SIMAGIC

ALPHA MINI BASE USER MANUAL (VERSION V1.2)

Directory

Alpha Mini

Welcome to the Direct Drive Revolution

Founded in July 2018 in Shenzhen, a young city of dreams, SIMAGIC Tech Co., Ltd has become a leading force nationwide in the sim-racing field, who provides high-end simulation devices to customers and overall solutions to the industry.

"Full dedication to promoting sim-racing culture" is SIMAGIC's cardinal principle and spirit. "Leading the trend of Sim-racing technology and innovation" is the goal of our branding. With that belief in mind, we devote ourselves to filling the vacancy in China's sim-racing industry. Our innovation and optimization of products never stop. WE are in the vanguard of sim-racing technology. It's our mission to build smart and advanced sim-racing equipment for car-racing game lovers, reproduce authentic racing experiences for players, and provide a brand new sim-driving application for the driving industry.

Jinquan Li, founder and CEO of SIMAGIC, graduated from Shenzhen University with a master's degree in Control Theory and Engineering. His commitment lies deep in the study of control system and driving mechanism. With his team, plus equipped with passion and professionalism, they have been through a 3-year journey of sweat and effort preparing for the best. After the rollout of its first commercial Direct Driving Wheelbase in August 2018, SIMAGIC made its name nationwide. Three years were rather short but long enough for SIMAGIC's innovation to go forward. M10 Base, GT Wheel Series, α Servo Base, Pedals, Sequential Shifter, and more, the SIMAGIC family is booming. Now, we have become the only sim-racing company that integrates R&D, production, and marketing, and revolutionized driving simulation systems with overall upgrades in customization and development.

In the future, SIMAGIC's spirit of "be guided by technology, be led by intelligence" will go even further. We'll actively pursue product development through science and technology, explore the infinity of the best user experience, and develop a new sim-racing culture based on "China's intelligent manufacturing."
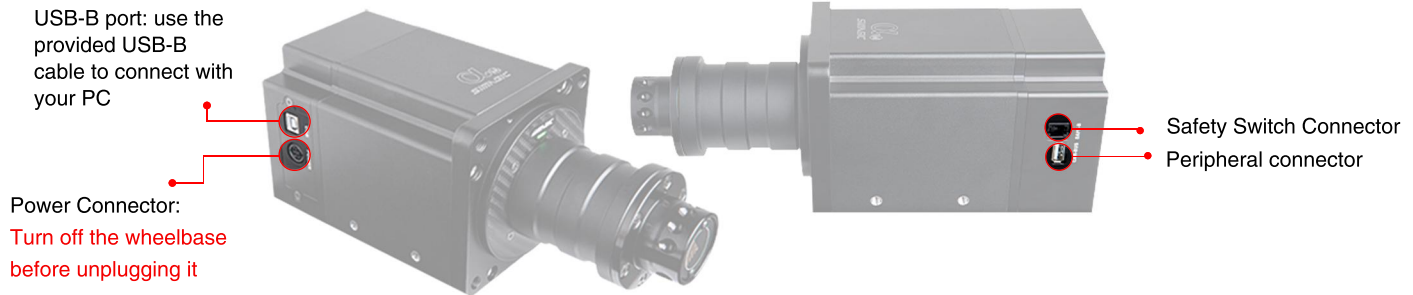
2.1 Overview

* Entry-level Direct Drive Servo Motor, an excellent starting point for your Sim-Racing journey

* Optimized shaft design, 10Nm max torque

* AI dynamic algorithm for torque distribution, greater fidelity, no need for a larger torque

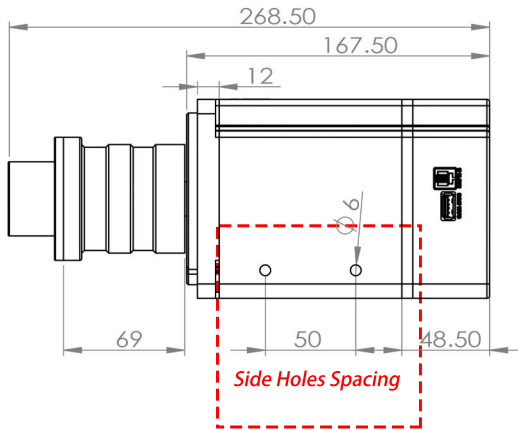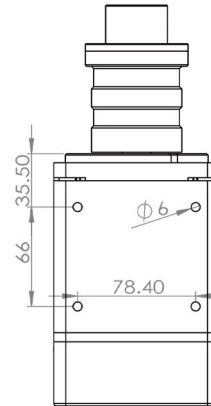* Improved expansion sleeve, better synergy, better synchronization

2.2 Introduction

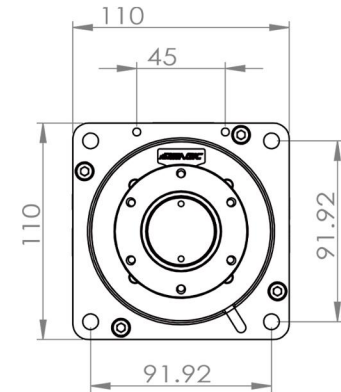Alpha Mini base adopts an integrated design and minimalist style, with only necessary connector sockets visible.

USB-B port: use the provided USB-B cable to connect with your PC

Power Connector:
Turn off the wheelbase before unplugging it

Safety Switch Connector

Peripheral connector

2.3 Specifications

Dimensions of the wheelbase (mm)

Side Holes Spacing

Bottom Holes Spacing (mm)

Front Four Holes Spacing

Length : 268.5mm   Width : 110mm

Height : 110mm   Weight : 6.35kg

2.4 Technical Overview

	Newly designed servo motor, smoother and softer response.		Compatible with major brackets on the market. Worry-free installation.
	Three CPUs for motor control, game effect, and USB real-time communication, empowering the entire system with a real-time, complete, and detailed force feedback.		Stable 0.01 nm Static Torque at minimum. 10 nm Torque at maximum.
	262144ppr resolutions. Force feedback calculation at a rate of 40,000 times per second. Maximum data transmission rate up to 1 kilohertz.		110*110*167.5 small body size (mm), exquisite craftmanship
	Built-in wireless power supply and wireless communication system, ruling out the old-fashioned cumbersome wired connections.		2.4g independent channel, avoiding interference from Bluetooth and Wi-Fi.
	Alpha Manager. More functions, easier configuration, better user experience, integrated design. Just plug and play. No more complex pre-use and parameters settings.		New Alpha firmware features.
	New algorithm for friction calculation, making you feel like steering a real racecar. 3rd generation sine-wave reconstruction algorithm, redefining the force feedback effects in game.		Diverse peripheral support, enabling greater authenticity in simulation.
	SIMAGIC quick release, seamless connection.		

⚠ Safe Operation

* Power-on instruction: before turning on the power, make sure that the power cord is connected to the wheelbase. Only unplug the power cord when the wheelbase is switched off.

* It is strictly forbidden to expose the device and its power supply to rain or humidity in order to avoid short circuit and electric shock that may cause device malfunction and fire.
* Desired temperature of operation is 15°C-35°C.
* The recommended operation time of the wheel with continuous force feedback activity is 1 hour. Excessive use may cause health risks. We suggest taking a 5-minute break every 20 minutes. Do not drive for more than 2 hours a day.
* Although this product has force feedback configuration, children under 13 years old must be under parental supervision to complete the configuration. Parental guidance is required to monitor children's use of the device.
* This product contains small pieces and is not suitable for children under 13 years old to use alone.
* When you use it for the first time, please adjust the force feedback from minimum to a level you are accustomed to.
* In the game, if the Force Feedback previously set is beyond your control, please stop the game immediately and adjust the force feedback parameters.
* The wheelbase contains components that cannot be repaired by the user. Opening the casing is forbidden and may cause harm to people or property.
* Do not open the casing of the device, as it will void the warranty.

⚠ Electrical Safety

* Use only the power supply and power cord that came with your wheelbase, which is important to protect your safety, rights, and interests.
* Do not use a non-standard power supply and power cord.
* To ensure safety, replacements may only be issued from an authorized repair center.
* Do not use non-standard power sources, even if the voltage and frequency appear acceptable.
* To avoid product damage, use only AC power with a standard wall socket.
* Do not expose your wheelbase to sources of heat.
* Unplug the power cord of your wheelbase when unused for long periods of time.
* If the wheelbase is found to have any malfunctions, stop using it immediately and contact SIMAGIC Official or authorized center for help.
* Please subscribe to SIMAGIC official website and social platforms for any update regarding product information.

⚠ *** This product is only limited to simulation driving related activities. Please distinguish simulation games from reality and drive safely!**

4.1 Package Contents

| USB data cable | Installation kit | Power supply | Quick release | Warranty card |

5.1 SIMAGIC Quick Release

① Press the red clamp ring towards the steering wheel (to remove the steering wheel, also press the red clamp ring)

② After aligning with the holes on the wheelbase shaft, carefully attach the steering wheel on to the wheelbase shaft.

③ If the position of the quick release cannot be locked, it may be because the holes on the shaft are not aligned well. Rotate the steering wheel until the holes are aligned or remove the steering wheel and re-attach it onto the shaft.

Tips： SIMAGIC quick release adopts a high-precision design of "6 ball bearings on top and 4 ball bearings on the bottom". When attaching the steering wheel to the wheelbase, make sure each hole is aligned well with each ball bearing.

6.1 Basic Introduction

* Alpha Manager is a wheelbase control center self-developed by SIMAGIC based on the mechanism and the force feedback of SIMAGIC wheelbases; The interface is simple and easy-to-use, which simplifies the overwhelming parameter settings, ensuring a pure experience for players.

* Alpha Manager helps modify six types of force feedback effects of a game. Usually, a game does not implement all types. When a game starts, the force feedback indicator will turn red to indicate what kind of force feedback the game supports.

* The Settings page in Alpha Manager, contains various types of Mechanical and Game effects which can be modified by users for the best experience.Default values for Game Effects are 100.

* Alpha Manager supports parameter saving. Users can save their best settings from multiple games and scenarios for later use.

* You can either drag a slider or type (press "Enter" to take effect) to enter a value for parameter settings.

6.2 Installation

Scan the QR code to watch
full installation and software download video

Check out the video link to set up Alpha Mini：https://youtu.be/jbiiks67kuU

6.3 UI Introduction

The Setting Interface supports specific parameter adjustments,
by which the user can configure and save parameter settings for different games and scenarios.

Mechanical Settings
Allows the adjustment of constant effects produced by Alpha Manager, which includes a Total Force slider that defines the maximum strength of the motor's torque.

Game Effect
Contains sliders to adjust various force feedback effects produced by the games physics.

Vehicle Setting
Contains sliders to adjust Wheel Speed and Suspension Stiffness.

Wheel Angle
Includes a steering axis meter, along with sliders to adjust the maximum and minimum steering angle.

help button
More information for each setting can be found by clicking the Help (?) symbol in the top right corner.

Read Base
Read the current valid parameters of the base and display them on the interface.

Write Storage
Save the parameters displayed on the current interface as an ini file. Meanwhile, the current valid parameters of the base will be stored in the built-in memory. There is no data loss after a power outage

Save As
When saving the current parameters as an ini configuration file, please keep the default saving path unchanged. This is where the software reads the configuration files.

Tips:

The screenshots above depict the connection state of the wheelbase. The user can start configuration after the device is set up.

* All the parameters in the screenshots are for demonstration purposes and do not represent an official recommendation. The parameter settings should be adjusted based on personal needs according to real experience. We recommend users adjust the settings once they know the software better. We also recommend looking for desired settings for reference in SIMAGIC player community and other game forums.
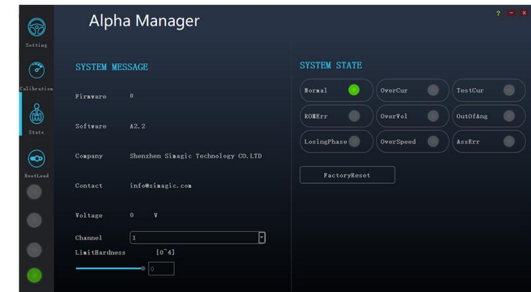
Calibration Interface
The interface integrates the calibration of different peripherals. The user can calibrate the peripherals that are connected through an adapter.

(The interface has 6 meters and 63 buttons, which should be adequate for most players)
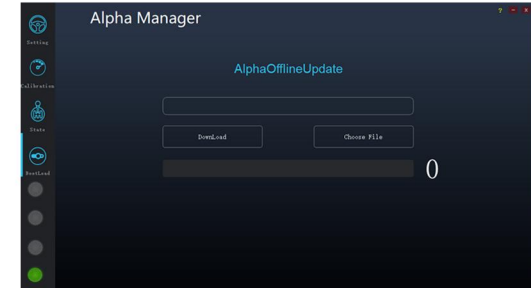

State Interface
The interface is for viewing the system message and system state. Options to change the wireless channel and soft lock strength are also contained within this page.
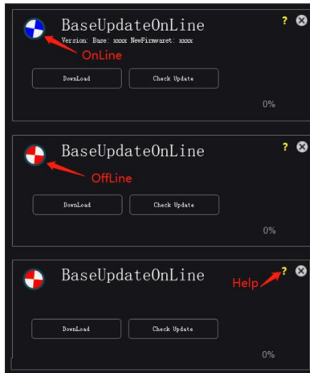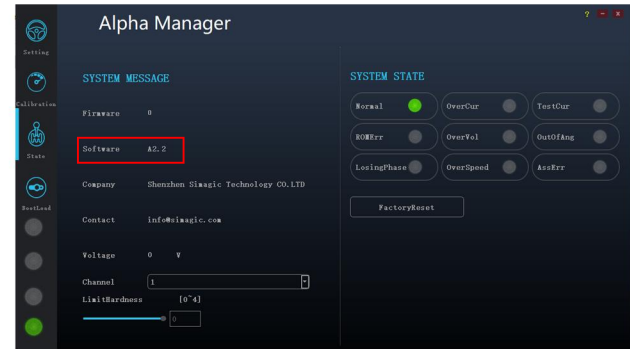

BootLoad
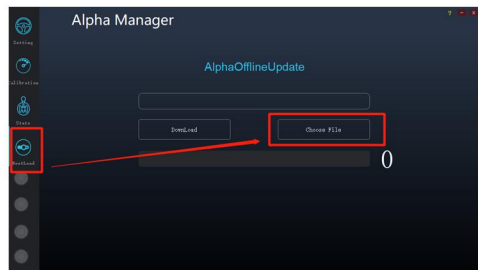This interface updates the AIpha Manager firmware.

6.4 Update Guidelines

● Wheelbase updating, please keep the computer connected to the Internet.

② Go to Alpha Manager software and click BootLoad to select the latest Firmware Version to update.

① Enter Alpha Manager to check the version status. Follow the official channels to get the latest update.

Tips:

Please do not perform any operations, or connect any Wheels/Rims during the update. Restart the base to complete the upgrade. If successful, the system state will be green, and the Firmware Version will be updated in the state page.
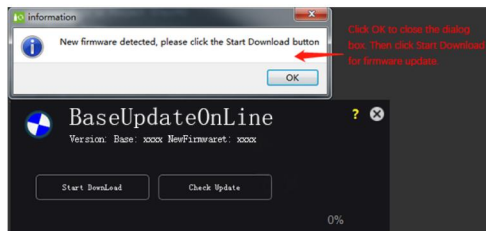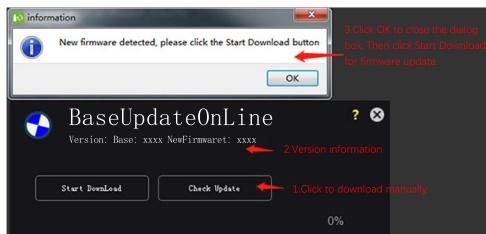
Updates (step1)：
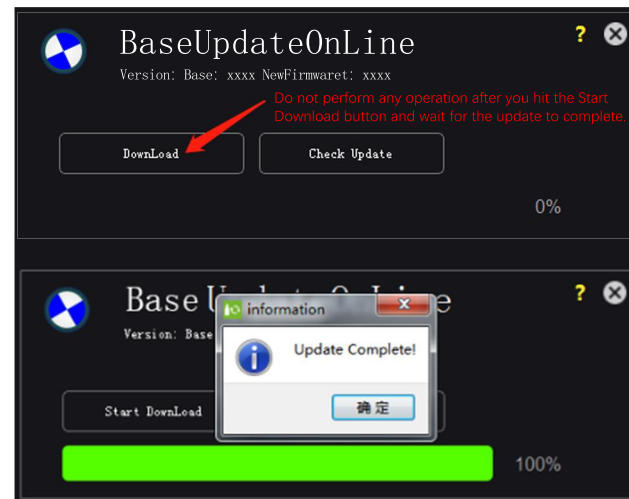
(1) Plug in USB cable

(2) Power on the Base

(3) Wait for the self-test to complete

(4) Open the updater

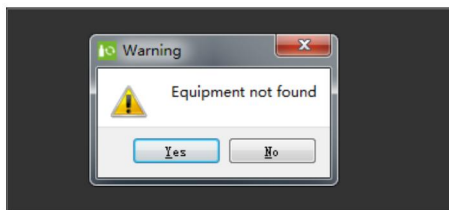(5) Turn on auto-detect

（6） Manual testing

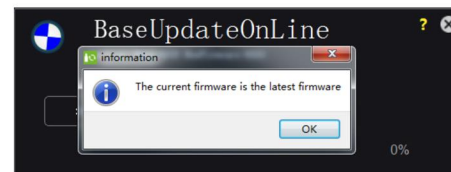(7) Download:

（8） Exit the software

（9） Restart the Base

Trouble shooting error prompts:

(1) Exit the software

(2) Restart the Base

(3) Go back to step 1

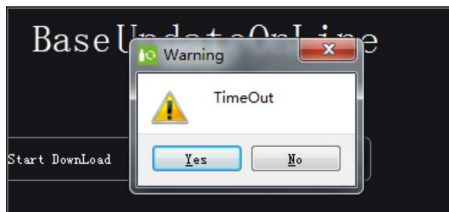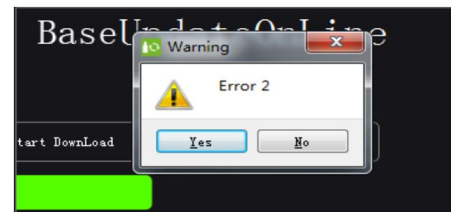### *01- Equipment not found:*

02-Time Out:

03-The current firmware is the latest firmware:

04-Error 1-Error 5:

The SIMAGIC team, guided by the responsibility of reassuring customers, devote ourselves to the manufacturing industry with a humble spirit of the service industry. We strive to build a sim-racing ecosystem with the best user experience.

To protect the rights and interests of consumers, SIMAGIC provides you with a 12-Month Warranty service.
To request a warranty service order, please contact SIMAGIC service team or an authorized SIMAGIC service provider.
To obtain warranty service, you must fill out the warranty card and deliver it with the product to the SIMAGIC After-sale Service Center.

* SIMAGIC's 12-month warranty policy allows you to replace or repair your purchased SIMAGIC items counting from the date of receipt of shipment. If you cannot provide the receipt, the warranty period counts from the manufacture date.

The warranty does not cover any Damage caused by abuse, misuse, or modifications; or Damage caused by any improper operation performed by anyone who is not a SIMAGIC representative.

For more information on after-sale or warranty service, please check out our Terms and Conditions at SIMAGIC.COM or contact us @simagicofficial via social media platforms like YouTube and Facebook.

* This product has strong force feedback strength and contains small parts. Children are forbidden to use the device without parental guidance.

* Please turn off the button and power supply to prevent accidents.

* Anyone trying to use your device for the first time must be instructed and monitored by you the owner.

* Loose clothing and easily tangled objects such as hair, cables, and skirts should be kept away from the device.

* Your SIMAGIC DDW is ready to use after being unboxed. We make sure the firmware is updated to the latest version when it leaves the factory.
  For more information regarding software update, please refer to the SIMAGIC website and follow us on Twitter, Facebook, and Instagram @Simagicofficial.

* Users MUST wait for 1 hour before driving a car if they had been using the device.

* This instruction manual is for demonstration purposes only, not for marketing purposes. It is a general instruction of a single product (including the relevant series products). Please refer to the actual item for your purchase.

* The product images and contents shown above are for demonstration purposes only. The actual products may vary slightly in terms of the external design (including but not limited to appearance, colors, and sizes) and the content display (including but not limited to backgrounds, UIs, and pictures). Please check the actual products for reference.

* The test data above are all sampled from the SIMAGIC test laboratory and may not reflect the actual performance due to conditions of use and environmental factors. Please refer to the actual user experience for performance evaluation.

* The above contents, such as descriptions and images, are subject to changes. SIMAGIC may adjust relevant contents to provide more accurate product information, specification, and feature description at any time based on the actual products in terms of performance, specification, index, and other information. Sometimes, the product supply may fluctuate due to unforeseen problems happening in the process of batching or delivery. In that case, SIMAGIC may change relevant descriptions and images as needed without notification. Please refer to official channels for the latest information.

* Note: Documents like product manuals are written based on SIMAGIC products as supplements. Please download the relevant documents at approved channels for the security of users' legitimate interest.

Thank you for reading and have a good time

SIMAGIC

Official website：www.simagic.com

International media platform：SIMAGIC official