

# Delta Force 2<sup>™</sup>

# MISSION EDITOR

This Mission Editor tool is a slightly modified version of the actual tool used by NovaLogic Mission Designers. Although some of the campaign programming has been disabled, you will find this tool extremely flexible when it comes to designing your own missions. This manual will only cover the basic requirements for successfully creating a mission. Because mission design has so many complex components, this tool is intended for the advanced user.

Use at your own risk.

## Table of Contents

Section 1: Navigating the Tool .....	2
Section 2: Editing General Information & Mission Briefings.....	3
Section 3: Groups and Layers.....	4
Section 4: Waypoints .....	5
Section 5: Inserting Items.....	6
Section 6: Area Triggers and Events .....	7
Section 7: Exporting and Playing Missions.....	8
Section 8: Hints and Tips.....	9
Appendix A: Terrain Types.....	10
Appendix B: Trigger List.....	11

The Mission Editor Tool requires a minimum screen resolution of 800x600. For best results, we recommend that you set your resolution to at least 1024x768. It is also recommended that you have at least 160 megs of memory free when using the tool.

# Section 1: Navigating the Tool

There are a number of keyboard controls and toolbar buttons that will help to create missions more efficiently.

## Mouse Commands:

**Left Button** – Selects or unselects an item in Select Mode or Inserts a new item in Insert Mode. You can left click on the Unselect All button or you can hit the **U** key to unselect all selected items. You can select more than 1 item at a time. As you select items the attributes of the most recently selected item will appear in the lower left side window in the tool. While an item is selected you can left click on the Selected Information Box in the left corner to pull up the Item Attributes window.

**Left Button** with **SHIFT** held down – Selects everything within the box you create.

**Left Button** with **CONTROL** held down – Unselects everything within the box you create.

**Right Button** – Brings up a menu for copying, pasting and selecting.

**Right Button** with **SHIFT** held down – Click and move right or left to quickly zoom in and out of the map.

**Right Button** with **CONTROL** held down – Centers the map at the point you clicked on

## Keyboard Commands:

**ARROW keys** - Scrolls map up, down, left and right.

**Page Up, Keypad 9, Keypad Plus** - Zooms map in.

**Page Down, Keypad 3, Keypad Minus** - Zooms map out.

**INSERT** - Toggles between Insert Mode and Select Mode.

**DELETE** - Delete selected items.

**ALT** – Hold to use hotkey listed in the toolbar menu.

## Screen Buttons:

**C – Character Map** – Press this button or the F1 key to show a full color representation of the terrain.

**H – Height Map** – This button and the F2 key will bring up a topographical view of the terrain where the lighter the color the higher that part of the terrain. Solid dark areas are usually low, flat spots which is good for bases or airfields.

**D – Depth Map** – This view simply shows the contour map of the terrain. The closer the lines are to each other, the steeper the grade. Solid black represents perfectly flat areas. You can also use the F3 key to see this map.

**P1 – Page 1** – The Delta Force 2 Mission Tool allows you to have two different missions open simultaneously.

This feature is good for comparing missions or for copying/pasting elements out of one mission into another.

**P2 – Page 2** – Press this button to display the second mission that you opened. Note you must be on this page when you open the second mission or it will replace your page 1 mission.

**XY Coordinates** – This gives you the grid location of the center of your screen. Click on this to type in new coordinates and the screen will center on them. The units are in meters.

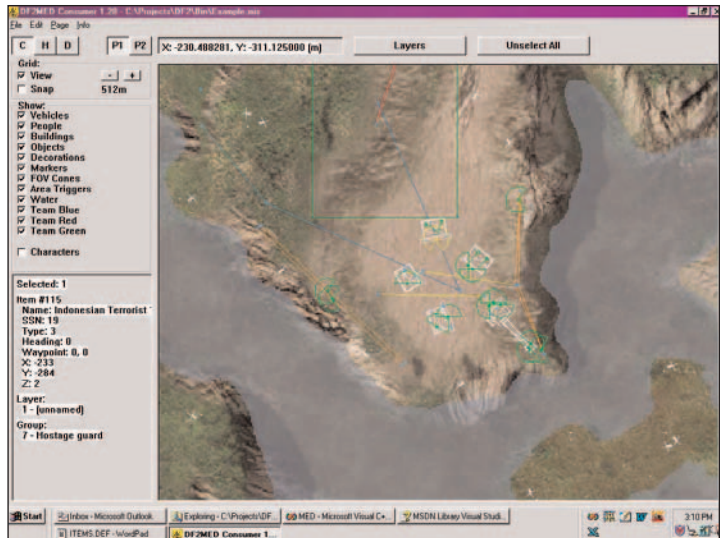
**Layers** – This option brings up a box that allows you to select which layers you would like to see and which ones are hidden. See **Section 4** for more information on Layers.

**Unselect All** – This button (or the U key) will automatically unselect all items.

**Grid** – Items that you insert while the Snap box is checked will move to the nearest grid intersection. This is particularly useful when you want to line items up precisely. The View box will toggle the grid overlay on and off. Use the **Plus** and **Minus** symbols to increase and decrease the grid resolution (size).

**Show** – By checking the appropriate boxes, you can choose which items you see and which are hidden from view. This is useful for finding specific items in a map full of various item types.

**Selected Information Box** – When you select an item, its most important statistics appear in the lower left corner of the screen. Click anywhere in this area to bring up the Item Attributes window.



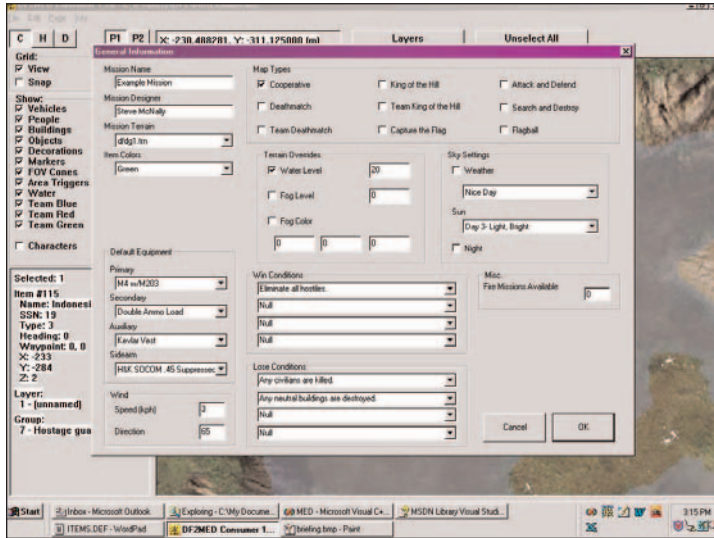
The red box on the terrain map displays the maximum size of the terrain. Any items you place outside the red box will be forced to the inside edge of the red box when you export that mission. The green box shows you the suggested area in which to make your mission. Placing items outside of the green box may make the mission excessively long.

# Section 2: Editing General Information & Mission Briefings

Under **Edit** in the Tool Bar, select **General Information** to set the basic mission details. Select **Briefings** to edit the text that players will see on the mission briefing screen before the mission begins.

**Mission Name** – This is the unique name that people will see when selecting your mission.

**Mission Designer** – Put your name here.



**Mission Terrain** – Consult with **Appendix A** for a list of all terrain available and select the one that best fits the location of your mission.

**Item Colors** - Items choose from 3 different camouflage styles: Green (for grassy terrain), Brown (for desert terrain), or White (for snow terrain). Choose the one most appropriate for your mission. All items with multiple camo settings will use the one color selected here when the mission is exported.

**Default Equipment** – Select the gear that is most appropriate for the player in your mission. They will be able to change this gear before entering the mission or at an armory if one is available.

**Wind Settings** – If you want wind to play a part in your mission, set the wind speed and direction here.

**Mission Type** – Select what type of mission you are making.

**Terrain Overrides** – You can raise the water level in your mission (measured in  $\frac{1}{2}$  meters). We recommend that you do not go over 130 for most maps or the entire mission may take place underwater. If you want fog in the mission, select its level here (1-9). 0 is off, 1 is extremely thick and 9 is so thin it appears as an overcast day. Between 5 and 7 is best for missions with fog. You can also alter the color of the fog by manually setting the Red, Green and Blue settings. Fog is best when Gray (50,50,50). Other examples of colors:

*Bright Red* = 255,0,0

*Medium Green* = 0,120,0

*Dark Blue* = 0,0,25

*Yellow* = 0,100,100

*Black* = 0,0,0

*White* = 255,255,255

**Sky Settings** – With these settings, you can add weather effects such as rain or snow and set the position and brightness of the sun or create a night mission. Be sure to check the Night box in addition to selecting a night sky, as this will properly adjust certain art elements.

**Win and Lose Conditions** – You can set up to four win or lose mission goals in this area. The win and lose conditions are for goal information text only. The actual win and lose conditions are set up through the events.

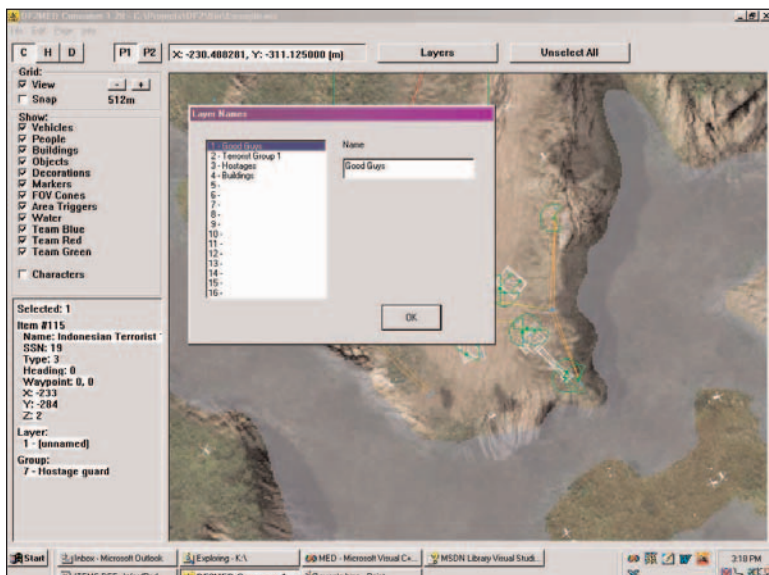
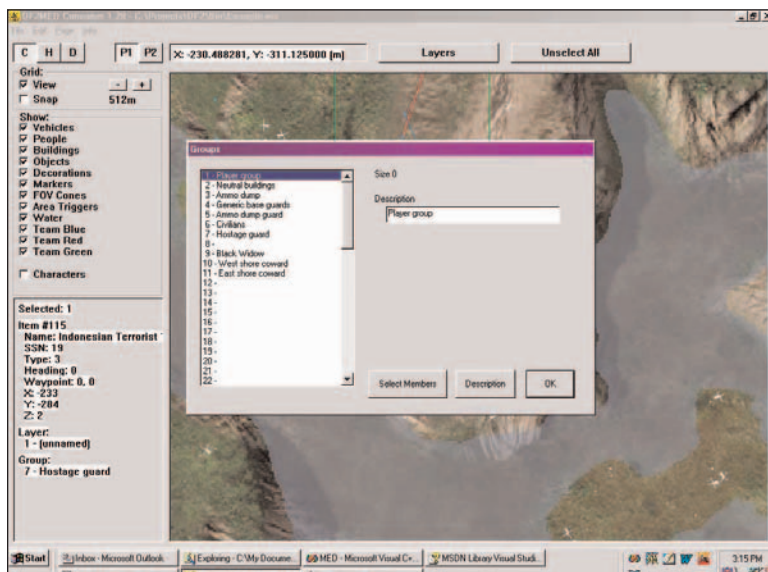
**Fire Missions Available** – Indicates the number of fire support strikes you can call with the laser designator.

## Section 3: Groups and Layers

The most important part of building a good mission is organization. You can quickly get lost in a sea of meaningless numbers unless you take the time to properly label things. A little work in the beginning saves a lot of headaches later on.

### Groups

Groups are used to classify related items such as a squad of enemy soldiers and identity for Events and Waypoints. It is often better to give each unit its own orders so that it doesn't interfere with other units, however, placing multiple units in a group may save you time setting up the mission. You can rename the group to any name you want and automatically select all units within a group from the **Group** window, under **Edit**. Click **Save As** to save the list to a text file for printing.

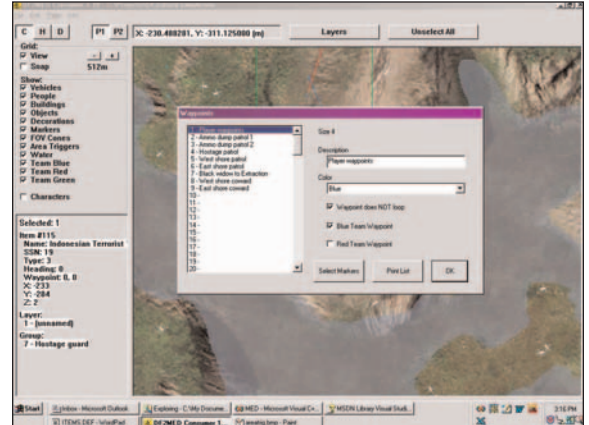


### Layers

Layers are vital to sorting out all of the items within a mission. You can create up to 16 individual layers for sorting. Under the **Edit** menu, you can change the **Layer Names** to whatever has meaning to you. Some examples of names are Enemy Base, Friendly Waypoints, and Foliage. When you just want to see a certain layer of items, hit the **Layers** button on the main screen and check the ones you want to see.

## Section 4: Waypoints

Waypoint groups tell vehicles and soldiers where to go. Set up **Waypoints** under the **Edit** menu. Again you can name a waypoint group with whatever name you chose. The Waypoint window will show you how many individual waypoints are part of a waypoint group. If you check the “Waypoint does not loop” checkbox, then the vehicle will come to a stop at its last waypoint. Otherwise vehicles reaching their last waypoint will attempt to head back to their first waypoint and start again. You place waypoints (found under **Markers** in the **Insert Item** window), as you would insert other objects. Click Save As to save the list to a text file for printing.



### Placing Waypoints

A waypoint is designated by 2 numbers, such as waypoint 1-1 or 2-4. The number before the dash indicates its Waypoint List number. The number after the dash indicates its Waypoint Number. Waypoints are numbered from 0 up, not 1 up. The “reached waypoint” triggers follow this logic. So to the trigger, the second waypoint in a list is “1” no matter what they numbered the object as.

### Setting up a waypoint list:

1. Go to Edit in the menu and then select **Waypoints**
2. Waypoint List One should already be selected. Click in the **Description** box and type “Enemy’s Waypoints”
3. Below that is a box to select a color for the lines connecting the waypoints. Select a color if you feel like it.
4. Below the **Color** box is a small check box. This determines whether or not your waypoint list will loop. We don’t want our first waypoint list to loop. Click on it so that it is checked. Then click **OK**.
5. Go to **Insert Mode**
6. Click on the map somewhere near your enemy to add the first waypoint.
7. In the **Insert Item** window, click on **Markers** then select waypoint.
8. Click somewhere else on the map to place your next waypoint.
9. Notice that **Markers** and **waypoint** are already selected. Just click on **OK**.
10. Repeat steps 8 and 9 a couple more times.
11. Get out of **Insert Mode**
12. Select all of the waypoints you just placed and then click on **the Selection Information Box** to bring up the **Item Attributes** window.
13. Change the Waypoint List box to “1 – Enemy’s Waypoints”. Click **OK**.
14. You should now see a series of connected lines. This is your waypoint list.
15. Unselect All
16. Select your first waypoint and bring up the **Item Attributes** window.
17. Change the **Number** attribute (located near the bottom of the window in the center) to “0”. Click **OK**.
18. Now unselect the waypoint and select another one. Give that one a “1”.
19. Repeat step 18, giving each waypoint a successive number.
20. Now your waypoints are numbered and ready to go. We just have one last thing to do.
21. Select the enemy unit and bring up the Item Attributes Window. Under the **Waypoints** section, Select List “1 - Enemy’s Waypoints” like you did for the waypoints in Step 13. Click **OK**.

# Section 5: Inserting Items

After you have established some waygroups, you can begin placing items. Items represent every thing your player can encounter, from enemy vehicles and buildings to scenery such as trees and water towers. While in Insert Mode, left click to set a new object down. This will bring up the **Insert Item** window where you can select the type and sub-type of item that you want to place. Note that **Markers** include Player/team start positions, waypoints, and King of the Hill areas.

After placing an item, switch back to Select Mode by pressing the INSERT key and left click on an item. The basic statistics of the item will come up in the Selection Information Box. Click on this area to open up the **Item Attributes** window.

While in the **Item Attributes** window, you can only alter attributes that pertain to the unit(s) selected. You will not necessarily need to fill in every field available. Note that any attribute you modified will be changed for all items currently selected (where possible).

**Social Serial Number (SSN):** The tool automatically sets this number when an item is placed. It represents the item number of the unit. Every unit has a SSN. The SSN is also used when you are triggering actions to happen to or happen because of that specific unit.

**Layer:** All units belong to a layer. Selecting an appropriate layer will help you to better organize the mission. See **Section 3** for more information on Layers.



**Position:** This is the precise coordinates of where you placed the unit on the map.

**Facing:** This is used to change the direction an item is facing. It can be set from 0 to 360 degrees, with 0 representing North, 90 representing East, 180 representing South and 270 representing West. Pitch is the degree the object is pitched forward or backwards; something pitched at 90 will be pointed straight up rather than forward.

**Map Symbol:** If you want the item to show up on the player briefing map and Commander's Map, select the appropriate icon here.

**Remove if:** This is used when changing the difficulty of a mission for multiple players. For example: If a 4 is placed in the **Remove If Less Than...** field, that particular unit would only appear in that mission if more than four player were in the multiplayer game.

**Sub-type:** This is the item itself. The attributes previously set will be retained if the item sub-type is changed.

**Group:** All Squads and Air Support are in groups. You can name groups whatever you want by clicking on **Edit** in the top left corner of the tool and then clicking on **Group**.

**Team:** This designates good guys, bad guys and neutral guys. Red will target/attack blue and vice-versa whether marked goals or not. Neither blue nor red will target a neutral item.

**Name:** This name shows up if you select the unit on the commander's map. If the person with the name is blue team, This will also show when you point at the unit or show friendly tags, if they are on your team.

**Field of View:** This tells you the extent that people and vehicles can see around them. 10 degrees would be like someone with tunnel vision. A soldier with 360 degree FOV would have eyes in back of his head.

**Weapon Accuracy:** This number represents how well the unit shoots. Lousy shots are 10 and under, good shots are around 30, great shots are anything over 50. However, anyone will hit fairly quickly at close range. Also, the longer someone continuously fires at a target, the more accurate they will get.

**Perception:** This is a rating of how well the AI can see, 30 is near sighted, 50 will notice most stuff at short ranges, 80 will notice you across a valley.

**NPC Primary Weapon:** If the item can hold a weapon, this is where you assign the type.

**Waypoint list:** This is how the player assigns groups to waypoints. You can name and organize waypoint lists the same as groups (Left click on **Edit** and **Waypoints**). The number field is used to number waypoints. For King of the Hill centers adjust the Distance to increase the size of the hot zone.

**AI Attributes:** You can select several different attributes for the item.

# Section 6: Area Triggers and Events

## Area Triggers

Area Triggers are rectangular areas that can be used to trigger actions to occur whenever a member of a Group is within its borders. See Events below for more information about Triggers.

## Events

One of the most complex and powerful parts of the mission editing is creating events. With this tool, you will be able to set up a series of actions that only occur when certain conditions are triggered. Each event is set up as an IF-THEN statement; in other words IF a condition is met by the game, THEN the event takes place.

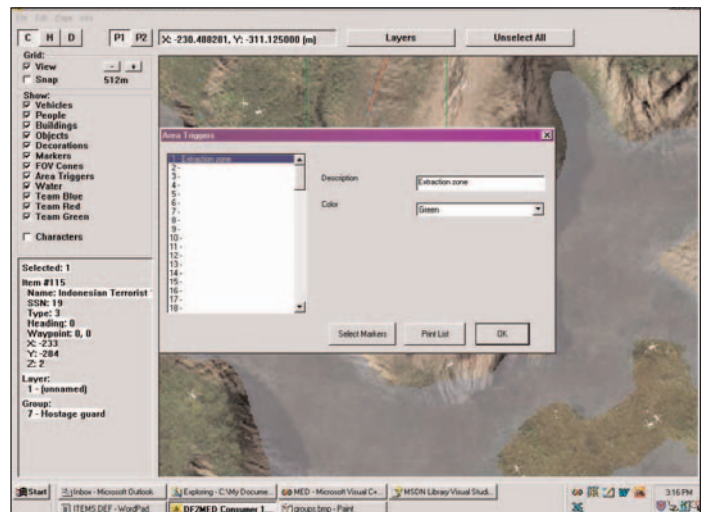
Here is an example of how to set up a win condition for Delta Force 2. Say you wanted the player to win the game if they destroy a certain building:

1. While in INSERT MODE, place a building on the map.
2. Return to SELECT MODE and select the building. Make note of its Group #.
3. Open the **Events** window and click on << **New Trigger** >> to open the **Event Triggers** window
4. Select **Group** for the **Trigger Type**
5. Select **All Destroyed** for **Trigger Condition**
6. Under **Trigger Variables** select the building's group # that you just placed then hit **OK**
7. Now click on << **New Action** >> to open the **Event Actions** window
8. Select **Mission Result** for the **Action Type**
9. Select **Blue Win** for **Action Subtype**
10. Finally, for ease of identifying it, give the event a unique name such as "Win by destroying building"

**Reset after (seconds):** Once this event has been triggered, the mission can be set to automatically reset the trigger after a specified number of seconds has elapsed.

**Delay (seconds):** This is how many seconds must pass before the actions will execute. 0 delay means that the actions will be carried out as soon as the trigger conditions are met.

See **Appendix B** for a complete list of Triggers and Actions:



## Section 7: Exporting and Playing Missions

When you are at a point where you would like to test your mission, go to **Export Binary Mission** under the **File** menu. Your custom mission (.BMS file) must be located in the same directory as your Delta Force 2 game for it to be seen by the program.

You are limited to the number of different types of items you can have in one mission. When you export, the tool will indicate if you have too many different items.

The following Warnings can show up when exporting the file:

The total number of Decorations and Buildings (X) exceeds the maximum (1024)

The total number of Vehicles and Objects (X) exceeds the maximum (1024)

The total number of Markers (X) exceeds the maximum (512)

The total number of People (X) exceeds the maximum (256)

The file will still export, but only the first Y objects of that type will be exported (Y being the maximum number allowed for each category). The number of objects should be reduced to the limit or unpredictable things could happen as a result of the excess items not being exported.

To play your custom mission, start your Delta Force 2 game. In **Quick Mission** or **NovaWorld Hosting Screen**, select your mission from the list of games.



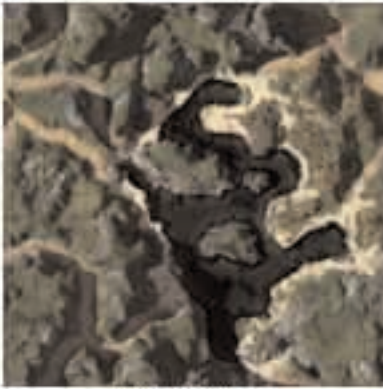
## Section 8: Hints and Tips

- For your first mission, open the **example.mis** mission and begin tweaking aspects of it. This mission was created to give you a head start on creating a mission. Looking at how a mission designer lays things out may help you understand specific portions of a working mission.
- For ease in viewing units, use the **Height Map** view (F2 key). The items will stand out more against this background.
- Using the layering functions can help save a lot of time when fine tuning missions. Putting items in **Layers** may seem like a hassle for smaller missions, but when more and more items are added, you will really wish that you had done it.
- When you right click the mouse with no items selected, you can choose **to View by Side**; this will turn all of the bad guy's items red, all of the good guy's items blue and all of the neutral items green for ease of game balancing.
- The best method for laying down waypoints is to insert one, change to select mode, set its waylist group, and change its distance to 0 (this causes people to follow the path exactly). Then copy that waypoint and paste it where you want the next to be. Since the freshly pasted waypoint is already selected, just input its waypoint number, then paste the next and repeat.
- When placing buildings, use the F3 view to find a good flat spot, then switch back to F1 and check the **characters** checkbox under **Show**. This allows you to see any grass or other special terrain features in the area that you should avoid putting things on top of.
- In Capture the Flag missions, it's a good idea to drop a **"null" marker** on top of any flag you put down, then set the null marker to the team color of the flag. This allows you to see your flags from a zoomed out perspective, where they'd normally be hard to see.
- A good rule of thumb for placing objects is whenever you want to place an object which has others like it already in the mission, it's simpler to copy and paste it, then modify the new one (rather than switch to insert mode and create a new one).
- Soldiers with **"hip"** in their name will fire from the hip rather than from the shoulder, and they may move towards their target as they fire. Soldiers who shoot from the hip will not be effective if they are in bunkers or behind low walls. For best results, place these units in open areas away from buildings.

**Save** and **export** your mission often.

# Appendix A: Terrain Types

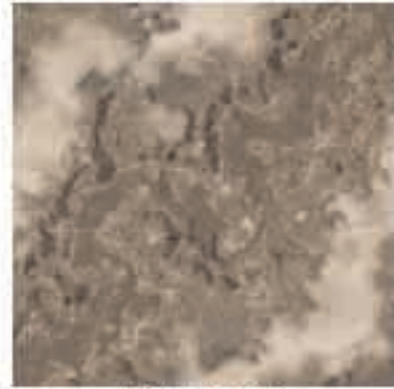
There is a pull down menu for your **mission terrain**. Maps created for single player start with "Df" whereas the maps created for multiplayer start with "Dm". The second set of letters indicates the terrain type (d=desert, g=grass, s=snow)



DMG6



DMGS2



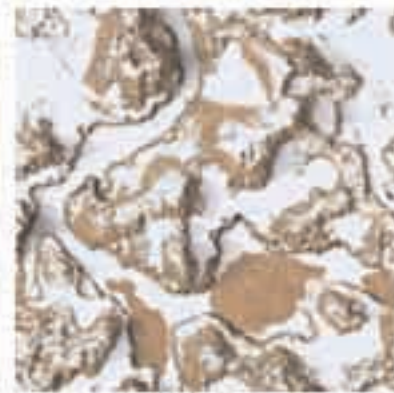
DMDG3



DMS2



DMD3



DMDS2

DMG6 - Delta Force 2      Green 6  
DMGS2 - Delta Force 2 Green    Snow 2  
DMDG3 - Delta Force 2 Desert Green 3  
DMD3 - Delta Force 2      Desert 3  
DMDS2 - Delta Force 2 Desert Snow 2  
DMS2 - Delta Force 2      Snow 2

# Appendix B: Trigger List

## Trigger Types

- Null:** Always False. Can be used as a temporary placeholder.
- Group:** Triggers affected by Groups. Needs a Trigger Condition.
- Event:** True if the Event has been triggered.
- 2ndTime:** True if this is the even numbered time to play the mission.
- SquadMates:** True if Squad Mates are "on".

## Group Trigger

- Null:** Nothing. Can be used as a temporary placeholder.
- Has Targeted:** True if Group X has targeted Group Y.
- Condition Red:** True if Group has been alerted.
- All Destroyed:** True if all members of the Group are killed/destroyed.
- Any Alive:** True if any members of the Group are still alive.
- Lost X Units:** True if X number of units in Group have been killed.
- Reached Waypoint:** True if Group reached waypoint.
- Area Trigger:** True if Group is within the Area Trigger.
- Holds Item:** True if Group is holding the specified item.
- Has X Units:** True if Group has X or more members alive.
- Shot Enemy:** True if Group X shot at and hit Group Y.

## Action Types

- Null:** Always False. Can be used as a temporary placeholder.
- Redirect Group To:** Make Group go to Waypoint X-X.
- Kill Group:** Immediately kill all members of Group.
- Change Group AI:** Change an AI attribute of Group (See AI subtypes) to "On" or "Off".
- Vaporize Group:** Remove the Group from the game.
- Blue Win:** Blue wins!
- Red Win:** Red wins!
- Group Velocity:** Change the movement speed of group.
- SubGoal Won:** Sub Goal X has been achieved.
- SubGoal Lost:** Loss Condition X has occurred.
- Change Team:** Change the team of Group.

## Action Subtype: AI

- Null:** Nothing. Can be used as a temporary placeholder.
- NewWeapon:** Change the current weapon
- Guard:** If he has waypoints, he will follow them and never stop to shoot at or follow an enemy unit. If he has no waypoints, he will not move, but he will shoot at enemy units.
- Stander:** Will shoot while standing (default is to crouch and shoot).
- Proner:** Will shoot while prone (default is to crouch and shoot).
- RedAlert:** Be alert for enemies.
- GreenAlert:** Everything's clear.
- FOV:** Change the angle of Field of View.
- Accuracy:** Change the accuracy level.
- Perception:** Change the Perception level.
- Silent:** Won't call for help (but may make noise while dying).
- Blind:** Doesn't see anything.
- NoWater:** Doesn't go in water.
- Deaf:** Doesn't hear anything.