

GCC-RP

Advanced Configuration Reference

*For RED cameras
V-RAPTOR, KOMODO, and KOMODO-X*

Copyright 2024, Gates Underwater Products, Inc.

This manual and current revision is available in 8.5 x 11 size and full color at

<http://www.gateshousings.com>

Gates Underwater Products, Inc.

13685 Stowe Drive Suite A
Poway, California 92064 USA

Phone: +1-858.391.0052

Web: GatesHousings.com

Table of Contents

1:	Before you begin.....	4
2:	Cautions	5
3:	Configuring the File.....	6
	Getting Started.....	6
	Locating the Configuration File	7
	Find the correct drive	8
	Use a Simple Text Editor to open the file	9
	Edit the file	10
	Save the file	12
	Verify your changes	12
	Troubleshooting/Tips	13
4:	Customer Support.....	14

1: Before you begin

As of this publication, this reference document describes the process of modifying the GCC configuration file for these Gates Housings:

- [PRO RAPTOR](#)
- [DEEP WEAPON-RAPTOR](#)
- [DEEP KOMODO](#)
- [DEEP KOMODO-X](#)

For general housing use and GCC operation, consult the housing manual associated with each.

2: Cautions

The Gates GCC-RP allows advanced users to change the function of many of the buttons by simply changing a number in a configuration file located on the micro SD card.

Why have we decided to change button functions with a configuration file only?

- GCC-RP uses a read only file system to prolong the life of the SD card.
- The display is small which would make it difficult to implement a good user UI on the controller itself.

Be aware that by editing the config file you are essentially re-programming the controller.

The changes to the configuration file must be done properly or the controller will not function.

However, the file can be edited with only basic computer skills if the instructions are followed.

Since things can go wrong:

- Do not attempt to change the file if you are not confident in your computer skills. No programming knowledge is necessary.
- Do not change the file if you don't have a good amount of time to prep your rig and test the proper function of all your buttons.
- Do not change the file if you don't have time to familiarize yourself with what the buttons do or if they will actually be useful to you.

There is limited tech support for GCC controller customization. Gates does not take any responsibility for problems incurred by improper GCC configuration, including but not limited to: damages incurred on productions from lost time.

3: Configuring the File

Getting Started

A Windows/Mac/Linux computer is needed along with the appropriate adapter for a micro SD card.

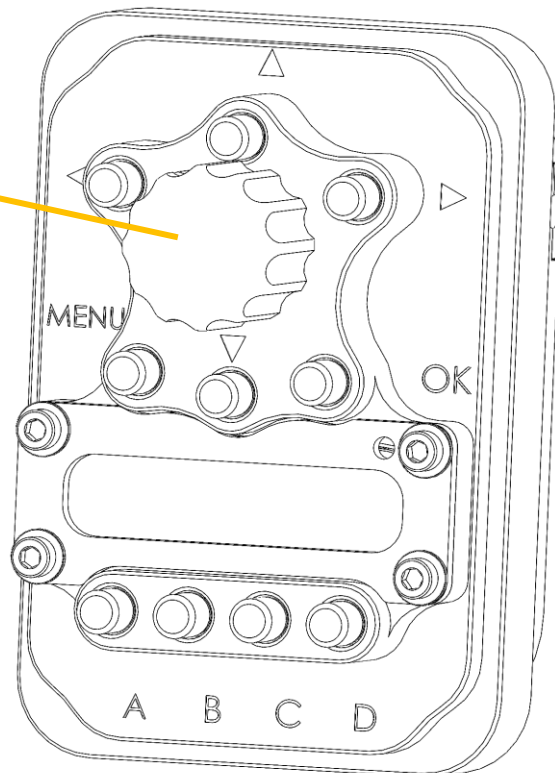
This reference has detailed instructions for Windows computers only but the file can be edited on almost any computer.

The latest GCC image update must be flashed before the configuration file can be changed.

Please read the update GCC update guide located on the Gates website before continuing.

<https://www.gateshousings.com/gcc-update-dwr/>

11 Pushbuttons and Knob are fully assignable. Each pushbutton has 2 functions: one assigned to short press, the other assigned to long press.

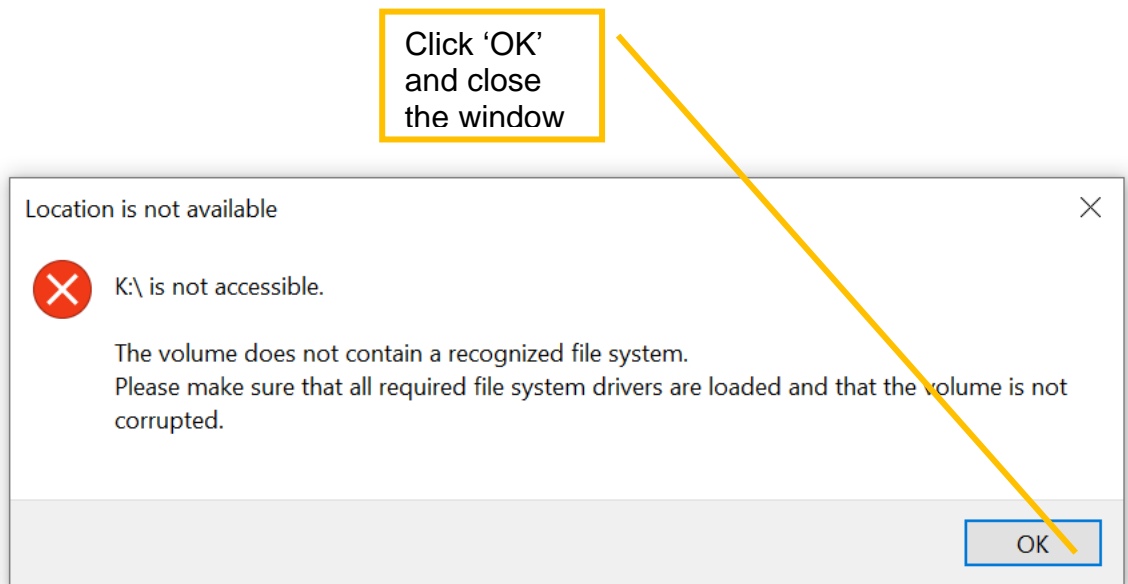
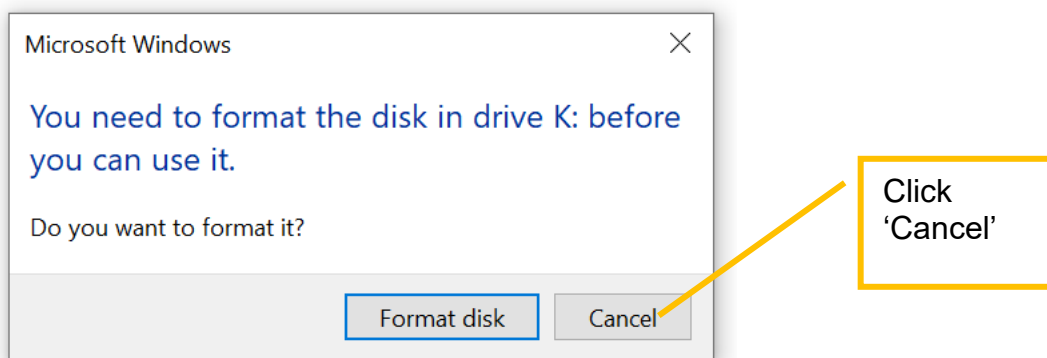


Locating the Configuration File

Insert the micro SD card into your card reader/adaptor and connect it to your computer.

When inserting the Micro SD card into a Windows system you may get a warning that your SD card must be formatted before you can continue. Click "Cancel".

Please note that your drive letters will most likely be different than those in the screenshots.

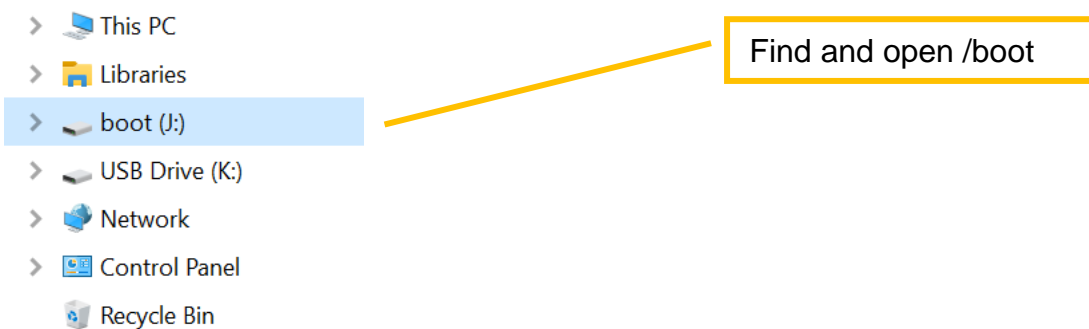


Find the correct drive

The GCC-RP's Micro SD card has 2 separate partitions.

On a Windows computer the 2 partitions will show as different drive letters; like 2 different SD cards would.

- One of the partitions is called **/boot**. This is the file you want to open.
- The other partition is called /rootfs **DO NOT** change any of the files on this partition.



Use Windows Explorer to open up the **/boot** drive.

In **/boot** there are three files, one of which you will edit. They are:

- GCC-K6K-CONFIG (for KOMODO camera)
- GCC-KX-CONFIG (for KOMODO-X camera)
- GCC-VR-CONFIG (for V-RAPTOR camera)

Identify the file that corresponds to your camera, and continue with the next steps.

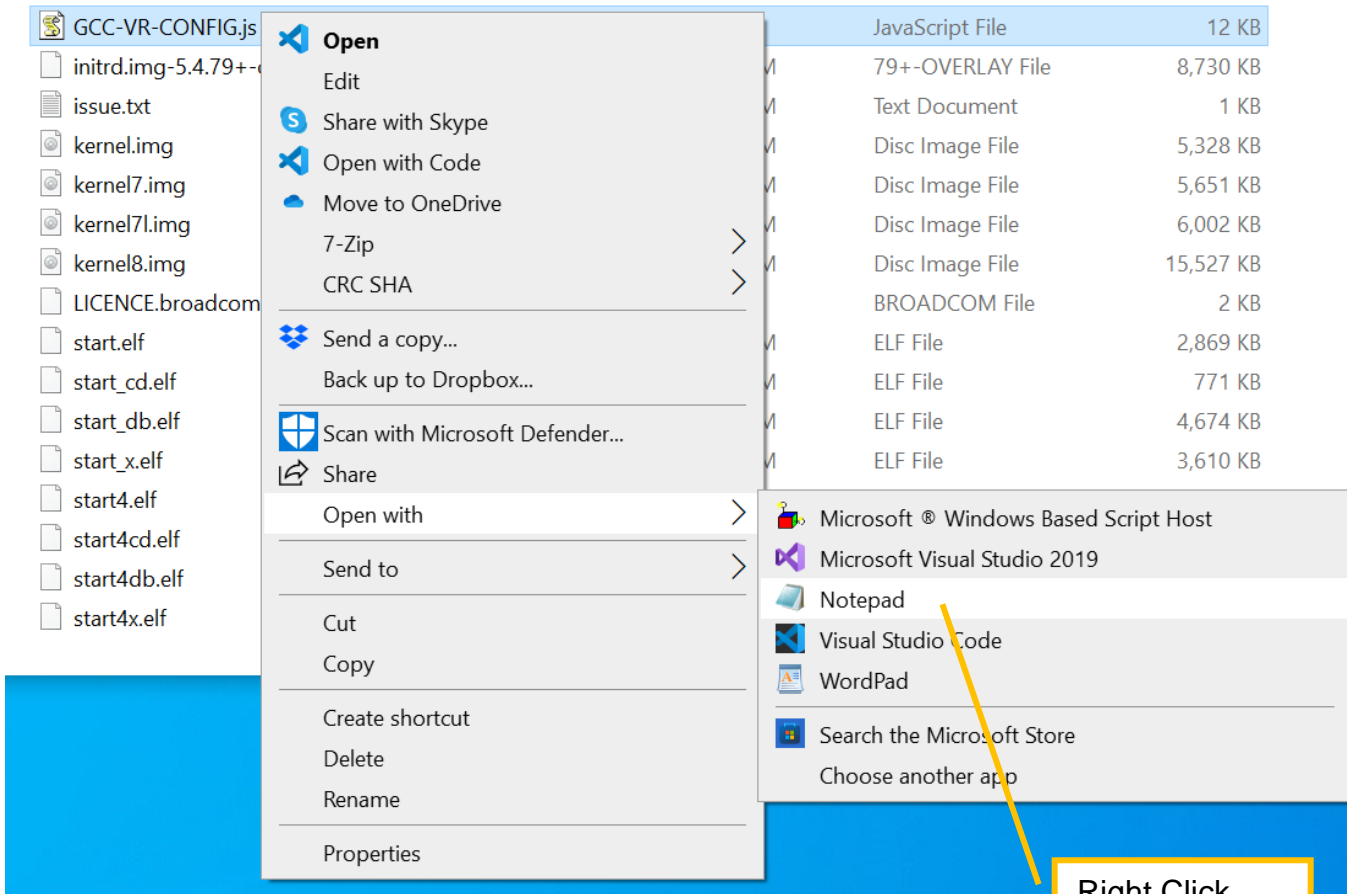
fixup4db.dat	8.24 KB	DAT File	11/26/2020	4:30 PM	-a----
fixup4x.dat	8.23 KB	DAT File	11/26/2020	4:30 PM	-a----
GCC-K6K-CONFIG.txt	11.5 KB	Text Document	3/18/2024	6:59 PM	-a----
GCC-KX-CONFIG.txt	11.5 KB	Text Document	3/18/2024	6:59 PM	-a----
GCC-VR-CONFIG.txt	11.5 KB	Text Document	3/18/2024	6:58 PM	-a----
initrd.img-5.4.79+-overlay	8.53 MB	79+-OVERLAY File	12/17/2020	7:25 PM	-a----
issue.txt	145 bytes	Text Document	12/2/2020	11:56 AM	-a----
kernel.img	5.20 MB	Disk Image File	11/26/2020	4:30 PM	-a----

Use a Simple Text Editor to open the file

In Windows, right click on the file and select 'open with' 'Notepad'.

In Mac you may use TextEdit or other simple text editor.

Do not use 'WordPad', Microsoft Word or any other more advanced word processing program as it may reformat the config file improperly.



Right Click and Open with **Notepad**

Edit the file

- **Optional:** before you begin editing, save an unchanged copy of the config file onto your PC so you may easily change it back to default. If you make a mistake, *restoring the file is faster than re-flashing the image* onto the SD card.
- Editing tips:
 - It is important to be able to change the numbers without adding or deleting any extra spaces, returns or characters.

The best practice is to highlight the number with your mouse cursor and simply type in the new number. That has the least chance to change something else accidentally.

- Any lines with a double slash are comments. Comments are ignored by the GCC and are there solely for the user / programmer to read. Leave those alone.
- 2 rows of comments with double asterisk denote the beginning and end of setup sections.
- Only edit the numbers in lines that start with “**let**”. These are the configuration values that actually change the function of the GCC.
- The comments located above the configuration values describe which control you are editing and any additional information particular to that control.
- The comments below the configuration value/s have a key that describes what available functions correspond to each number.

```

*GCC-VR-CONFIG.js - Notepad
File Edit Format View Help
//      |
//      v
//*****
let encoder_step = 1630;

//*****
//*****
//      |ENCODER KNOB 0|
//The following section configures the function of the rotary encoder
//knob on the GCC
//
//Setting the overflow number to 1 allows the control to "loop" from max
//--back to zero, or vice versa
//--this can be useful for controlling a short list with only one button.
//--default is 0 and disables this control
//      |
//      v
//*****
let rotary_knob = 1; //default is 1 iris
let rotary_knob_overflow= 0; //default is zero

//0 = null; /**no function**
//1 = iris increment; Adjusts iris by a list of stops provided by camera
//2 = iris hand style; Adjusts RF/EF lens iris by encoder value
//3 = focus hand style; Adjusts RF/EF lens focus by encoder value
//4 = "shutter speed" increment;
//5 = "iso" increment;
//6 = "magnify SDI1" toggle;
//7 = "false color" toggle;
//8 = "peaking" toggle;
//9 = "zebra" toggle;
//10 = "frame guides SDI1" toggle;
//11 = "project frame rate" increment;
//12 = "sensor frame rate" increment;
//13 = "max frame rate" toggle;
//14 = "color temp kelvin" increment;
//
    
```

Double asterisk rows denote beginning and end of configuration sections.

Upper comment area of each section describes which control you are editing.

Change the values of the numbers in these uncommented lines only.

There is a commented function key located below each editable configuration.

Save the file

- It's important to save the file without changing the file's location or filename.
- After saving, safely eject your micro SD card.

Verify your changes

- Put the micro SD card back into your GCC-RP controller.
- *You may wait to put the cover back on but make sure the cable is properly connected.*
- Connect all cables and verify the proper operation of all buttons and knobs on the GCC.
- If the controller doesn't start at all, it most likely indicates a large section was entirely deleted from the config file or the file itself is missing.
 - Check the file and re-flash the image if needed.
- Check the screen for errors while you press the buttons.
 - A "Check Config" or "NaN error" on the screen indicates that an improper value was entered into the configuration key for that control. Check the values and try again.
- Install the cover after verifying everything works as you intended it to.
- After installing the cover, function check your system again to make sure the connector wasn't unseated when you put the cover on.

Troubleshooting/Tips

- **You can always reflash the SD card with the latest GCC image from the Gates website and go back to the default settings if you have a problem!**
- If you like your custom settings, save the customized config file onto your computer somewhere.
 - Whenever you re-flash an updated image it will wipe out any previous custom settings.
 - Use the saved config file as a reference.
- Check the available functions in the V-RAPTOR User 1 assignables before changing your config file.
 - The config file will not change the function of the bottom 4 controls on the GCC.
 - The bottom 4 controls are reserved for V-RAPTOR assignables.
 - Choose functions carefully as some functions in the User assignables are not available on the other buttons and vice versa.
- Not all the controls available in the config file are useful. Some are there only for future development and testing.
 - For example: the electronic RF/EF focus control is a little jerky. However, it could be useful in an emergency; like if you get to a shoot and find out you forgot a flex gear and have no other way to adjust focus
- If you have any suggestions for additional functions contact Gates; we may be able to add it into a future update.

4: Customer Support

Should you have any questions please contact Gates at the numbers below.

Email: Customer.svc@GatesHousings.com

Web: www.GatesHousings.com

Phone: 858.391.0052