

CREATING A SCENARIO

1. Making a Map in the Map editor

A map is built up from a grid of tiles, with 3D objects placed on them. As well as the visual look, the tiles determine the movement difficulty and cover values of each square, although certain objects can override these values.

The default size for a map is 32x32 tiles (maximum Size 64 x 64). If you wish to change the size or proportions of the map, click the button at the bottom left of the sidebar.

This opens up the map resize dialogue. You can either create a new map of the required dimensions, or resize the current map. Resizing the current map can cause issues if care isn't taken to avoid lopping off key features or leaving placed units stranded off map. If just the size of an existing map is changed, the playable area will shrink or expand from tile 0,0. If this isn't what is desired, the x and y offset values can be used to shift the point at which the new sized playable area is applied.

You must also define the base terrain style of the map by cycling through the current options:

1. Central Europe
2. Northern Europe
3. Southern Europe

1.1. Tiles

Once the size is correct, the basic terrain can be laid out with tiles. To work with terrain tiles, press the top left button on the sidebar.

The tiles are grouped into palettes of terrain types. Selecting a palette name from the second window down in the sidebar displays all the terrain tiles in that palette in the larger window below. Mousing over the tiles within this window displays a tool-tip of the tile's terrain type. Clicking on a tile within the large palette window selects it and allows you to place the tile onto the map with a click of the mouse (or hold the mouse button down to paint large swathes).

Tiles can be rotated in 90 degree increments using the R key, although some have their rotation automatically randomised. While over the map, the tool-tip displays the existing tile's terrain type, rather than the type of the tile you are painting with.

The palettes available in the window are limited to those matched with the terrain style specified when the map was created. However, an "Advanced Mode" can be turned on with the button underneath the tile window, which allows access to all terrain tile types at once. Advanced mode defaults to off, but this can be changed by adding `'EDITORADVANCEDMODE 1'` to `USER.TXT`.

There are two kinds of tiles, flat and overlay.

- Flat tiles are used to block out the functional landscape and set terrain types - open ground, forest, marsh, water etc.
- The tiles from an overlay palette sit on a layer over the top of normal tiles. An alpha channel on the overlay tiles allows parts of the tile beneath to be seen. Some overlay tiles are completely transparent but alter the terrain-type of the tile without altering its appearance (e.g. Enclosure, Deep Stream, Medium Stream, Dead Ground).

These two layers of tiles can be edited independently of one another. Selecting an overlay tile from the palette window and clicking on an already laid down overlay tile will replace it without changing the tile underneath, while an underlying flat tile can be changed without affecting the overlay above it. Pressing the "Delete" key while working with terrain tiles will remove any overlay tile underneath the mouse pointer.

Some overlays (e.g. roads and tracks) can be layered over other overlays (e.g. streams).

Certain overlay tiles change the terrain type of a tile they are placed over. Roads, paths and tracks can be laid out across multiple tiles and overwrite their terrain types.

1.1.1. **Auto-edging:** Auto-Edging can be toggled on and off using the button underneath the tile window.

When a flat tile is placed while Auto-Edging is on, the computer will automatically assign edge overlays to blend the terrain to the default terrain. Water placed on the map will automatically form streams, lakes or rivers, while roads will join together without time consuming selection of bends and straights.

This generally saves a great deal of time, but in some cases a map designer may wish for more control. Turning "Auto Edging" off using the button below the "Advanced Mode" button will disable this feature, and allow individual selection of overlay tiles. This is very useful when joining different types of roads together or when sorting out the propensity of the editor to create "mini-roundabouts" whenever roads make tight turns.

See also "Edging and Style" below.

1.1.2. Hills: The game supports multiple hill levels. Holding the CTRL key allows the player to change the height of tiles on the map. Left click raises a tile in set increments, right click lowers. Complex hill geometry can prove very tricky for the game's LOS rules to interpret, especially narrow ridges.

1.1.3. Objects: Objects are accessed via the central button in the top row of the sidebar. Objects are grouped together in palettes in much the same way as the tiles. As with the Tiles, the terrain type selected in the map creation screen determines the object set available, unless "Advanced Mode" is active, in which case all object sets can be used.

To place an object, select a name from the list in the larger window. The object is then attached to the cursor and can be placed as seen on the map with a left mouse click. Objects can be rotated in 90 degree increments using the "R" key. They can also be freely rotated using the "Page Up" and "Page Down" keys. Objects can be scaled up and down using the "Home" and "End" keys. Pressing "Delete" will remove any object currently under the cursor.

Certain objects, such as buildings and fortifications, change the terrain type of a tile they are placed over as well as blocking the LOS. Bridges create a passable tile beneath them over water. These objects' placement is often constrained to within a tile's boundary, to prevent the placed object falling between two tiles and creating visually misleading terrain. If two objects on the same tile have different terrain effects, whichever was placed last will take precedence.

Trees are a special case. The terrain tile "forest" specifies that the tile provides cover for infantry units. However, it is the objects placed on it that cause the tile to block LOS.

Certain objects, such as Hedge (Shrubs Dense) objects, can only be placed on tile edges, except for the special versions designed to go along roads. These will provide defensible obstacles as detailed in the Terrain section above.

1.2. Units

Once the map has taken shape, it can be populated with up to 60 units on each side. To work with Units, click the right hand side button on the top level of the sidebar. Repeated clicks toggle between Side 0 and Side 1 unit lists. The list can be refined by clicking on the filters in the small window above the main unit list.

Once a unit type has been selected from the list, move over the map and click the left mouse button to place the unit on a tile. Press "R" while holding the mouse cursor over an already placed unit will rotate it in 45 degree increments.

To delete units you need to

- 1) Go into unit placement mode.
- 2) Hold down the Delete key and L-click on the unit.

Placing a unit on a tile that already contains a unit will load the second unit into the first. There is no limitation on what units can be loaded, so it is up to you to avoid loading (for example) an infantry unit into an infantry unit. You should in practice only put one unit on a tile — except for guns on limbers.

The same care must be taken in where units are placed. There are no limitations to where a unit can be deployed, so to avoid problems once the scenario is being played we must, for example, guard against units in lakes or outside the battlefield.

1.2.1. Fixed/ Unfixed Units: When a unit is placed in the map editor, it displays a label "Fixed" above it. This denotes that in a scenario the player will not have to purchase that unit and it will always be present in the scenario. Pressing "F"

key with the cursor over a unit turns off the fixed label and means that the unit will have to be purchased using the points allocated in the scenario.

1.2.2. Alternate Unit Textures: The map editor allows units to have a variety of different textures. The "Unit Textures" button will pop up a list of textures available for the currently selected unit type. Selecting a different texture will convert all units of that type on that side to the new texture.

The alternate textures are kept in subfolders in **Data/Battle/ Unit Textures** (either in the main installation or under the specific campaign). The name of the subfolder determines the name that will appear in the text box. The textures must be named the same as the original texture.

You can find out which texture names apply to which unit by looking in the **Squads.xlsx** file in the **AssetFilename** column. (The program actually uses **Squads.csv**, but the formatting is easier to read in the **.xlsx** version.). However, altering either Squads file will not alter the file-reference in the associated model, so the editor will still show the alternative textures as per the unaltered filename.

1.3. Reinforcements Mode

This section allows a designer to bring on reinforcements for either side during a scenario. While in reinforcement mode, click on any units on the map to add them to the current reinforcement group (there are up to 8 reinforcement groups per side). Each group can be assigned a turn to arrive on.

If you wish to display a message to the deploying side when the reinforcements arrive, type it under Message. Message text will be stored in the **TEXT9.TXT** file in your campaign. If you wish the camera to pan to show the new units to the player, set Move Camera: to Yes

The units will appear where they were placed, so some discretion should be exercised to avoid complaints of teleportation.

Advanced users may wish to customize their own scenario scripts (see the Scenario Script section below). Once units have been added to the map and assigned to reinforcement groups, clicking Export to File in the Reinforcements Editor window writes a script fragment with the unit types and locations. The units should be removed from the map once the fragment has been integrated into the main scenario script.

1.4. Custom AI Dialogue

This controls the AI behaviour.

"AI Team" button cycles through the 8 possible teams that the AI force can be split into. Select a team number, then click on any units on the map to assign them to that team.

"Aggression" controls the currently selected team's responses to the player. Each behaviour has its own value

- 2 – Keep together when moving.
- 4 – Ignore all enemy unless they are close. Don't move (except to turn to face) even if they are.
- 8 – Ignore all enemy unless they are close. Engage them as per other orders if they are.
- 16 – Seek and Destroy
- 32 – Use the threat map to move around carefully.
- 64 – Stay put in current tile.
- 128 – Non-light troops ignore enemy light troops unless they are protected commanded shot or very close.
- 256 – Ignore enemy foot troops unless very close.
- 512 – Ignore enemy mounted troops unless very close.
- 1024 – Light troops bug out. (This isn't much use if applied in the Editor, but it can be used in scripted AI in the scenario script).
- 2048 – Ignore enemy artillery.

These behaviours can be combined by adding them together. For example, a team can seek and destroy enemy non-light foot only by combining seek and destroy (16), ignore enemy light troops (128) and ignore enemy mounted (512). The resulting Aggression code would be 656. Holding shift advances the values by 10 each click.

These "Aggression" values can also be used to control AI behaviour in scripts using the available script functions.

"AI target point" allocates a destination to the AI team. Clicking the AI point button cycles through the twenty four available points. Once the correct number is displayed, click the "Place AI point" button, then click on the map to place

the marker.

1.5. Plugin Tools

This button accesses the additional tools that have been coded to help scenario design. There are currently three.

1.5.1. **Random Enemy:** This controls how many points each of the 8 teams will be given to purchase units.

1.5.2. **Random Map:** This section creates a random map using the present map's dimensions. The random map generator creates 16th/17th century battlefield terrain tailored to each region covered by the game. Having selected the desired region, click "build map" to generate the map. Each click will build a different map.

1.5.3. **Victory Points:** This section covers the placement and allocation of victory points, and also the conditions required for victory. Clicking on the left hand button of a VP cycles through its four possible states — Off, Neutral, belonging to side 0, belonging to side 1. Clicking on the right hand side, then clicking on the map allows the placement of VP. Clicking the side 0 and/or side 1 boxes allows the designer to set victory conditions. Left clicking the "Capture" and "Defend" boxes raises the count, right clicking decreases. Left clicking increases the turn limit, right clicking decreases it. Clicking the small box next to the turn limit sets the victory conditions to be "whoever has the most VPs at the end of the game". The bottom section allows the designer to select which AI teams will attempt to capture any VP flags held by the player.

1.6. Edging and Style

This section allows high level control of the auto-edging functionality in the editor.

"Edge All" will attempt to edge all terrain tiles, overwriting any hand placed edging that the player has implemented.

"Align all roads" will attempt to join all roadways together. "Clear all ground edging" removes all generated and hand placed edging of ground terrain.

"Clear all water edging" removes all generated and hand placed edging of water tiles.

"Convert Style" allows the designer to change the visual look of a map but keep its layout by swapping texture sets. This only works if the two texture and tile sets have the same components — Central Europe, Northern Europe and Southern Europe do have the same components. Note that objects will not be changed.

1.7. Conditions

Weather and Time of Day are currently purely aesthetic.

1.8. Scenario Description

In the editor, click the Scenario Description Exporter button to open the tool. Fill in the scenario name and up to five additional pieces of descriptive text. Click Export once you have entered the text to save the scenario description.

For single player scenarios, this information will be displayed when choosing which scenario to play. If you place a .dds or .tga format image in the scenarios directory with the same name as the scenario, it will be used as the background while displaying this text in place of the default.

For multiplayer scenarios, it is possible to enter all of the strings and a UI file will be created, but only the name and first line of description will be displayed on the game selection screens within the lobby UI.

The UI is written to **data/UI/ScenUI_<Scenario>.txt** while the strings are written to **TEXT9.TXT**. It is safe to manually edit the UI after it has been exported, it is only rewritten when explicitly exporting from this window.

1.9. Deployment Mode

Clicking on this button cycles through the three options for deployment in the scenario

| | |
|------------------|---|
| No deploy — | all units start where they are placed |
| Partial deploy — | one side deploys while the other is fixed |
| All deploy — | both sides can deploy |

The default behaviour is that units can deploy into any tile they can see into. To use the standard deployment rules as

outlined in the main Deployment section above, you need to include

if (GetTurn(== -1)

{SetUniversalVar("StandardDeployment",1); SetStandardDeploymentBoundsO;}

in the **StartTurn(side)** function of your scenario script.

1.10. Side0 / Side1

Side 0 is the player's side, Side 1 the AI or opponent's side. Left and right clicks cycle up and down through a list of available side identities.

1.11. Text Markers

Text markers can be created and placed on the map. The top window shows a list of markers currently specified. New markers can be created by clicking "New Marker" while existing ones can be removed by clicking "delete marker".

The window below these buttons shows pre-set options for the text markers. If another option is required, the designer can click "Clear String" and type their message into the box. The tag displays the identity tag of the text line – this will be generated automatically for any custom text lines created. Both the font and the text colour can be customised.

Once the Text marker has been created, it can be placed on the map by clicking "Place Marker" then clicking on the map. This will clip to the centre of the tile, although holding Shift down will allow for finer placement.

Use the ID shown in the text marker list to turn the visibility of text markers off and on from script using

SetVisibilityTextMarker.

Strings created in the text marker edit window are stored in the **TEXT9.TXT** file in your campaign.

1.12. Point Allocation

Underneath the tile/unit list window are the displays for the points available for each side. If a side has no points allocated, it will be unable to buy any non-fixed units. If there are no non-fixed units on the map, the points allocated are redundant.

These points values are over-ridden if the scenario script contains a **FORCE_POINTS_CALLBACK(side, points)** function.

1.13. Scenario Script

It isn't absolutely necessary to have a Scenario Script for scenarios created in the Editor to function. However, a Scenario Script is recommended because it will allow:

- AI more complex than what can be set in the Editor.
- Bespoke victory conditions – without a script the game will use the default victory conditions with no adjustment for MP imbalance.
- Scenario UI — the text in the top left hand side of the battlescreen.
- Different points availability for different difficulty levels — otherwise the central three difficulty levels will all be the same.
- Scripted reinforcements — the Editor can generate a script fragment to do this.
- Any other scripted behaviour

Examples of how to do the first four of these are in **ScenarioTemplate.BSF** in the main directory.

You can clone this file as the starting point for your own scenario script — copy it into the same directory as the scenario **.BAM** file created by the editor, and rename it with the same name as the scenario — **SCENARIONAME.BSE** If you use the cloned file unchanged, your scenario will work correctly, but you can add any additional script features that you want.

Note that if you are designing a straightforward encounter scenario, with side0 on the left of the map and side 1 on the right, you can use the **AI_Masterplan(function)** to automate the AI. This is in **SCENARIOTEMPLATE.BSF** but is currently commented out. If you do use it, you also have to include **AI_ReassignTeams(1);** in the **PreBattleSetup(function)**.

2. Modding

Pike and Shot offers very many modding opportunities. You can create new scenarios, alter equipment tables, modify the campaign structure, and adjust the game rules and user interface.

We don't recommend modding your main installation at all anyway. It is safest to keep any mods in custom campaign

folders in **\\My Documents\\My Games\\PikeandShot\\Campaigns**

You should create a clone of one of the campaigns and then place your modded sounds and .txt files in that. When you play that campaign, these will automatically override files of the same name from the main installation. Your mod will then not get overwritten by any patches.

You can create a clone of one of the released campaigns by going into the editor, pressing the plus button (create a brand new campaign) and then use the "Copy of" button to select the campaign you wish to clone. You will find the cloned campaign in **\\My Documents\\My Games\\PikeandShot\\Campaigns**

MYCAMPAIGN

backdrop.dds

Campaign.txt

icon.dds

sides.txt

Squads.csv

Terrain.txt

text1.txt

uniticons.dds

AI

AI.bsf

ANIM

MyAnim.s3f

BONUS

MyBonus.BSF

CARDS

cards.txt

DATA

music.txt

sfx0.txt

BATTLE

SCRIPTS

UNITS

MyUnit.txt

MyUnit_0.s3f

UNITTEXTURES

MUSIC

SOUNDS

UI

Campaign_Overlay.txt

EndCamp.txt

SCENUI_MyScenario.txt

TEXTURES

CampaignListIcon.dds

ICONS

MyUnit.dds

MyUnit_SLOT.dds

OBJECTS

TILES

SCENARIOS

MyScenario.bam

MyScenario.bsf

MyScenario.dds

For help modding and creating scenario scripts see the Pike and Shot section of the Slitherine GameWiki at

<http://www.slitherinebravo.net/GameWiki/>

Details on the STUB engine documentation

http://www.slitherinebravo.net/GameWiki/doku.php?id=stub_engine

Also please visit the Pike and Shot modding forum at

www.slitherine.com/forum.

2.1 Unit Effects

Smirfy wrote:

The problems

Tercio should be big and mean but it appears in game just as fast as other units.

Heavy cavalry should be better once battle is joined than the lighter armoured and less numerous units but there is no appreciable differential in movement. Your cavalry never last long enough to organise a flank attack. Basically now I just move them out of the way and use infantry to win the game as they usually rout and get in the way of the infantry.

Musket armed horse go toe to toe with heavy infantry units and suffer little loss inflicting proportionally more. Fair enough for one round but for round after round and heavily outnumbered stopping an infantry attack in its tracks does not appear sensible.

RBS Clearly we are not all going to agree on every historical interpretation, but all of these things can be easily modded if the vanilla game is not balanced according to your interpretation. In fact all of the above could be modded without any scripting simply by altering the squads.csv spreadsheet - by altering the AP ratings of the above units, and downgrading the carbine rating of the carbine-armed units to less than 100%.

2.2 Unit Facing Indicator

The grey indicator is a compromise between visibility and messing up the period look.

To change the colour of the unit facing indicator change the colour code string in line 198 of **Callbacks.bsf** in **/PikeandShot/Data/Battle/Scripts**

```
ShowFacingIndicator(x, y, facing, "7Fa6a6a6");
```

This will trigger a 'scripts not matching' message in MP unless your opponent uses the same mod.

2.3 Changing Tile Colours

Taking the example of the Northern Europe tile set.

The Northern Europe tile folder is **/PikeandShot/Data/Tiles/NorthernEurope_Base**

The textures are in **Tex0.tga** (The shadowed versions in Tex0_M.tga)

The tile definitions are in **Tiles.txt**

The texture used for rough ground is randomly selected from the first 4 textures (from the left) in the second row down.

To change the colour of rough ground you need to change the colour of those 4 texture squares or you could copy in those textures from the **SouthernEurope** set.

2.4 Improved Zoom

Instruction: Go to the '**Data**' folder (in the game's main folder). Make a backup copy of **MAPVIEW.TXT!** After that, open this file.

You'll see the following lines:

```
PITCH 45  
ZOOM 400  
ZOOMLIMIT 500  
ZOOMINLIMIT 300  
ROTATE 30  
FOV 30
```

Now you can make the following changes:

```
PITCH 45  
ZOOM 400  
ZOOMLIMIT 550  
ZOOMINLIMIT 200  
ROTATE 30  
FOV 30
```

Save. Then start the game and load a scenario. Now you're able to zoom much further in and out.

(In case you cannot save the changes: This is because the .txt file is write-protected. Change this via "Properties".)

If you are installed in Program Files, then the OS prevents you from changing things. Either run your editor in Administrator mode, or copy the file out, edit in another folder, and then copy it back to Program Files (which will prompt for confirmation). Most mods are not going to be in the install dir, so this is not a common issue.

Of course you can experiment with other entries to find the right zoom adjustments for your needs. One warning about this - if you allow zooming out you may find performance issues. If you zoom in too far you will notice the models are not designed to be looked at close up. If these are not issues for you go for it!

PITCH determines the camera angle. Change it's entry carefully, it can lead to ugly results. Purely a personal preference, but I prefer the pitch at 30 rather than 45.

2.5 Sound Mod - Update 10/25/14 Adebar

Description:

Sound mod V.2. Included are movement and weapon sounds, it also replaces the "fanfare" with a drum roll. Ambient sounds. Better balanced sound volume. Melee sounds. Two versions of ambient backdrop (replaces Battle.mp3).

Download:

<https://www.mediafire.com/?15j0991cp6vbwqp> (25 MB)

Battle.mp3: Wind, rustling leaves, birdsong, animal noises, marching infantry with fife and drums

Battle_alt1.mp3: The same bucolic idyll minus the infantry.

(Info: <http://slitherine.com/forum/viewtopic.php?f=318&t=53293>)

Every single unit model in the game has a **.txt** file. It does not assign the textures, but it does assigns sounds and visual FX.

However, some models are shared by more than one unit, so at a quick count there are about 75 unit models, each of which has a **SFX/FX .txt** file.

Textures are assigned differently, so that the "same" units in different armies can all have different textures.

2.5 Changing the Portrait at the Bottom of the Screen.

The Images **Sideicon0** to **Sideicon19** found in **pikeandshot/data/ui/textures**

Making up pairs of these for individual scenarios would be one way of introducing historically accurate leader images into the game.

2.6 How to Change an Army in Editor

If you want the **Side1** unit list on **side0** and vice versa, you have to create the scenario with a **Sides.txt** file containing

[Axis]

string IDS_SIDE1

DECOR 0

DECORSHIELDMASK 1985

UICOLOURINDEX 0

SKIRMISHFLAGS 1

[Allies]

string IDS_SIDE0

DECOR 0

DECORSHIELDMASK 65535

SKIRMISHFLAGS 0

[Test]

string IDS_SIDE2

DECOR 0

DECORSHIELDMASK 65535

SKIRMISHFLAGS 0

(Excuse the [Axis] and [Allies] tags for the two factions - they are about the only WW2 thing hard-coded into the engine.)

in the campaign folder.

This will reverse the normal unit sets in the editor.

Note that this only works when you start a brand new scenario. (Otherwise it becomes a bit more complicated as you

have to edit the **.BAM** file directly in a text editor, UltraEdit. or Notepad++, [http://www.slitherinebravo.net/GameWiki ...gine#tools](http://www.slitherinebravo.net/GameWiki...gine#tools)).

Open a copy of the **.BAM** file in a text editor.

Replace all "_0_" with "_2_"

Replace all "_1_" with "_0_"

Replace all "_2_" with "_1_"

Swap the values in **SIDEID0** and **SIDEID1**

And voila, the scenario sides are reversed.

But, of course, you will need to write completely new AI....

If I don't want to change side of units already on map but want to make new "french" side to place french units and so on.

French units are **Side0**. If you want to make then **Side1** in the Editor, you have to start a new scenario with **Sides.txt** in the campaign folder as I explained above.

It probably doesn't have to be a brand new scenario though. If you take the old scenario and delete all of the units, using the reversed **sides.txt** file will allow you to add new reversed units in the editor. You can change the **sideIDs** in the editor.

2.7 AI Masterplan

The AI - menu with teams and aggressiveness works perfect, enemies do what they are ordered by it, but could you explain how to use **AI_Masterplan()**

AI_Masterplan() is the higher level AI used in all the Skirmishes and a few of the historical scenarios - e.g. Naseby. It will only work correctly if the original deployment is fairly straightforward, with the player forces on the left side of the map and the AI forces on the right. It won't cope with reinforcements and suchlike (these are dealt with in a different way in skirmishes than they are when you place them in the Editor).

In the main game directory you will find a file called **ScenarioTemplate.bsf**

You need to copy this into the same folder as your scenario's **.BAM** file.

(Normally **My documents\My Games\PikeandShot\Campaigns\My Campaign\Scenarios**)

Then rename it the same name as your scenario - e.g. **MyScenario.BSF**.

Then remove the **"/"** from lines

36 // AI_Masterplan(15);

and

71 // AI_ReassignTeams(1);

and voila.

Note that owing to a minor bug, which will be corrected in the first patch, you also need to add

AI_ReassignTeams(0);

after line 71.

(Although you don't need to do this if you have not assigned teams to the player side units - which there is no point in doing as they will be reassigned anyway by `AI_Masterplan()`).

The `AI_Masterplan()` will completely override AI placed in the Editor. The pike and shot AI makes very little use of the AI that can be placed in the Editor - apart from assigning teams for the historical scenarios. Instead, the orders are all scripted.

However, the Editor functions are available to be used for those who do not want to get into scripting.

BTW is there some scripting manual? I was software developer few years ago and it seemed for me to look like C++ so maybe I'll be able to code something for more accurate battles :-)

Scripting is being done by a basically a cut-down version of C.

Unfortunately the engine has grown organically, and there is no comprehensive scripting manual as such.

The main information is here:

[http://www.slitherinebravo.net/GameWiki ... tub_engine](http://www.slitherinebravo.net/GameWiki...tub_engine)

The list of engine functions is in `\My Documents\My Games\PikeandShot\Autodocs\Battlescript.TXT`

There are lots of useful additional scripted scenario functions in **MoreScenarioTools.BSF** in **PikeandShot\Data\scripts**

See also additional engine functions discussed in

<http://www.slitherinebravo.net/GameWiki>

3. Useful Hot Keys

1- Toggle LOS and LOF display.

A - scroll map to the left.

CTRL and left click on unit - detailed information on the unit.

CTRL when moused over target – showed detailed tool-tips.

D - scroll map to the right.

E - rotate map to the left.

ESC - opens load, save and exit options.

F - zoom out on map.

F1- list of hot keys.

F2 - Takes a screenshot and dumps it to **My Docs\My Games\PIKEANDSHOT\SCREENS** (on the PC).

J - moves and hides the mini map.

K – toggles casualty screen

L – toggles unit list.

M - toggles the overhead map view.

N - next unit.

P - add map pin.

Q - rotate map to the right.

R - zoom in on map.

S - scroll map down.

SPACE - deselect unit. Also closes popup windows, and acts as proceed button for most screens.

TAB - next unmovable unit.

W - scroll map up.

4. Adding New Units

Any new units added to the **Squads.csv** must have a corresponding entry made to the **Text1.txt** files in order to appear on the unit list for placing on the scenario map.

Format

IDS_UNITNAME000, "New_Unit_Name",

000 is the ID number, New_Unit_Name is the name entered in the name field

Sample **Text1.txt**

IDS_CAMPAIGN_NAME,"Scania War 1658-78",
IDS_CAMPAIGN_TEXT,"Scania War 1658-78",
IDS_UNITNAME165,"Swedish_Light_Infantry",
IDS_UNITNAME166,"Swedish_Raw_Foot_RG",
IDS_UNITNAME167,"Swedish_Reg_Foot_RG",
IDS_UNITNAME168,"Swedish_Vet_Foot_RG",
IDS_UNITNAME169,"Swedish_Light_Guns",
IDS_UNITNAME170,"Swedish_Medium_Guns",
IDS_UNITNAME171,"Swedish_Heavy_Guns",
IDS_UNITNAME172,"Swedish_Limber",
IDS_UNITNAME173,"Swedish_Horse_Raw",
IDS_UNITNAME174,"Swedish_Horse_Reg",
IDS_UNITNAME175,"Swedish_Horse_Vet",
IDS_UNITNAME176,"Danish_Baggage_Guard",
IDS_UNITNAME177,"Danish_Raw_Foot_RG",
IDS_UNITNAME178,"Danish_Reg_Foot_RG",
IDS_UNITNAME179,"Danish_Vet_Foot_RG",
IDS_UNITNAME180,"Danish_Light_Guns",
IDS_UNITNAME181,"Danish_Medium_Guns",
IDS_UNITNAME182,"Danish_Heavy_Guns",
IDS_UNITNAME183,"Danish_Limber",
IDS_UNITNAME184,"Danish_Horse_Raw",
IDS_UNITNAME185,"Danish_Horse_Reg",
IDS_UNITNAME186,"Danish_Horse_Vet",

4.1 ID

0 - 1024

4.2 Madeby

Allies (blue)

Axis (red)

4.3 SoundBank

2

4.4 Type

| Troop Type | Description |
|------------|---|
| Heavy_Foot | Foot troops who fight in close formation. These include most pikemen and billmen. |

| | |
|------------------|---|
| Determined_Foot | Heavy foot noted for their exceptional speed of advance <i>Example: Swiss pikemen.</i> |
| Medium_Foot | Foot troops fighting in looser formation than heavy foot and hence better suited than heavy foot to fighting in rough terrain. They are often principally reliant on shooting weapons. When not mixed with pikes – see below - they are very vulnerable to a mounted charge if caught in open ground. Medium foot cannot have pike capability. |
| Mixed_Foot | Units with some Heavy Foot and some Medium Foot. Most pike and shot. |
| Light_Foot | Foot troops who fight in a dispersed formation with missile weapons. They are best at harassing enemy from a distance and working in difficult terrain. |
| Commanded_Shot | These are small units of detached shot who have been assigned to assist their side's mounted troops against enemy mounted troops. They are treated as light foot except that they become "Protected" (see combat section) if they have unbroken friendly non-light mounted troops in an adjacent map square (not including the three squares to the commanded shot's "rear"). |
| Warriors | Tribal or other close combat foot not part of the European or Chinese tactical systems, They are often fiercer but less disciplined than European or Chinese troops. They are very vulnerable to a mounted charge in open ground. |
| Mob | Untrained rabble, usually of low morale, fighting as a disorganised mass. They may be equipped with only peasant weapons or may have been hastily equipped with proper weaponry but not trained to use it effectively. |
| Gendarmes | Usually drawn from a gentry skilled in horsemanship, these are heavily armoured cavalry who rely on a fierce charge at the gallop with lance. They usually fight in less depth than other mounted troops, and can get carried away in the pursuit of defeated enemy. |
| Cavaliers | Usually drawn from a gentry skilled in horsemanship, these are cavalry who rely on a fierce charge sometimes at the gallop. They usually fight in less depth than other mounted troops, and can get carried away in the pursuit of defeated enemy. <i>Example: English Civil War Royalist horse.</i> |
| Determined_Horse | Disciplined cavalry in shallow close order formations who mostly charge at the trot in a controlled manner. <i>Examples: Swedish 30 Years War cavalry and Cromwell's Ironsides.</i> |
| Horse | Cavalry who ride in close deep formations and charge at the trot. They include German men-at-arms and reiters trained to use the caracole. |
| Light_Horse | Lightly equipped horsemen specialising in skirmishing, usually with missile weapons. |
| Cavalry | Most other non-light mounted troops fall into this category. <i>Examples: Hungarian Szeklers, Polish pancerni, Ottoman sipahis,</i> |
| Camelry | Camel-mounted troops. They are treated as Cavalry, but they have less difficulty with movement over sand. Camelry disorder horses. |
| Dragoons | Infantry mounted on cheap horses who usually dismount to fight on foot in support of cavalry wings in battle. |
| Elephants | Indian elephants, whose strength is breaking into solid lines of enemy troops. Elephants disorder horses. |
| Light_Artillery | Small cannon such as organ guns, falconets or galloper guns and drakes and also eastern rocket artillery. Treated as foot. |
| Medium_Artillery | Moderately mobile pieces such as demi-culverins, quarter-cannon, sakers and falcons. Treated as foot. |
| Heavy_Artillery | Heavy guns such as full cannon, demi-cannon and culverins or bombards. Intended more for sieges than for field battles and virtually immovable once deployed. Treated as foot. |
| Battle_Wagons | Horse or ox drawn wagons, usually with missile-armed crew on board. Treated as foot. Not very manoeuvrable. |

4.5 IconID

PoorlyArmedLevies

ArchersTurkish

Crossbowmen

LightShot

Shot

Pikes

PikeShot

Dragoons

Horse
NonLightLancers
Lancers
Gendarmes
HorseArchers
HorseArchersTurkish
MountedCrossbowmen
MountedArquebusiers
Reiters
Harquebusiers
Cuirassiers
Artillery
Hussars
Jinetes
Ships
Elephants
WingedHussar

4.6 ManCount

1

4.7 IconSize

60

4.8 IconHeight

25

4.9 LOS

200 Divide by 10 to get number of tiles away that unit can be seen.

4.10 CoverLOS

20 Divide by 10 to get number of tiles away that unit can be seen when under cover.

4.11 Cost

0 - 200

4.11 DeathAngle

0

4.12 ViewFlags

1 (Axis)

2(Allies)

4.13 AP (Action Points)

| | |
|----|--------------------------------------|
| 0 | Artillery, Ships |
| 10 | Close Order Foot, Limbered Artillery |
| 12 | Open Order Foot, Heavy Horse |
| 16 | Regular Horse, Dragoons |

20 Fast Horse

4.14 Speed

0 Artillery
300 Limbered Artillery (Medium and Heavy)
400 Prolonged Light Artillery
600 Close Order Foot, Open Order Foot
800 Heavy Horse
900 Regular Horse, Dragoons, Ships
1100 Fast Horse

4.15 MoveCost

1

4.16 FireDirectionOffset

1

4.17 AssetFilename

(RG = Regimental Gun)

Mob
Swordsmen
Halberdiers
Landsknechts_Small
Landsknechts
Swiss_Square_Small
Swiss_Square
Colunela
Colunela_RG
Pike_Spanish
Tercio_Early
Tercio_Early_Veteran
Tercio_Late_Raw
Tercio_Late
Tercio_Late_Veteran
Pike
Pike_Square_Small
Pike_Square
Pike_Block_Cornish
Archers
Crossbows
Arquebusiers
Janissaries
Janissaries_Veteran
Musketeers_Small
Musketeers
Musketeers_Veteran
Musketeers_Cornish
Musketeers_Commanded
Musketeers_Commanded_RG
Pike_Musket_50_Raw
Pike_Musket_50_Scot_Raw
Pike_Musket_50
Pike_Musket_50_Cornish

Pike_Musket_Raw
Pike_Musket
Pike_Musket_RG
Pike_Musket_Veteran
Pike_Musket_Veteran_RG
Pike_Musket_French
Pike_Musket_Scot
Swedish_Foot_RG
Dragoons
Lancers_Light
Lancers_Scottish
Lancers_Light_Shield
Lancers
Gendarmes
Gendarmes_Italian
Mounted_Javelineers
Mounted_Archers_Light
Mounted_Archers
Mounted_Crossbows
Mounted_Arquebusiers
Mounted_Carbines
Harquebusiers
Harquebusiers_Large
Hussars_Light
Hussars
Hussars_Armoured
Hussars_Large
Winged_Hussars
Horse
Horse_Veteran
Cavaliers
Cavaliers_Veteran
Kurassiers
Kurassiers_Large
Light_Guns
Medium_Guns
Heavy_Guns
Limbers
Galleon

4.18 Morale

100

4.19 Transport

0 No Capacity

1 Artillery Limbers

4.20 CanBeCarried

0 Not Transportable

1 Medium and Heavy Artillery

4.21 IsVehicle

0 Not a vehicle

1 Is a Vehicle Artillery Limber

4.22 Blocking

0

4.23 ScoutRange

0 Most Foot

1 Most Horse

4.24 BombardRange

0

4.25 BombardReload

0

4.26 HESpread

0

4.27 HE_Suppression

0

4.28 HE_ExplosionType

0

4.29 HE_TileDamage

0

4.30 SFXImpact

-1

4.31 Shots

0 For limbers

1 For everything else

4.32 BOMBARD_SHOTS

-2

4.33 BombardImpactDelay

0

4.34 MinRange

0

4.35 BombardSalvoes

0

4.36 BreakdownChance

0

4.37 BoggingChance

0

25 Limber

4.38 AmbushSkill

0

4.39 TurnRate

200

4.40 TotalMen (actual number of men)

0 - 2000

4.41 UnitSize (relative size of unit)

200 minimum size of normal units

300 Light Foot and Light Horse units should not exceed 300. Commanded Shot should not exceed 300 but are normally 200.

400 Dragoons should not exceed 400 but are normally 300.

600 Normal Pike and shot batallia

1600 Tercio

4.42 BodyArmour (Adjust to proportions in unit)

0 Unarmoured

100 Armoured

200 Heavily Armoured

300 Fully Armoured

4.43 Experience

0 Civilians

50 Levies

100 Raw

150 Regulars

200 Veteran

4.44 Elan

0 Levies

50 Raw

100 Regulars

150 Veteran Foot

200 Veteran Royalist Horse

250 Swiss

300 Best Spanish Tercio

4.45 HasLightGuns (Regimental Guns)

0 None
1 Yes

4.46 EarlyTercio

0 No
1 Yes Flank and rear attacks treated as frontal

4.47 LaterTercio

0 No
1 Yes Flank attacks treated as frontal

4.48 Light_Artillery

0 - 100 % of men armed with

4.48 Medium_Artillery

0 - 100 % of men armed with

4.49 Heavy_Artillery

0 - 100 % of men armed with

4.50 Musket

0 - 100 % of men armed with

4.51 Salvo

0 - 100 % of men armed with

4.52 Arquebus

0 - 100 % of men armed with

4.53 Carbine

0 - 100 % of men armed with

4.54 Bombs

0 - 100 % of men armed with

4.55 Shooting_Pistol

0 - 100 % of men armed with

4.56 Impact_Pistol

0 - 100 % of men armed with

4.57 Melee_Pistol

0 - 100 % of men armed with

4.58 Bow

0 - 100 % of men armed with

4.59 Crossbow

0 - 100 % of men armed with

4.60 Sling

0 - 100 % of men armed with

4.61 Javelins

0 - 100 % of men armed with

4.62 Heavy_Lancers

0 - 100 % of men armed with

4.63 Light_Lancers

0 - 100 % of men armed with

4.64 Impact_Mounted

0 - 100 % of men armed with

4.65 Impact_Foot

0 - 100 % of men armed with

4.66 Pike

0 - 100 % of men armed with

4.67 Heavy_Weapon

0 - 100 % of men armed with

4.68 Spearmen

0 - 100 % of men armed with

4.69 Bayonet

0 - 100 % of men armed with

4.70 Light_Spear

0 - 100 % of men armed with

4.71 Swordsmen

0 - 100 % of men armed with

4.72 MoraleState

0

4.73 Attacking

0

4.74 SeasonalMultiplier

100

4.75 Startdate

“Blank”

4.76 Endate

“Blank”

5. Combat Capabilities

The combat system is function based. The mere possession of a weapon is not sufficient to qualify for a combat capability.

For example, most western musketeers were equipped with a cheap sword but were not practised in its use (they mostly preferred to use their musket butt in close combat) and so do not have swordsmen capability. Similarly, early Ottoman sipahis were primarily horse archers, so get bow capability but not lancers capability, even though some were armed with lances.

Some weapons were used in different ways and at different times by different troops. Reiters preferred to wear down an opponent by shooting their pistols from a distance. Continental cuirassiers used their pistols to deliver a point blank range volley at impact.

Allocation of capabilities inevitably has a subjective element.

Capabilities are situational and may not result in points of advantage in every combat.

Units may have men with different capabilities — if so this is expressed as a percentage value. e.g. a pike and shot unit might have 34% pike, 66% musket.

| Combat Capabilities | | |
|---------------------|---------------|---|
| Capability | Phase | Description |
| Arquebus | Shooting | Foot whose missile weapons are mainly arquebus or caliver, though possibly including a proportion of musketeers. |
| Bayonet | Impact, Melee | Foot equipped with musket and either plug or socket bayonet. |
| Bombs | Shooting | Foot equipped with naptha bombs or grenades. |
| Bow | Shooting | archers (excluding crossbowmen). |
| Carbine | Shooting | Mounted equipped with carbine: the cavalry equivalent of the arquebus. |
| Crossbow | Shooting | Foot or mounted troops armed with crossbows. |
| Heavy Artillery | Shooting | Heavy artillery such as demi-cannon, culverins or bombards. |
| Heavy Weapon | Impact, Melee | Troops armed with pole arms or 2-handed swords, axes, and other weapons. <i>Examples: English billmen, Irish Galloglaich and some Landsknecht and Swiss foot.</i> |
| Impact Foot | Impact | Foot relying on a fierce charge to disrupt the enemy at impact. <i>Examples: C17th French foot. Aztec and Indonesian foot warriors.</i> |
| Impact Mounted | Impact | Cavalry, usually in shallow formations, who rely on the impetus of their charge, sword in hand or with light lance, to shatter the enemy formation, allowing the effective use of swords and similar in the ensuing melee. <i>Examples: Polish winged hussars, English Royalist cavaliers and 17th century French cavalry trained by Turenne.</i> |
| Javelins | Shooting | Light foot or light horse with javelins. <i>Examples: early Irish kerns, stradiots. Warriors with atlatl.</i> <i>Examples: Aztec or other Mesoamerican warriors.</i> |
| Lancers | Impact | Mounted troops specialising in charging with lance. <i>Example: French and other gendarmes. Most early gendarmes are classed as having heavy lancers capability. Some gendarmes, and most non-gendarme lancers, have light lancers capability, which includes cavalry using a spear as a primary weapon such as early reiters.</i> |
| Light Artillery | Shooting | Light artillery such as drakes or organ guns. |
| Light Spear | Impact | Foot battle troops armed with light spear, whether thrust or thrown. <i>Example: Inca warriors.</i> |
| Medium Artillery | Shooting | Field guns such as falcons, sakers and demi-culverins. |
| Musket | Shooting | Foot armed mainly with musket though possibly including a proportion armed with arquebus or caliver. |
| Pike | Impact, Melee | Foot armed with long 2-handed pikes and forming a concentrated pike block. Most such troops are also armed with swords — the Pike melee POA already takes this into account. They never use 'Swordsmen' POA. |

| | | |
|-----------|-------------------------|--|
| Pistol | Shooting, Impact, Melee | Mounted armed with pistols. Depending on their style of fighting, such troops may be given Pistol capability in Shooting (S) or Impact (I) and/or Melee (M) phases. For example, 16th century German reiters preferred to use their pistols at a distance, so are given Pistol capability in the Shooting phase, but not in the Impact phase. Later in the century, cavalry started to withhold their pistol fire until the moment of impact, so are given Pistol capability in the Impact phase. Both could use spare pistols in the melee, so are also given Pistol capability in the Melee phase. Troops with pistol capability can only use pistol in the phase(s) specified in their description. |
| Salvo | Shooting, Impact | 30 Years War Swedes were trained to withhold fire until very close range when usually at least 3 ranks would fire. Such troops have an advantage in the impact phase to simulate the powerful effect of close range volley fire but shoot with reduced capability at short range in the shooting phase. |
| Sling | Shooting | Still used in this era by some native Americans. |
| Spearmen | Impact, Melee | Foot usually fighting in close formation with thrusting spear. |
| Swordsmen | Melee | Foot using swords as their primary weapon. <i>Example: Spanish sword and buckler men.</i> Foot equipped with swords or equivalent weapons as secondary weapons, but ready and willing to fight hard hand-to-hand when required. <i>Example: Early Ottoman janissaries.</i> Mounted troops equipped with swords, maces or horseman's axes and ready and willing to fight hand to hand. <i>Examples: French gendarmes and some horse archers.</i> |

7. Calculating Point Cost

All cost calculations are based on a base unit value derived by dividing number of troops in the unit by 100.

This base unit value (**UV**) is then used to multiply the Modifiers total to reach the Cost.

Note: If unit quality is not upgraded from the minimum the unit is considered Levy.

| Quality Settings | | | |
|---------------------|------------|------|-------|
| | Experience | Elan | |
| Quality | | Foot | Horse |
| Civilians | 0 | 0 | 0 |
| Levies | 50 | 0 | 50 |
| Raw | 100 | 50 | 100 |
| Regulars | 150 | 100 | 150 |
| Veteran | 200 | 150 | 200 |
| Special Elite units | 200 | 300 | 300 |

| Foot Units | | |
|---------------------------------|----|------------------------------|
| Fully-armoured | 5 | +2 raw +5 Regular +7 Veteran |
| Heavily-armoured | 4 | +2 raw +5 Regular +7 Veteran |
| Armoured | 3 | +2 raw +5 Regular +7 Veteran |
| Unarmoured | 2 | +2 raw +5 Regular +7 Veteran |
| Dragoons | 3 | +2 raw +5 Regular +7 Veteran |
| Foot Capabilities | | |
| Regimental guns | 7 | +2 raw +5 Regular +7 Veteran |
| Bow, Crossbow, bombs | 1 | |
| Arquebus, Carbine | 2 | |
| Musket, salvo | 3 | |
| Impact foot, pike, heavy weapon | 1 | |
| Swordsmen | 1 | |
| Bayonet | 2 | Only in units with no pike |
| Determined foot | 1 | |
| All other weapon capabilities | 0 | |
| Artillery | | |
| Heavy artillery | 17 | +8 Raw +15 Regular |
| Medium artillery | 14 | +7 Raw +16 Regular |

| | | |
|---|----|--------------------------------|
| Light artillery | 9 | +3 Raw +7 Regular |
| Limbers | 0 | |
| Battle wagons | 8 | +6 Raw |
| Battle wagons with light artillery | 14 | +6 Raw |
| Mounted Units | | |
| Armoured determined horse | 8 | +4 Raw +10 Regular +14 Veteran |
| Unarmoured determined horse | 6 | +3 Raw +9 Regular +12 Veteran |
| Fully-armoured or Heavily armoured gendarmes | 8 | +4 Raw +10 Regular +14 Veteran |
| Armoured cavaliers | 7 | +4 Raw +9 Regular +12 Veteran |
| Unarmoured cavaliers | 5 | +3 Raw +8 Regular +11 Veteran |
| Heavily armoured cavalry or camelry | 6 | +4 Raw +9 Regular +12 Veteran |
| Armoured cavalry or camelry | 5 | +3 Raw +7 Regular +10 Veteran |
| Unarmoured cavalry or camelry | 4 | +2 Raw +5 Regular +7 Veteran |
| Heavily armoured horse | 5 | +4 Raw +8 Regular +11 Veteran |
| Armoured horse or light horse | 4 | +3 Raw +6 Regular +8 Veteran |
| Unarmoured horse or light horse | 3 | +2 Raw +5 Regular +7 Veteran |
| Mounted Capabilities | | |
| Heavy or light lancers | 1 | |
| Impact mounted | 3 | |
| Melee swordsmen | 2 | |
| Pistol/carbine (shooting) | 2 | |
| Impact pistol | 1 | |
| Melee pistol | 2 | |
| Bow | 2 | |
| Crossbow | 1 | |
| Camelry | 1 | |
| All other weapon capabilities | 0 | |
| Defences | | |
| Portable defences | 3 | |
| Field fortifications | 3 | |
| Others | | |
| Elephants | 25 | Considered Mounted and Raw |

| | | |
|-------------|----|----------------|
| Naval units | 30 | Considered Raw |
|-------------|----|----------------|

6. GLOSSARY

- 4.3.1. **Keil:** Any unit with enough pikemen (which can include a proportion with swordsmen or heavy weapon capability) to qualify as a keil. This is more than about 350 men on the default representational scale.
Keils give benefits in close combat, are immune to the ill-effects of flank attacks, and ignore enemy ZOCs.
- 4.3.2. **Light Troops:** These include light foot, commanded shot, light horse and dragoons. All other troop-types are non-light troops.
- 4.3.3. **Shock Troops:** These include keils, any non-light unit with impact foot, salvo, heavy lancers, light lancers or impact mounted capability, and all gendarmes, cavaliers and determined horse.
- 4.3.4. **Shot:** Any foot with arquebus, musket or salvo capability.