Guide to using Motocal

Foreword

motocal is probably the best Granblue Fantasy Calculator for your theorycrafting needs. There is however one problem:
motocal has lots of information, but that also makes it hard to understand. I will try to give a small overview to using it in this Guide.
I hope you will find it useful ;)

One example of a site implementing motocal at the time of writing is:
https://medon-lab.com/keisanki/
Be aware that example pictures in this Document may deviate from the actual implementation you will be working with.

1. Startpage

When you open the page you will see something like this:

At first ignore the blue part. This stuff comes in later in "5.Analyzing the grid". First instead you will need to concentrate on the red part. This is where you will enter all the relevant information.

2. Entering the Information

Before motocal calculates your grid you need to enter all relevant information.

2.1.Player Information

You can ignore this for quick comparisons, but the result will be more accurate if you include this.

Here you enter the following informations:

- first you enter your current or for this calculation relevant rank,

- your job(berserker, sage etc),

- the current hp % your mc has(this effects enmity, so if you want to include those weapons change it, otherwise ignore),
- the element you play and
- the one you play against.

2.1.1 Player's Master Boni

- All Master Boni you can find by going to the party screen and clicking on the small button named "Bonus" next to the class image. Enter the % you see there for the relevant status.)

2.2. Player's Extended Mastery

You can ignore this for quick comparisons, but the result will be more accurate if you include this.

Weapon I (none)	none ▾	
Weapon II (none)	none ▾	
HP Bonus for All member	0 ▾	

Buff for Party
Input buffs for a party.

Normal Buff	0 ▾	%
Element Buff	0 ▾	%
Other Buff	0 ▾	%
Other Buff II	0 ▾	%
HP Buff	0 ▾	%
Double Attack Buff	0 ▾	%
Triple Attack Buff	0 ▾	%
Remain HP Ratio	100 ▾	%
Additional Damage Buff	0 ▾	%
Ougi Gage Buff	0 ▾	%

With this are meant the Extended Mastery Boni you unlocked on your MC. If you unlocked those include the corresponding number here.

2.3. Buffs to party

Here you can include buffs like the DA/TA you gain from Call of the Abyss or the modifier you gain from Rage. This can vastly change your Calculations but needs more in-depth knowledge to really use. Therefore you can ignore this for now.

2.4. Advanced Setting

Here you can change some further information to play around with. The most important part here is defense as High Level enemies often have a higher value thus you

need more dmg to actually cap. This can be important when deciding whether a cap-up or multiattack skill is worth it over just going for more damage.

3. Summons
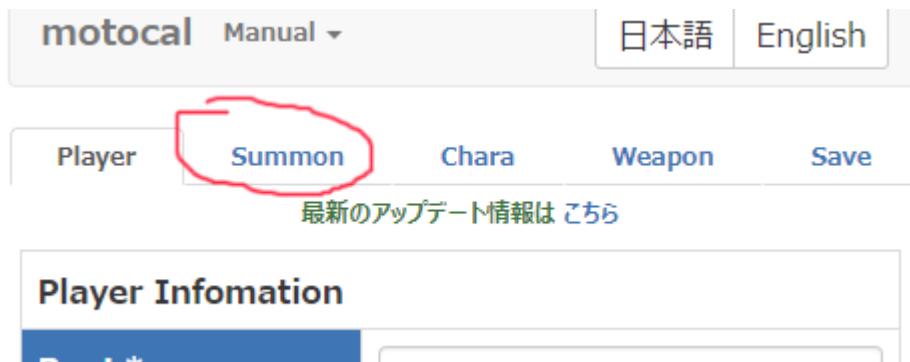
Now click on Summon at the top of this part.
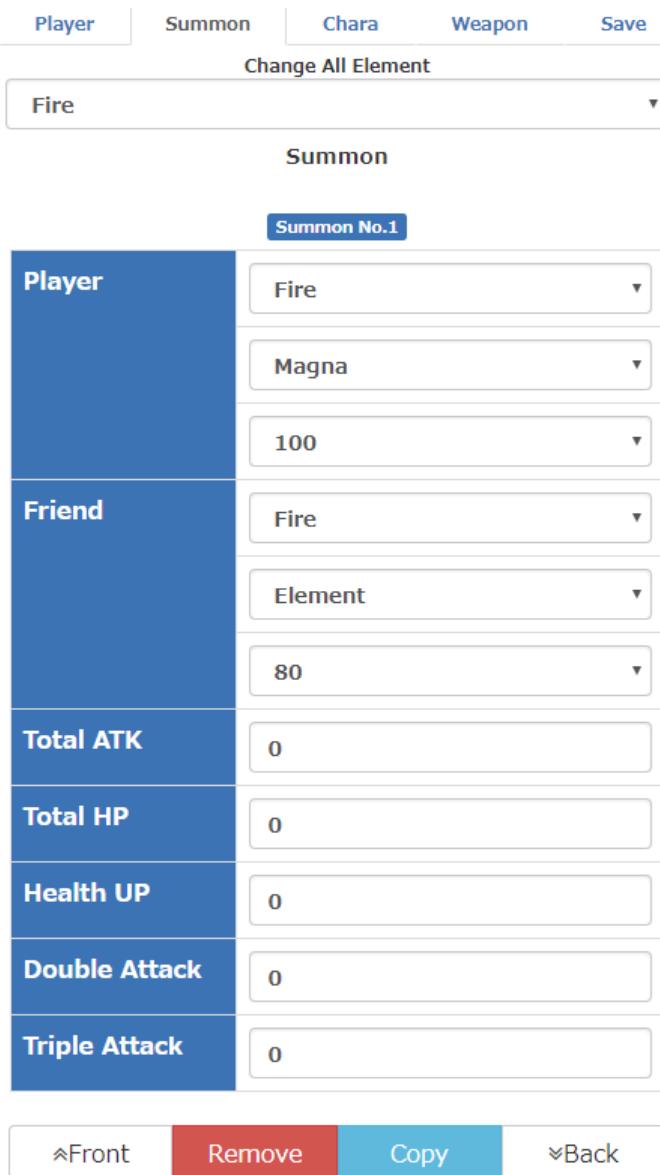
In this part you select your Main and Friend summon. Select the element of those buff as well as the type of Aura.

- Magna stands for Omega Summons like Celeste Omega
- Zeus or Primal for summons of the Optimus Series like Agni, Zeus etc
- Element for Summons like Shiva, Athena etc that directly buff damage of a specific element - Usually written as "x% boost to element atk"
- Chara for Summons buffing normal attack like Diablo, Grand Order etc - usually written as "x% boost to element **allies** atk"
- Odin for Summons like Odin who can boost normal and element

- Ranko is ranko(she boosts the weapons you can gain in Idolmaster collabs ;)

The number below the type sets the strength of the Aura, so eg 100 for MLB Omega or 120 for 0* Shiva.
After you chose your summons enter the atk and hp you get from your summon pool. You can see this by going to party → Summon and there the total atk/hp.

4.Characters

Under the Chara tab you can choose the team you use. This is mostly interesting for specific weapons, like Bahamut Weapon or Ultima Weapons, which only affect specific characters. So if those weapons do not cover your whole team it is good to include your characters.
On top of that, if you characters have for example a high base multiattack rate, this will change the influence of weapons boosting this.

4. Weapons

Now comes the real interesting part - the weapons. Instead of building a grid you will choose the weapons you have/want and motocal shows you the best grid out of that.

Player	Summon	Chara	Weapon	Save

📂Open Weapon Template

Here is the first view. Click on "Open Weapon Template"

Change All Element

Fire ▼

1:

Name	Name
ATK	0
HP	0
Type	Sword ▼
Skill1	Fire ▼
	none ▼

Next a popup will appear. This may need some time to load.

Presets ✕

検索: Name | All ▾

[模造鍵]封印の杖 EX Might (L) none	封印の杖 EX Might (L) none	シャローム・ボウ none EX Might (L)
フェアネスマーク Normal Might (L) none	Montague's Oath Normal Might (L) none	ドラグクロー Normal Celere none
Gridarvor Normal Tyranny none	マナリアンホーリーロッド none EX Might (L)	Heaven's Cloud Normal Might (L) Normal Aegis (L)
三日月宗近 EX Might (L) none	[天月]三日月宗近 EX Might (L) none	鶴丸国永 EX Might (L) none

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Click on the dropdown table with "All" to select a element you want. Keep in mind Baha weapons are dark and Cosmos weapons are light.

Now choose the weapons you want to use in your grid.

Upon choosing a weapon you can select the lvl, the skilllevel(slv) and the plusmarks. Then choose up to how many of this weapon you want to use. Upon doing so it will be added and motocal will calculate your new grid.

Keep doing this until all the weapons you want to use are included. You can(and should) add more than 10 weapons total, because Motocal can calculate the best grid out of all options that way.

motocal / Granblue Fantasy ATK Calculator

motocal Manual ▾   日本語 English

Player   Summon   Chara   Weapon   Save

📂Open Weapon Template

Change All Element

Fire ▾

1: [模造鍵]封印の杖 5本

Name	[模造鍵]封印の杖
ATK	2100
HP	270
Type	Staff ▾
Skill1	Dark ▾
	EX Might (L) ▾
Skill2	Dark ▾
	none ▾
SLv	15 ▾
Minimum	0 ▾
Maximum	5 ▾

⇑Front   Remove   Copy   ⇓Back

Select Display Elements
ATK/HP/etcs ▾   Party-Averaged ATK ▾   Expected Damages ▾   Chara Data, Skill Amount ▾   Update Results   Auto Update: ON

Open Enmity Graph   Open Damage Simulator

No.1
FireMagna100 + FireElement 80
Fire Player(No job) HP100% (Advantage)
Wind Enemy's Element
Normal Buff0%, Element Buff0%, Other Buff0%, Double Attack Buff0%, Triple Attack Buff0%, Additional Damage Buff0%, Enemy's defense10

Sort Key: Party-Averaged Exp. Turn Damage ▾

Rank	Pure ATK	HP (Remain HP)	Party-Averaged ATK	Party-Averaged Exp. Turn Damage (x4)	[模造鍵]封印の杖	Weapon2	Weapon3	Weapon4	Weapon5	Weapon6	Graph
1	26450	1950 (1950)	26450	3896 (15584)	5	0	0	0	0	0	Add
2	26450	1950 (1950)	26450	3896 (15584)	5	1	0	0	0	0	Add
3	26450	1950 (1950)	26450	3896 (15584)	5	0	1	0	0	0	Add
4	26450	1950 (1950)	26450	3896 (15584)	5	1	1	0	0	0	Add
5	26450	1950 (1950)	26450	3896 (15584)	5	0	0	1	0	0	Add
6	26450	1950 (1950)	26450	3896 (15584)	5	1	0	1	0	0	Add
7	26450	1950 (1950)	26450	3896 (15584)	5	0	1	1	0	0	Add
8	26450	1950 (1950)	26450	3896 (15584)	5	1	1	1	0	0	Add
9	26450	1950 (1950)	26450	3896 (15584)	5	0	0	0	1	0	Add
10	26450	1950 (1950)	26450	3896 (15584)	5	1	1	1	1	1	Add

No.2
FireMagna100 + FireElement 80

In this case i chose 5 FLB sealing staves. As you can see the maximum of those weapons is 5. You can increase the minimum if, for example, one is your mh, as for those the charge attack effect is more important than the stats.
You can now also see that the right part has changed! It is currently showing 5 Sealing Staves.

Click "Remove" if you added the wrong weapon.

You can use the "Front" and "Back" button if you want to change the order in which the weapons are displayed. This is only a cosmetic effect

5. Analyzing the grid

Now that you have chosen your weapons and Summons, it is time to see what you got. The reason motocal is so complex and is not just showing you the nice graphics of a simulated grid is this part. Motocal takes your weapons and tries to find the most optimal combination depending on the sort key. Here is where the blue part mentioned at the beginning comes in. Lets see this with an easy example

Here i entered the information and several weapons using a Omega Light MLB summon as my main. As you can see the option with the most expected dmg is 1 Light ex katana, 2 flb Gambateinn, 6 flb lumi swords and 1 baha dagger on which i placed 99 plus marks. The second best option instead uses 3 flb Gambateinn while only using 5 flb Lumi Swords. If you look at the Party Averaged Atk you will see that other options have more than that. However the extra gambateinn brings more multiattack rate which in turn increases the average dmg as you multi attack more often. This is also the part where the calculation of motocal differs from the ingame estimated DMG, as that only calculates the average auto attack dmg of your mc, thus ignoring things like crit(as that is random), multiattack etc and further you can include buffs and debuffs which also influence the result.

The "party average expected turn dmg" is the damage your party is doing on average per turn including multi attacks and charge attacks. If you want to maximize your grid for other situations, like one-turn using only charge attacks, then you should change this to the corresponding option.

If you also want to reach specific hp points then you can add this under Player Information → Advanced Settings. Simply enter a value into "minimum player hp"

If you click on the "ATK/HP/etcs" button on top of the table you can choose additional stats it can show you, like DATA, crit etc.

While this does not change the calculation it can be useful to know more in depth informations like these. Simply click through those and choose what you find to see in order to display it.

Another interesting part is the enmity graph. In order to use it click on the "Add" button at the end of each table row. This adds the corresponding grid selection to the graph. You can then click on "Open Enmity Graph" to compare selected grids depending on your current HP.
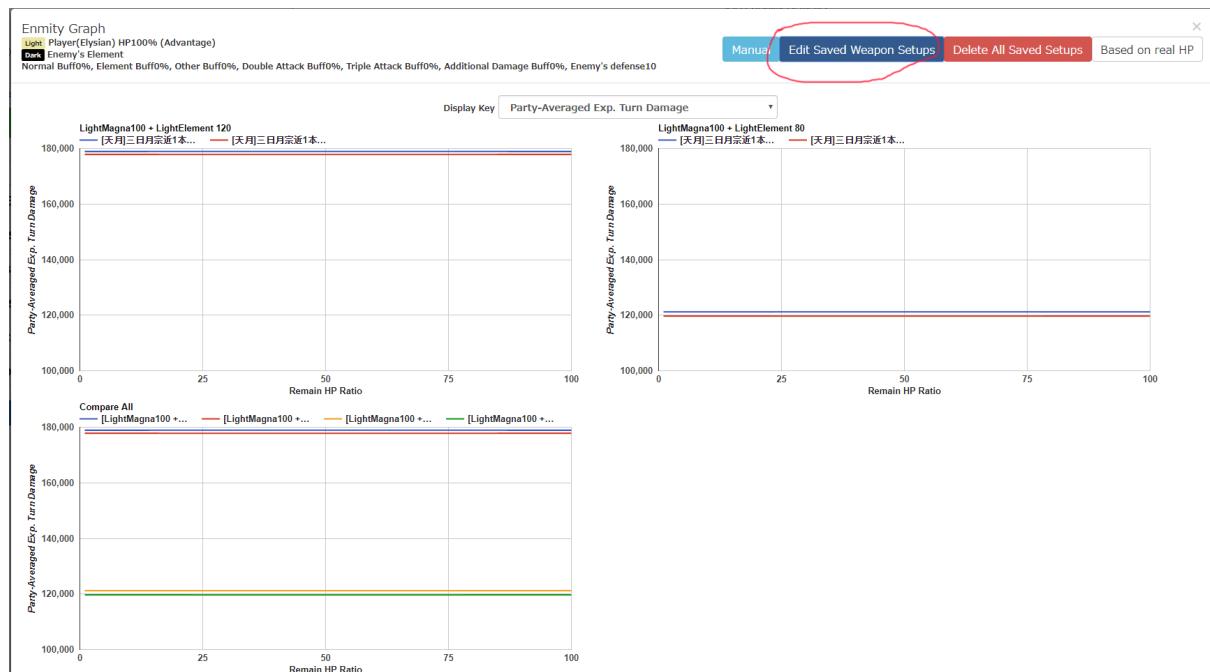
Here you can see the grids you chose in comparison. Click on "Edit Saved Weapons Setups" to see the grids or edit the name.
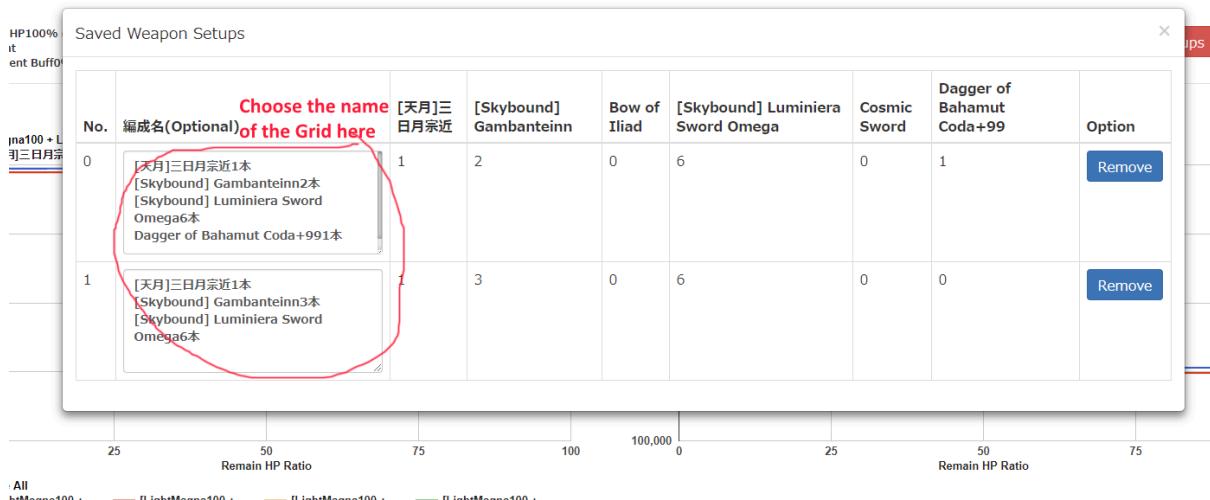
6.Sharing your Calculations

If you go to the <Save> tab at the end of the left hand menu bar (next to <Weapon>) that's where you can export the calculations.
"Save to browser" saves the file locally. You need to type in a name in <Data Name> before you can save to browser. This is then stored in your cookies so remember not to clear your browsing data! "Save to server" doesn't require you to give the calcs a name and will instead generate a URL for you. Motocal also helpfully displays a small list of recently saved to server URLs in case you misplace it. But I do recommend saving the URL somewhere.
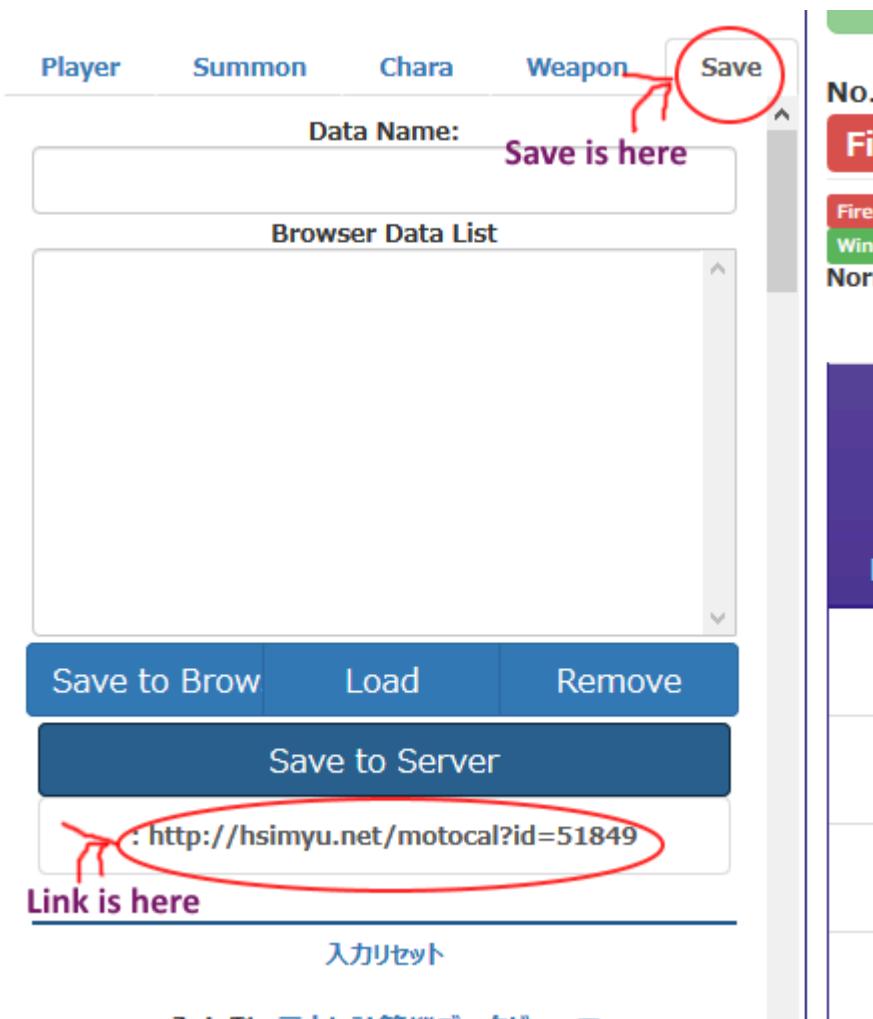
7. Going Further

This is by far not everything motocal can do, however it covers the basic information you need to operate it. Try playing around with the things i didn't mention, or enter information in places you ignored for now to get more accurate calculations. For example include buffs you use often and compare you grids without and without buffs to see which one might be the best for most situations. Or include your characters. You can even manually change weapons to test some potential changes, like a future xeno weapon or new flb grande-series weapon.

Thanks for reading this Guide! I hope it helped you.