



# RAT<sup>TM</sup> 1

PRODUCT GUIDE – Version 1.1

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## 1. Introduction

The original RATs set the benchmark for PC gaming peripheral design, engineering, and functionality with their launch back in 2010. For 2016, Mad Catz are delivering an upgraded range of seven products, to consumers that demand the best possible hardware for gaming.

Every member of the RAT family has been enhanced from the ground up. Including, new sensors, switch components, customizable lighting and expanded programming features. All under a bold colour scheme, designed to appeal to gamers and non-gamers alike.

All gamers are different. The RATs are precision engineered, making key parts of the product adjustable, to accommodate different sized hands and grip styles. We call this *Dynamic Ergonomics*, and it is a key feature that runs through every product to improve the gaming experience. From adjustable palm rests on the **RAT1**, up to ultimate customization of every surface of the product on **RAT<sup>PRO</sup>X+**, customers can tweak their RAT until it feels perfect for them.

Vibrant lighting further boosts the iconic look of the product, making it the centrepiece of your gaming rig.

RAT customization goes beyond the physical. The performance of the sensor and button configurations are just as important as how the product feels in your hand. Regardless of your preferred genre or style of play, our **FLUX™ Software Interface** can be used to quickly and intuitively tune all aspects of the sensor, macro buttons, and LEDs.

The **RAT** is an ultra-lightweight product with a solid and reliable optical sensor. A ground-breaking new concept in what a PC Gaming Mouse could be – the **RAT** features an innovative modular design, 3D printing and personalization options that you can truly make it your own.

We haven't compromised our ideals in any way. The **RAT** skeletal Tripod Chassis is detachable, so it's possible to remove the 'brain' Sensor Module, making it perfect as a reduced size travel mouse.

There's more though – you can change your Palm Rest – not with one we are selling, but with your own design. Download the 3D CAD Modelling Data for our palm rest socket so you can design and produce your very own with a 3D printer – easily accessible at your local design store. How cool is that. And we've future-proofed it – with plans to bring out new chassis colour options, new Sensor Modules and new 3D Printable files.



## 2. Feature Overview

This section will provide you with an overview of all of the controls, indicators and features that make up the product.

### Controls

RAT1 has 6 programmable controls, these are highlighted red in the below image.



In order to give true ambidextrous functionality the standard browser forward and back buttons have been implemented as a lever switch situated in the middle of the control module. This way, regardless of which hand you use, the controls can be easily accessed and used.

The RAT1 has powerful red illumination for decoration. If preferred, the lighting can be turned off in the programming software.

### What is a Profile?

All of the additional functions and programmable controls can be used to your advantage when coupled with our FLUX software interface. FLUX can be used to create button mapping profiles, consisting of crucial commands for your favourite games and apps. Profiles are ideal for increasing in-game performance speed, and your efficiency in desktop applications. By assigning important in-game actions to the buttons on the RAT, such as Reload or Throw Grenade, you can access these controls faster, and keeps the focus of your left hand on the movement of your character.

For detailed information on how to create profiles, jump to section 4.

### Modules and 3D Printing

The RAT1's design focuses on an innovative modular system. With all the key components being attached to a central chassis. The chassis itself is ultra-lightweight. Its tripod shape is there to provide a rock-solid foundation with minimal mass. The detachable sensor module is where all the intelligence resides. All of the buttons, the sensor, and PCB are housed in one small part. This part can even be detached from the main chassis and used independently as a convenient travel-ready mouse. Finally, the palm rest is also detachable. This can be set to one of two positions to suit your hand size or grip.



Both the palm rest and control module simply click to the chassis. To remove the palm rest, hold the chassis in one hand whilst gripping the palm rest and lift up until it unclips. When re-attaching to the chassis, make sure the round bar lines up with one of the channels and then press down firmly. To remove the control module, again, start by gripping the chassis in one hand. With the other, place your thumb at the back of the module with your fingers gripping the front. Then lift the module out whilst applying force to the chassis in the opposite direction. The module will then unclip allowing you to angle it up and out of the chassis.

The RAT1 is also the first Mad Catz product to ship that also allows its users to customize the product further with 3D printing. At launch we have made available the 3D data files for the product's palm rest. These files are intended for use by members of the public who are familiar with CAD software and 3D printing. Get your 3D files from [www.madcatz.com/downloads](http://www.madcatz.com/downloads).

### **Printing Existing Parts (STL files)**

If you do not have access to your own 3D printer, we recommend the following sites:

- shapeways.com
- thingiverse.com
- sculpteo.com
- cubify.com
- i.materialise.com

We recommend the following print materials:

- Polycarbonate (PC)
- Any suitable metal
- Any recommended material from the above sites that is suitably tough

### **Designing your own part (using the RAT1 Attachment.STEP file)**

Experience in the following software applications is required.

- SolidWorks
- AutoDesk Alias
- Rhino

The part that clips into the RAT1 Chassis should remain unchanged. The surfaces can be used as a foundation for your design. Parts will have to be exported as an STL file to the 3D printers' recommended requirements.

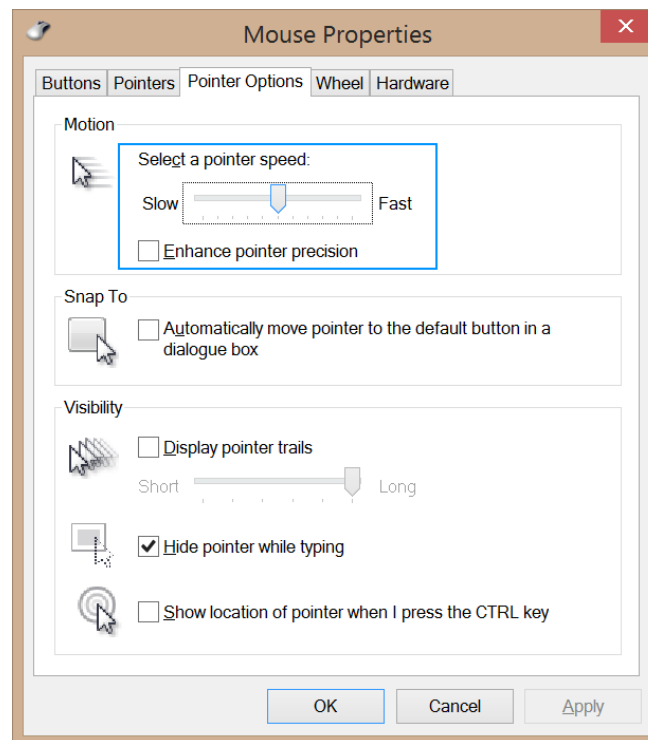
### 3. First-Time Setup and Software Installation

The **RAT1** can be used as a basic mouse when plugged into a PC via USB. However, if you would like to configure button response, and the performance of the sensor, both the product driver and software application will need to be downloaded and installed.

#### Connecting the RAT and configuring Windows

1. Make sure the PC is powered on.
2. Remove the label from the sensor aperture.
3. Plug the USB cable into an available port.
4. Windows will briefly install generic drivers for the RAT. It will then function as a basic 5 button mouse.

To make sure Windows is correctly configured, go to **Control Panel > Mouse**. Click on the **Pointer Options** tab. Make sure that the **Pointer Speed** slider is set to the middle position and that the **Enhance Pointer Precision** option does not have a tick.



#### Driver and Software Installation

In order to customize the product settings and make game profiles, you will need to download both the driver and software files from Madcatz.com.

1. Go to <http://madcatz.com/downloads/>.
2. Select your operating system and product in both the **Driver Download** and **Software Download** areas. You will then be given a link to download both the driver and the software application.
3. Run the driver file first. *You may be asked to restart your PC.*
4. Install the software application next. *If this is the first time you have installed our software, Windows may require you to install an update .net framework. This is normal.*
5. Once both are installed, you will see a RAT1 icon on your desktop, and a RAT1 icon in the system tray of your task bar. *If the system tray icon is not immediately visible, check the hidden icons by clicking the vertical arrow next to the system tray.*
6. The product is ready for customization.



## 4. Mad Catz RAT1 FLUX™ Software for Windows

A powerful software application for **RAT1** is supplied for Window users. As well as offering first-line support and setup tips, the software's two key functions are to allow the user to configure the performance settings of the product and to create game-specific profiles. The following section will tell you everything you need to know to get the product functioning how you want it to.





The desktop software enables the creation of game-specific profiles for your favourite games and apps. Profiles consist of keyboard key and mouse button presses that are then mapped to the additional controls on a product. For example, for a game like Battlefield, you can set commands like Throw Grenade, or Melee Attack to the additional RAT buttons to make it faster and easier to carry out these actions in-game.

Once the profile has been made, it can be linked to the corresponding game or application. So that, when the program or game window is in focus, the profile is automatically activated on the product.

FLUX is also fully compatible with commonly used cloud storage services. For example, you can link the Drop Box folder on your PC to the profile folder within FLUX. This means that you can easily back-up your profiles, and quickly access them on different PCs.

The following controls on the RAT1 can be programmed:

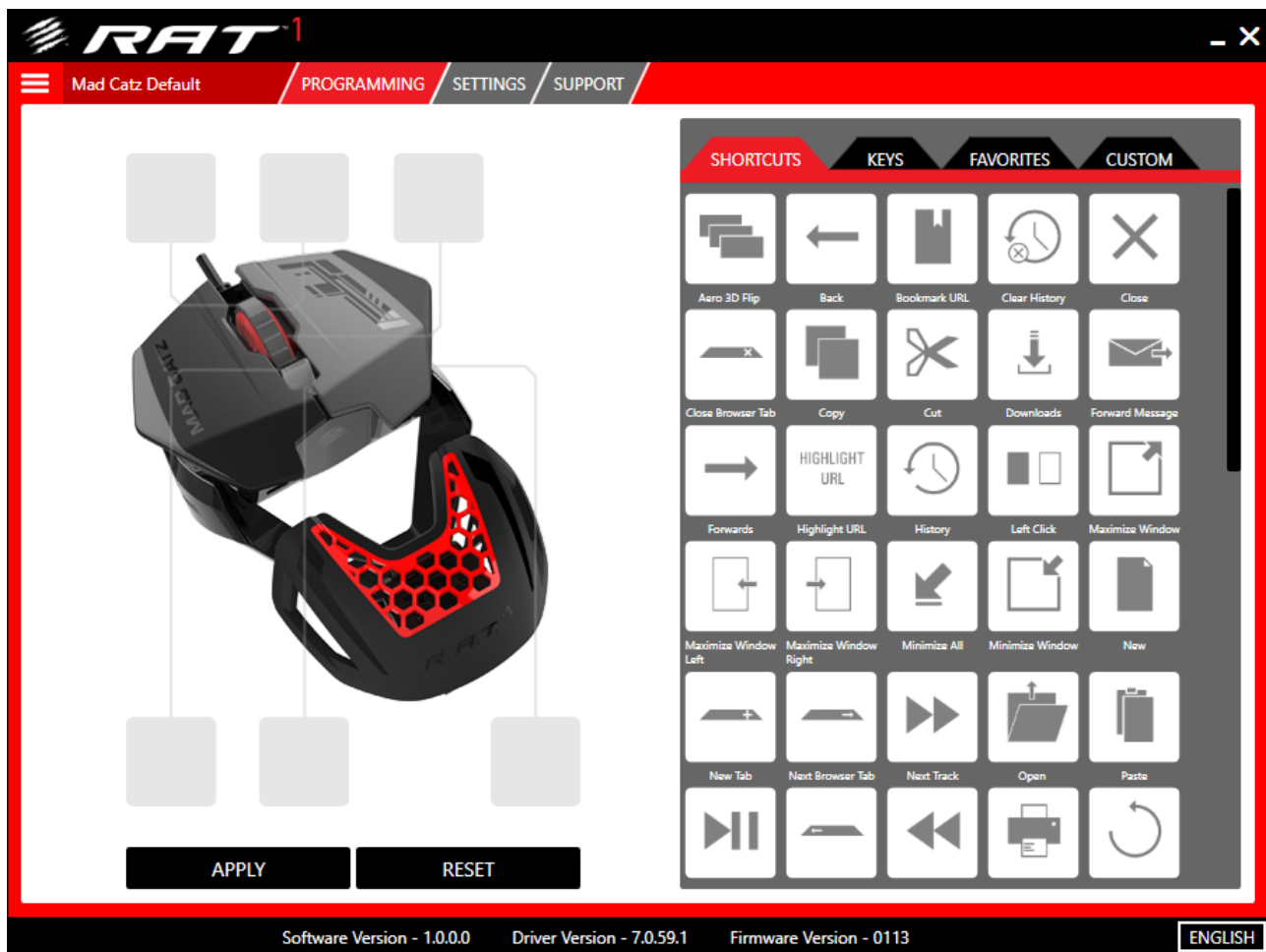
- Right RAT button
- Scroll Wheel Up
- Scroll Wheel Down
- Scroll Wheel Click
- Browser Forward
- Browser Back

#### Before you begin:

- Both the driver and software applications for the product need to be installed.
- User profiles are stored in **Public\Documents\Mad Catz\RAT1** folder. They are not stored in the device itself.
- Profiles are stored as .pr0 files and can be transferred to other computers that have the drivers and software installed.

## FLUX Programming Overview

The following section will take guide you through the layout of the user interface and how each element operates. When you first load up FLUX, it will look like this:



### Key Elements:

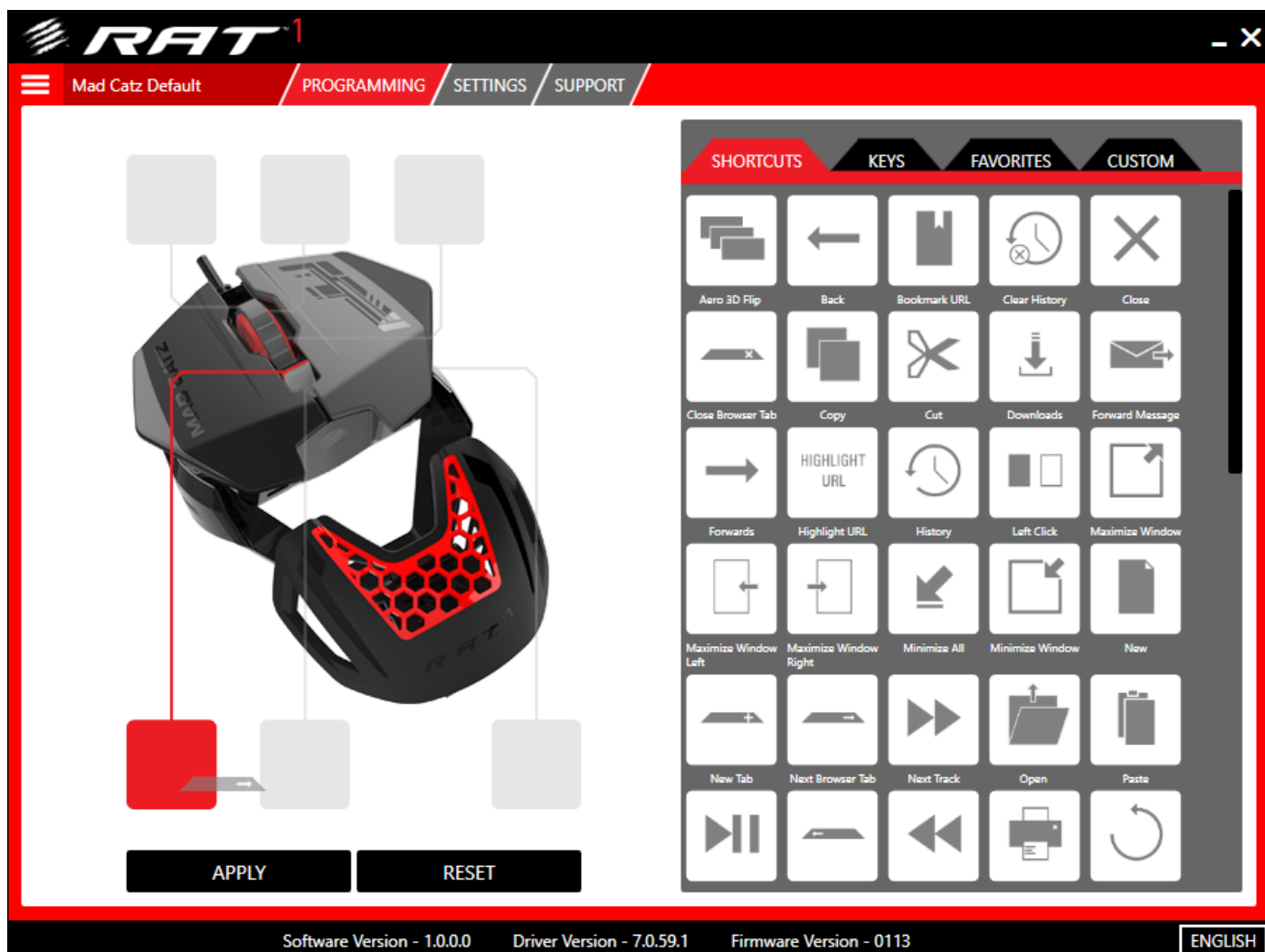
1. Running along the top of the app are the main tabs. Programming is selected by default. Click the button to change to the desired page. When a new version of software is available, an update tab will appear with direct download links.
2. The Programming page features an image of the product along with callouts to each of the programmable controls.
3. To the right of the image is the Command Library. The first tab contains pre-made shortcuts such as copy, paste, and other useful functions. The second tab contains single keyboard key presses. These are useful for ultra-quick profile setup. The third tab is for your favourite commands. If you right-click a command you can add it to favourites. This command will then always be visible regardless of what profile you are editing. Finally, the custom tab allows you to create your own commands. More on that later...
4. Directly above the product image is the mode selector drop down menu. Use this to select the profile mode you want to edit. The colour of the selected mode, corresponds to the Mode LED colour on the product.
5. Directly below the product image are the Apply and Reset buttons. Clicking Apply will activate a profile. Clicking Reset will clear the profile of all commands.
6. To the top left of the image, is the Profile Menu button. This will reveal/hide the different profiles you have access to for editing. The area next to the menu button displays the name of the current profile that is open for editing.

## Quick Programming of the Mad Catz Default Profile

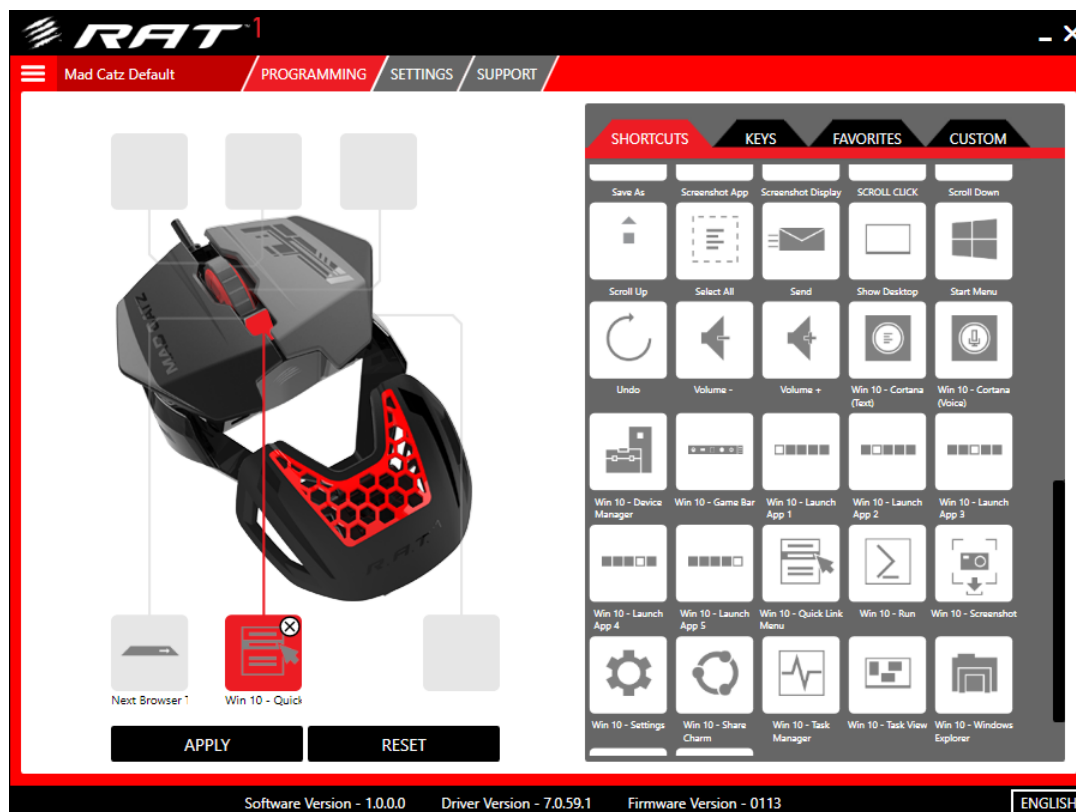
When you first load up the software, the profile presented for editing is the Mad Catz Default Profile. This profile is active when your system boots up. The default profile is great for applying commands that make browsing the Internet and controlling media, quick and intuitive.

To assign a command to a button, left-click and drag an icon from Command Library over to one of the callouts. When you release the left RAT button, the command will be assigned.

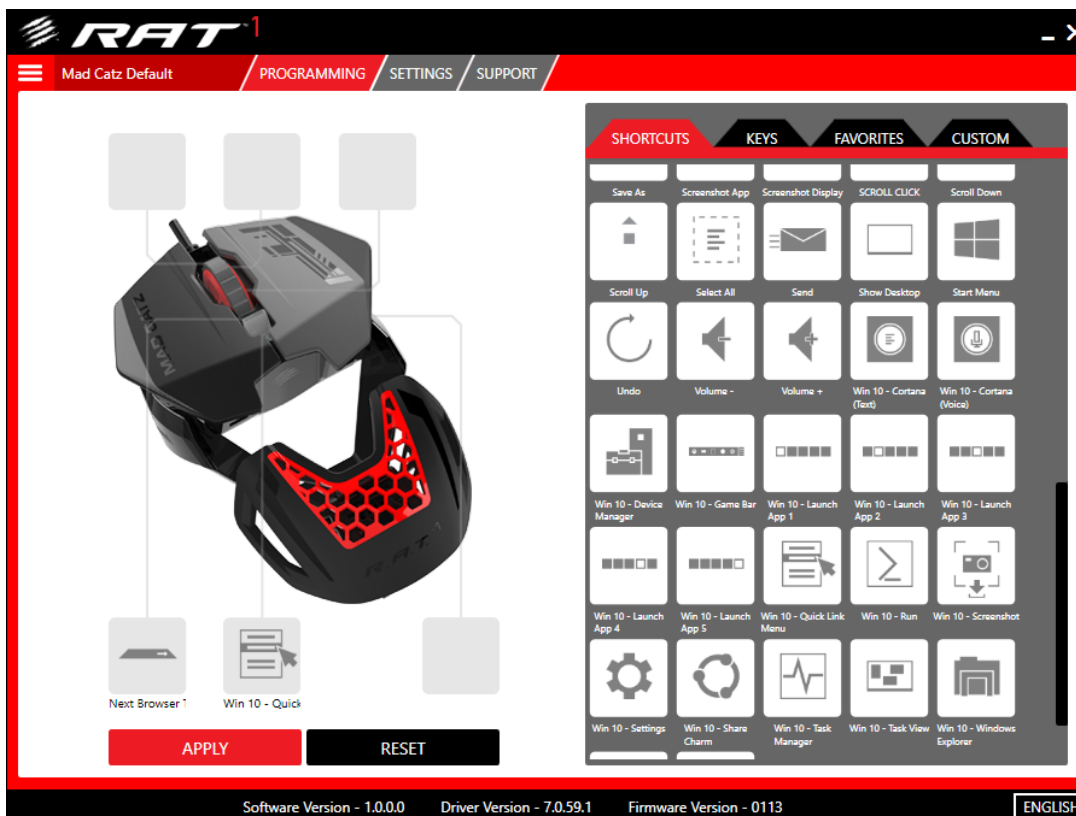
Repeat this process to assign all of the commands you need to the RAT.



To remove a command from a button, hover your RAT cursor over the callout. When the cross appears, left-click it.



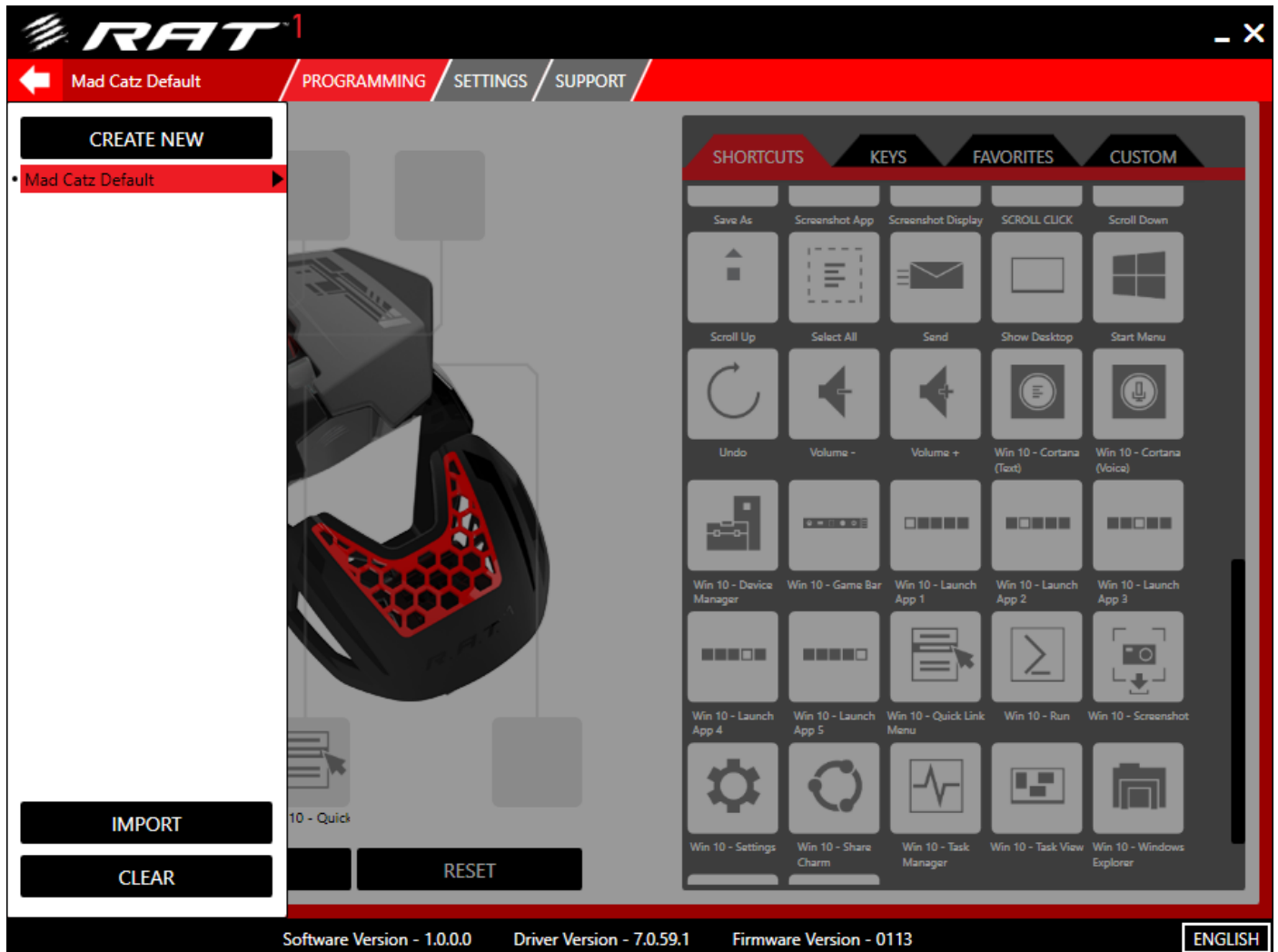
Once you are happy with the assignments, click the Apply button. The assignments will now be active on the RAT.



## Profile Management

If you find that using a single profile is too restrictive, you have the freedom to create as many as you want.

First, click the Profile Menu button to reveal the additional parts of the interface.

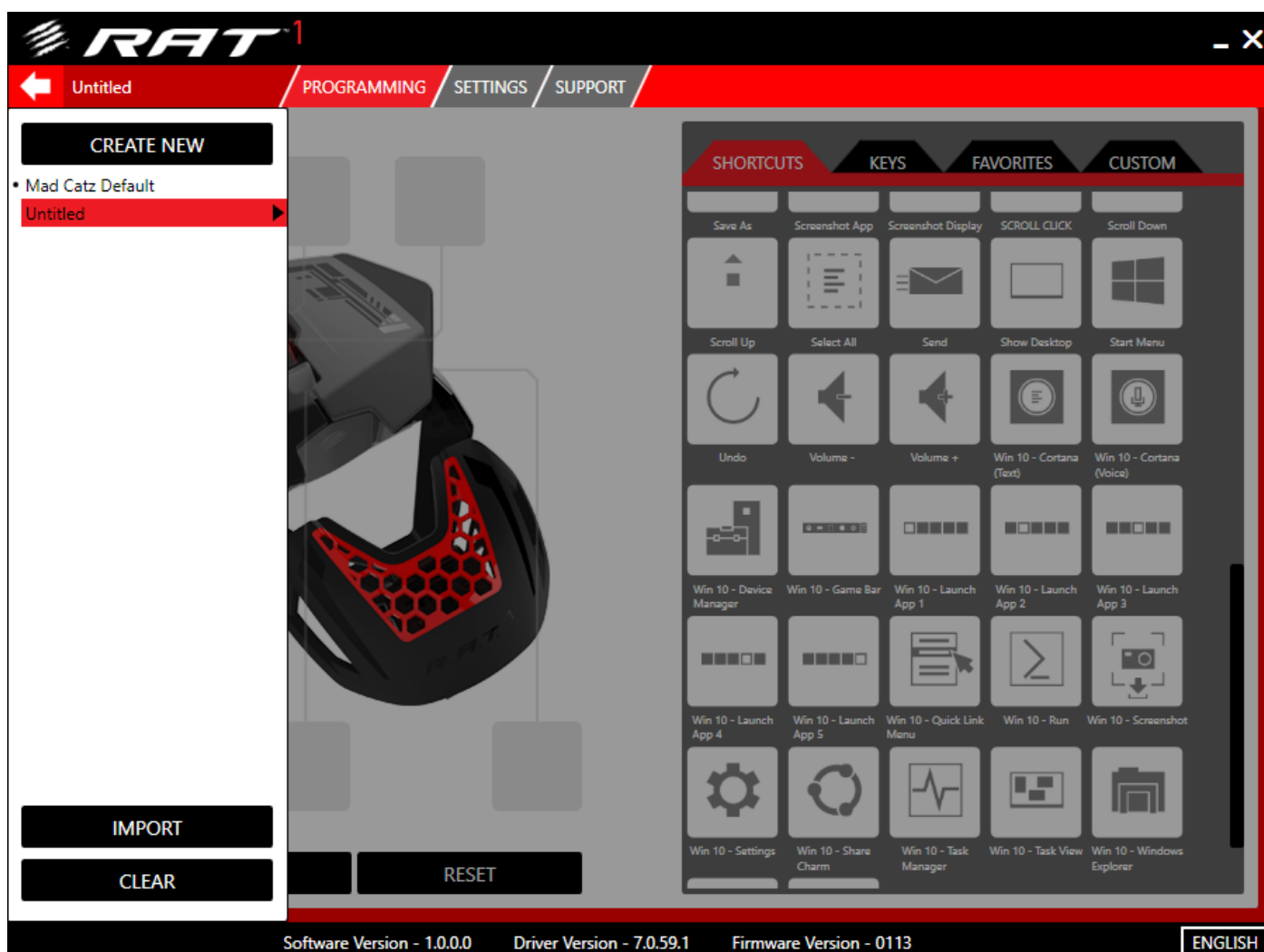


### Key Elements:

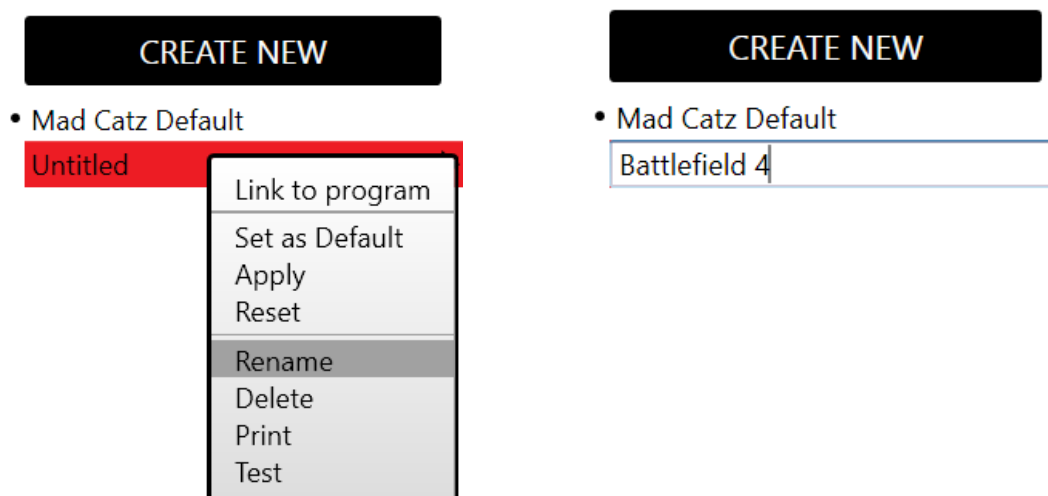
1. At the top of the Profile Menu is the **Create New** button. When this is clicked a blank untitled profile is added to the list.
2. Below the Create New button is the entry for the Mad Catz Default profile. The black dot to the left of profile name indicates that it is currently active. If I select a new profile and click apply, that dot would move to the newly applied profile. The profile name is also highlighted red. This means that the profile is currently selected for editing.
3. The Import button opens a file explorer window. This allows you to browse your hard disk or removable storage to import previously backed up profiles.
4. The Clear button disables any profile that is currently active on the product.
5. Each profile has a context menu that contains additional options. This can be accessed by either left-clicking the black triangle to the right of the profile name, or by just right clicking the profile entry.

## Create your own Profile

Click the Create New button. It will generate a new untitled profile. It will be automatically selected for you to begin editing.



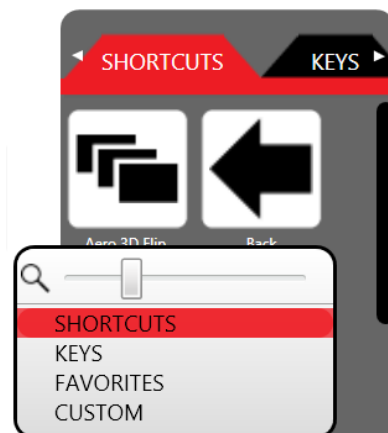
Right-click the profile to reveal the context menu and select Rename. Enter the desired profile name and hit enter on your keyboard.



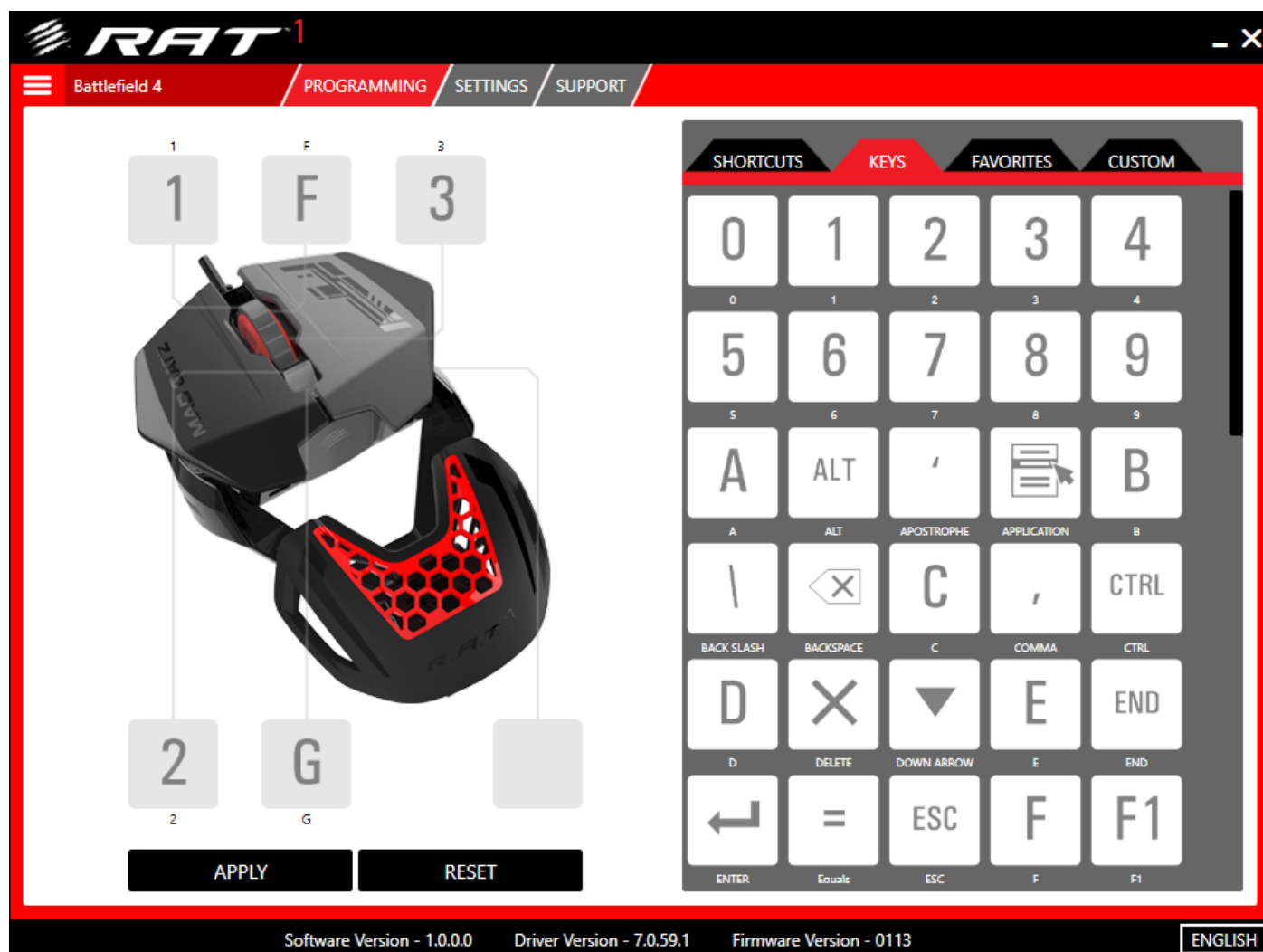


You can now assign commands to the buttons across all the profile modes. If you find that the Command Library is too difficult to view or navigate, you have two options:

1. Hide the profile menu. Now that your new profile is selected for editing, it will not change until you select a different profile.
2. Right-click inside the Command Library to reveal its context menu. This will allow you to quickly jump to the different command tabs and resize the command icons to your preference.



In the image below, I have selected the Keys tab in the Command Library and added my preferred in-game actions to the programmable buttons.



You can now **Apply** the profile and start gaming. Before you do, here are the explanations for the additional options in the Profile Context Menu.

- **Link to Program** – This will open up a file explorer window. You will need to browse to, and select, the .exe file that is associated with the game or application you want the profile to be associated with. The profile will then be automatically activated when that program window is in focus. When the linked program window is not in focus, the profile will revert back to your default.
- **Set as Default** – This will set the profile you have made to automatically be applied when Windows loads up.
- **Apply** – Same as the Apply button on the Programming Page. Activates a profile.
- **Reset** – Same as the Reset button on the Programming Page. Removes all assignments from a profile.
- **Rename** – Activates the text input cursor in order to rename the profile.
- **Delete** – Deletes a profile from your system.
- **Print** – Prints the profile and its assignments for reference.
- **Test** – Temporarily activates the profile and opens up a test screen for you to check the input of your profile commands.

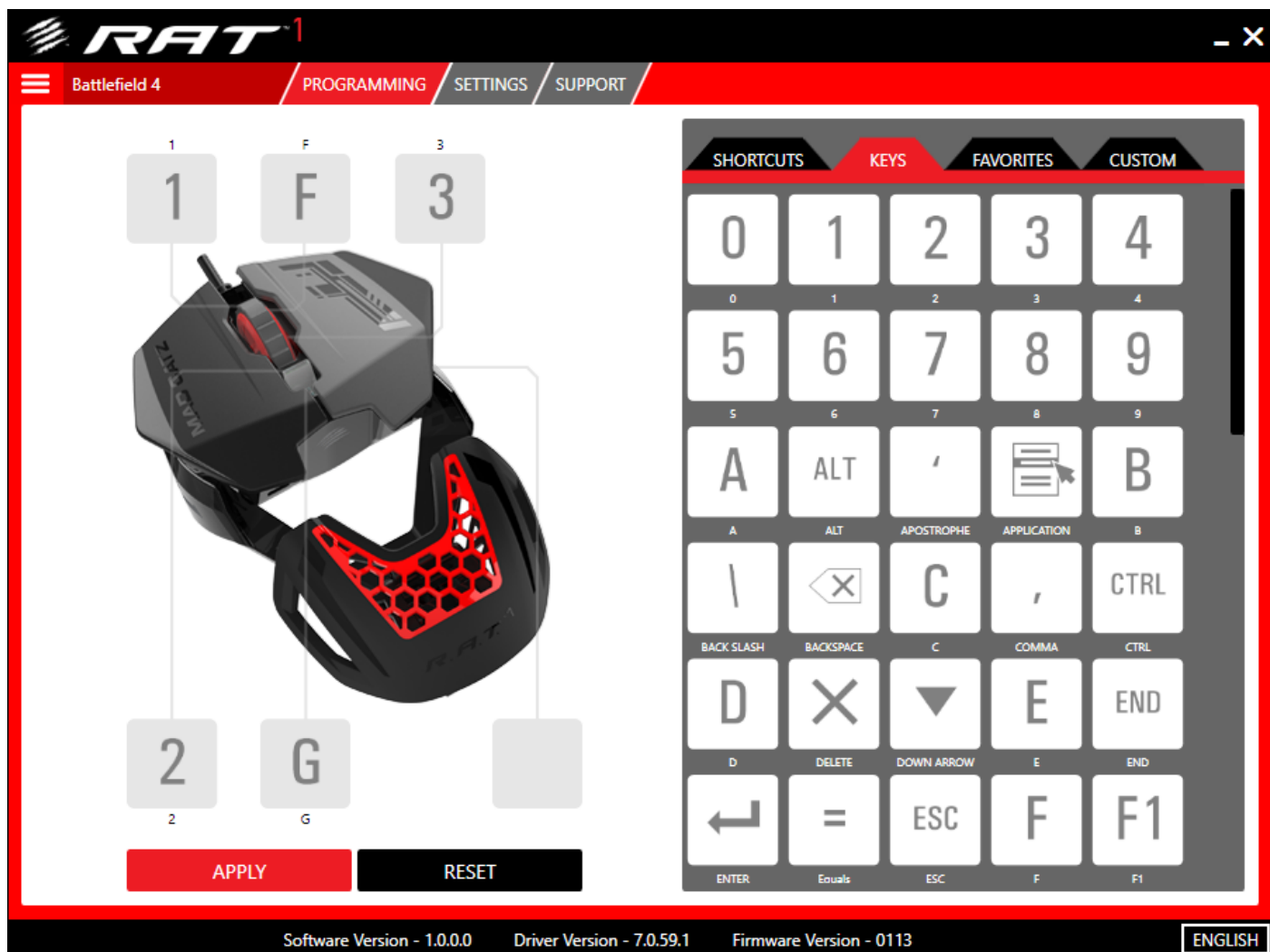
CREATE NEW

• Mad Catz Default

Battlefield 4

Link to program  
 Set as Default  
 Apply  
 Reset  
 Rename  
 Delete  
 Print  
 Test

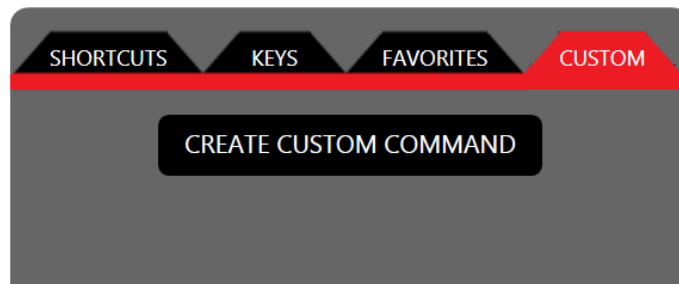
Once you are happy with your profile, click Apply.



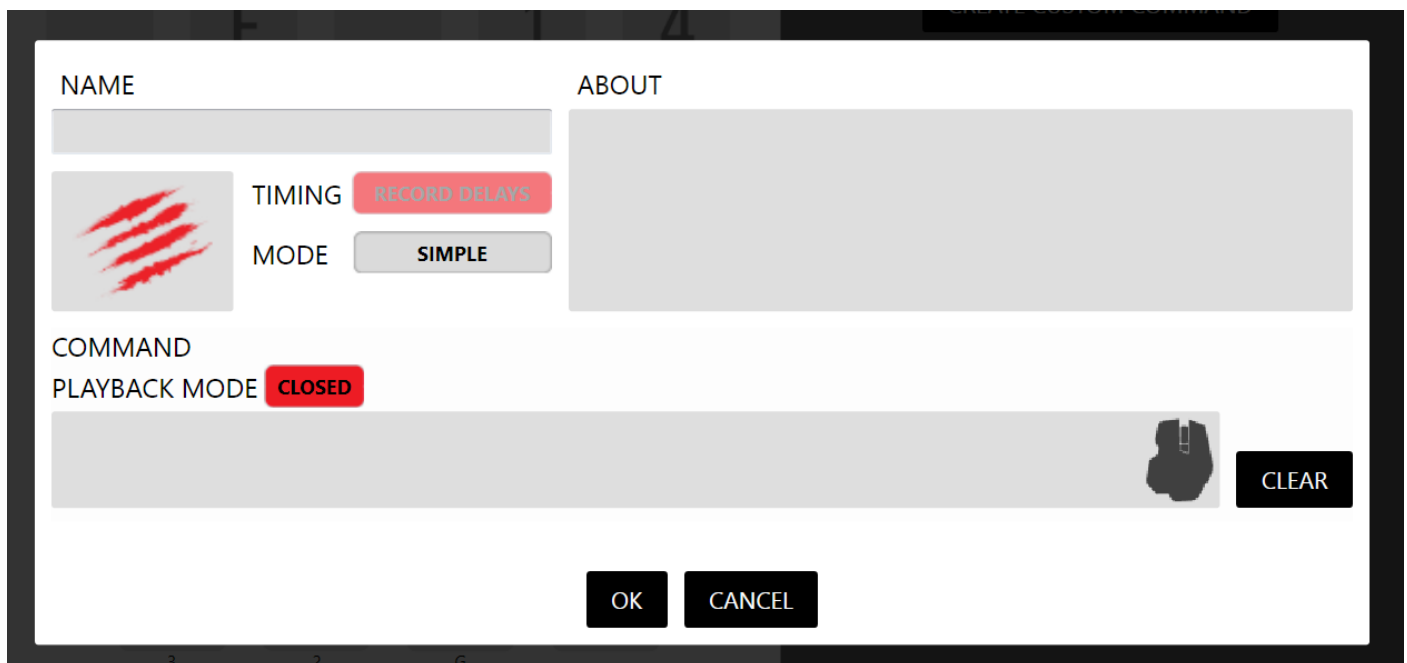
## Custom Command Creation

Until now, this guide has dealt with the pre-made commands in the Command Library. This section will take you through the process of creating your own commands and adding them to your profiles.

In the Command Library, click the Custom tab and then click Create Custom Command.



This will open the Custom Command Editor.



### Key Elements:

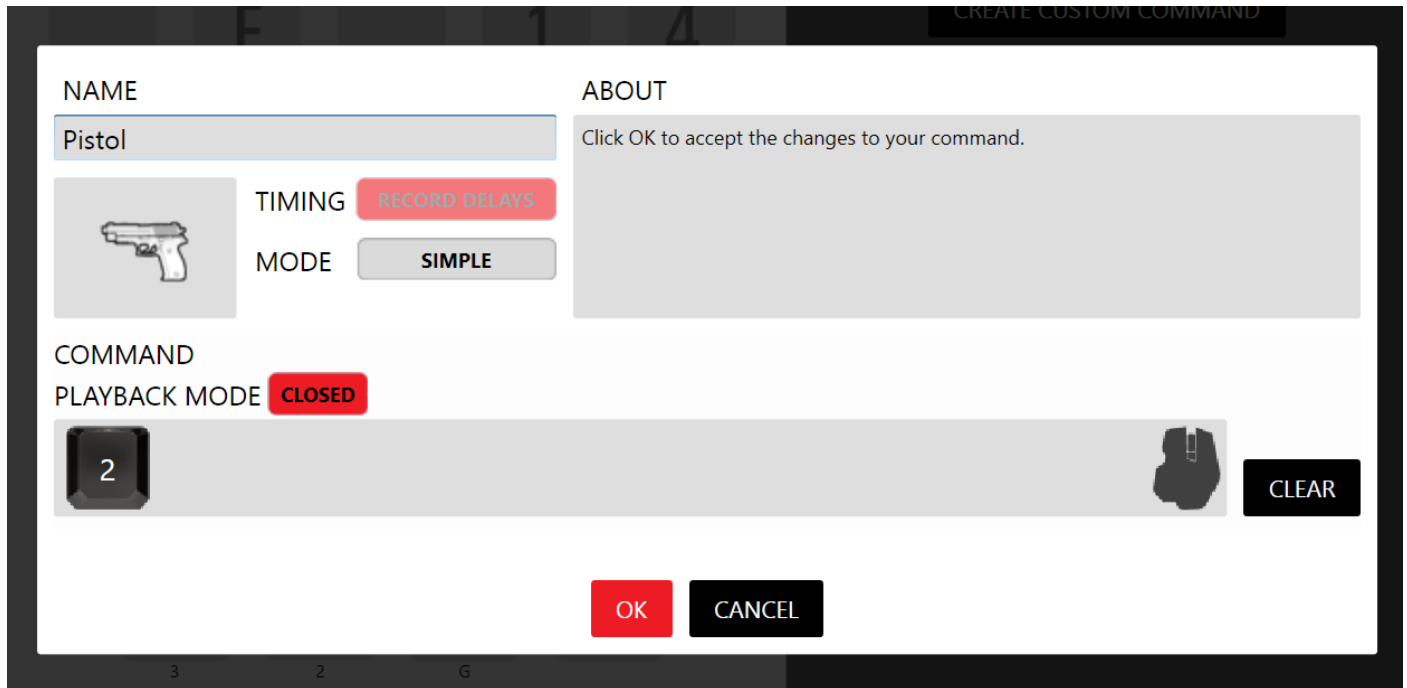
1. At the top of the Editor is the Name box. This is where you type the name of the command.
2. Beneath the Name, is a box that contains the Mad Catz scratches. Our software enables you to associate your commands with icons or images. For example, the command for selecting a Pistol in Battlefield could be an image of the pistol itself. The default command icon is the Mad Catz slash logo. Click the icon box to open up a file explorer window. You can now browse to the image you want to add to the command. Alternatively, drag and drop the image file straight into the box to quickly assign it. To delete an icon image, hover your RAT cursor over the icon until the cross appears, then click to delete it.
3. To the right of the Icon box are two buttons that set the type of command you want to create:
  - a. **Timing.** The editor can either record the exact timing of your key presses or ignore them. If Record Delays is turned off any gaps between key presses will be removed so that the command will output as fast as possible.
  - b. **Mode.** When this is set to Simple, your command options are limited. Firstly, the delays between key press events are not recorded. Secondly, you can only program the press event of a physical button. If you click the Mode button to change it to Advanced, you are free to record

and adjust keypress timings. You can also program every aspect of a physical key press. We define these as Press (button down), Repeat (button held), and Release (button up).

4. Underneath the Icon Box resides the Command Creation area.
  - a. **Playback Mode.** This defines how the command is output or 'played' when the button is pressed. When set to closed, the entire key press string of a command will be played, even if you quickly press and release the button. When set to open, you need to press and hold the programmed button down for the entire duration of the key press string. If you release the button midway through the string, you will only get partial output to the game or software.
  - b. **Command Entry Box.** This is where you type in the command you want to assign. Hover your RAT cursor inside the box to start entering your key presses. If you move your cursor out of this area, the editor will stop recording keyboard or RAT input. Note the RAT icon in the Command Entry Box. If you hover your RAT cursor over this icon, it will turn red. At this point, you can click any of the main RAT buttons or scroll up or down and the editor will record this input. This enables you to mix both keyboard key presses and RAT button presses to create more complex in-game commands.
5. The **Clear** button will remove all key press data from a command.
6. The **OK** button confirms the command and returns to the main Programming page.
7. The **Cancel** button rejects any command editing and returns to the main Programming page.
8. Finally, the **About** box gives you a helping hand if needed. Hover your RAT cursor over any aspect of the Custom Command Editor to get a reminder of what the feature does and how it can be used.

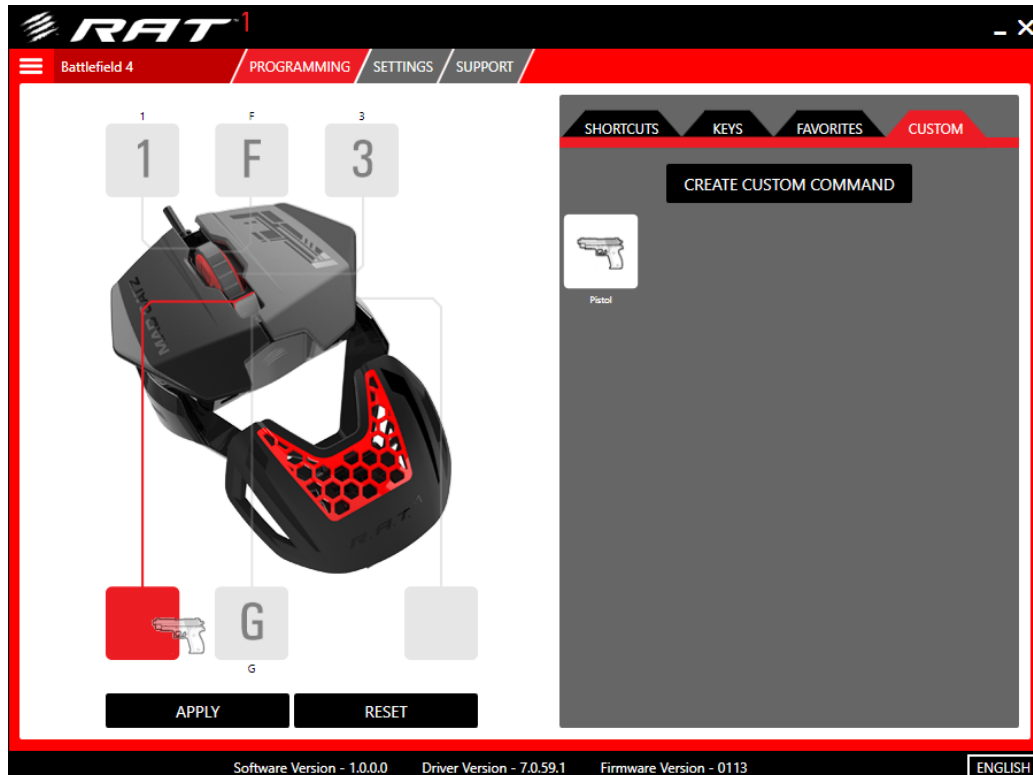
## Create a Simple Custom Command

In this example, I have typed the name of the command, moved my cursor into the Command area and pressed the number 2 on my keyboard, and then clicked in the icon area to browse to the image I want associated with the command.



The screenshot shows a 'CREATE CUSTOM COMMAND' dialog box. It has two main sections: 'NAME' and 'ABOUT'. The 'NAME' section contains a text input field with 'Pistol' and a button labeled 'RECORD DELAYS'. Below this is a 'TIMING' section with a 'MODE' dropdown set to 'SIMPLE'. The 'ABOUT' section contains a text area with the instruction 'Click OK to accept the changes to your command.' Below the 'NAME' section is a 'COMMAND' section with a 'PLAYBACK MODE' dropdown set to 'CLOSED'. Below this is a large input area with a button labeled '2' and a button labeled 'CLEAR'. At the bottom are 'OK' and 'CANCEL' buttons.

When the command is complete, click ok. It will now appear on the Custom tab, ready to be dragged and dropped onto one of the programmable buttons.



To delete a Custom Command, hover your RAT cursor over the icon and then click the X. If you want to edit an existing custom command, go to the Custom tab and left-click the command icon.

## Create a Complex Custom Command

In this example, we will run through the creation of a multi-keypress command that takes into account the timing between keypress events. I want to create a command for Battlefield, that when activated, will get my Sniper Rifle out and then put me in the Prone position.

In the image below, I have opened the Custom Command Editor, set the Mode to Advanced, and Record Delays is on. I have also input the keyboard keypress as I would do it in the game. The timing delay between each keypress event is denoted by the red bars, in milliseconds (ms). Note how that, when the Mode is set to Advanced, both the down and the up component of a keyboard key press is recorded.

The screenshot shows the Custom Command Editor window. It has a 'NAME' field with 'Sniper Rifle + Prone' and an 'ABOUT' section with the text 'Click OK to accept the changes to your command.' Below the name field is a small icon of a sniper rifle. To the right of the icon are two buttons: 'TIMING' and 'RECORD DELAYS' (highlighted in red). Below these are 'MODE' and 'ADVANCED' (highlighted in red). The main area is divided into three sections: 'PRESS', 'REPEAT', and 'RELEASE'. Each section has a dropdown menu and a 'PLAYBACK MODE' button (all set to 'CLOSED'). The 'PRESS' section contains a sequence of keypresses: a down arrow key, a red bar labeled '104 ms', an up arrow key, a red bar labeled '519 ms', a 'Z' key, a red bar labeled '119 ms', and another 'Z' key. To the right of this sequence is a mouse icon and a 'CLEAR' button. The 'REPEAT' and 'RELEASE' sections are currently empty, each with a mouse icon and a 'CLEAR' button. At the bottom are 'OK' and 'CANCEL' buttons.

Don't worry if you make a mistake. You won't need to clear the whole command and start again. If you input the wrong key press, just hover your cursor over the keypress and click the X that appears. You can then re-enter the command.



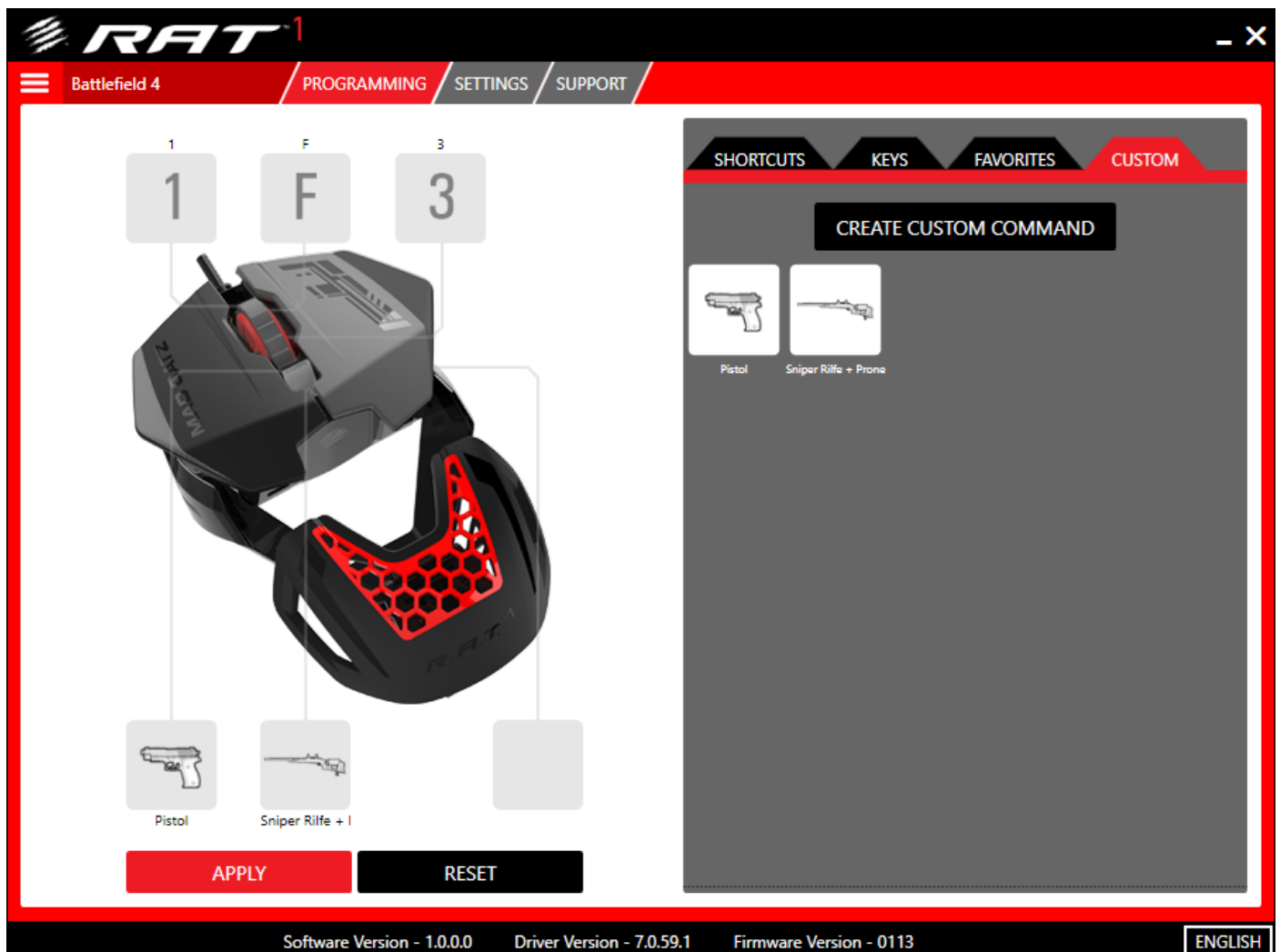
Once you are happy with the command, you can alter the timing between each keypress by left-clicking the red bars between the key press events. The Time Editor gives you multiple options for altering your command.



- Firstly, you can simply type in the desired ms delay.
- Secondly, you can drag a slider to the desired delay.
- Finally, you can select a preset delay from one of the option buttons.
- Once you are happy with your timing delay, you can either apply the update to a single delay between two key press events or apply the same delay to all the events in the command.

The TIME EDITOR window displays a 'TYPE DELAY' input field set to '20 ms'. Below it is a horizontal slider bar ranging from 0 to 1000. Under the slider are two rows of preset delay buttons: '0 ms', '5 ms', '10 ms', '20 ms' in the first row, and '50 ms', '100 ms', '250 ms', '500 ms' in the second row. At the bottom are three buttons: 'APPLY' (red), 'APPLY ALL', and 'CANCEL'.

Once you are happy with the command, click ok. It can now be dragged onto one of the programmable buttons.



If you are happy with your profile, click the Apply button to activate it.

## Using the System Tray Icon

The system tray icon is a quick and convenient way to access FLUX and activate profiles without having to load the interface. The icon has two states. When it is highlighted green, a profile is active.



When it is not, all profiles are cleared.



If you left-click the icon, the FLUX interface will open.

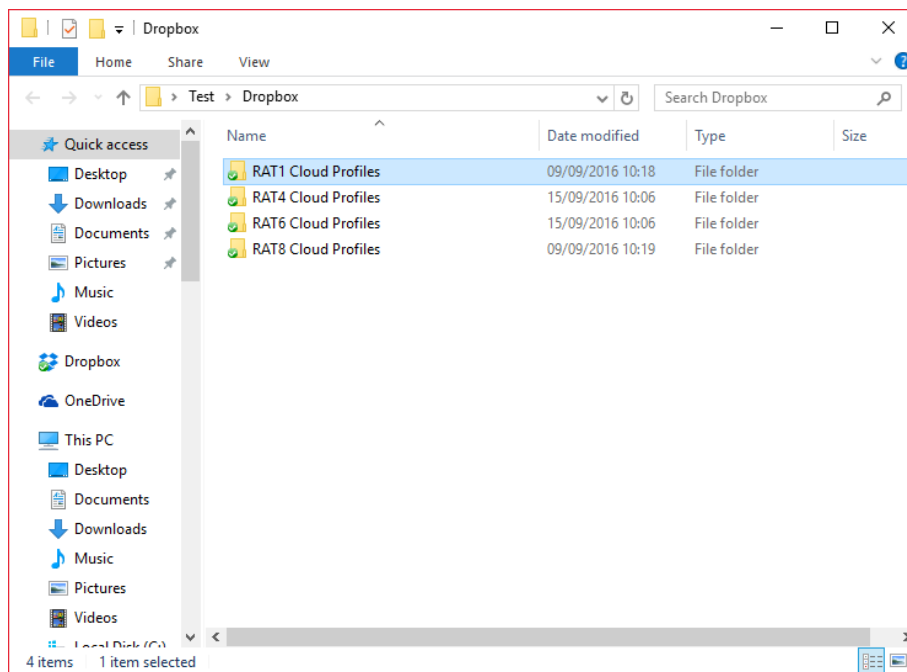
If you right-click the icon, a profile menu will appear. From here you can left click a profile name to activate it. Or, select clear to deactivate any profile assignments. Note that the black dot graphic that denotes which profile is active is replicated within the Profile Menu of the main FLUX interface.



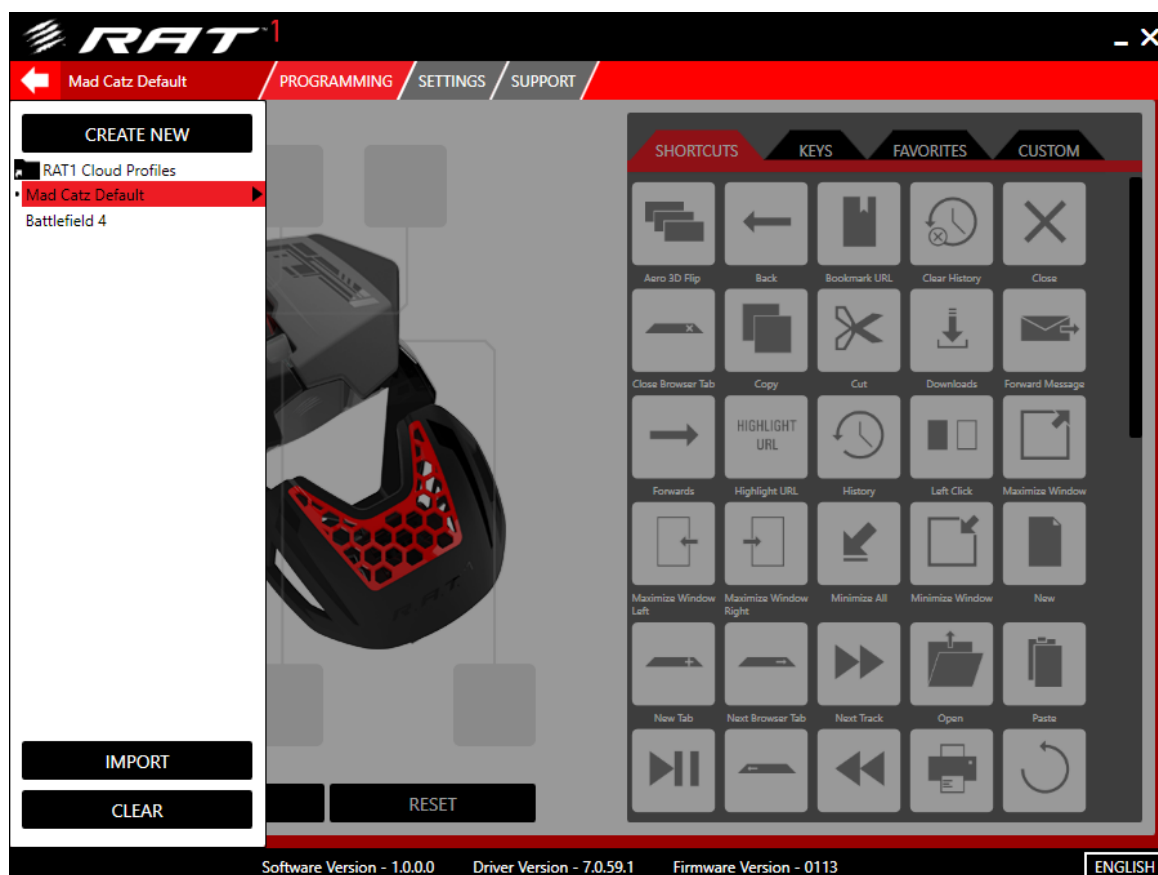
## Cloud Storage Backup

FLUX can work in tandem with most popular cloud storage services (Drop Box, OneDrive, Google Drive etc.). This is really useful for keeping your profiles backed up. In addition, if you use your RAT on multiple PCs, you can always access and use the same profiles.

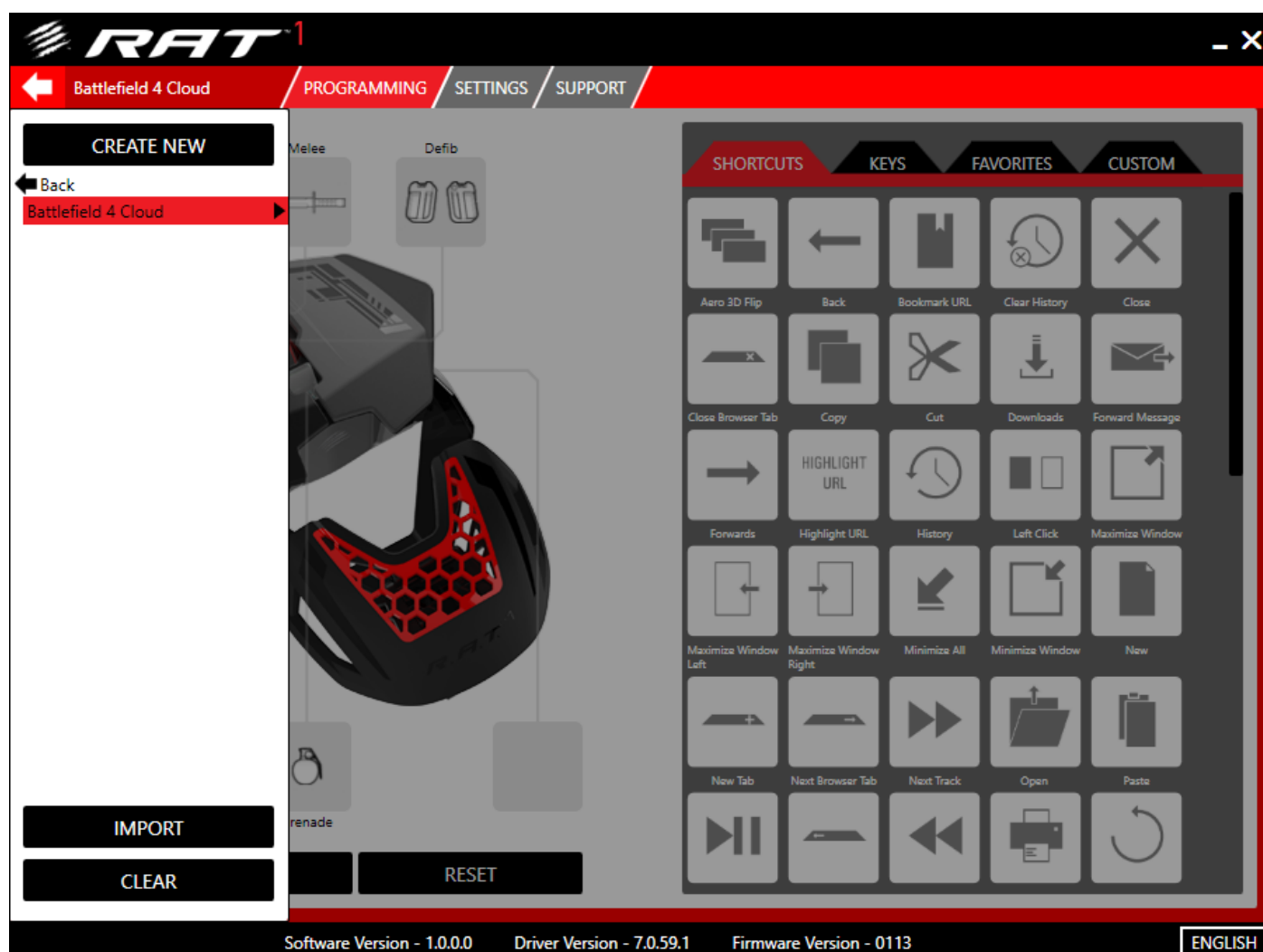
First, locate the folder on your PC that is associated with the cloud service. In the image below, I have created RAT specific folders within the main Dropbox directory.



Next, drag and drop your cloud service folder into the profile list, and it will appear.



Now you can access the cloud folder from within the software. Click the folder to open it. Once the folder is open, you can create and edit profiles, and they will remain consistent across multiple computers that are using the same cloud service.



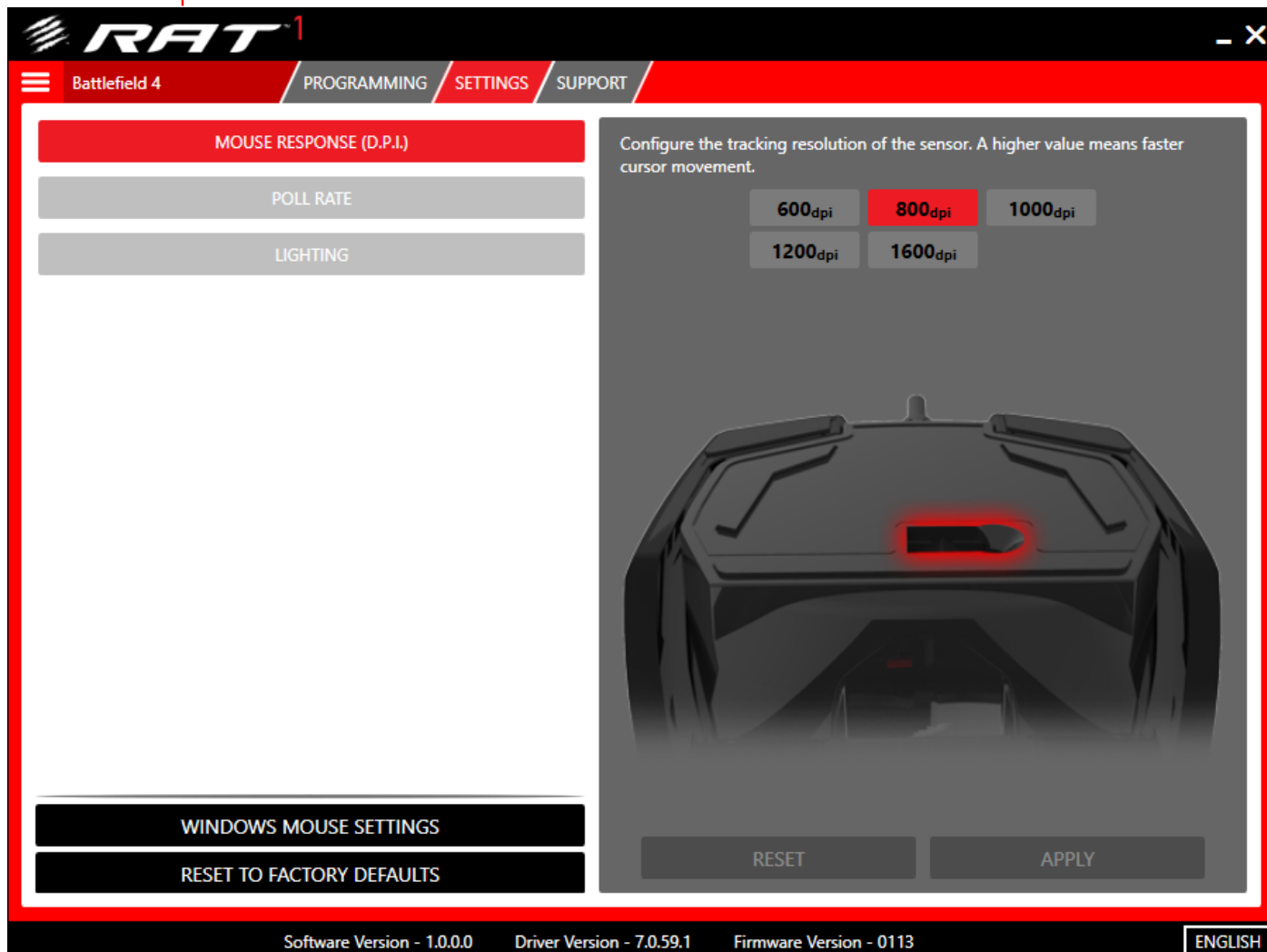
Click the back button to navigate back out to the main profile folder on your system.

You can always remove the folder link by right-clicking it and selecting the option from the context menu.

## FLUX Settings Overview

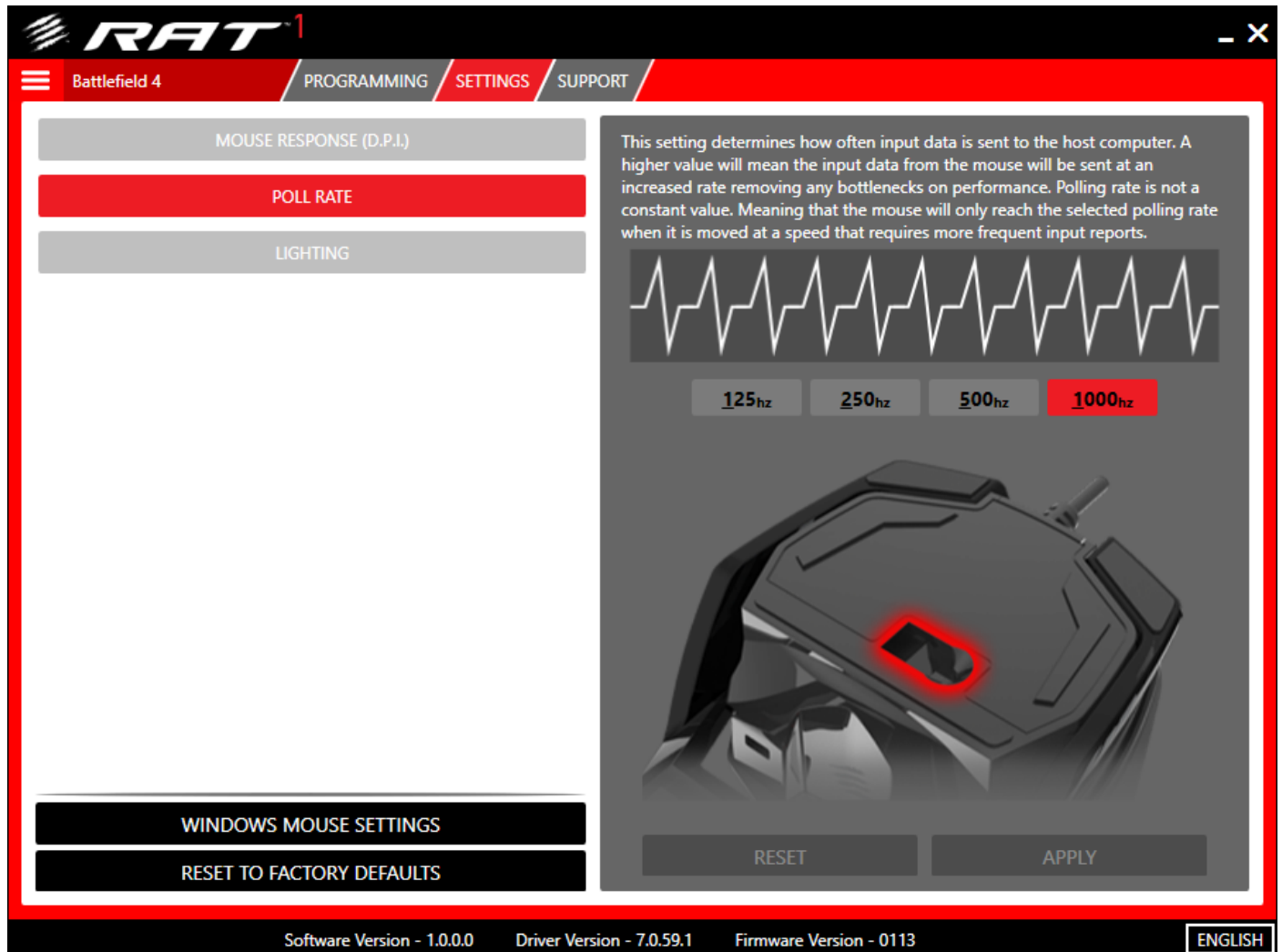
The Settings page allows you to access and adjust the key performance values of the product, such as DPI and report rate. Unlike button mapping profiles, the product settings are stored in the memory that resides within the RAT, meaning that these options will carry over onto other computers without the need install the software. Click the Settings Page button to access the performance customization options.

## D.P.I. Response



Set the tracking resolution of the sensor. Simply select a DPI level, then click apply.

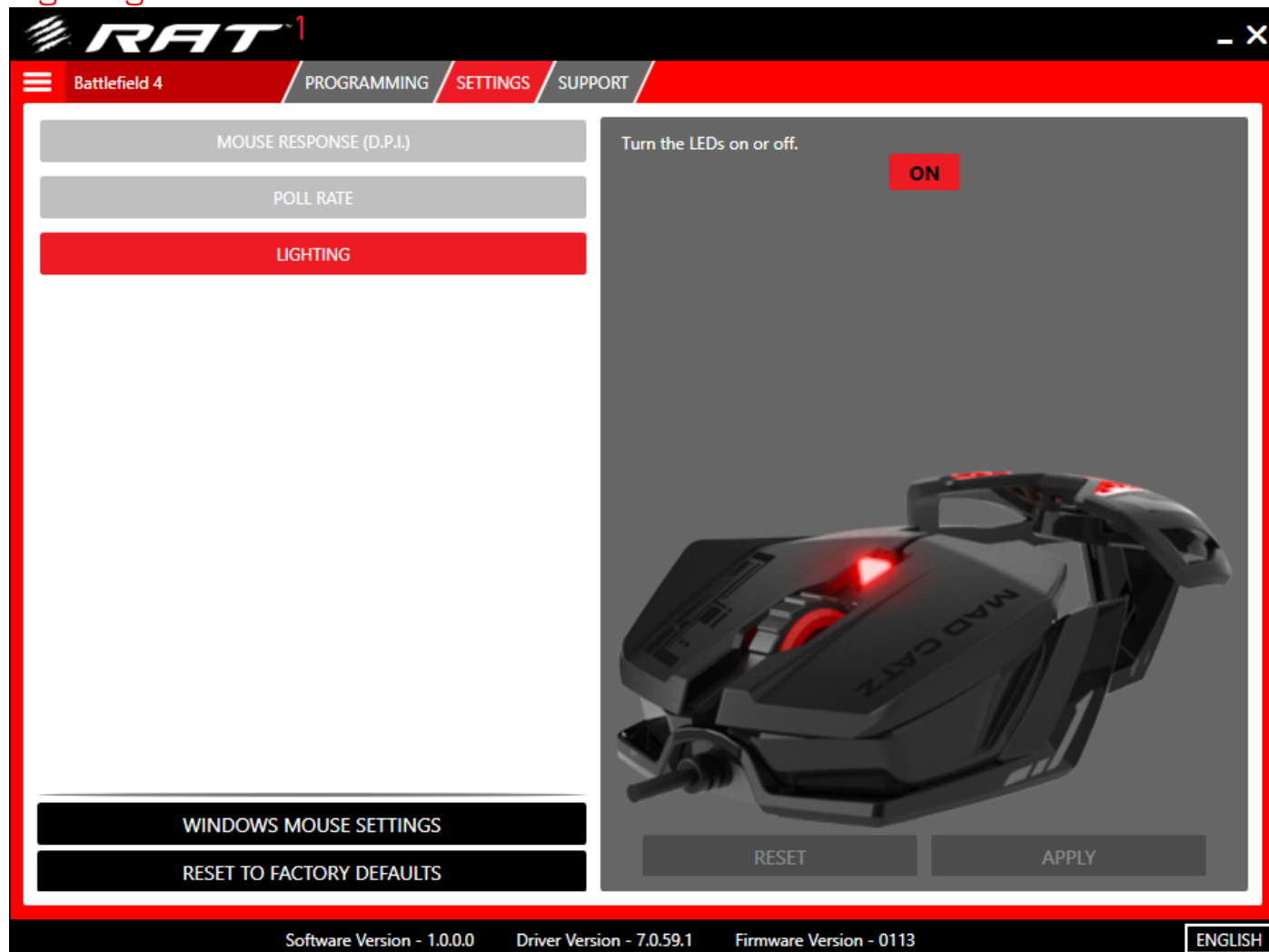
## Poll Rate



This setting determines how often input data is sent to the host computer. A higher value means faster data updates up to 1 ms (1000Hz). If you want to adjust this, simply click the desired value and click Apply.



## Lighting



This setting allows you to turn the onboard LEDs on or off.

To reset the product to its factory values, go to Settings and click **Reset to Factory Defaults**.

## 5. Product Questions

### 1. Does the product support firmware updates?

- Yes. The product is firmware update compatible. If there are any updates to the firmware, Mad Catz will release a firmware update application to update the product.

### 2. Can I set a custom profile to be active when my PC boots up?

- Yes. To do this, expand the interface to show your custom commands. Click the context menu and then click Set as Default. This profile will now be active when your OS loads.

### 3. Can the DPI, and other product settings be set per profile?

- No. These Settings are referred to as Global Settings. This means that, regardless of the button profile that is active, things like DPI, and Roll Rate will remain the same. Unlike Profiles, the Settings are stored in the memory of the device, and remain the same when the RAT is plugged into a different PC.