

Draft guidebook

Conversion of ISOM and ISSprOM orienteering maps into tactile orienteering maps

General

Tactile orienteering maps are designed for use in orienteering by visually impaired individuals. These maps are characterized by simplified symbol sets compared to standard orienteering maps and are rendered entirely in black.

This guidebook is conceived by Norwegian Orienteering Federation, in collaboration with Tommaso Scalet. The guidebook is a collection of experiences gained from the project “Vis veg med Orientering” funded by Lotteri- og stiftelsestilsynet in 2023 and 2024. The whole work is a continuation and development of the work done by Thomas Yngström throughout the project VägVisaren in Parasport Orebro. The guidebook aims to expand the use and adaptation of new maps for use both in Norway and abroad.

Map scale

The recommended scales for tactile orienteering maps are 1:500 and 1:1000.

Paper size

Maps are typically printed on A4 sheets, as this is the standard size compatible with tactile thermoform machines.

Symbols

The symbol set for tactile maps is simplified compared to the ISOM and ISSprOM mapping standards. Many standard symbols rely on visual classification of specific objects, which is not practical for visually impaired participants. Instead, tactile maps group objects into broader categories, as participants use a walking cane to interpret the map features through touch.

●	Tree – prominent tree
○	Boulder – stone
×	Man made object – distinctive object
▬	Uncrossable barrier – fence or wall
~~~~~	Body of water – lake or river
⌘⌘⌘⌘	Forest
⋯⋯⋯	Grass – open land
■	Building
□	Paved area
////	Forbidden area
^	Slope – Indicates the slope of the terrain.
∨	The V shall point toward the downhill

## Conversion OCAD

Converting a standard ISOM or ISSprOM orienteering map in tactile map takes just a few step.

Note: generally ISSprOM maps with larger scale are preferred because they are more reach in details and precise.

### Convert with crt-file

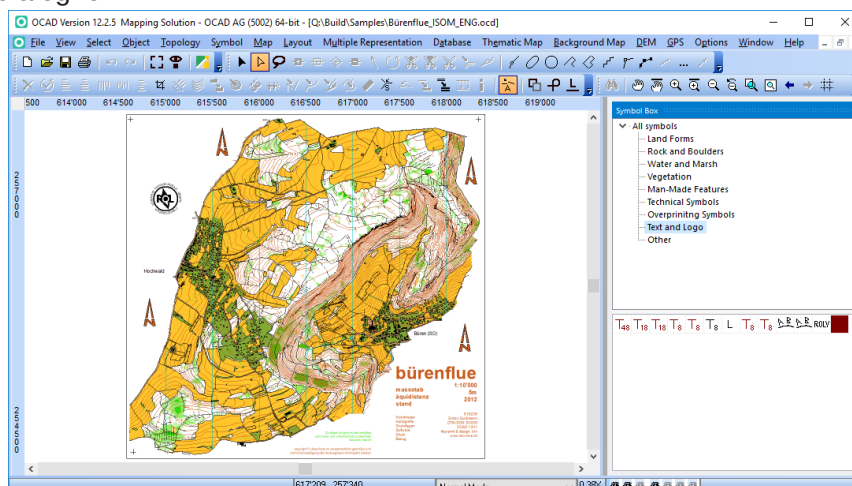
1. Click **Symbol Set Conversion** in the the **Map** menu to open the **Symbol Set Conversion** dialog form.
2. Choose the **New symbol set**. OCAD loads all files from the OCAD program subfolder *Symbol*.
3. Choose the **CRT** ([Cross Reference Table](#)). OCAD loads all files from the OCAD program subfolder *Crt*. You can **Load** another Crt file or **Save** the adjusted Crt file.  
*The left side of the list shows the symbols from the current file, on the right the symbols from the chosen new symbol set. A line in green color means that OCAD assign all objects of this symbol to the new one. OCAD has this information from the CRT file*
4. You can click on the symbol icon to choose another symbol. It is only possible to choose a symbol from the same symbol type (e.g. line symbol to line symbol).
5. Click **OK** to convert the map. OCAD replaces the symbols and colors.

More detailed explanation and step by step guide on the OCAD wiki! [LINK HERE](#)

NOTE the crt-file is still under development and once finalized it will be available on this guideline

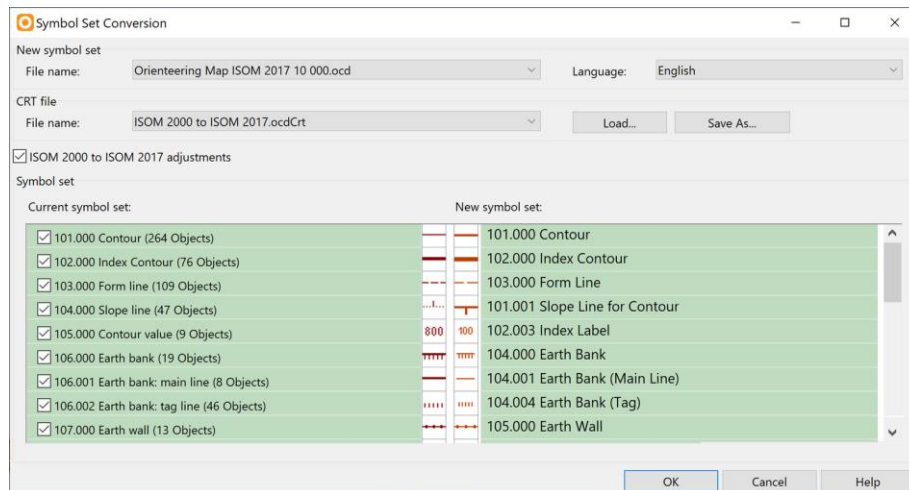
### Convert by replacing from another map

1. Click **Load Colors and Symbols from** in the the **Map** menu to open the **Symbol Set Conversion** dialog form.



2. Select the OCAD file of the map which will be the course of the symbols ([Download here the sample map](#))

3. Select between the option of Replacing the existing colors and symbols or Add to the existing colors and symbols set.
4. Follow the *Convert with crt-file* to finalize the import



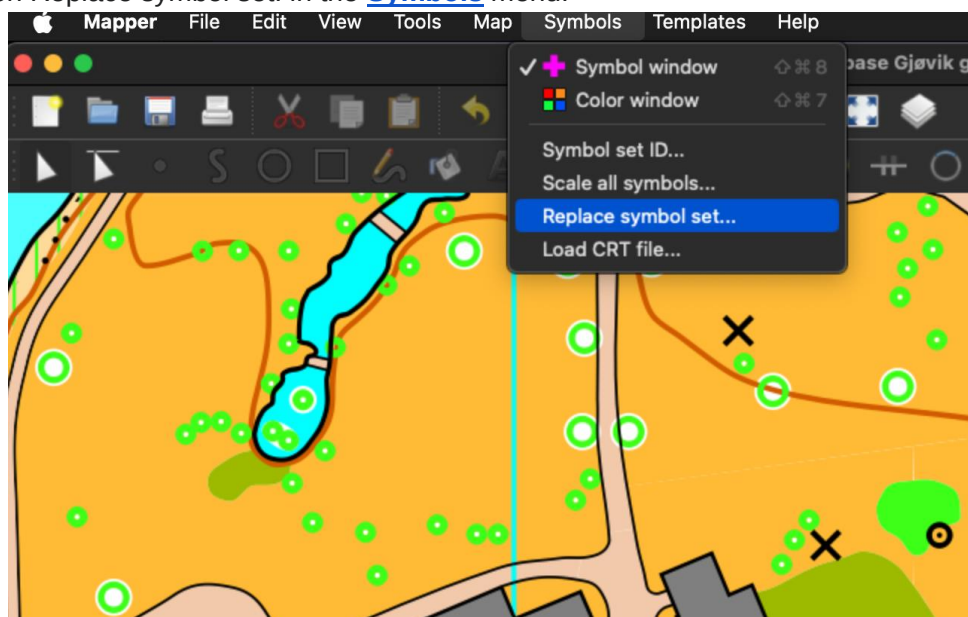
## Conversion OOMnteering Mapper

Converting a standard ISOM or ISSprOM orienteering map in tactile map takes just a few step.

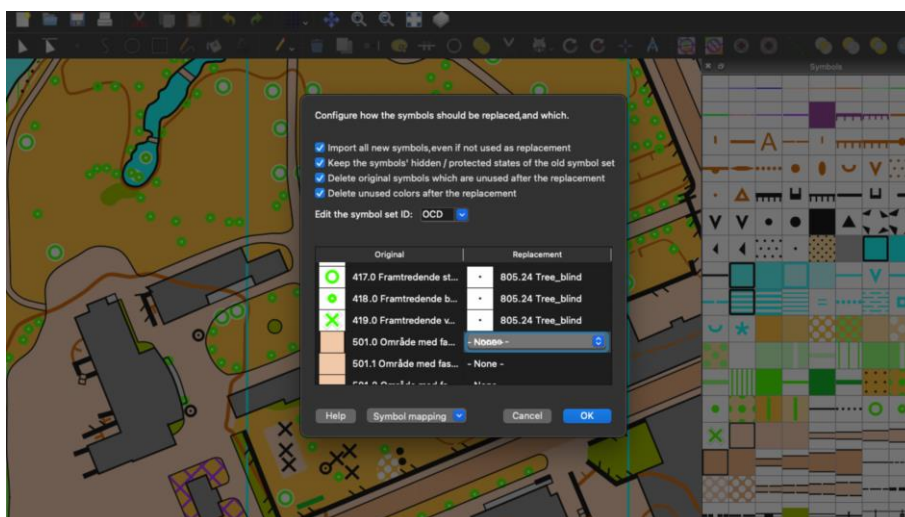
Note: generally ISSprOM maps with larger scale are preferred because they are more reach in details and precise.

### Convert by replacing from another map

1. Click on Replace symbol set. in the [Symbols](#) menu.



2. Select the OCAD or OOM file of the map which will be the course of the symbols ([Download here the sample map](#))
3. If necessary change the scale of the objects as advised by the software
4. The symbols set conversion dialog form will open.



5. Match the respective object in the map with the ones of that you want to convert in the tactile map.

6. Click **OK** to convert the map.

More detailed explanation and step by step guide on the OOM wiki! [LINK HERE](#)

Some symbols don't have a correspondence or even use for tactile maps (for example a canopy) those symbols can be either removed or hidden in the tactile map.

## Simplification

After converting the map, it is good practice to refine it and adjust the details:

- Ensure there is enough space between symbols so they can be distinguished individually by touch.
- Hide or remove unused symbols and any additional colors.
- Avoid mapping areas outside the usable terrain. Features such as distant trees or objects that are typically solid navigation points are not useful, as they cannot be seen.
- Simplify the map by removing unnecessary details and retaining only the most important features to enhance readability.

## North symbol

The north symbol shall be places on the top-right and bottom-left corners of the page.



## ISSprOM



## Converted map

Gjøvik gård  
1:1500

