

This is a simple gui designed to extract any TYP file if it's included in a gmapsupp.img or any img found on your garmin.

*gmp2typ.exe* can be downloaded free from typwiz3 homepage. Place it in the same directory as your typwiz3 exe so it can be accessed via TYPwiz3

Tools --> Extract TYP file from Gmapsup

### **1) Locate gmapsupp**

This will locate the typ file if found.

### **2) Click 'create TYP file'**

This creates the typ file

### **3) Launch TYP**

This will show the TYP file in TYPWiz3 if TYP files are associated with the latest TYPWiz3

## POIS+ City Navigator 2010/2013 TYP files

TYPWiz3 can display City TYP files, included in City Navigator NT maps ,ie I000093C.TYP , I0000956 etc . The unique display algorithm is now fully understood.

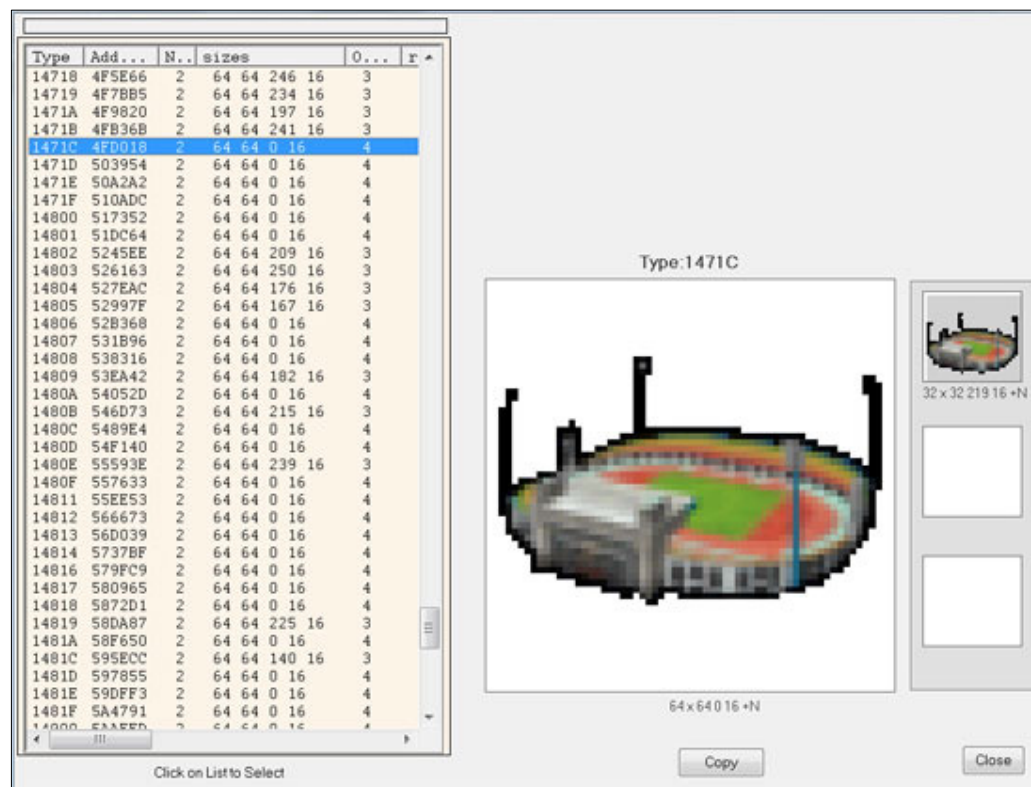
**32 x 32 219 16 +N means size 32x32 colours:219 colormode:16 with Night BMP**

If you wish to incorporate them into your own list of pois select and click 'copy' then create a new poi and paste image ( see earlier)

The list contains types, offsets,number of icons,length ,width,number of colours colour modes and other data.

Click on smaller icons to show dimensions ,number of colours & colour mode.  
For more information see my TYP Format.

Click on the pois+ button .



Note : **You cannot edit the additional POIs**; however, you can with TYPWiz copy the icons and paste them into *your own* TYP file.

TYPWiz4 allows you to edit pois+.

These POIs generally appear after a search (for hotels/fast food/famous buildings etc)



## ***GPSMapEdit & TYPWiz***

You can view non NT IMG files in *GPSMapEdit* .

It is not immediately obvious that you can also import your own TYP file into this program, be it as a txt file.

Save your TYP as txt and follow these instructions:

- 1) Go Tools → Options
- 2) Click on the View tab.
- 3) Click on the 'Map Skins' button
- 4) Click on Add & locate your txt file.

Note: GPSMapedit does not handle POIs in 32 or true color modes, nor does it use the TYP file for its highways.

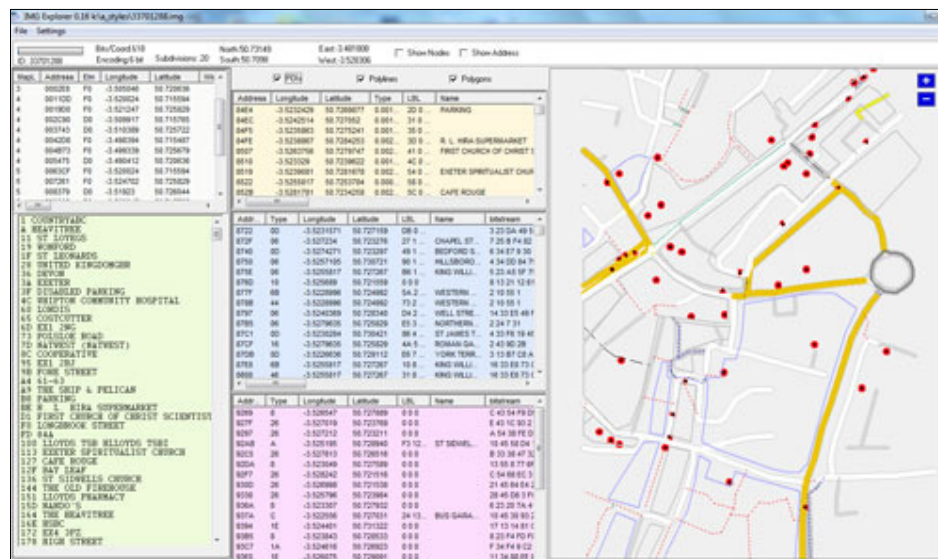
# Exploring IMG Format

If you are interested in looking deeper into the IMG format you may like to read [Exploring IMG Format](#) which sets out to explain , step by step, how to access and plot pois, lines and polygons.

It also includes some as yet undocumented information about bitstreaming and explains how TOPO files are locked and what can still be retrieved.

## IMG Explorer for Windows

With IMG Explorer you examine how each subdivision plots its elements and what tiles are contained in a file. See website for more details



Garmin's 5B TYP header  
Typwiz3 uses 5B as its default header.

address		description	bytes
0x00		Pointer to start block. Two bytes to allow for expansion	2
0x02		Garmin TYP	10
0x0C		1 . If zero then TYP file is ignored	1
0x0D		FF or 00	1
0x0E		Year (+1900 if 0x0F=0)	2
0x10		month	1
0x11		day	1
0x12		hours	1
0x13		minutes	1
0x14		seconds	1
0x15		Code page for strings, ie 1250+	2
0x17	TYP1	Offset Pointer to POIs Block	4
0x1B		Length of POIs block	4
0x1F	TYP2	Offset Pointer to Polylines Block	4
0x23		Length of Polyline block	4
0x27	TYP3	Offset Pointer to Polygons Block	4
0x2B		Length of Polygon block	4
0x2F		Family ID	2
0x31		Product ID	2
0x33	TYP4	Offset Pointer to type data,offset block for POIS	4
0x37		Denotes number of bytes for above pointer block ie 3 or 4	2
0x39		Length of block	4
0x3D	TYP5	Offset to Polyline 3 or 4 (5?) byte data block	4
0x41		Mostly 4 or 3; could be 5 ;specifies number of bytes per polyline for data location block,presumably to save space ; 3 is used if the offset between first and last polyline is < &FF	2
0x43		Length of block	4
0x47	TYP6	Offset to Polygons 3 , 4 or 5 byte data block	4
0x4B		Number of bytes for each polygon ie 3,4 or 5	1
0x4C		Linked to polygons	1
0x4D		Length of block	4
0x 51	TYP7	Offset to Polygons draworder block ( generally 5 bytes for each polygon or start of new level)	4
0x 55		sets number of bytes for each polygon (ie 5) in 0 x 57 and 0 x 51	2
0x 57		length of draworder block	4

# Polygons

## *Polygon structure:*

		bytes	present
type	& 10: <b>has text</b> &20: <b>extended option</b> see below for more details.	1	always
colours	RGB Colours (max 4 ) Number of colours depends on type	(colours x 3)	always
xpm	BMP data if any : 32 x 32 but 1 byte =8 bits so only 4 x 32 needed	128	Depends on type
Text block if text bit is set in type	Length of text	1+	Depends on type
	Text language	1	Depends on type
	Number of strings separated by 0 x 0 and 0 x language , ie 4 for UK		Depends on type
	End of chunk 0 x 0	1	Depends on type
See type above	If available, Font details and custom colours	1	Depends on type
	Custom colours	Colours * 3	Depends on type

Maximum number of colours is 4,2 day and 2 night. Given two colours ,**foreground colour is the first colour, background colour the second.** Colours can be transparent.

# Polylines

## *Polylines Basic Type Structure*

Byte 1 in each polyline block defines colour mode and size of bitmap . Different values create different structures and affect the position or presence of border & line widths or number of colours. The order in which they appear stays the same, ie colours, followed by line&border width , followed by text.

The following table illustrates its basic structure:

Type	Type & width (height) of bitmap if any	1
options	3(?) bit 0: has text 1 rotation 2: has custom colours or extended font	1
colours	RGB Colours (generally 1 or 2 ; max 4 (2 day & 2 night colours ) in reverse order	(colours x 3)
Bitmap or line & border width	Bitmap xpm data if any .	Depends on height
	Line width, only if line doesn't contain bitmap	1
	Border width : $bw = lw + bw * 2$ only if line doesn't contain bitmap Only if border has thickness, ie not type 06	1
Text block	Length of text	1 or 2
	Text language	1
	Number of strings separated by 0 x 0 and 0 x language , ie 4 for UK	
	End of chunk 0 x 0	1
Extended options	If custom colours are present this byte defines colour day/night mode and font details if extended option has been selected	1
	CC Colours to follow	Colours * 3

# POIS

## *POI Structure*

	Determines presence of text strings, extended fonts ,night colours & CC, or night bitmaps	1
xpm	Length of bmp	1
xpm	Width of bmp	1
xpm	Number of colours	1
	Colour mode ie 0,16 or 32	1
	Colours if any	3 x nmb cols + alphas if any
	Bmp data if any	(W x L x nmb cols) / 8 for single colour
	Length of text	1+
	Language string	1
	If extended , Font details	1
	Custom Colours	Up to 2+ depending on colour mode

TYPwiz adds bitmaps to 'night colour only' pois.

## **Garmins Mapsource Product Creator**

This expensive tool ( MPC ) allows you to create your own maps , even NT imgs.

It's TYP editor is very basic, if not cumbersome, to say the least.

However, it does ,interestingly, gives some pointers as to what Garmin does not allow you to do:

- 1) create zero width lines
- 2) create pois with sizes >32
- 3) create pois in truecolor with colours >255
- 4) create pois with levels of opacity
- 5) create headers other than &9c

- 16 bit Colours, 41
- 2012 TYP files, 9, 56
- ActiveRouting', 10
- background colour**, 60
- Batch processing, 47
- Borrowing bitmaps from another TYP file, 40
- Clone and Stamp, 24
- Colormode 32 POIs**, 42
- colormodes, 42
- Colour, 20, 25
- Copying & Pasting, 24, 38
- custom colours, 60, 61
- delete a night poi, 40
- draworder, 59
- Draworder, 31
- Draworder of polylines, 38
- Exploring IMG Format, 49, 58
- extended, 28, 49, 52
- FID, 18
- Filters, 33
- Font, 35
- Font Colours, 35
- format, 13, 18, 31
- Garmin, 13, 15, 43, 48, 59
- geocache, 43
- gmapsupp, 15, 16, 52, 55
- gmp2typ*, 16, 55
- GPS, 34, 37
- GPSMapEdit*, 57
- header, 59
- headers, 9, 19
- Hex Colour, 27
- highways, 37, 38, 48
- Horizontal & Vertical Mirror, 25
- icon size, 49
- IMG, 52, 53
- img2typ, 16, 52, 53
- language, 60, 61
- languages, 14, 34
- Loading Text Files, 22
- Mapsource, 16, 53
- MapsourceUploader2**, 15
- mkgmap.jar, 48, 49, 53
- Mouse Sensitivity, 21
- MPC, 62
- night, 19, 21, 26, 30, 34, 35, 38, 40, 60, 61, 62
- Night, 34
- nuvi, 43
- nuvi osm2pois***, 43
- opacity, 41
- Pasting, 30, 37, 40
- Pasting Bitmaps, 40
- PID, 18
- placeholder*, 31
- placeholders, 30, 31, 32
- POI as bmp, 43
- POIS, 40
- POIs with no colours, 45
- pois+, 56
- Polygon, 59, 60
- Polygons, 30
- polyline, 59, 61
- Polyline types 0x100, 38
- Polylines, 37
- preference, 20
- Preferences, 20
- Print, 23
- prj, 22
- resize, 24, 40, 41, 45
- reverse, 36, 38
- Rotate by 90°, 26
- Save Picture, 22
- Saving as text, 22
- Saving TYP Files, 22
- Searching, 49
- Style Editor, 48
- Text, 60, 61
- tilled polygons, 30
- Tips, 48
- Transparency, 23
- transparent, 60
- true color, 18, 41
- TYP files, 13, 15, 31, 48
- TYP Format, 17
- Type numbers, 28
- Typwiz 3, 18
- TYPWiz4, 10, 56
- Undo and Redo, 24
- unused colours, 41
- Use Orientation**, 37
- xpm, 60, 61, 62
- Youtube, 52