

“ALPHA”

Active Battle System

Documentation for version 1.

- **Caution! If you not complete required settings, project doesn't start**
- **If for some reasons plugin (or Demo game) not in English, use Alpha ABS plugin parameter 'Force English' -> true**
- **Please, first complete tutorials in Demo game. !!!**
- **This document is not final version and may contain some mistakes.**

Description:

The mechanics of the combat system (hereinafter ABS) borrows from the game <World of Warcraft>. To perform combat actions, you must have a target. Every combat action (item, spell, weapon attack) is implemented using a special skill (ABS Skill). The basic concept of actions is based on 4 types of ABS Skill:

1) “Instant” (<ABS:0>) – performed on target.

<World of Warcraft> example: <http://ru.wowhead.com/spell=980>

2) “Vector” (<ABS:1>) – It creates an object (a vector), which will follow to the target and performed when hit target

<World of Warcraft> example: <http://ru.wowhead.com/spell=116>

3) “Circle” (<ABS:2>) – creates the rounded area (circle), performed on all the objects that be in area.

<World of Warcraft> example: <http://ru.wowhead.com/spell=190356>

4) “Zone” (<ABS:3>) – creates a certain zone in the direction of use, performed on all the objects that be in area.

<World of Warcraft> example: <http://ru.wowhead.com/spell=120>

ABS Skills have special parameters (see chapter <basic settings>), combine that allows you create a unique spells. Main difference between ABS skills it is special rules of combination of parameters.

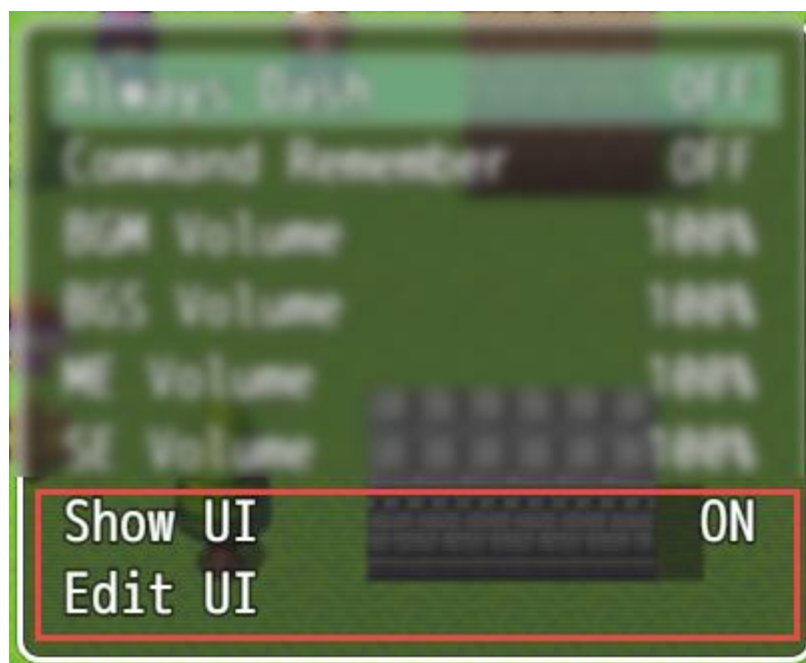
User interface and controls:

For learn basics of control and interface elements complete tutorial in Demo game.

UI settings (showing, positions):

For player:

In the <Options> menu (on ABS map only) there are two options:



Show UI – showing ON/ OFF battle interface on ABS map.

Edit UI – switch you to interface edit mode. Click on UI element (each element has a silhouette) and it will stick to cursor. Click again to fix element. Press <Esc> or left mouse button to cancel editing.

Caution! To save the position of elements, save the game. If you start a new game, the elements will be in standard position.

You can disable these options for player, see plugin parameters:

UI visibility control - allow user change UI visibility from Options menu in game.

UI position control - allow user change UI elements positions from Options menu in game.

For game developer:

For UI control use plugin commands:

- **ABS showUI** - Show user interface on ABS map
- **ABS hideUI** - Hide user interface on ABS map
- **ABS saveUI** - Save user interface (positions of elements) to file (Data folder). Work on ABS map.
- **ABS loadUI** - Load saved user interface (positions of elements) from file. (If exists)

If you want create custom initial UI elements position for you project you need start edit mode (from Options menu) then call **<ABS saveUI>** plugin command. As a result, in Data folder file **<ABSUI.rpgsave>** will be created. This file contains your UI settings. For load this file use **<ABS loadUI>** command. The command is enough to call once at the beginning of your game. The settings will be loaded, used and stored in the future in the save file of the player.

Caution! If the player can change the interface on your own (**<UI position control>** = true), its settings will overwrite the initial, but only in the save game, not in the file **<ABSUI.rpgsave>**

Settings

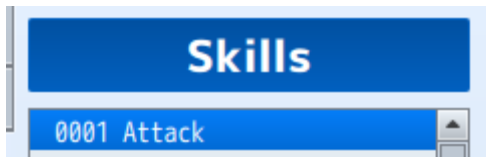
Contents:

- 1) Required settings
- 2) Basic settings
- 3) Advanced settings
- 4) Expert settings

Required settings

Minimum project configuration without a detailed explanation

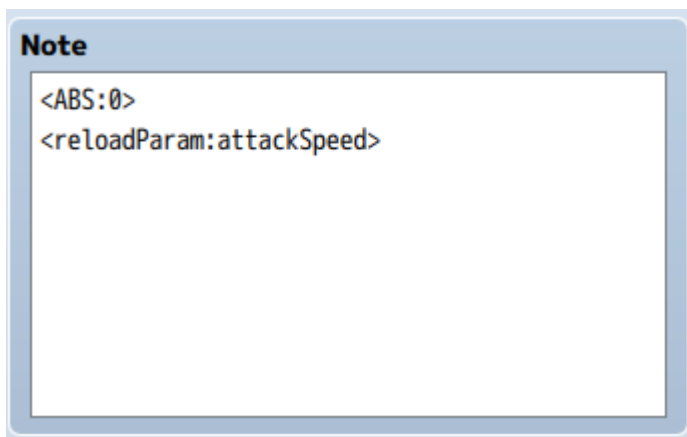
- 1) Attack (001) skill settings.



Add to **Note**:

<ABS: 0>

<reloadParam: attackSpeed>



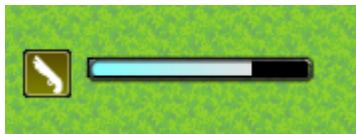
(What these lines mean, see <Basic settings>)

By default, attack skill use parameter <attack speed> for cool down (in frames). 1 second = 60 frames. If you want use own parameter or constant value, see <Basic settings>. You can set this parameter on weapon, class, actor or ect.

The image shows a 'Traits' dialog box with a close button (X) in the top right. It has several tabs: 'Rate', 'Param', 'Attack', 'Skill', 'Equip', and 'Other'. The 'Attack' tab is active. Inside this tab, there are five radio button options: 'Attack Element', 'Attack State', 'Attack Speed', and 'Attack Times +'. The 'Attack Speed' option is selected (indicated by a blue dot) and is enclosed in a red rectangular box. To the right of 'Attack Speed' is a text input field containing the number '120' and a small up/down arrow icon. Above 'Attack Speed' is a '+' sign and another up/down arrow icon. Below 'Attack Speed' is another up/down arrow icon. At the bottom of the dialog are 'OK' and 'Cancel' buttons.

For example: We set weapon trait <Attack speed> = 120, when we equip weapon, attack skill cool down will be 2 seconds.

Weapon cool down progress bar (with equipped weapon icon)



If cool down time ≤ 30 frames, will not be seen.

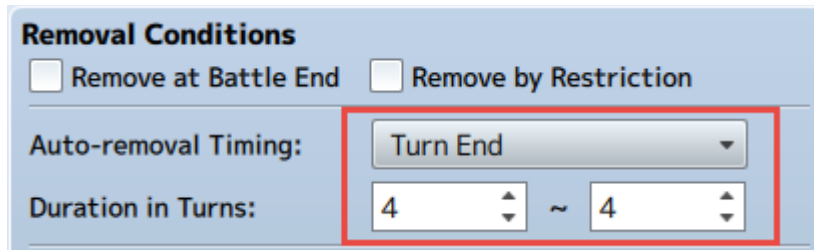
Setup basic states for real-time battle.

States

The battle is in real time and every turn now is a one second on ABS map.

<Remove at Battle End> – if checked, state will be removed after character leave ABS map

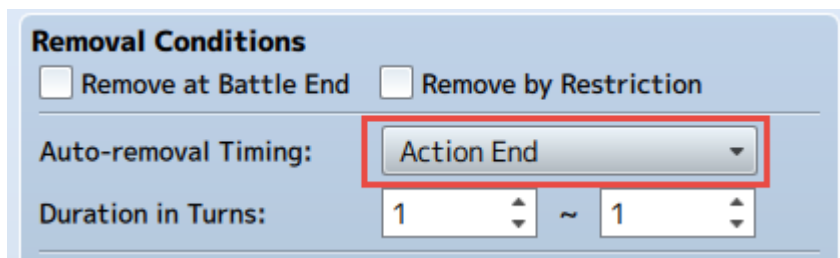
<Auto-removal Timing: Turn End>



The screenshot shows a settings panel titled "Removal Conditions". It contains two checkboxes: "Remove at Battle End" and "Remove by Restriction", both of which are unchecked. Below these is a section for "Auto-removal Timing:" which includes a dropdown menu currently set to "Turn End". This dropdown and the "Duration in Turns:" section below it are enclosed in a red rectangular box. The "Duration in Turns:" section consists of two numeric input fields, both containing the value "4", separated by a tilde (~) symbol.

State will be removed after <Duration in Turns> seconds. (exmpl. 4 second on picture)

<Auto-removal Timing: Turn End>



This screenshot shows the same "Removal Conditions" settings panel. In this configuration, the "Auto-removal Timing:" dropdown menu is set to "Action End" and is highlighted with a red rectangular box. The "Duration in Turns:" section below it shows two numeric input fields, both containing the value "1", separated by a tilde (~) symbol.

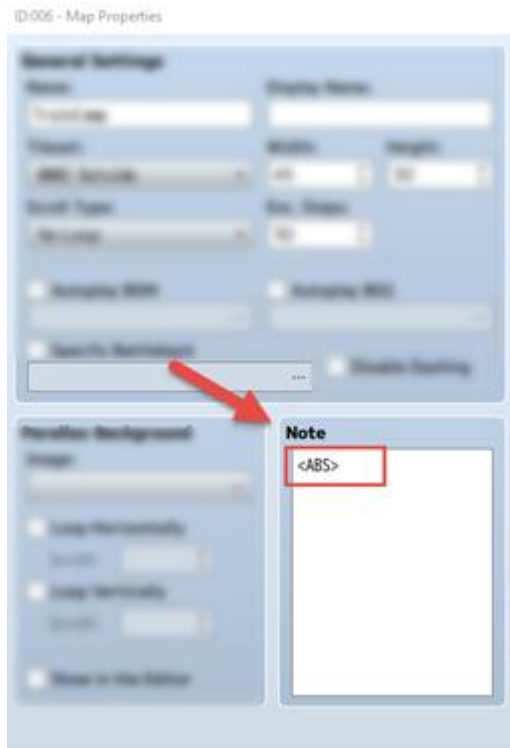
State will be removed after character (with state) complete some battle action (attack, spell, use item).

Special states settings see in chapter <Advanced settings>

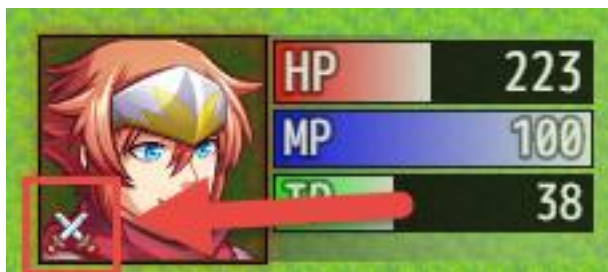
Basic settings

Set ABS map

To turn on ABS on map, add **<ABS>** keyword to map **Note**.



ABS map has two modes: normal mode and battle mode. Battle mode is activated when the player enters to fight.



While the portrait has icon , you are in battle mode.

There are restrictions for both modes. Battle mode includes all restrictions of normal mode. Basically the restrictions associated with events commands. Be careful when you create events on ABS map.

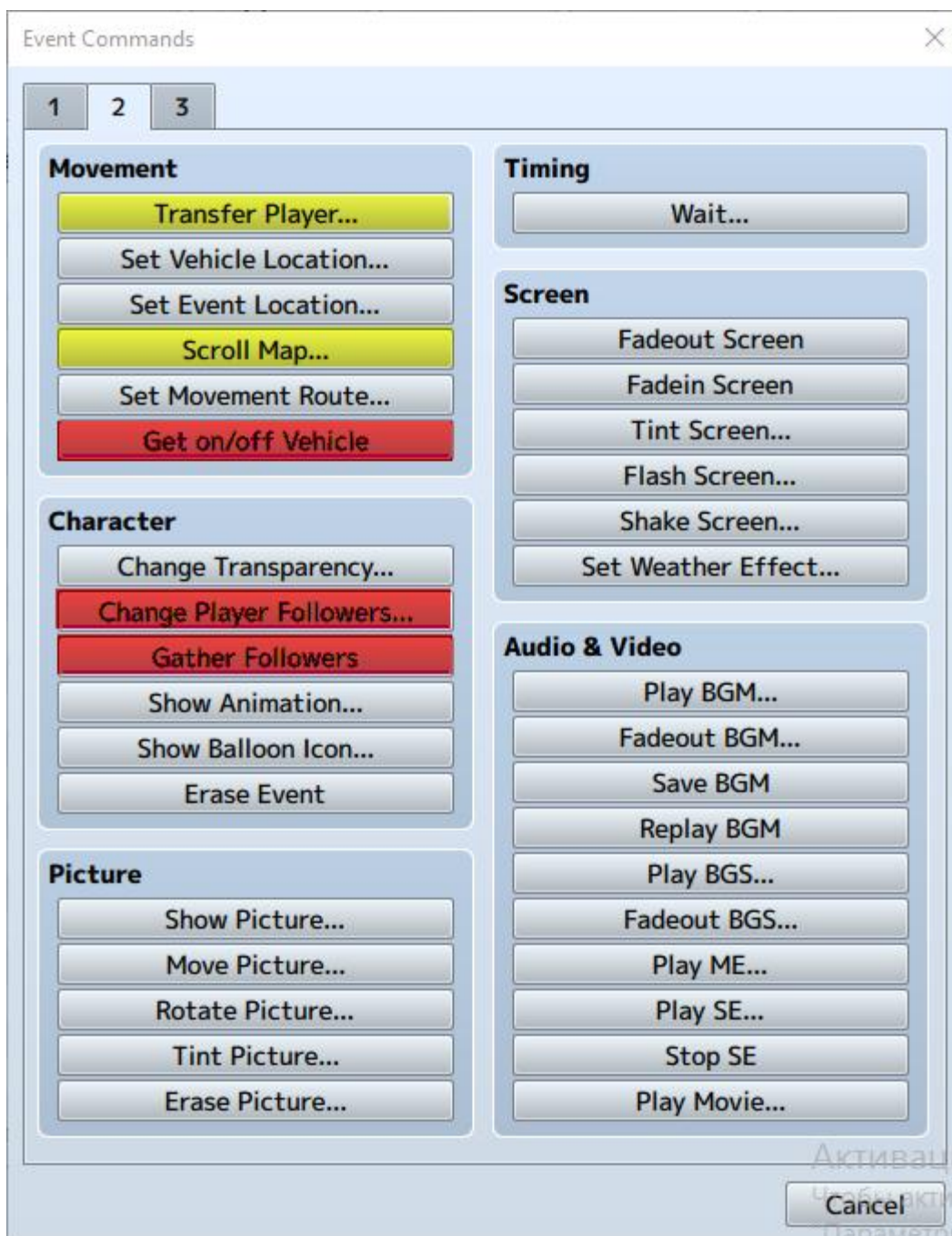
List of restrictions:

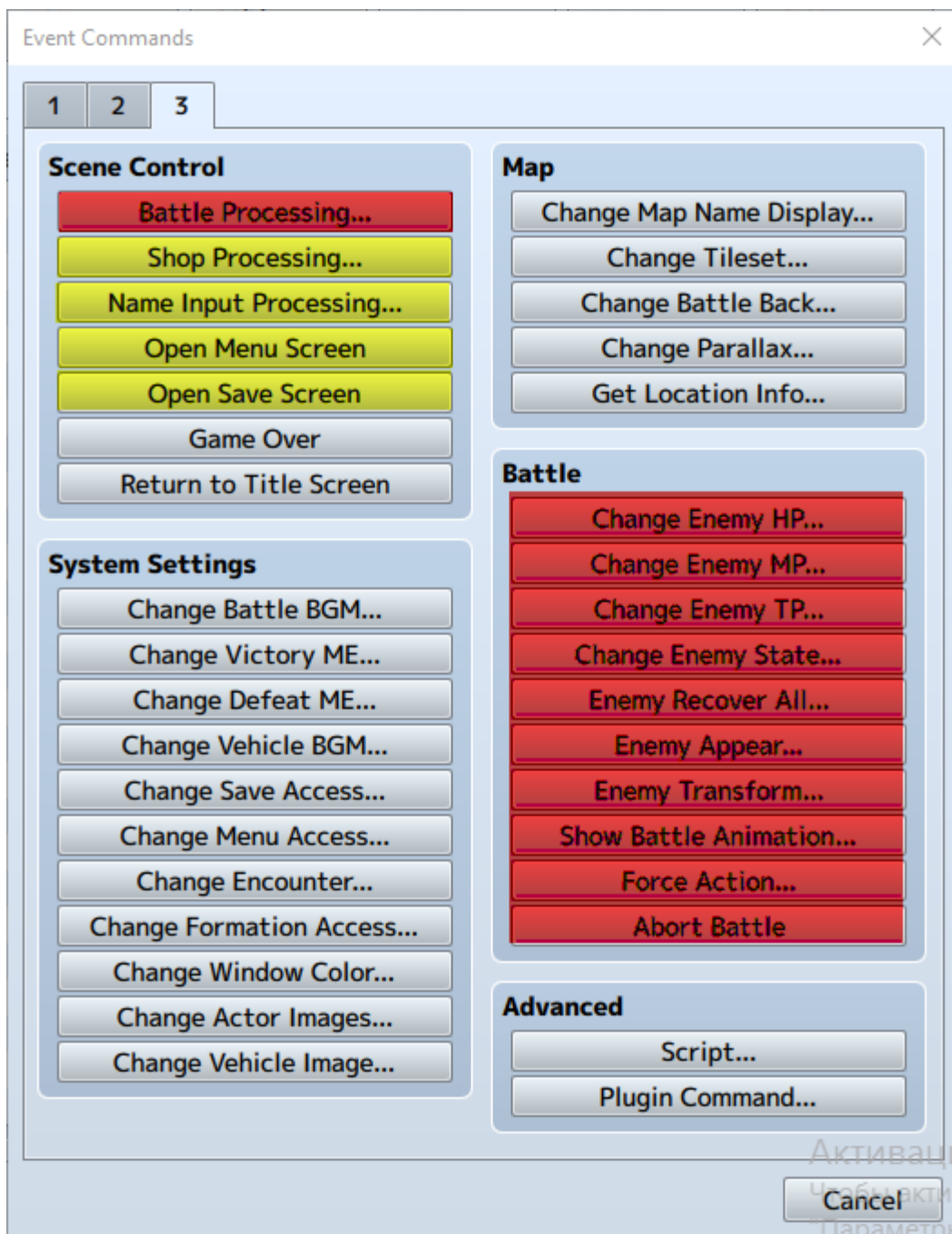
RED – event command don't work on ABS map at all (in two modes).

Yellow – event command don't work only in battle mode.



* - you can't remove (or change) only party leader





Enemies

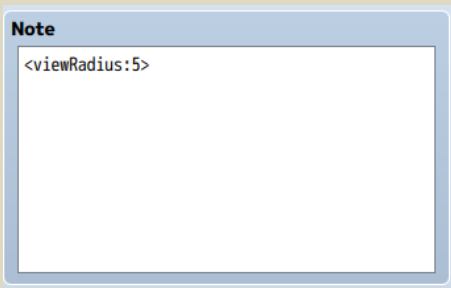
Next, we set the definition **<ABS param>** - parameter of ABS objects behavior.

<paramName: X> - where paramName – name of parameter, X – Integer.

<paramName: Z> - where paramName – name of parameter, Z – Numbered Boolean (can be 0 or 1)

For example: enemy ABS param **<viewRadius:X>** - how long (map cells) enemy will see you

All ABS params are specified in object Note. Every object (enemy or skill) can have both common and unique parameters.



List of enemies ABS params:

<name: value type> - description (default value)

<viewRadius: X> - how long (map cells) enemy will see you (5)

<returnRadius : X> - how many cells maximum enemy can escape from the last position where he fought (12)

<escapeOnBattle: Z> - whether to escape from player during a battle when there is no available actions or waiting for attack cool down (0)

<canSearch: Z> - can enemy hear everything happening around him (the reaction to the battle near (in the area of viewRadius param)) (1)

<noFight: Z> - no fight at all (0) *(like dummy in demo game)*

<reviveTime: X> - time (in **seconds**) to reborn after death (0) *(0 – not reborn after death)*

<regen: Z> - health regeneration (not in battle mode) (1)

<slow: Z> - not accelerating in pursuit (0)

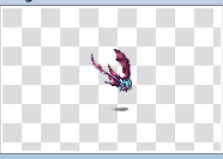
Not one of the ABS params is not required, you can create enemy with empty Note. In this way all params will sets automatically with default values.

For example: Bat from Demo game.

The screenshot shows a configuration window for an enemy named 'Bat'. It is divided into several sections: 'General Settings' with fields for Name, Max HP, Max MP, Image, Attack, Defense, M.Attack, M.Defense, Agility, and Luck; 'Rewards' with EXP and Gold; 'Drop Items' with a list of items; 'Action Patterns' with a table of skills and conditions; 'Traits' with a list of traits; and 'Note' with a text area.

General Settings

Name: Bat Max HP: 200 Max MP: 0

Image:  Attack: 30 Defense: 30

M.Attack: 30 M.Defense: 30

Agility: 30 Luck: 30

Rewards

EXP: 0 Gold: 0

Drop Items

Bow : 1/1

None

None

Action Patterns

Skill	Condition	R
Attack	Always	5

Traits

Type	Content
Ex-Parameter	Hit Rate + 95%
Ex-Parameter	Evasion Rate + 5%
Attack Element	Physical
Attack Speed	120

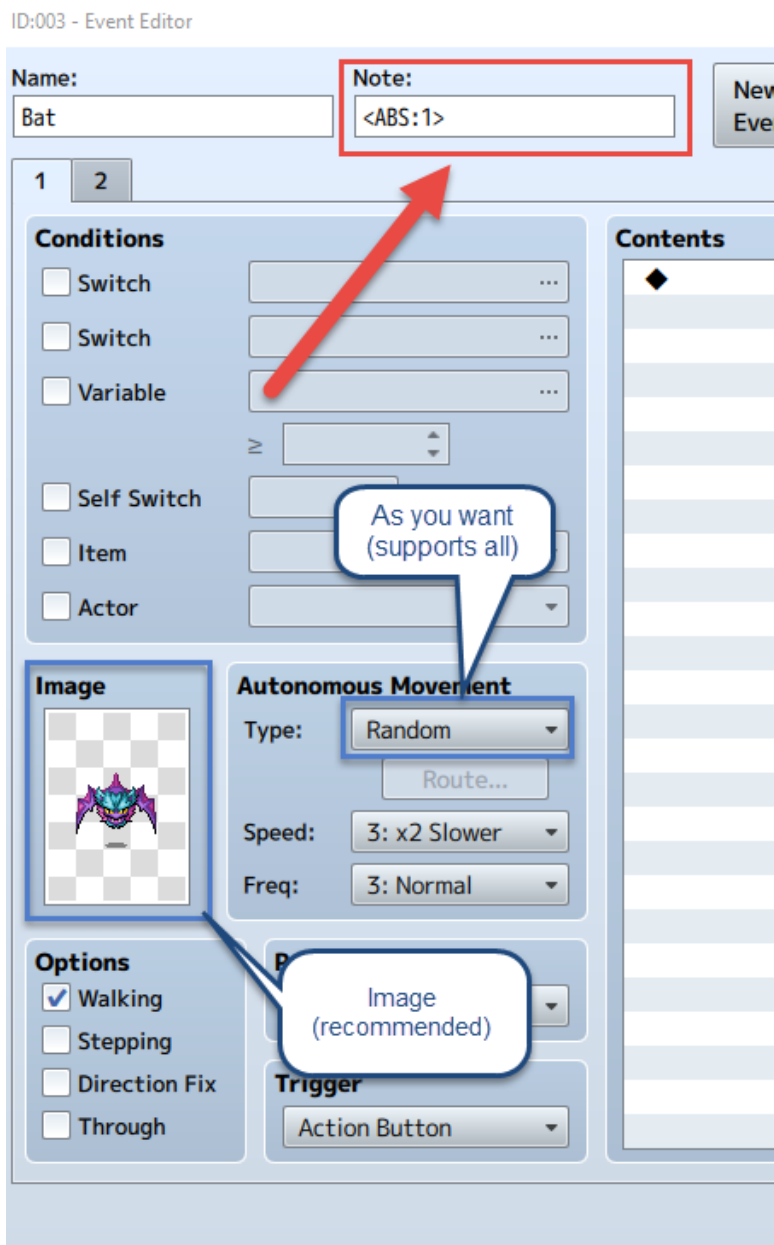
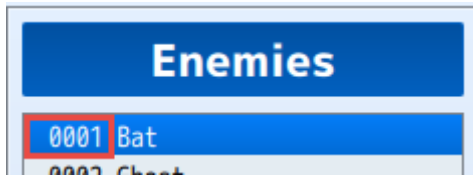
Note

<escapeOnBattle:1>

We use default attack skill, so we add <Attack speed> trait (120 frames). Also we use only one ABS param <escapeOnBattle>.

Adding the enemies to map

Create a map event, add to **Note** <ABS:X>, where **X** – id of enemy from Database.



Next, add second event page for dead state. By default **<Self Switch>** is **B**, but you can change by plugin parameter **<Enemy Dead Switch>**.

ID:003 - Event Editor

Name: Bat Note: <ABS:1> New Event

1 2

Conditions

☐ Switch ...

☐ Switch ...


☐ Variable ...

☒ Self Switch B

☐ Item ...

☐ Actor ...

Image



Autonomous Movement

Type: Fixed

Route...

Speed: 3: x2 Slower

Freq: 3: Normal

Options

☐ Walking

☐ Stepping

☒ Direction Fix

☒ Through

Priority

Below characters

Trigger

Action Button

Contents

◆

Dead enemy work like simple event, you can add some contents and interact with it.

For example: we want when interacting with a dead enemy, we received from him the gold and items that you set in its settings in the database. (The experience we get automatically)

Rewards	Drop Items
EXP: 25	Bow : 1/1 ...
Gold: 125	Potion : 1/2 ...
	None ...

Add <Plugin Command> <ABS loot> on dead enemy page.

ID:003 - Event Editor

Name: Bat Note: <ABS:1> [New Event Page] [Copy Event Page] [Paste Event Page]

1 2

Conditions

☐ Switch ...

☐ Switch ...


☐ Variable ...

☒ Self Switch B

☐ Item

☐ Actor

Image



Options

☐ Walking

☐ Stepping

☒ Direction Fix

☒ Through

Autonomous Movement

Type: Fixed

Speed: 3: x2 Slower

Freq: 3: Normal

Priority

Below characters

Trigger

Action Button

Contents

◆ Plugin Command : ABS loot

Take attention on two things:

- 1) Read the description of <ABS loot> command and <Auto loot enemies> plugin parameter.
- 2) <ABS loot> runs once on dead enemy. On interaction with the enemy again and again you don't get more items and gold. (Only if enemy is revive and you kill him again (see advanced settings))

Spells settings

Required ABS params is `<ABS:X>`, where X – id of ABS skill type (ABS skills types see in description above)

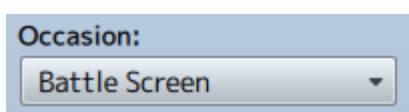
<ABS:0> - «Instant»

<ABS:1> - «Vector»

<ABS:2> - «Circle»

<ABS:3> - «Zone»

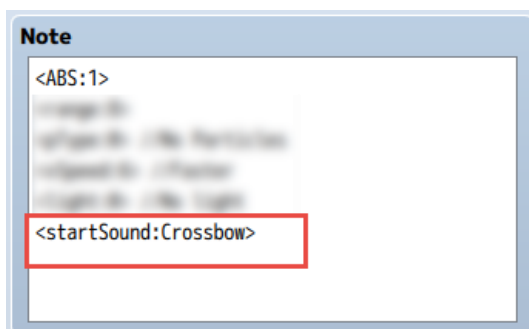
Next (and last) required item is **occasion**. For ABS **spells** and **Items** must be set `<Battle Screen>`.



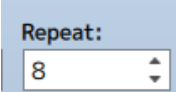
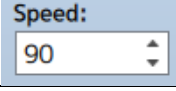

Depending on ABS skill type, some ABS params will act differently. All other ABS params are optional.

Define new ABS param value type – **w** (*string value, without the quotes*)

For example: ABS param `<startSound:w>` play sound (w) when spell is activated. Instead (w) we put sound file name from SE folder.



Common ABS params for Spells

ABS Param	Description	Example	In database
<range:x>	Range (in map cells)	<range:8>	
<castTime:x>	Casting time (in frames)	<castTime:90>	
<reloadTime:x>	Cool down time (in frames)	<reloadTime:90>	<Only in Note>
<reloadParam:w>	Cool down attribute (*).	<reloadParam:agi>	<Only in Note>
<startSound:w>	Sound when use	<startSound:Crossbow>	<Only in Note>
<castAnim:x>	Animation when casting (id of animation from in database) 	<castAnim:1> <i>By default using animation defined in plugin</i>	<Only in Note>

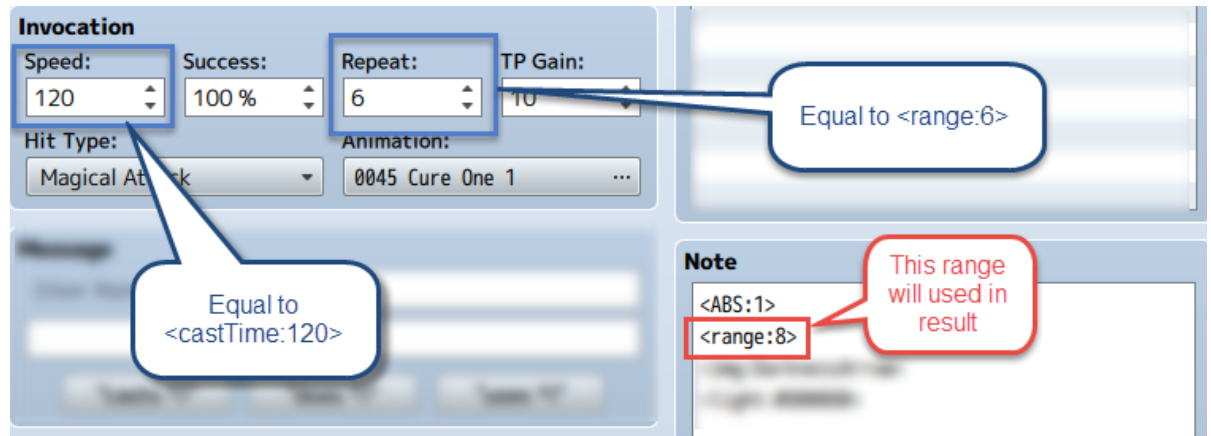
(*) **reloadParam** allow set cool down time by character attribute (like agi, def, mdf, ect.) Attribute value will be interpreted in **frames**. By default **attack skill** using ABS param <reloadParam:attackSpeed> (see chapter required settings).

reloadParam can be used with **reloadTime** ($result = reloadParam() + reloadTime$)

For example: <reloadParam:agi> - spell cool down time will be equal to the character agi (Agility) attribute. If you character has 30 agility, then $30/60 = 0.5$ seconds spell cool down.

Caution! Some ABS params you can set directly in database (see <in database> row in table above), but ABS param that was set in Note have priority and will overwrite the value from the database.

For example:



ABS Skill Scope settings

Type	Scope	Effect
«Instant» <ABS:0>	Scope: 1 Enemy	On target
	Scope: The User	On self
«Vector» <ABS:1>	Scope: 1 Enemy	On target / select area (if <radius> (see below))
«Circle» <ABS:2>	Scope: 1 Enemy	Select area (on area)
	Scope: All Enemies	Around the user
«Zone» <ABS:3>	Scope: All Enemies	Area in the direction of the user

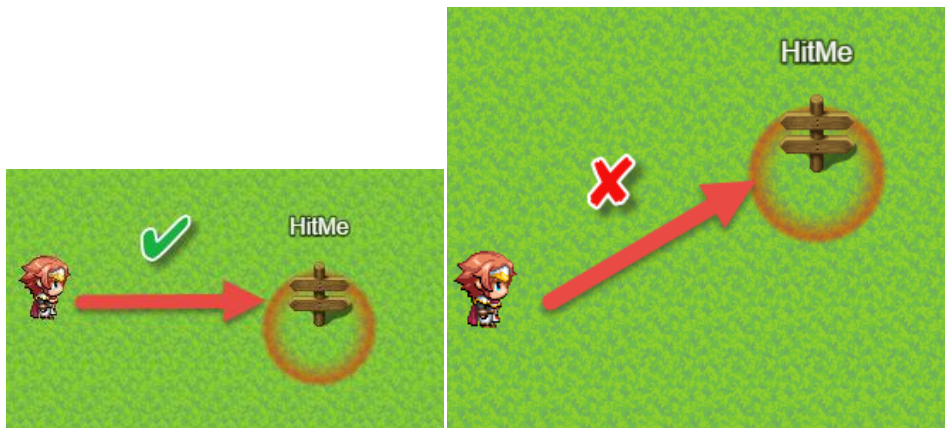
Caution! I highly recommend using ABS skill types with table scopes.

Advanced ABS params for ABS skill types

(also optional)

Type	ABS param	Description	By default
«Instant» <ABS:0>	<directionFix:z>	On same line *	<directionFix:0>
«Vector» <ABS:1>	<img:w>	Image file name (from pictures folder)	<img:vector> (файл pictures/vector.png)
	<vSpeed:x>	flight velocity	<vSpeed:5>
	<radius:x>	Area radius (max 5)	<radius:0>
	<directionFix:z>	On same line *	<directionFix:0>
«Circle» <ABS:2>	<radius:x>	Area radius (max 5)	<radius:3>

(*) If <directionFix:1>



If <directionFix:0> (by default)



See examples of all type spells in Demo game, create a spell (or item) is much easier than it seems, because use all of the ABS params are not necessary

Weapons settings

If weapon use standart attack skill, this settings not need.

Weapon setting is like a spell setting, but exists some rules:

- 1) Support only <ABS:0> and <ABS:1> type.
- 2) <castTime:X> not supported at all. (You can't casting when using weapon)
- 3) If type is <ABS:1>, you can't use <radius:X> (You can't select area when using weapon)

These rules are related to the fact that the weapons just modifies an attack skill. In fact, these rules apply to the configuration of attack skill, **be careful**.

For example: Bow from Demo game

[illegible]

- *ABS param <ammo:x> see in <advanced settings> chapter.*

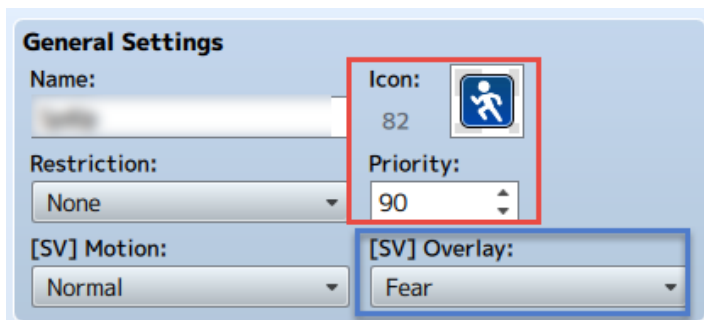
Items settings

Similar to spells.

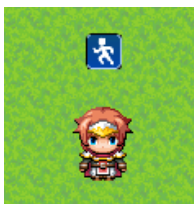
Advanced settings

Extra states settings

All current character states displayed in the upper right corner of the screen



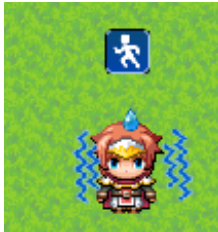
- 1) If **<priority>** ≥ 90 , then state **Icon** will be appear above your character too



- 2) Also you can use **<[SV] Overlay>**



3) You can use both of them (icon and overlay)



4) Also <[SV] Motion> supports too (Sleep or Dead), but don't work with Icon or <[SV] Overlay>



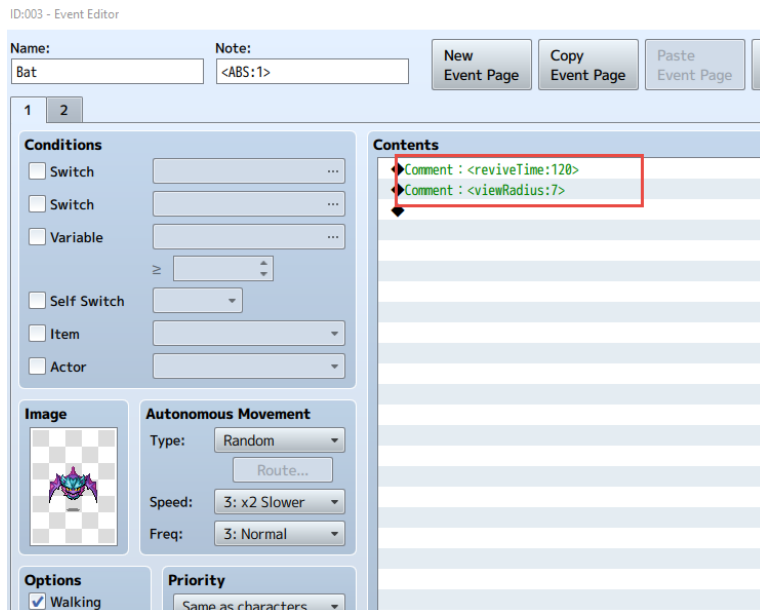
State always visible above **enemy** (if <priority> < 90 too) and you can view it under enemy UI



States has one ABS param <speed:X>. It will modify character movement speed (add X). Also, you can use negative value.

Advance enemies settings

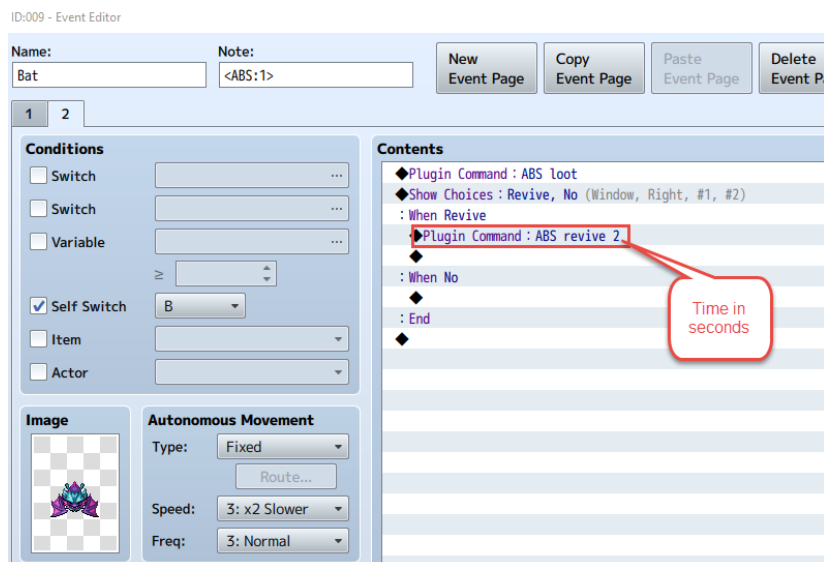
You write ABS params directly in event for create unique instances.



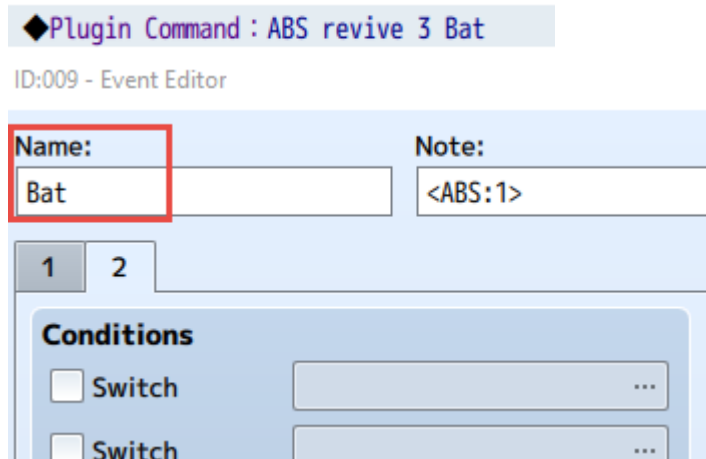
This params will override database params and take effect only on this instance of enemy.

3 Ways to revive enemy

- 1) Set ABS param **<reviveTime:X>** in enemy Note (in database) or in enemy event.
- 2) Use **<Plugin Command> ABS revive X** on dead enemy event page.



- 3) Use <Plugin Command> **ABS revive X W**, where X – time in seconds, W – enemy **event Name**. This plugin command can be called from another event.

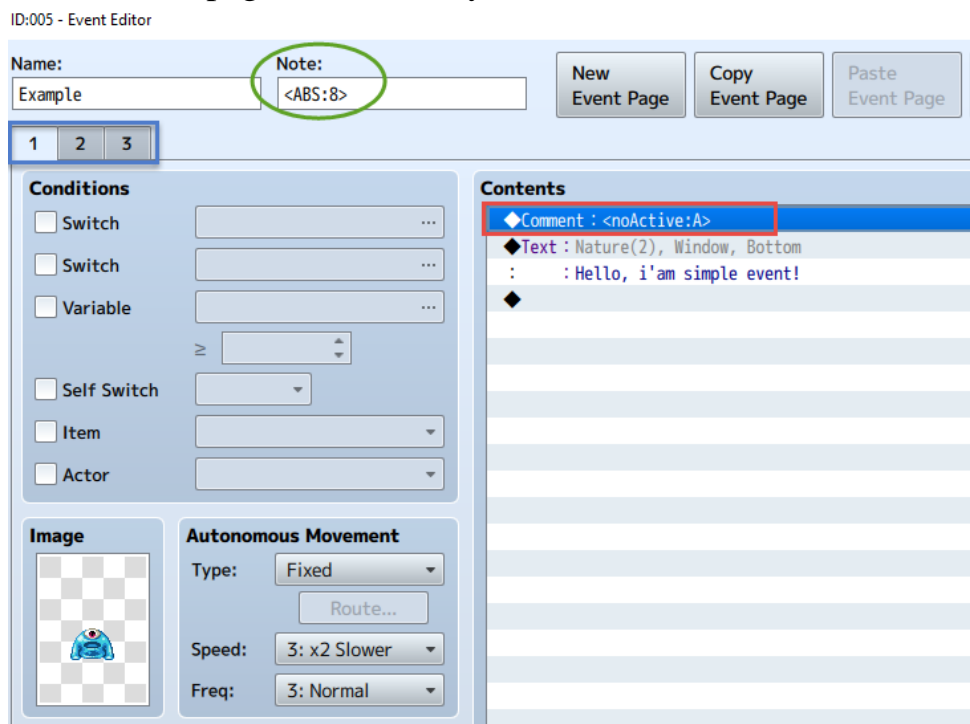


Deactivate enemy on start

If you want that the enemy did not turn on AI from start, you can deactivate enemy.

You need at least 3 event pages.

- 1) First is event page where enemy is not has AI



Put comment **<noActive:W>**, where W – Self Switch with active enemy page.

Don't forget like in a simple enemy use **Note**

2) Create next event page with used in comment Self Switch

ID:005 - Event Editor

The screenshot shows the 'Event Editor' window for event ID 005. At the top, there are fields for 'Name' (containing 'Example') and 'Note' (containing '<ABS:8>'). To the right are buttons for 'New Event Page', 'Copy Event Page', and 'Paste Event Page'. Below these are three tabs labeled 1, 2, and 3. The main area is divided into several sections: 'Conditions' on the left, 'Image' below it, and 'Autonomous Movement' to the right of 'Image'. The 'Conditions' section has five options: 'Switch', 'Switch', 'Variable', 'Self Switch' (which is checked and highlighted with a red rectangle), and 'Item'. The 'Self Switch' option has a dropdown menu showing 'A'. The 'Image' section shows a small image of a dragon on a checkered background. The 'Autonomous Movement' section has 'Type' set to 'Fixed', a 'Route...' button, 'Speed' set to '3: x2 Slower', and 'Freq' set to '3: Normal'. On the right side of the window is a 'Contents' panel with a list of event pages, the first of which is highlighted in blue.

This page like a simple enemy we create before (see basic settings)

- 3) Create last event page with Dead Switch (for dead state) (see basic settings)
- 4) Use <Plugin Command> **ABS activate W**, where W – enemy **event Name**.
This plugin command can be called from another event.

◆ **Plugin Command : ABS activate Example**

Enemy Action Conditions

The screenshot shows a dialog box titled "Action" with a close button (X) in the top right corner. It is divided into two main sections: "Skill and Rating" and "Conditions".

Skill and Rating:

- Skill:** A dropdown menu showing "0001 Attack".
- Rating:** A numeric input field showing "5".

Conditions:

- ☐ Always
- ☒ Turn: This option is selected and highlighted with a red rectangle. It includes two numeric input fields, both set to "0", with a "+" sign between them, followed by "* X".
- ☐ HP: Includes two numeric input fields separated by a "~" symbol.
- ☐ MP: Includes two numeric input fields separated by a "~" symbol.
- ☐ State: Includes a dropdown menu.
- ☐ Party Level: Includes a numeric input field followed by the text "or above".
- ☐ Switch: Includes a text input field with a "..."/> button.

At the bottom of the dialog are "OK" and "Cancel" buttons.

You can use standard conditions for enemy actions, but condition **<Turn>** now in seconds. Each enemy has its own timer that starts counting only when the enemy directly engages in battle.

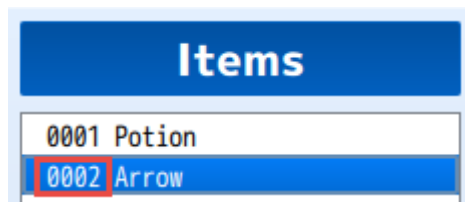
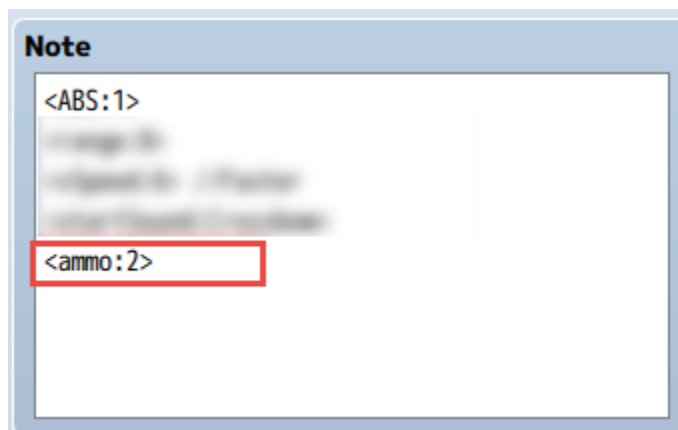
Advance weapons (spells) settings

Using ammo

You can create weapon (or spell) that needs ammo.

For ammo you need create simple Item object in database. (see how created <Arrow> (id 2) in Demo game database)

Use ABS param **<ammo:X>** in weapon (spell) **Note**, where X – id of ammo item.



When you attack by this weapon or use spell, ammo automatically decreases by 1 from party inventory. When ammo item count = 0, you can't use weapon (spell).

Create multiply charged spells (weapons)

You need use **two** ABS params:

<stack:X> - charges count, **minimum is 2**

<stackTime:X> - all charges reload time (in frames), **not be 0**

After each charge cooldown time be <reloadTime> or <reloadParam>, but when all charges is gone, cooldown time be <stackTime>

You can use this params with ammo, but remember ammo be decreased by 1 on each charge.

Expert settings

This chapter includes:

- 1) Particle generator for 'Vector' type spells.
 - a. <pType:W>
 - b. <pData:W>
 - c. <pMinSize:X>
 - d. <pMaxSize:X>
 - e. <pPower:X>
 - f. <pLife:X>
 - g. <pAlpha:X>
 - h. <pCount:X>
- 2) Light system for 'Vector' type spells.
 - a. <light:W>
 - b. <lightSize:X>
- 3) ABSDataUser.json file
 - a. Create particles templates
 - b. Create enemies and skills templates
- 4) Overview ABS extensions (Audio, Lighting, Particle system)
- 5) ABS standard graphic files

(...Coming soon...)

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