

How To Make A Type2 Map

Introduction.

A Type2 map is a user created map. The map tool creates and modifies the terrain data for a Type2 map. Type2 maps are fully crossplatform for Mac and Windows. The artwork for a Type2 artwork is created prior to running the map tool by using various popular art programs and is stored as a bmp file. The non artwork data (the terrain coding) for a Type2 map is stored separately as an ordinary binary data file and requires a map editing utility to produce (available free from www.battlefront.com). The artwork for a Type2 map has the following naming convention: 'Map' + 'three digit number' + 'c' + '.bmp'. The non artwork data for a Type2 map has the following naming convention: 'Map' + 'three digit number' + 'c' + '.dat'.

A Type2 map may also optionally have an associated Map Legend text file. This text file may contain up to 20,000 characters of plain text. The contents of this file (if present) will be displayed to the user in a scrolling text box when the Map Legend menu item is selected. To allow crossplatform usage of the same text file whether the file was created on a Mac or on a PC, the Mac version ignores linefeeds (if present) in the text file and the Windows version adds linefeeds (if missing) in the text file. A Map Legend text file has the following naming convention: 'Map' + 'three digit number' + 'c' + '.txt' and must be saved as plain text.

Short Version ...

Make a map art file in bmp format using an art program. Then use the map tool and the bmp map file to make a terrain data file. To actually use the map, startup one of the custom scenario templates (such as Custom Scenario US Army.sce) and when it asks you for a map, have it load the map that you made.

Long Version ...

Note: The Mac version of the map tool requires Quicktime 4.x. Quicktime 4.x can be downloaded from <http://www.apple.com/quicktime/>

1. Use a third party paint program to create a piece of artwork that has a width and height of from 400 x 400 pixels to 3100 x 3100 pixels (31km by 31 km is the largest possible map). **Note 12 Dec 01:** It has recently been discovered that one can not in fact make a 31 km by 31 km map. I have found that if the total size of a map (width in pixels X height in pixels) is greater than 8,355,839 pixels then the map can not be loaded if one's monitor colors are set greater than 256 colors. The exact Windows call that is failing at higher color settings is CreateCompatibleBitmap(...).

So if you want a very large TacOps Type2 map to load without requiring people to run at 256 colors then you should follow the following guidelines ...

Do not exceed 32 km in width or 31 km in height.

If width is 32 Km then max height is 26 Km

If width is 31 Km then max height is 26 Km

If width is 30 Km then max height is 27 Km

If width is 29 Km then max height is 28 Km

If width is 28 Km then max height is 29 Km

If width is 27 Km then max height is 30 Km

etc ...

2. Save the artwork in bmp format - preferably in 256 colors.

3. Name the artwork file using the following convention: 'Map' + 3 digit number + '.bmp'. Example: Map101c.bmp.

4. Run the TacOps Map Tool, select the File/New menu item, and load the '.bmp' artwork file from step 3.

5. Explore and experiment with the Map Tool menu items to encode the map with terrain data. The main tool sets are summoned by the 'Edit/Terrain' and the 'Edit/Move Costs' menu items. Use the 'Edit/Terrain' dialog to set the terrain type characteristics for each cell in the map. Then use the 'Edit/Move Costs' dialog to set the movement cost for travel through each cell in the map. In general, you use these dialogs to encode the terrain cells by first selecting a radio button for a particular characteristic and then clicking the mouse cursor on the map to set or to remove that characteristic at the click point.

6. Use the File/Save menu item to save your work to a '.dat' file. Your work will be saved to a file with the following naming convention: 'Map' + 3 digit number + '.c.dat'. Example: Map101c.dat.

7. The next time that you want to work on this map, you will use the File/Open menu item to select and load the MapXXXc.dat file that was produced by step 6.

Summary:

A. Use File/New only to create a new map. You will be asked to select a file that ends in '.bmp'. The initial '.dat' file will then be created semi-automatically.

B. Use File/Open to continue work on the '.dat' file for a map in progress. You will be asked to select a file that ends in '.dat'

Map Making Functions.

Terrain Menu/Window:

To set a given terrain type, first select one of the following radio buttons - Hi/Lo, Woods, Town, Road, or Misc LOS Block then do the following.

To set terrain, point by point, click the mouse cursor at each point on the map that you want to set to the selected terrain type. To set multiple adjacent points, hold the mouse button down and drag the cursor. Note - clicking a second time at the same point while using the same terrain setting will reset that point to clear low ground.

A terrain cell can have multiple terrain type characteristics. Example: a terrain cell could be coded as high ground + town + woods + road, or as low ground + woods, or etc.

To set a large area to a given terrain type, hold down the Alt key and drag out a selection rectangle (marquee). Then click on the button labeled 'Fill'. The selected area will be filled with the selected terrain type.

To clear a large area to 'no setting', hold down the Alt key and drag out a selection rectangle (marquee). Then click on the button labeled 'Erase'. The selected area will be erased to clear terrain.

To lock brush movement to only horizontal or vertical, hold down the Shift key as you drag the brush.

Move Cost Menu/Window:

To set a given terrain cell movement cost, first select one of the following radio buttons - clear, rough 1, rough 2, rough 3, rough 4, or water then do the following.

To set terrain movement cost, point by point, click the mouse cursor at each point on the map that you want to set to the selected move cost. To set multiple adjacent points, hold the mouse button down and drag the cursor. Note - clicking a second time at the same point while using the same terrain setting will reset that point to clear move cost.

Unlike the terrain type settings mentioned above, there can only be one movement cost setting for each cell.

To set a large area to a given movement cost, hold down the Alt key and drag out a selection rectangle (marquee). Then click on the button labeled 'Fill'. The selected area will be filled with the selected movement cost.

To lock brush movement to only horizontal or vertical, hold down the Shift key as you drag the brush.

General Thoughts For Map Making.

One screen pixel represents ten meters of ground.

Maps for TacOps can not be larger than 3100 x 3100 pixels (31 km x 31 km).

The TacOps terrain data base is an array of terrain cells. Each cell represents an area of the map that measures ten pixels by pixels (100 meters by 100 meters). You do not have to do your artwork so that the ten by ten cells exactly match the outlines of your terrain but if you do not do so then the game player may be misled as to exactly where the edges of contour lines, wood lines, etc., really are. I generally tried to match the apparent edge of such artwork terrain features to within two pixels of their actual data cell outline. To do this accurately you need to have a paint program that can display/overlay a guide grid of ten by ten pixels while you work on your art. By the way, drawing the edge outlines of terrain features so that they match the actual data cell borders is an incredibly tedious exercise. I leave it to you to decide how important such detail is for your maps.

You should remember that a unit will exit the game if it gets within ten pixels of any edge of a TacOps map. You should include some sort of a graphic representation of this border zone so that the map user does not forget about it at a crucial moment and inadvertently lose some of his units. I have typically used a gray or red frame in the past, just for consistency, but you could just as easily use something else - like color tinting.

It is preferable but not critical that total map width in pixels should be evenly divisible by ten.

It is preferable but not critical that total map height in pixels should be evenly divisible by ten.

The horizontal anchor point (the first Easting grid coordinate) for the map's UTM coordinate grid is the 11th pixel to the right of the left edge of a map.

The vertical anchor point (the first Northing grid coordinate) for the map's UTM coordinate grid lies is the 11th pixel above the bottom edge of a map.

Using A Finished Type2 Map.

Run TacOps.

Load one of the following custom scenario templates ...

Custom Scenario US Army.sce.
or Custom Scenario USMC.sce.
or Custom Scenario CA CMBG.sce.

As the scenario template file loads, a window will appear that asks you to select a map to use with this scenario template. At this time you can select any Type2 or Type1 map.