

Battlecraft 1942 2.0 Users' Guide

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This guide is provided as the comprehensive guide to the features available in Battlecraft 1942. Battlecraft 1942 is an unsupported product. Electronic Arts will not provide technical support, via email or phone, for this product.

For version release notes, please consult the readme.

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1. Installing— we recommend you install Battlecraft 1942 to the default installation folder. All information in this document assumes you have done so.

2. Starting program

- 2.A. When starting Battlecraft 1942, the User is asked to select their mod (or create a new one). Note, that when starting Battlecraft 1942, the Mod “bf1942” is not created. The User must click on “new” and create it in order to be able to create maps for Battlefield 1942. After making their selection, a popup screen with the option to open an existing level, create a new level, or exit the program comes up. After “open” or “new” is selected, you must select the mod you wish to use for the level. “Edit Mod Settings” comes up. It defaults to C:\Program Files\EA Games\Battlefield 1942\. If you have a non-default installation of Battlefield, make sure that this is pointed in the right place. If you are using a Mod, you MUST edit the path in the appropriate .cgf file located in the Battlecraft 1942 1942 program folder to point to the proper Mod.
- 2.B. If you want to use the original Battlefield levels, make sure you use the mod named BF1942. Note: The original Battlefield 1942 levels contain many differences from Battlecraft 1942 created maps. If you open an original map and save it, you will not be able to play that map online.

3. Creating a Map

- 3.A. When creating a new map, the following screen appears:

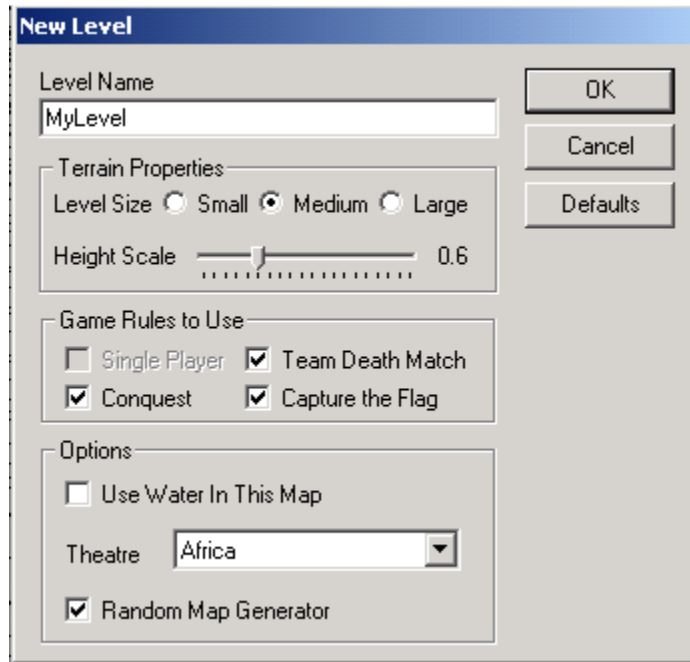


Figure 1: New level Menu

Setting the Beginning Level Attributes

- 3.B. The **Level Size** button does not actually make larger or smaller levels—it just defines the in-bound area. This is consistent with the way the actual Battlefield 1942 levels work.
- 3.C. The **Height Scale** slider determines the base height of the level (i.e. how far away from sea level)
- 3.D. The **Theatre** determines which variety of vehicle and soldier skins are used.
- 3.E. The **Random Map Generator** leads to a further screen:
- 3.F.

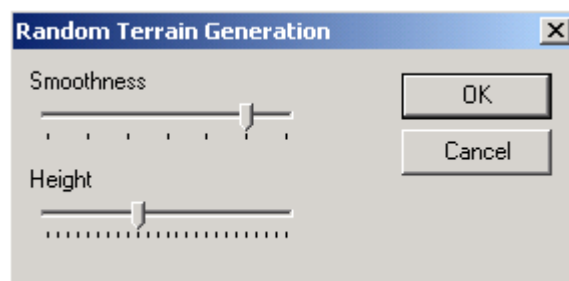


Fig 2: Random Terrain Generation Menu

- 3.F.1. The smoothness scale goes from least smooth on the left side to most smooth on the right.
- 3.F.2. The height scale goes from lowest on the left to highest on the right.

4. Saving and Loading

- 4.A. After creating a level, the program does autosave it at creation.
- 4.B. If you wish to change the name of the level, you can't. However, you can "Copy Level to" to save the exact level under a different name.
- 4.C. When Loading a level, select "Open level" (or Ctrl+O). You will be asked which mod to load a level from. Select the Mod where the desired level is saved, then open.
- 4.D. A handy bunchy of tips now display at startup. These cannot be deselected until you have read (or at least scrolled through) all of them. We advise reading them.
- 4.E. There is a "copy to" function. This function copies the level to a new level, named however you wish.

5. **Surface Map Assignments** NB: Note: Until you create surface maps, the terrain will remain gray. After surface maps are created, you will be able to see which texture is placed where in all mapper modes, not just material mapper mode. To generate surface maps, click the "Surface Map Assignments" button.

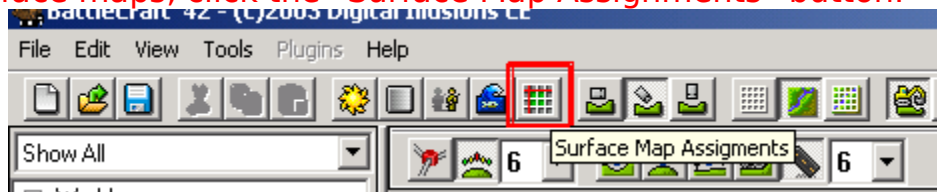


Figure 3: Surface Map Assignments button

- 5.A. Click on **Surface Map Assignments** above, to get to this screen:

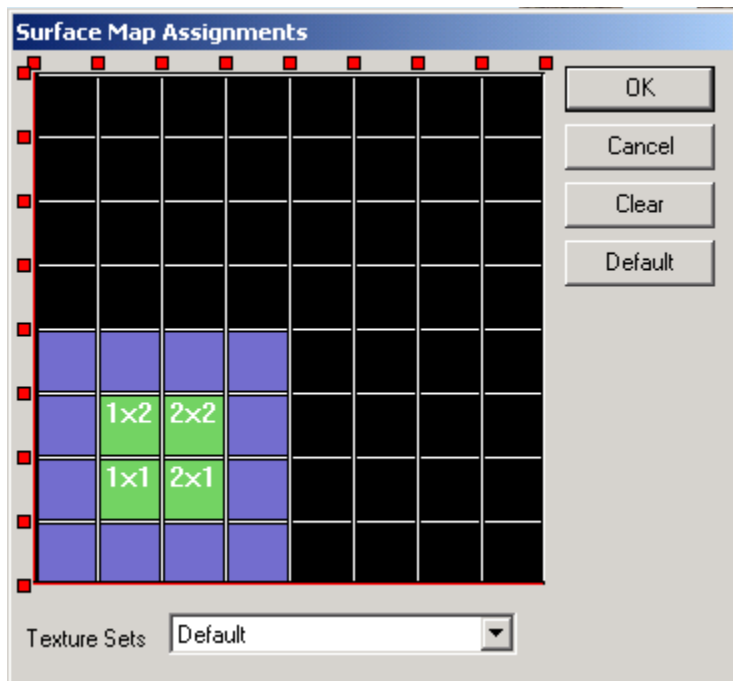


Figure 3: Surface Map Assignments menu

- 5.B. By clicking on the blue squares, you can assign the squares that will have surface maps operable on them. The texture sets available are default, desert, and snowy.
- 5.C. The red boxes are the offset buttons, which are used to delineate the playing area—if you want a smaller map size, like Berlin, use these offsets to automatically make the playable area smaller.

6. The Camera

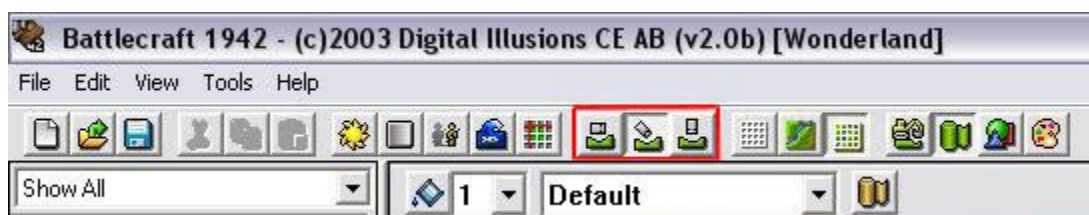


Figure 4: the Camera tools.

- 6.A. That's a screenshot of the toolbar. Right now, we're just focusing on the three buttons outlined in red - The camera views.
- 6.B. The three buttons control camera angle. The first sets the camera angle parallel and close to the surface. This is called **On Terrain Mode (I)**. The second sets it at an approximately 45-degree angle to the surface. This is called **Camera Fly Mode (O)**. The third gives a direct birds-eye view. This is called **Top-Down Mode (P)**.
- 6.C. In addition to these buttons, holding down the right mouse button and moving the mouse can control the camera angle. This causes the camera to rotate around a fixed point. The altitude of the camera cannot be altered when it is in **Terrain Mode**. The camera position can be zoomed in or out, or moved left, right, up, or down when it is in **Top-Down Mode**.
- 6.D. The camera is moved around the map using the arrow keys. Holding down the Shift key will speed up the movement of the camera.

7. Terrain view modes

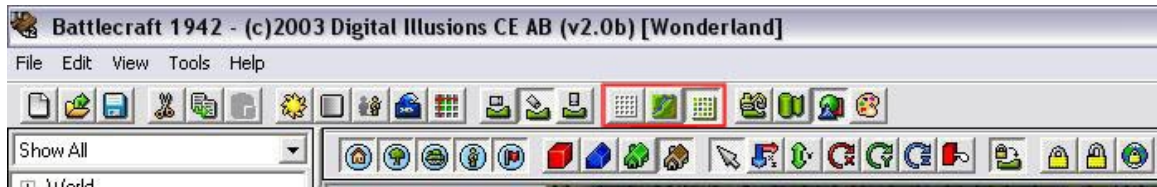


Figure 5: Terrain View Modes.

- 7.A. The terrain view mode buttons are, reading left to right, **Wireframe Mode (J)**, **Textured Surface Mode (K)**, and **Textured Wireframe Mode (L)**.
- 7.B. Note that these view modes have no effect on viewing objects. They only change the way you look at terrain.
- 7.C. The functions of each are pretty self-explanatory: **Wireframe** shows the terrain in solid wireframe without any terrain textures, **Textured Surface** shows the textured surface of the level, which defaults to a funky yellow-and-brown if no textures have been laid out yet. **Textured Wireframe**, pretty obviously, has the terrain textured surface with a wireframe laid over it.
- 7.D. NOTE: The above is true if you are in the **Terrain Mapper**, **Object Mapper**, or **Surface Painter**, not in the **Material Mapper** (see below), which shows the actual material (sand, grass, etc.) labeled on the surface OR a simplistic graphical representation of the textures.

8. Mapper Modes



Figure 6: Mapper Modes

- 8.A. The above shows the location of the Mapper buttons. These are used to switch between altering terrain (as in raising and lowering terrain), altering material (as in grass, sand, etc.) altering objects (adding, removing, moving objects such as houses, trees, bunkers, etc, and altering the look of the surface (editing the terrain, but not changing the actual laid out terrain)
- 8.B. Reading from left to right, the buttons are the **Terrain Mapper**, **Material Mapper**, **Object Mapper**, and **Surface Map Painter**. Their functions are as described above.

However, clicking on any of them alters the toolbar in significant ways, so we'll be covering them as a topic for a while.

8.C. **VERY IMPORTANT NOTE:** When in **Material, Terrain Mapper, and Surface Painter** modes, the TAB key switches between having objects visible and having objects hidden.

8.D. **Undo** is functional in all mapper modes except Surface Map Painter mode. Undo will function on every change you have made to an object. Note: There is no "redo" function.

8.E. Terrain Mapper

8.E.1. The Terrain Mapper has the following toolbar items associated with it:

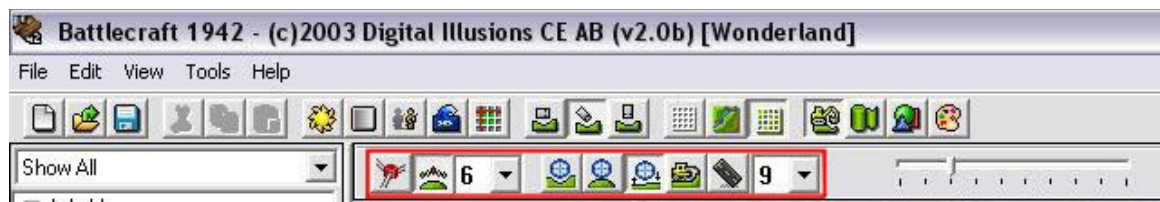


Figure 7: Terrain Mapper Tools

8.E.2. Reading from left to right, these buttons are the **Point Manipulation Tool** toggle (Z), the **Point Auto-Smoothing** toggle (X), and the **size modifier for the auto-smoothing**.

8.E.2.a. **The Point Manipulation Tool** is one of the trickier tools to master, but quite useful. Basically, you click on various points (the intersections of the gridlines in wireframe view) and adjust their height by either pressing plus and minus or by holding shift down and scrolling the mouse up and down. Holding down Ctrl allows you to "paint" manipulation points wherever you drag the mouse—useful for when you want to cover a large area quickly.

8.E.2.b. **Point Auto-Smoothing** changes the area affected by the **Point Manipulation Tool** from a single point, to a point with a radius. Note: The Radius is changed by using the drop down menu located to the right of the **Point Auto-Smoothing** toggle

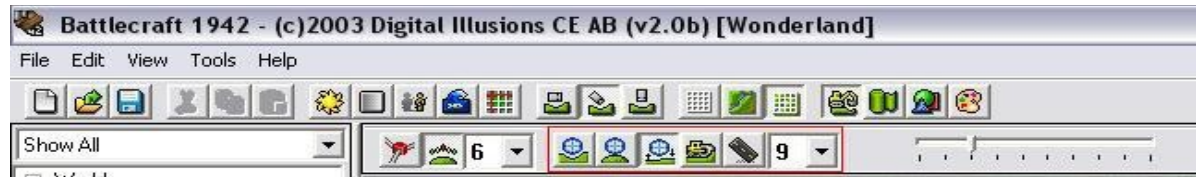


Figure 8. The terrain manipulation tools

8.E.3. The next four buttons, with the blue ball above the green terrain, are for lowering, raising, smoothing, and flattening (i.e. bringing up or down to a certain level) the terrain.

8.E.3.a. **Carving Tool**- This tool allows you to lower, or create indentations in the terrain. Simply move the mouse pointer to the desired area and click or hold down the left mouse button to carve. To adjust the speed at which you carve, click and drag the Intensity Bar.



Figure 9: The intensity bar

You can also increase or decrease the size of the affected area, by changing the size number in the Drop Down menu.



Figure 10: The sizing menu.

8.E.3.b. **Raising Tool**- This tool allows you to raise the terrain to a desired height. This tool is useful for making mountains, etc. To raise terrain, move the mouse pointer to the desired area and click or hold down the left mouse button. Again, you have the option to increase or decrease the size of the affected area, by changing the size number in the Drop Down menu and change the speed at which you raise the terrain by adjusting the Intensity Bar.

8.E.3.c. **Smoothing Tool**- The Smoothing Tool allows you to smooth out any jagged points that might appear on your

terrain. To use the smoothing tool, place the mouse indicator over any jagged points or edges and click the left mouse button. You can also smooth out large areas of terrain by holding down the left mouse button and moving the mouse over the desired area.

8.E.3.d. **Flatten Tool**- The Flatten Tool allows you to instantly level any area of the terrain with a click of the mouse. To use, set the square to the desired size, then move the mouse over to the area that needs leveling, and click the left mouse button. For large areas, you can click and hold the left mouse button. In order to set the level to which the leveler levels, hold Ctrl and click on a piece of terrain that is at that level.

8.E.4. The **Road Tool** is another quite useful tool. In order to use it, you hold Ctrl while clicking along the path that you want the road to take. When you release Ctrl, you will be prompted to determine the size of your road and whether or not you want to add material (dirt, mud, etc.) to it.

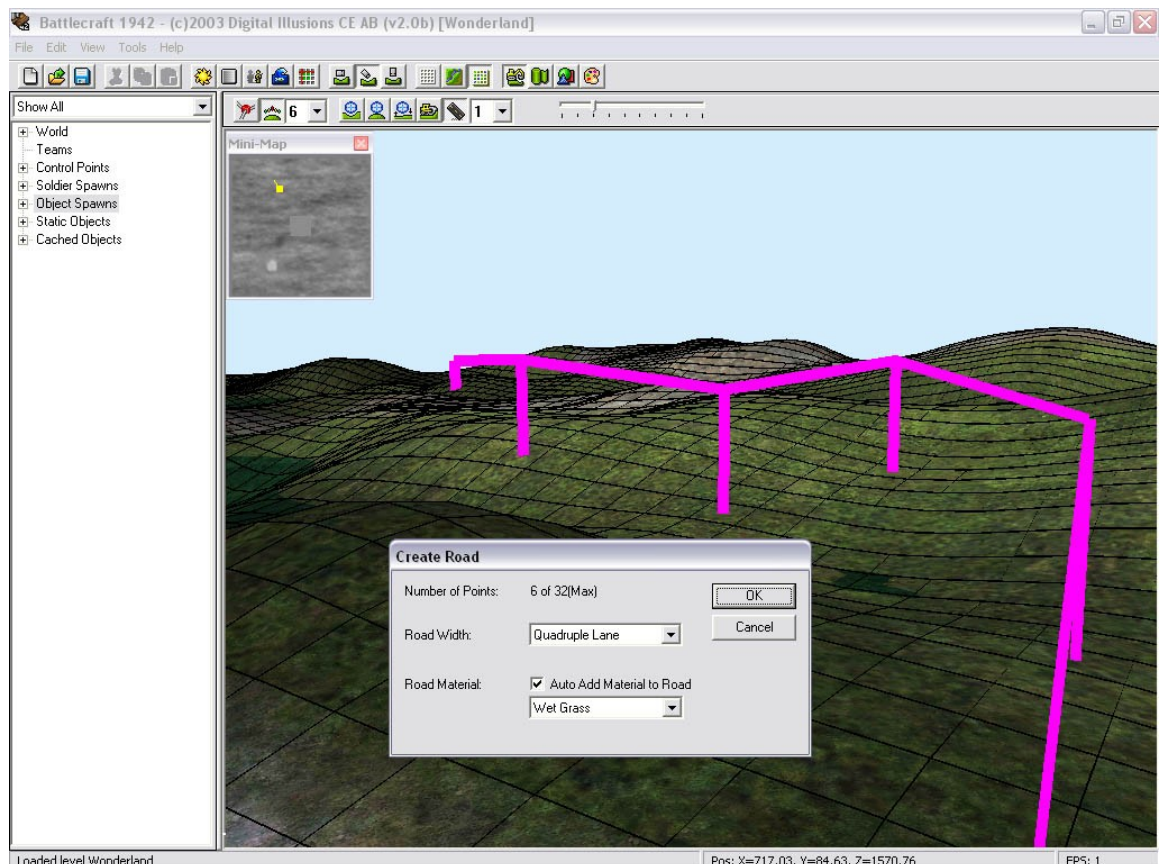


Figure 12: Using the Road Tool

One thing to remember here is that the road tool does not carve a straight path from point to point—it tries to smooth the road in

with the surrounding terrain. So if you put a path over a mountain, it's not going to be drivable unless you've taken the time to smooth it out first. So, even with the very moderately bumpy terrain above, the road featured would look like this:

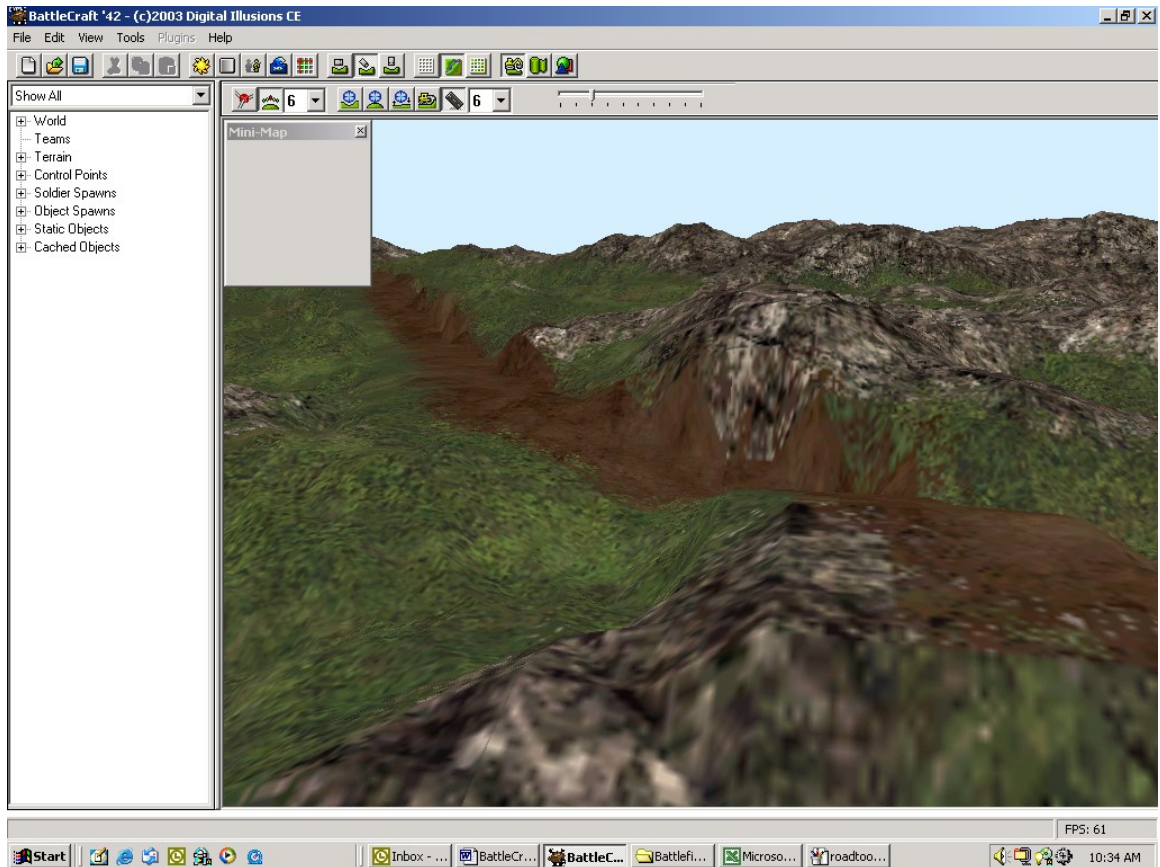


Figure 13: After Using the Road Tool

8.F. The **Material Mapper** button allows you to lay down surface textures such as grass, sand, and water.

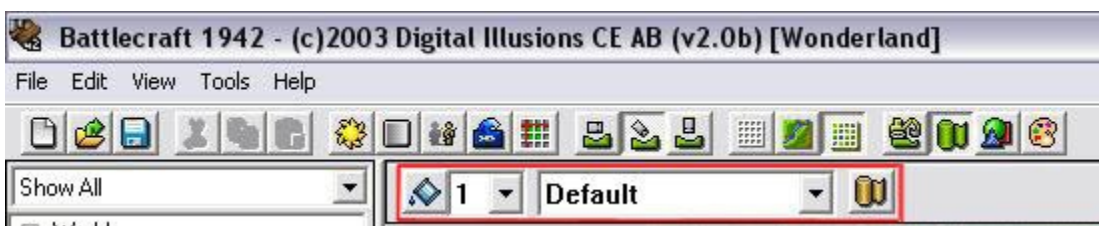


Figure 14: The Material Mapper Tools

8.F.1. The tools are, reading left to right, **Fill With Material**, which fills the selected area with material of the selected

type (defaults to the entire map if the Marquee Tool is not used) **Size Drop Down Menu**- Increases and decreases the size of the painting area, **Texture Drop Down Menu**- This drop down menu, allows you to select the different type of textures to place on top of the terrain, **Toggle Surface View**- This tool allows you to toggle between the two surface views. One view shows each square on the map with a text description of the texture used while the other, shows the actual textures on the terrain.



Figure 15: The Two Ways Of Viewing Materials In the Material Mapper

8.F.2. **Important Note:** After you finish laying down textures, you must click on **Generate Surface Maps** to see textures in game. To do so, click Tools > Generate Surface Maps.

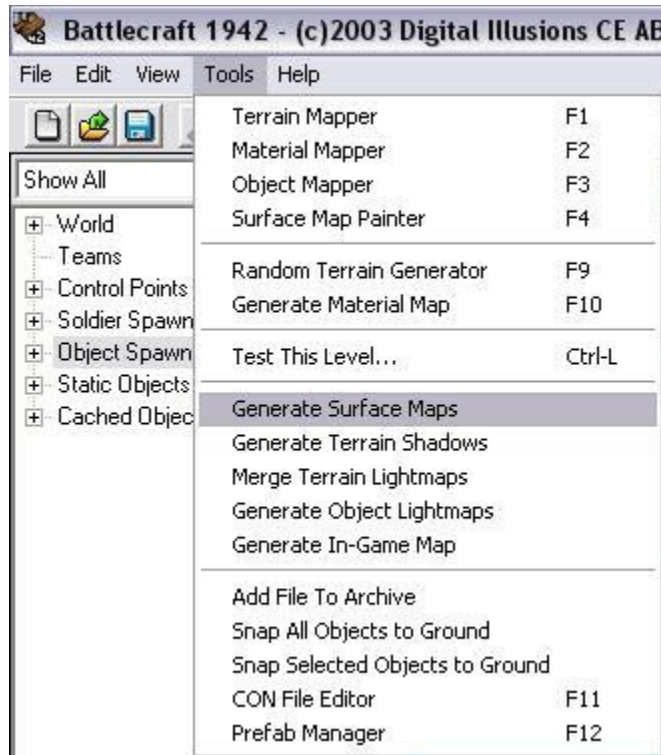


Figure 16: How to Generate Surface Maps

And of course this only is going to work if you've correctly followed the steps outlined under section 5 above regarding surface map assignments.

8.F.3. After you've done this, the textures will be smoothed out and meshed into themselves.

8.G. The **Object Mapper** allows you to add cached objects such as structures, props, and vegetation to your map



Figure 17: Views and Tools Available For The Object Mapper

8.G.1. The first five buttons determine which objects are shown while using the Object Mapper. They are, from left to

right, **Show Standard Meshes**- Toggle structures (buildings, props, etc.) on or off. **Show Tree Meshes**- Toggle vegetation on or off. **Show Object Spawns**- Toggle object spawn points on or off. **Show Soldier Spawns**- Toggle soldier spawn points on or off. **Show Control Points**- You guessed it! - Toggle control points on or off.

8.G.2. The next four buttons determine how objects are viewed. From left to right, the views are **View as Bounding Box**- this shows the actual area the object occupies, and is the best way to check if two objects are intersecting. **as Collision Mesh**- this shows the lines of object collision, for vehicles and objects attempting to pass through. **View as Detail Mesh**- this shows the objects in solid color rather than textures. This view makes it a lot easier to see exactly where all of your objects are in relation to each other. **View as Textured Mesh**- This view allows you to see all cached objects in full detail with textures on.

8.G.3. The next (and last) buttons show the **object manipulation tools**:

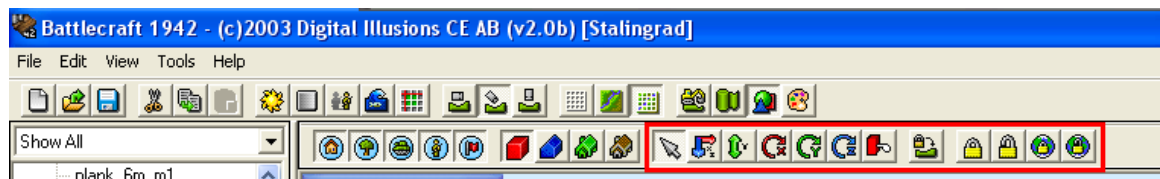


Figure 18: Object Manipulation Tools

Reading from left to right, they are: **Select Objects**- this allows you to click and highlight objects on the map. **Translate Objects**- This allows you to move an object to another location on the map. NOTE: This is not a click-and-drag tool. Rather, you select the object with the select object tool, click on the **translate objects** button, and then click anywhere on the map to move the object there. **Raise Lower Objects**- This allows you to move an object vertically. **Rotate Objects on X Axis**- self-explanatory **Rotate Objects on Y Axis**- self-explanatory, **Rotate Objects on Z Axis**- self-explanatory. NOTE: For all the rotation buttons, after selecting a button, you rotate the object by holding down the left mouse button and scrolling the mouse up or down. **Nudge Tool** - Just click and drag, and your object will move with you... hold down Ctrl to slow the speed of movement-- and remember to lock it when you've nudged it into just the right place. **Snap Objects to Ground**- This toggle allows you to place objects on the ground and prevents objects from passing through the surface. **Lock Selected Object** -

Allows you to lock down which ever object is highlighted. **Unlock Selected Object** - Allows you to unlock the selected object so that it can be moved. **Lock all Objects** - Locks all the objects in the map. Note: All objects are locked upon being placed, and must be unlocked in order to move/rotate/etc it. It is recommended that you lock down an object as soon as you get it in the right place. - **Unlock All Objects** - unlocks all objects

8.H. The **Surface Map Painter** allows you to 'paint' over an existing surface



Figure 19: Surface Map Painter Tools

8.H.1. Reading from left to right, the tools are: **Brush shape drop down** - allows you to pick which brush size and shape will be used. **Darken Texture** - allows you to darken hue of the texture. **Lighten Texture** - Allows you to lighten the hue of the texture. **Paint Material on Texture** - Paints the terrain material selected in the right drop down onto the existing terrain. **Blend Texture** - Blends together the terrain textures by blurring the pixels together. **Color Selector** - allows you to use a palette to select a color (or pick one of the pre-defined colors), then paint that color onto the terrain texture. **Material selection drop down** - Use this to select one of the pre-made Battlefield textures to be painted on the existing terrain textures. **Intensity Bar** - Use this to increase or decrease the opacity of the tools. I.E. if the slider on the bar is completely to the right, the tools will be at max opacity, and if its to the far left, the tools will be at minimum opacity.

8.H.2. None of these tools actually paint the materials-- the sound a soldier stepping on an area of "wet grass" material that has had "rock surface" painted on it will still make the "wet grass" sound. Whatever terrain is shown in the Material Mapper Mode is the actual material placed.

9. Control Points, Soldier Spawn points, and Object spawn points.

9.A. At first glance, the tools used to govern these seem complicated, but since they all work in relatively the same way

they're basically easy to get a grip on. First of all, they're all contained in a tree hierarchy on the left side of the Battlecraft 1942 GUI.

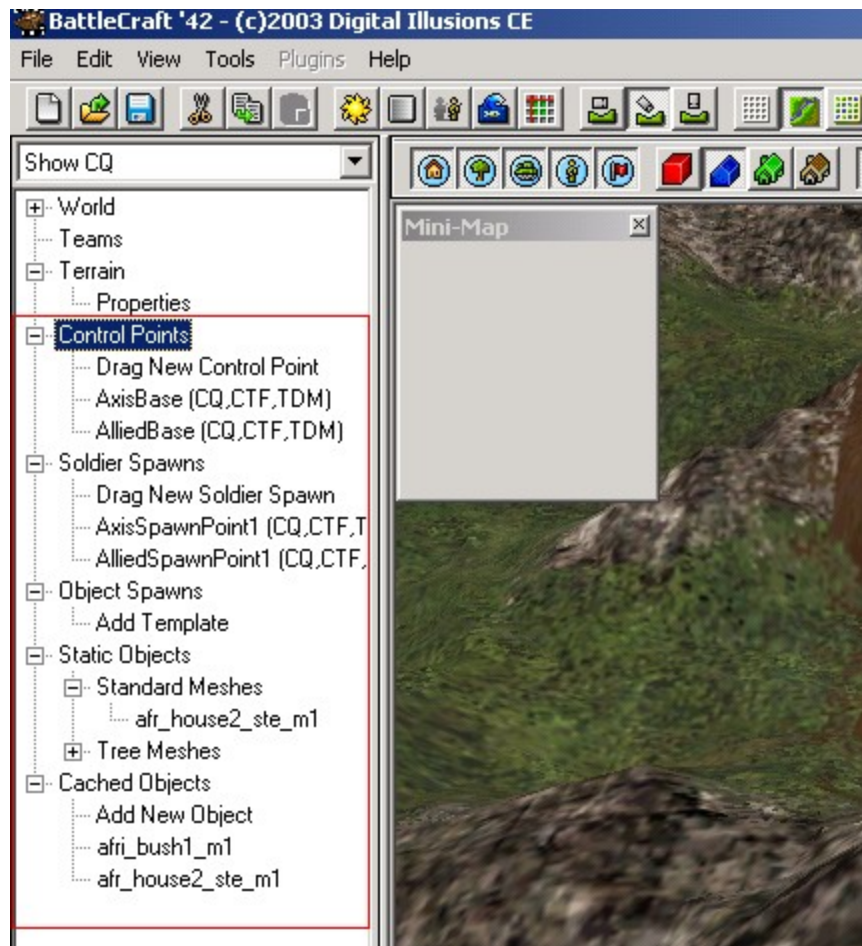


Figure 20: The Level Tree and Control Points

- 9.B. The "Show All/CQ/CTF/TDM" drop-down menu can be used to show where the Control Points, Object and Soldier Spawns are in the different map modes.

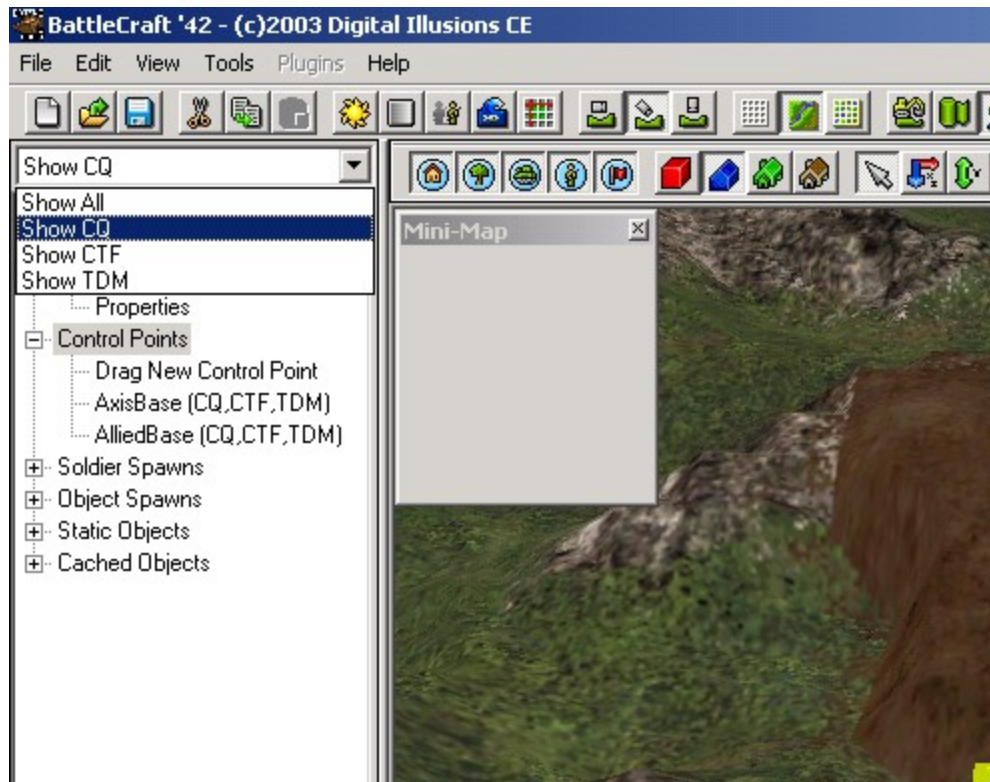


Figure 21: Game Type Display Changing

9.C. Control points, soldier spawns, objects, and objects spawns are all moved using the object manipulation tools that were described in section 8.F.4 above.

9.D. **The Control points section** is used for the placement of new and modification of existing control points. Every level, by default, starts out with two Main Bases, one for each side. These each have one default Soldier Spawn apiece.

9.D.1. In order to place down new Control Points, click on **Drag New Control Point** and drag onto the map. A new control point will pop up where you've dragged it.

9.D.1.a. In order to alter the properties of a control point, either double-click it in the tree hierarchy or just double-click the control point object itself. This will bring up the following screen:

Edit Control Point [Close]

Name	AXIS_BASE		
controlPointName	Eastern_Train_Station		
radius	5		
team	Germans		
areaValue	0		
timeToGetControl	9999		
timeToLoseControl	9999		
disableIfEnemyInsideRadius	0		
disableWhenLosingControl	0		
loseControlWhenEnemyClo	1		
loseControlWhenNotClose	0		
unableToChangeTeam	1		
geometry	flagbase_m1		
hasCollisionPhysics	1		
addTemplate	AnimatedFlag		
teamGeometry 1	flagge_m1		
teamGeometry 2	flagso_m1		
relative position	0.00	8.20	0.00
Pos	698.41	37.80	378.50
Game Modes	<input checked="" type="checkbox"/> CQ <input type="checkbox"/> CTF <input type="checkbox"/> SP <input checked="" type="checkbox"/> TDM		
Master CTF Flag	<input type="checkbox"/> (Flag is a CTF Capture Point)		

OK Cancel

Figure 22: Control Point Edit Screen

- 9.D.1.a.1. Most of these values are pretty easily understood.
- 9.D.1.a.2. Name and ControlPointName modify the name you're calling it and the name it will show up as in game.
- 9.D.1.a.3. Radius changes the radius around the control point—as in the radius within which you need to be to change control.
- 9.D.1.a.4. Team changes which team the CP starts out belonging to.

- 9.D.1.a.5. AreaValue is the way to make ticket bleed function correctly. Basically, whichever team has 100 or more area value points starts ticket bleed for the other team. So, if you have three points, two non-capturable bases and a neutral point, if you assign each point an area value of fifty, whoever holds the neutral point causes the other team to begin bleeding.
- 9.D.1.a.6. TimeToGetControl is the time from when the flag goes grey to when a soldier within the radius is able to capture it for his team.
- 9.D.1.a.7. Likewise, TimeToLoseControl is the time it takes to turn the flag to gray when it currently belongs to a team and an enemy soldier is within the radius.
- 9.D.1.a.8. DisableIfEnemyInsideRadius is a binary value that determines if an enemy alone is inside the radius of the flag, the spawn points associated with that flag won't function.
- 9.D.1.a.9. DisableWhenLosingControl is a binary value that determines that the point no longer functions as a spawn when the flag is contested.
- 9.D.1.a.10. LoseControlWhenEnemyClose is a binary value that determines whether or not this flag is capturable by the enemy.
- 9.D.1.a.11. LoseControlWhenNotClose is a binary value that determines that if a member of your team is not near this flag, it will revert to gray.
- 9.D.1.a.12. UnableToChangeTeam is a binary value that determines ONLY if the flag appears as a non-capturable map on the minimap. It does not actually affect whether or not the base is capturable.
- 9.D.1.a.13. Geometry is a very nifty function. Basically, the geometry (object) of the flagpole can be anything, from a rock to a house to a leaf. This is where that is set. Example: bclas_m1
- 9.D.1.a.14. HasCollisionPhysics is a binary value that determines whether or not the object specified by Geometry has collision physics.
- 9.D.1.a.15. AddTemplate is the area where the animation for the flag is stored.
- 9.D.1.a.16. TeamGeometry 1: governs which flag is used for Team 1—BC automatically sets this for the correct flag for the team selected in Teams, but if you want to change it, either to a personally created

- flag or just to another standard flag, this is where that is altered. Example: flagjp_1
- 9.D.1.a.17. TeamGeometry 2: governs which flag is used for Team 2—BC automatically sets this for the correct flag for the team selected in Teams, but if you want to change it, either to a personally created flag or just to another standard flag, this is where that is altered. Example: flagjp_1
- 9.D.1.a.18. Relative position appears not to have any effect.
- 9.D.1.a.19. Position gives the coordinates that the control point is at—adjusting these coordinates moves the flag accordingly.
- 9.D.1.a.20. Game modes govern which game modes the control point actually appears in.
- 9.D.1.a.21. Flag is a CTF Capture point governs whether this control point functions as a takeable flag during Capture the Flag games.

- 9.E. In order to place down new soldier spawns, click on **Drag New Soldier Spawn** and drag onto the map. New soldier spawn will pop up where you've dragged it, and automatically attach itself to a base.

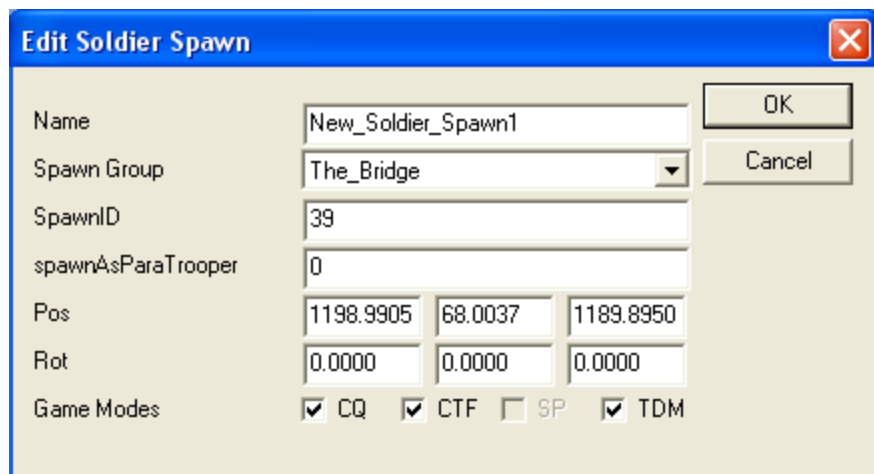


Figure 23: Soldier Spawn Edit

9.E.1. If a spawn point is double clicked, the **Edit Soldier Spawn** menu appears.

9.E.1.a. The Name value changes only what the name of the spawn point is inside BC—it has no affect on gameplay.

9.E.1.b. The Spawn Group drop-down menu attaches the spawn point to a particular base. This defaults to the first placed base on the map.

9.E.1.c. Spawn ID simply provides another identity for the spawn—it has no in-game function and should not be altered, except if you want to be very organized about your spawn points—in other words, if you create four spawn points for one control points, four for another, delete the first one, and then create four more for another, the first new spawn point that you put down will have SpawnID 1. This will have no bad affect on the map.

9.E.1.d. SpawnAsParaTrooper is a binary value governing whether or not the soldiers spawn in with their chutes open. Of course, if the point is on the ground, this is a severely moot point

9.E.1.e. Pos gives the coordinate location of the spawn point.

9.E.1.f. Rot gives the rotation angle of the soldier as he spawns in—the only value that really matters here is the X axis portion, because the soldier will automatically flip vertically straight after spawning in.

9.E.1.g. Game Modes governs which game modes the Spawn Point is active under.

9.F. **Object Spawns** work somewhat differently than control point and soldier spawns, but have many things in common.

9.F.1. In order to create a new object spawn, you must first double-click on the Add Template section in the **Level Tree**. This will bring up the **Edit Object Spawn** Template menu.

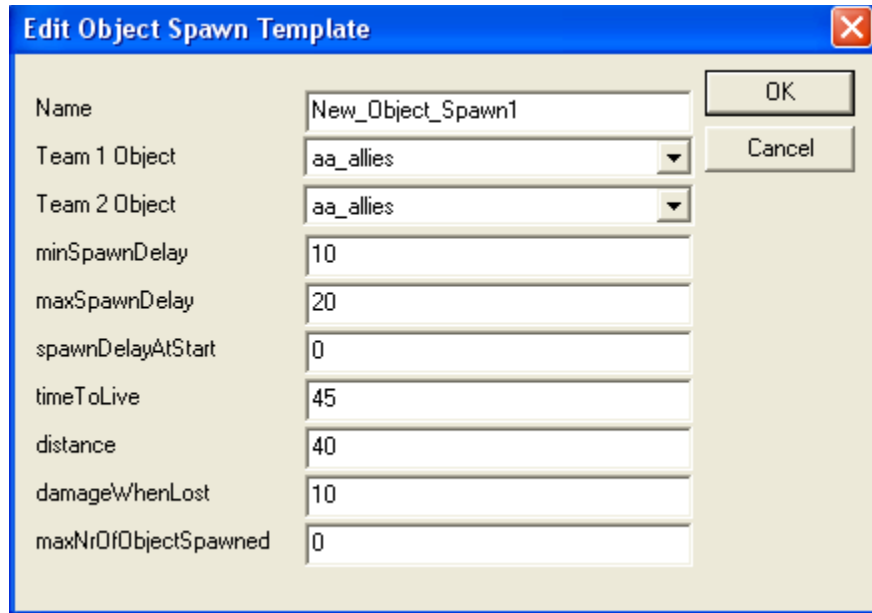


Figure 24: Object Spawn Template Screen

- 9.F.1.a. The values here will govern all object spawns that use this particular template.
- 9.F.1.b. The Name value is only an internal BC function—it changes what the template (and all associated object spawns) is called in the **Level Tree**.
- 9.F.1.c. Team 1 Object is a dropdown menu of all spawnable objects. It selects what object spawns for team 1, if team 1 controls the object spawn.
- 9.F.1.d. Team 2 Object is a dropdown menu of all spawnable objects. It selects what object spawns for team 2 if team 2 controls the object spawn.
- 9.F.1.e. MinSpawnDelay is the minimum amount of time between the spawned object being destroyed and the spawning of a new one.
- 9.F.1.f. MaxSpawnDelay is the maximum amount of time between the spawned object being destroyed and the spawning of a new one.
- 9.F.1.g. SpawnDelayAtStart is how much time from the beginning of a map it takes the object to spawn.
- 9.F.1.h. TimeToLive is how much time passes before an abandoned vehicle from this object spawn (i.e. unoccupied, moved from the original spawn) begins taking damage.
- 9.F.1.i. Distance is how far the vehicle can be from its original spawn before the TimeToLive countdown starts.
- 9.F.1.j. DamageWhenLost is the amount of damage the vehicle takes per second while lost.

- 9.F.1.k. MaxNrOfObjectSpawned governs the number of individual vehicles that can be produced by this object spawn point.
- 9.F.2. After a template has been created, it is added into the **Level Tree**.

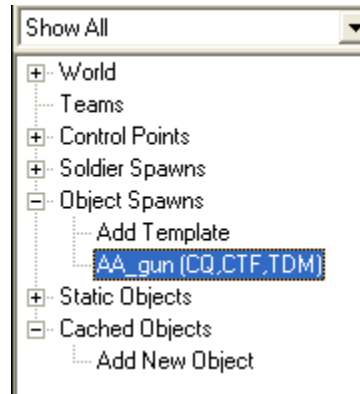


Figure 25: Object Spawn Templates in the Level Tree

- 9.F.3. In order to place an object spawn, drag the correct template onto the map. This will create a new object spawn with the settings specified in the template. It will also display the hull of the vehicle.
- 9.F.4. Note that unlike soldier spawns, object spawns do not default to belonging to any control point. This is so that you can make object spawns that spawn vehicles independent of control points (like the airfield on Gazala.)
- 9.F.5. Double clicking on the object spawn while using the select tool in the **Object Mapper**, or just double-clicking on the specific entry in the **Level Tree**, brings up the **Edit Object Spawn** submenu.

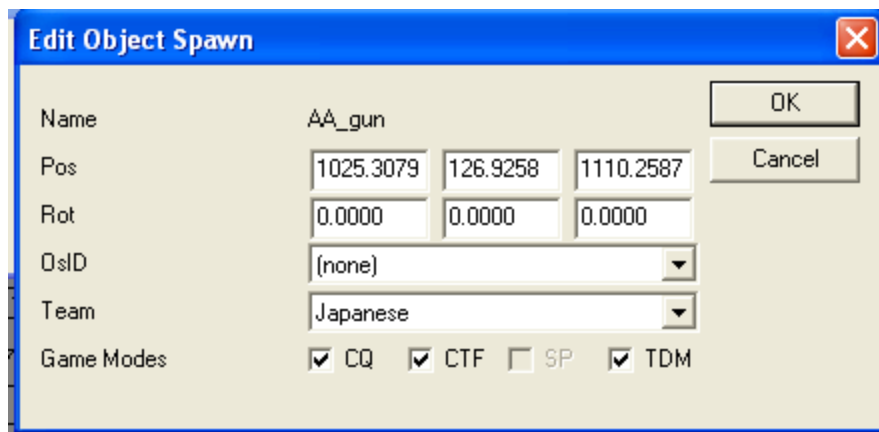


Figure 27: Editing Individual Object Spawns

- 9.F.5.a. Most of the values here are reasonably obvious.

- 9.F.5.b. Pos are the coordinates that the spawn is placed at. Changing these numbers changes the position of the spawn.
- 9.F.5.c. Rot is the angle the vehicle spawns facing.
- 9.F.5.d. OsID is the way to link the object spawn to a particular control point. If it is not linked to any control point, it will spawn vehicles constantly, according to the template rules.
- 9.F.5.e. Team governs which type of vehicle spawns at the start of the map, the Team 1 object or the Team 2 object.
- 9.F.5.f. Game mode governs which game modes the object spawn is active in.

10. Static Objects.

- 10.A. Static objects are placed in a way similar to the placement of object spawns. First they have to be cached, and then they can be placed.
- 10.B. When **Add a New Object** is double-clicked, the **Object Browser** submenu comes up.

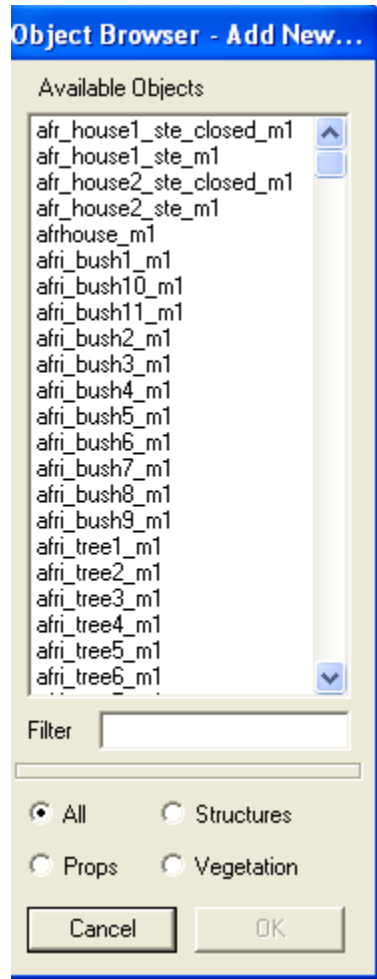


Figure 28: Static Object Browser

- 10.B.1. By scrolling through the objects, the user is given a preview in the main BC window.
- 10.B.2. The filter works. If you type “tree” in it, only objects with “tree” in their title appear.
- 10.B.3. Also, you can select four different categories of objects to view—All, which, unsurprisingly, shows all the objects, structures shows only buildings, ruins, etc, props shows things like barrels and medlockers, and vegetation shows vegetation.
- 10.C. Once the object has been selected, “OK” will add the object to the **Cached Objects** list.
- 10.D. Once the object is in the **Cached Objects** list, it can be clicked-and-dragged onto the map. Once it is, it will appear as a unique object in the **Static Objects** list in the **Level Tree**. These individual instances can be selected by scrolling through the **Static Objects** list, and can also be deleted from there.
- 10.E. Once placed on the map, an object or multiple objects can be selected (to select multiple objects hold down Ctrl while you

click them) and copy-and-pasted. The standard keyboard shortcuts (Ctrl+C, Ctrl+V+click on desired position) function for this, as well as the toolbar buttons.

11. Light, Fog, and Shadow

11.A. Light.

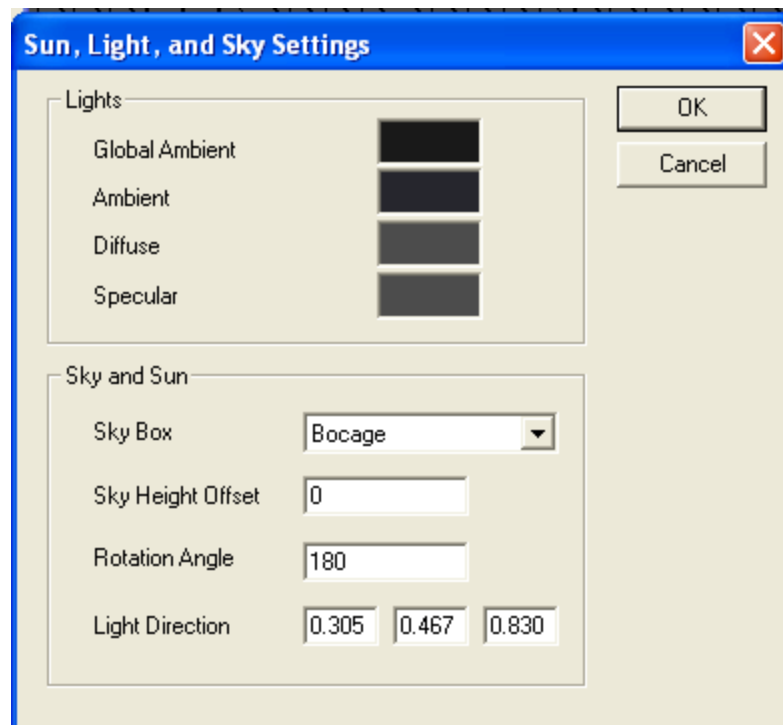


Figure 29: Light Effects

- 11.A.1. By clicking on the **Light Settings** button on the toolbar, the **Sun, Light, and Sky Settings** submenu is brought up.
- 11.A.2. Global ambient changes the color of the light effects throughout the level. In other words, if you make this bright blue, weapons, and objects in the game will appear bright blue.
- 11.A.3. Ambient - We have not been able to determine what this affects.
- 11.A.4. Diffuse - This changes the way that light affects the smoke effects in-game.
- 11.A.5. Specular changes the way that light looks reflecting off of a lightmap.
- 11.A.6. Skybox allows you to choose between the various skyboxes (ceilings).

- 11.A.7. Sky Height Offset - this is how high the horizon line of the skybox is.
- 11.A.8. Rotation angle just rotates the skybox, around the y axis.
- 11.A.9. Light direction is the direction the light originates from x, y, and z coordinates.

11.B. Fog

- 11.B.1. Fog, first of all, determines whether or not fogging effects are used in the level. The check box obviously is where this is set.

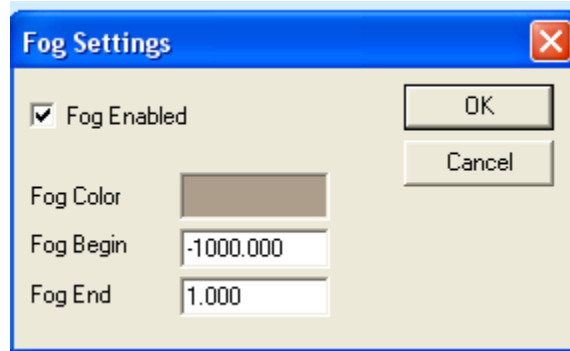


Figure 30: Fog Settings

- 11.B.2. Fog color, likewise, changes the color of the fog.
- 11.B.3. Fog begin determines where the fog starts having effect.
- 11.B.4. Fog end, likewise, is where the fog reaches maximum opacity.

11.C. Shadows

- 11.C.1. In order to create shadows, a process similar to texture generation must be followed.
- 11.C.2. Only areas that have textures generated are able to be shadowed.
- 11.C.3. In order to generate shadows, go to tools and select **Generate Terrain Shadows**. Then, select the areas for shadow generation just like you selected areas for surface texture generation. You can select the level of shadow detail. Bear in mind that at higher levels of shadow detail, this will be a VERY long process.
- 11.C.4. Along with shadow generation, the properties of the shadows can be altered in the shadow submenu, accessible through the toolbar.

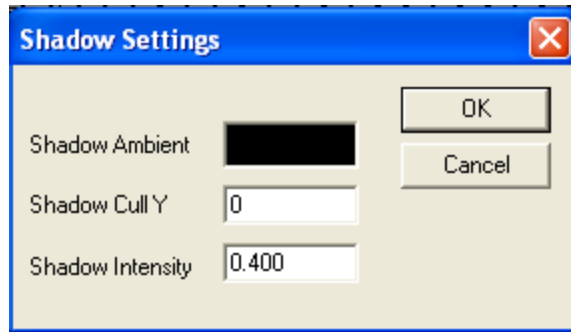


Figure 31: Shadow Settings

- 11.C.5. Shadow Ambient changes the color of the shadows. NOTE: This must be done BEFORE shadows are generated. Shadow intensity changes how deep and intense the shadows are.
- 11.C.6. After shadows are generated, they must be merged with the terrain lightmaps. This is a much quicker process than generating the shadows themselves.

Special Section:

PreFab Manager:

- The PreFab manager is a special tool that allows you to transfer entire sections of maps (buildings, spawns, control points, etc) from one map to another.
- When selecting "PreFab Manager" from the tools dropdown, or by hitting F12, a "PreFab Manager" menu will pop up.



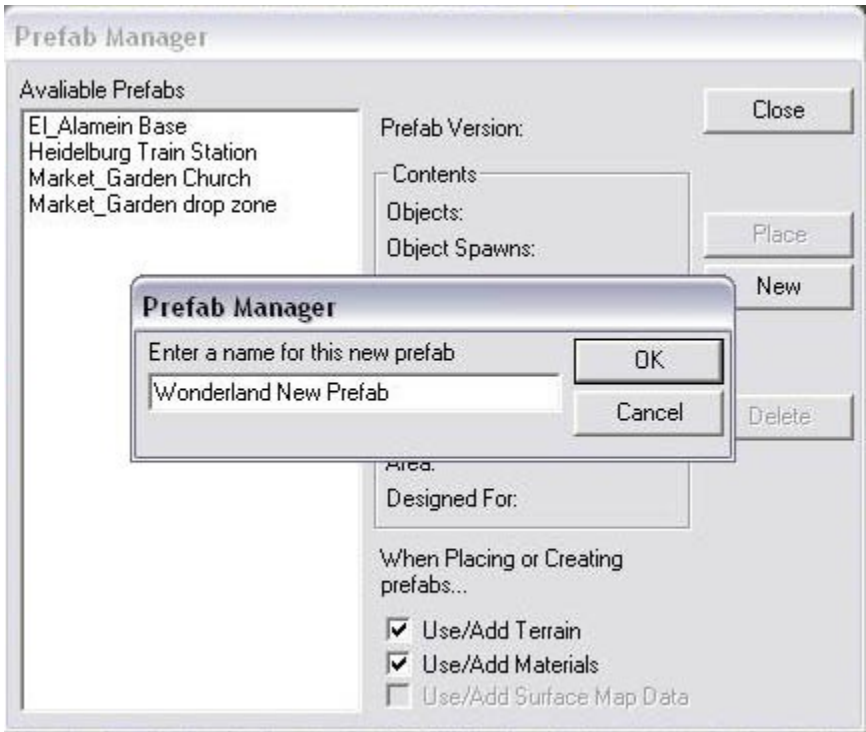
Prefab Menu

- There are four default PreFabs in the menu. To use any of these, simply click on the name of the Prefab, then click the Place button, and simply place the prefab on your map where you want it to be.
- Note: If you deselect Use/Add Terrain and Use/Add Materials when placing a prefab, only the objects will place, and the terrain/material will not change.



The prefab capture area

- To make your own Prefab, click on the New Button. This will close the PreFab manager menu temporarily and put you in Camera Top-Down mode. Select an area where you're placed objects, spawns, etc that you like, then click and drag a rectangle which encompasses all the elements you like. When you let go of the mouse button, you'll be asked: "Are you satisfied with the prefab capture area? Yes/No." Pressing No will give you a chance to recapture the prefab area. Selecting Yes will take you back to the Prefab Manager menu.



Naming your prefab

- Click on the Create button to give your new prefab a name. After selecting OK, the new prefab is created and can be used.
- After creating your prefab, place it by returning to the prefab menu and clicking place. You can then place this prefab on any level you desire.

Good luck!

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