Anatomy of Land Editor

Though this section is titled Anatomy of Land, you will learn to do a whole lot more than just edit land here.

Just what can you do in the land editor?

Edit land, Random Rectangles and random battles, scenario startup information, strings and Action Point locations.

The land in Divinity is created using about 200 or so tiles that you fit together to form unique land formations, towns, roads, water bodies, etc. There are several land types to choose from, each with 200 tiles. In addition, there are special tiles that you can add to your scenario if you fancy yourself an artist. We will discuss that later.

The first time you run your scenario you will be confronted with a large block of grass surrounded by a ring of mountains. This area will be 90 squares wide by 90 squares tall and is referred to as a Land Level.

If your scenario will need more area than this you can create as many Land Levels as you need, each being 90 squares wide by 90 squares tall.

Moving the Map Around: To scroll around the land level, use the red arrow buttons. By clicking and holding the mouse in this area you can scroll the land around.

ou can also move left, right up and down using the arrow keys on your keyboard. The arrows on the numeric keypad will not move the map, only the 4 basic arrows.

Hold the OPTION key and the cursor will change to a
ou can then click anywhere on the map and it will center itself on your cursor. You can use this to move about the map pretty quickly.

Storing Map Locations in memory: you can hold the Command key and hit F1 through F12 to memorize any land location. Then to return to that same location just hit F1 through F12 and it will take the map directly to that spot.

The Coordinate System: Think of the land as a 90 x 90 grid. It's laid out as shown below with 0,0 at the upper left corner. A couple of red dots plotted on the grid along with the X: Y: location will give you an idea of how locations are calculated.

A Land Level consists of more than just the actual ground. It also contains Action Points. An action point is where you can have the player engage in an encounter such as a battle. You can also do stuff behind the scenes to alter the world around the player, such as change land tiles, increase the frequency of random battles or even change what other Action Points will do.

Each Land Level can have up to 100 (numbered 0 - 99) Action Points.

Each Land Level can also contain up to 20 (numbered 0 - 19) Random Rectangles. A Random Rectangle is similar to an Action Point in that actions can take place there. Where Action Points take place at a specific location, Random Rectangle's actions can take place anywhere inside the Rectangle. Confused yet? You should be.

So in review, the basic building block of the scenario is a Land Level. This land level can have up to 100 Action Points. In addition it may have up to

20 rectangular areas known as Random Rectangles that act as an Action Point that covers a large area.
If you look at Figure 1.0 below, the red arrow burst.

rrow bursts show the location of Action Points. If the player walks on these locations, action will take place. If you remember, that is where you encountered the Orc Village Chief who was looking for his daughter in The City of Bywater scenario. If the party enters a Random Rectangle (white box on the graphic below that surrounds the village) they may be subject to some action just as if they walked on an Action Point. In this case, if the party enters into the Rectangle from any direction the party would meet with some villagers and find out that the chief's daughter is missing. If the party moves inside the Rectangle from any direction, it activates the action point specified by that Rectangle.

igure 1.0

Making Land: Before you start to create Action Points, you need to create some land for your Action Points to sit on.

To edit land and mold it into the stuff of dreams just click on the map to

place a segment of the currently selected land tile onto the map. To select a new land tile, click the tile selection bar just below the map. (See TILE SELECTION BAR in Figure 1.0 above.)

You may hold the mouse button down and drag the cursor around the map to place large areas of the same land tile.

As you become familiar with the TILE SELECTION BAR and how to edit land, you will find it's actually quite easy to create large areas of land that look nice in a short amount of time.

Some tiles, such as shoreline, fit together in odd ways and are more difficult to place. You may have to experiment a little to learn how to fit water together. Though more work, the addition of lakes, rivers and ponds are well worth the effort.

There is also a special section of land tiles that are used to create paths through the mountains. (See PATH in Figure 1.0 above) Paths are denoted by a red plus mark.

hese paths are not actual paths the party can walk through, but paths that will be created during battles. This will help prevent monsters from getting trapped on the other side of large rock formations and walls. During the setup of battles, tunnels are created in the mountain wherever there is a path.

If you want to allow the party to actually walk on a path, you must make the end pieces adjacent to regular open land Action Points. The internal segments of the path allow the party to walk on them but the external segments will prevent their passage unless it's an Action Point. This sounds confusing, but as you play around a bit it will become clear.

Special Keys: Clicking on the map will place the currently selected land tile onto the map. However, if you hold down the Control, Option or Command keys while clicking on the map, you will get one of several results.

Control + Click will adjust the TILE SELECTION BAR to coincide with the land you just clicked on and make it the currently selected land tile. This is a really important technique to learn as it will speed up the creation of land immensely.

Option + Click will move the current map in the direction of the cursor.

This is similar to the way you hit the M key in Realmz to move the battle screen around.

Shift + Click will change the cursor to a paint brush. When PAINT is on, a 3x3 area of land will be changed to the current land tile selected. This will help you place a large amount on any tiles you need.

Command + Click will create an Action Point at that location. This is how you will get Action Points onto your map. If you Command + Click on an existing Action Point it will be converted to a Secret Action Point. If you Command + Click again it will go back to a normal Action Point.

The only difference between a Secret Action Point and a normal Action Point is that a Secret Action Point must first be found by the party before any actions can take place. Once found it acts like a normal Action Point. Since Secret Action Points are just a type of Action Point, they still count towards the 100 Action Point limit just like any other Action Point.

When you create an Action Point for the first time, default values will be filled in at the upper right hand section of the screen. This area holds some specific information about the current Action Point. See Figure 1.1

Figure 1.1

Each Action Point has some information attached to it that tells the game how to handle it.

% Chance tells Realmz what chance the actions specified by this Action Point have of actually taking place each time the party walks over it.

Example: If the % Chance field had a value of 50, this Action Point would only have a 50% chance of being activated each time the party walked onto it.

A zero or negative value such as -1 would cause the Action Point to be inactive and it would never trigger no matter how many times the party walked over it. This is important as it lets you define Action Points and then activate them later in the scenario.

Example: A hostile battle can be placed on a gate but it will be set to 0% Chance. If the party kills the mayor, you can change the % Chance to 100% and force the party to have to fight their way out of the gate.

The three other fields: Goto Level, X Coord, and Y Coord determine the location the party will be moved to when the actions defined by that Action Point have been completed.

For the most part, these values will always be the same as the actual location of the Action Point. When the Action Point is created, these values will be filled in by default. However, if you wanted the party to end up in a different location, even a whole new land level, you simply put the land level and X and Y coordinates of the location you wish them to end up at into these fields manually. When that Action Point's actions have been completed they will be moved to this new location.

Often you may use an Action Point just to move the party around and perform no other action. This is the most common technique of having the party go underground (a whole different land level), enter a cave, enter a building, a magical teleporter or whatever.

Land Look By now you have noticed that not all land is the same. You can select between one of four land sets using the Land Look popup menu. By default, it will be Plains. The three other types of land are Underworld, Castle and Desert.

Dark should be checked if you want the land to be dark. This will force the party to use torches or magical light in order to see. This affects an entire 90 x 90 land level. It's best not to go too crazy with this. Some slower machines may really bog down if the dark land option is checked so don’t be a real sadist when it comes to using this.

Use LOS should be checked if you want the level to use line of site to determin what the party can and can't see. As you walk around the map, some land tiles block your line of site. Until you move to a location that allows line of site anything behind those tiles is black. If you check this option, the entire land level will use Line of Site. Most indoor areas should use this and you may want to use it for other areas as well.

Land Layout This button will bring up the land layout editor. For more info on the Land Layout Editor see further down this chapter.

Remove Action Point This button is used for removing an Action Point from the map. Simply clicking on an Action Point will not erase the land tile and Action Point in exchange for a new land tile. To remove an Action Point

you click Remove Action Point and then on the Action Point you wish to remove. This will remove the Action Point in a safe manner.

Force This check box has one purpose only. It forces any location on the land level to be plain ground. Sometimes you create an Action Point but make a mistake and the editor can no longer identify it. You may be forced to use FORCE to remove it. Do NOT use this to just erase an Action Point; for that you should use the REMOVE ACTION POINT button.

If in the course of making your scenario you find yourself with a land tile that looks like an Action Point but does not behave like one, click "Force" then click on the stubborn Action Point. That will remove the Action Point tile. Then click on "Force" again to uncheck it.

Clear Land This will erase the current land level and replace the entire contents with the currently selected land tile. You can fill an entire land level this way with mountains, forest, water, grass or whatever in a real hurry. Use this with total caution. It erases all Action Points, Random Rectangles and a lot of hard work if you make a mistake.

Random Rectangles: As shown in Figure 1.0, a Random Rectangle is defined by a Rectangle that surrounds a specific area. Random Rectangles are one of the most powerful things you can control in your scenario.

A Random Rectangle includes more than just a plain Rectangle. It also includes information for random events.

Say you want an entire area to have a certain chance for random battles to take place as the party walks around. You can set up a rectangular area and give it a certain chance of causing some action to happen.

Look at the area you use to build and edit Random Rectangles.

igure 1.2

Before I get into how to create an actual Rectangle, I'd like to explain what

each portion means.

The field Times in 10,000 sets the frequency that something will happen in this Rectangle. Set the value at 1,000. Now 1,000 out of every 10,000 times the party moves in the area, something will happen. If you set it to 100 then only 100 out of 10,000 times something will happen. You can get very precise as to how often something happens. Each 100 you put here is equal to a 1% chance of something happening every time the party moves inside the Rectangle.

Every time the party takes a step or holds down the rest or search buttons, game time passes. For each 5 minutes of game time the computer will check to see if the party is inside any Random Rectangles and if so, will determine if anything should happen.

The time of 5 minutes is important. Terrain such as lake shore and rivers take 35 minutes for the party to walk only one step. Open road only takes 5 minutes. Walking around water or rocky ground will cause the computer to check for Random Rectangle actions 7 times as often as walking on roads. Keep this in mind when you set how frequently you want something to happen. It's pretty easy to make an area all but impassable as the party would have to battle each step they take if you set this too high.

The field Battle Range sets the battles that may happen provided the times in 10,000 check is successful. When you create battles, you can create several that are similar yet slightly different. For example: You may want an area to be populated by groups of roaming goblins. You could set up battles number 1 through 7 to be different numbers and formations of goblins. Some could have spell casters, others may have archers or whatever you prefer. In the Battle Range for the Random Rectangle that covers this area, you should enter 1 and 7 respectively.

Every time the party is in that Rectangle and some action takes place, the game would randomize a battle from 1 to 7 and the party would have to do battle. It's that easy.

If you want the party to have a specific chance of surprising the enemy, you can give them the option to do battle or sneak away like cowards.

igure 1.3

You can add a value between 1 and 100 to the % Option and give the party a chance to see the enemy first and give them the option to do battle or flee.

A value of 33 here would give the party a 33% chance of seeing the random battle coming and to avoid it if they so choose. The value of Text will be the string ID that you prompt the player with asking them if they wish to do battle or flee. You may also have it play a sound as well, such as a growl.

You can do more than just have battles activated from a Random Rectangle. You can also activate Extra Action Points. Extra Action Points can do everything a normal Action Point can do, but they are not tied down to a specific location.

If you want an Extra Action Point to be activated by the Random Rectangle, fill in the Action Point number and the percent chance for up to 3 Action Points per Rectangle.

Figure 1.4

In Figure 1.4 Extra Action Point number 63 would be activated 100% of the time. The other two Action Points are blank. What Extra Action Point #63 does is up to you. You can script it to display strings, play sounds, do a battle, activate an encounter, alter some land tiles or just about anything else.

If the % Chance for an Action Point is a positive number, then that Extra Action Point can only be activated once. After that, it will be erased. If the % Chance is a negative number, it can happen repeatedly. For example: If chance for Extra Action Point 63 was -50%, the Action Point would happen 50% of the time that Random Rectangle was activated and could happen over and over again. The - sign just tells Realmz not to erase it from the list of Extra Action Points.

Checks for activating Extra Action Points always happen before any random battle is performed.

Creating Random Rectangles: To create a Random Rectangle click the button SET RECT, Then click on the map at the upper left hand corner of the Rectangle you wish to create. While holding the mouse button down, drag the cursor to the lower right hand corner of the Rectangle and let go of the button.

The top, bottom, left and right coordinates of the Rectangle will be filled in (See Rectangle Coordinates in Figure 1.2) as you drag around. You may also enter these numbers manually if you prefer.

The Rectangle can be of any size and does not have to fit on one screen. If you get too close to the edge of the screen while dragging, the map will shift as you drag and give you more room.

If at any time you wish to plot the Rectangle for any given Random Rectangle, select the Rectangle number you wish to see and click DRAW RECT.

Go to a Rectangle by clicking GO RECT. Enter the Rectangle you wish to see.

View all Rectangles at the same time by clicking SHOW ALL RECTS. This will plot all 20 Rectangles (numbered from 0 to 19). You can check to make sure that none overlap where they should not.

It will not hurt anything if Rectangles overlap. If the party is inside more than one Rectangle at a time, the game will respond to any actions from any and all Rectangles.

Rectangle Ordering: Since there are 20 possible Rectangles per land level and they may overlap, it is necessary that the checks for one Rectangle's actions will come before the checks for another.

The order in which Rectangles are checked start at Rectangle 19 and continues to check for any needed actions until it hits Rectangle 0. I won’t go into why I check form 19 down to 0. You will learn to appreciate this in the future.

Say you have several Rectangles (With Rectangle numbers shown in the corners) that overlap as shown in Fig 1.5.

igure 1.5

Assume the party is standing at the location of the * and is resting. As time goes by, checks are made to see if the party is inside any Random Rectangles. If so, checks are made to see if any action takes place. In this case, the party is located inside all three of the above Rectangles. Each will be checked to see if any action takes place.

All checks are first made for Rectangle 19. Rectangle 7 will be checked next, and Rectangle 5 is checked last.

If something happens in Rectangle 19, checks for 7 and 5 will still be made after all actions for 19 have been completed.

Safe Zones: There are exceptions. For example, you have several Rectangles with some overlapping. Something happens in one of them, and now you DON'T want anything else to happen in the other Rectangles. This is where you use the order in which things happen to your advantage.

You will notice that there is a check box labeled This Rect Only.

igure 1.6

For each Rectangle you may check or uncheck this box. During the process of checking all Rectangles for actions, an action takes place in a Rectangle that has the This Rect Only box checked. All subsequent Rectangles will NOT be checked.

Imagine the party again standing at the location of the * while resting in Figure 1.7

igure 1.7

Under normal conditions, all actions in Rectangle 19 will be checked first. Actions in Rectangle 7 are checked next. Rectangle 5 is checked last. Pretend you don't want actions in Rectangle 5 to take place if something happens in Rectangle 7.

If the This Rect Only box is checked for Rectangle 7, no Rectangle from 0 to 6 will be checked if something happens at 7. The order of Rectangle checking would be 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7. If something happens in 7, the checks stop. If nothing happens in 7, the checks will continue through 6, 5, 4, 3, 2, 1 and finally 0.

What good is the This Rect Only box? It can be used to add safe zones into your game. You could add a tavern where the party can rest or some other area that prevents other Random Rectangles from working. Example of a safe area as in Figure 1.8:

igure 1.8

The party is at * while they rest. If Rectangle 19 has the This Rect Only

checked and the chance of it being executed is 10,000 in 10,000 times. It will always be executed, and no Rectangle below it (0 through 18) will ever be checked no matter what.

This allows you to stick to an area that may be very hostile such as Rectangle 5 and have a little safe haven inside of it such as 19.
This the single biggest use for the This Rect Only.
However, you may use it for a variety of situations where something happens and, as a result, you don't want something else to occur.

The ordering of which Random Rectangle takes precedence over others was just explained.

How do you know what takes place first between a Random Battle and an Extra Action Point inside any one Rectangle?

This is the order in which things happen inside any one Rectangle.

igure 1.9

1) The check is made to see if something will happen inside the Random Rectangle using the Times in 10,000 check. If the check fails then nothing happens. The Rectangle above has a 150 in 10,000 chance which is about a 1.5% chance for each 5 minutes of time spent in the Rectangle by the party.

2) Provided the check is successful and something does happens, the % chance for each of the 3 Extra Action Points is checked from left to right to see if any of them succeed.

In this case, Extra Action Point 50 has a 33% chance of being activated. If it is, then the codes for Extra Action Point 50 are activated. When they are done, the game will stop with this Rectangle and start checking the next one.

If the check for Action Point 50 misses, then there is a 33% chance for Extra Action Point number 52 to activate. If it misses, then Extra Action Point 53

has a 100% chance to activate. Since it has a 100% chance it can't miss.

Assuming that the checks got all the way to Extra Action Point 53, then the codes for Extra Action Point 53 would be executed and this Rectangle would have this Action Point erased. i.e. Each Extra Action Points can only be executed once unless the % Chance value is a negative value.

The next time though, it would attempt to execute Action Point 50 and 52 again, but Action Point 53 would be gone because it has already be executed.

Assuming that all 3 Extra Action Point codes miss the chance to execute, then the game will give a random battle as specified by the Random Battle field. Since you have a % Option value of 33, that means that 33% of the time the party will be asked if they want to do battle instead of just being thrust into it. The text string number 417 will be displayed and the Yes/No prompt will be offered. If they click "Yes," then they will go to battle. Otherwise they will evade the enemy and they can continue. Since no sound value is present the game will not play a sound but you could just as easily have it play a growl sound or whatever.

So, to sum that up. Only after all checks for Extra Action Points have missed, does a random battle get executed. You are not required to have battles. You can leave those set to 0 and 0 and there would be no random battles in that Rect. This also applies to Extra Action Points. You can leave them blank as well and only have random battles.

Special Note: What if you want to have an Extra Action Point activated over and over again, not just the one time?

You can accomplish this by giving it a negative % Chance to activate. For example, if you wanted the middle Extra Action Point, Action Point number 52 to have a 33% chance to activate, but you wanted it to have that chance no matter how many times it has been activated in the past, then give it a -33% chance. The negative value just tells the game not to erase it from the Rectangle once it has been activated.

How do I use a Rectangle for an Invisible Encounter?

If you don't know what Invisible Encounters are yet, read the section on those. It's a pretty advanced topic and may not mean much to you until you get some of the basics down.

To answer the question, you enter a value of -1 as the Times in 10000 value. You would then also have the Extra Action Point code you wanted to activate and a percent chance of that be -100%. Example as in Fig 1.9.1

igure 1.9.1

Provided the party was standing in this Rectangle (as shown in Figure 1.9.1) and they clicked the Encounter button, Extra Action Point number 50 would be activated every time. You would then code Extra Action Point 50 to send the party to some type of encounter, either complex or simple, or whatever you wanted.

Since the Action Point % Chance is -100, this would work every time they hit the button. If it were 100 then they would only get one crack at this because it would be erased after the first try.

Script Tip: If this Invisible Encounter is something that you only want the party to be successful at one time, then you must deactivate this Rectangle via Code 23 (Alter Random Rectangle) at the end of the encounter. i.e. Give them the reward for success, then use code 23 to set the Times in 10,000 for this Rectangle to 0 so it can't be activated over and over again.

Undo Tile: This button located just above the display of the Random Rectangle coordinates will allow you to Undo any tile placements you may have made in error.

igure 1.9.2

The land editor keeps track of the last 100 land tiles you placed and will let you UNDO your placements of up to the last 100 land tiles.

Note: It will not undo a land tile that is an Action Point. If you place an

action point on a land tile you can't use the UNDO TILE button to revert to the old land tile at that location.

Land Layout Editor

You can design your land levels and have the party walk through them without having to use an action point to move them from one land level to the next.

You can design two land levels then tell Divinity that whenever the party walks off the edge of one land level, they appear at the same location on the other land level.

Example: Lets say you design land level 1 and 2 as shown below.

You can then set up the land layout so level 2 is to the south of level 1. When they walk off the edge of the map of level 1 (X: 12 Y:89 for instance) They will be moved to level 2, (X: 12 Y:0)

f the party walks off the edge of either land level in this location, they will be moved to the other land level at the matching point.

ou don't have to use the land layout to match up land levels and if you leave a map edge open with no land level connected in the land layout editor they party will not move. They will just be stuck where they are.

To get to the Land Layout Editor click the "Land Layout" button. It's located in the upper right hand section of the Land Editor window.

igure 1.9.3

To denote land level 0 use a value of -1. In the above example, land level 0 (Shown as a -1) is near the center with land level 1 to the north, level 2 to the north of level 1 etc.

If you walk of any edge of a land level that appears here, the part will be moved to the corresponding matching point on the level that adjoins it.

A few example: If the party walks off the east edge of land level 6, they will

enter the west edge of land level 7.

If the party walks off the south edge of land level 4, they will enter the north edge of land level 3.

If the party walks off the west edge of land level 5, they wont go anywhere. Since there is no land level specified to the west of level 5 they party will not move off the west edge.

Pretty simple. Remember, you don't have to use the land layout or even if you do, you don't have to put ever level on there. If you want, you can still move the party from location to location via Action Points.

The Land Layout just gives you a simple way to piece together large areas of land.

As a practical example, the latest version of the tutorial (Download it from our web site if you have not already) shows how land level 1 and land level 2 are grouped together via the Land Layout editor. You can walk off the southwest edge of land level 1 and onto the northwest edge of land level 2.

Copy Land Level: In a nutshell, this lets you copy either the Land or the Land & Action Points from one level to another. An easy way to make duplicate land levels if that is what you need.

Save Land Level To Disk: You can save land levels to a file so you can import them later or send them to a friend.

Load Land Level From Disk: You can load land levels from a file. This will import all the terrain and action points and scripts.

Important! All land level files need to be saved or loaded from a folder called "Level Archive" that resides in the "Divinity Data" folder which is inside your "Divinity" folder. Any other location will not work.

Note: Keep in mind when you import levels that scripts that refer to specific levels or action points that send the party to a different land level may not behave correctly.

Example: Joe Bag o' Donuts creates a level. Action Point No. 12 send the party to level 6, X: 12, Y:13 When you import this level it will still send the party to level 6, X: 12, Y:13.

In addition, you may need to get a copy of any special icons Joe created and

used for his land level or they may show up as incorrect tiles or as white space.