VISION DRIVE

USER MANUAL

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INTRODUCTION

Vision Drive is a system designed to improve safety and driving comfort through control functions adaptive speed and emergency braking. His purpose is to reduce driver effort and provide a safer driving

Link to Video Tutorials

Video tutorial Adaptive Cruise Control

https://youtu.be/mBXZGiRCk4A?si=qK7LPOu4xnHvmMUh

Braking System Video Tutorial

https://youtu.be/ewcQx7pID0I?si=PtU2gTBYoK5jmtBM

INITIAL SYSTEM CONFIGURATION

Follow these simple steps to set up Vision Drive and start

enjoy its benefits safely and efficiently. This process

It doesn't take long and will guide you through the settings

basics of the system.

Step 1: Connect the system

System Location: Make sure the Vision Drive system

is properly installed and connected to the vehicle. The source

The power supply must be connected to the ESP32, which is the

central unit of the system.

1. Starting the vehicle: Start the vehicle and verify that the

Vision Drive system screen activates automatically. But

it activates, check the connections.

2.Step 2: Activate the Vision Drive system

Turn on the system from the vehicle screen. You will see a

Vision Drive welcome screen.

1.A message will appear indicating that you must start the calibration

of LiDAR sensors. To begin this process, tap the option

"Start Calibration" on the screen.

2.Step 3: Calibration of LiDAR sensors

Suitable environment: It is important to perform the calibration in a

place free of obstacles, such as a wide space or

empty parking lot.

2.The system will automatically start calibrating the sensors

LiDAR, which are responsible for measuring distance and detecting objects

around you. This process usually takes a few minutes.

3.During calibration, you may hear sounds or see lights

intermittent. Don't worry, this is normal. Just make sure

that there are no objects near the vehicle so that the calibration is

precise.

Step 4: Set user preferences

1.Adaptive Cruise Control (ACC) safety distance:

After calibration, the system will ask you to configure

the safety distance for Cruise Control

Adaptive. This setting determines how much space the

system between your vehicle and the one in front.

You can choose between options such as "Short", "Medium" or "Long"

according to your preference. If you are not sure, select the option

"Medium" as the most balanced.

Emergency System Settings:

The system will also allow you to configure how you want the

Emergency System reacts to braking situations

rude. You can choose a faster or tighter response,

depending on your preference.

The default option is usually suitable for most the users.

5: Perform a quick test

1.With everything configured, perform a brief system test. Hall
a safe road and activates Adaptive Cruise Control.

2.Make sure the system automatically adjusts the speed
and maintain an adequate distance from the vehicle in front
of you

3.Also test the Emergency System in a controlled manner.
This can be done in a traffic situation or in a safety environment.
low speed, to observe how the system responds to a
sudden braking of other vehicles.

Step 6: Additional Settings

If you want to further customize the system, you can access the
Basic Settings at any time through the menu on the
vehicle screen. From there, you can modify the speed
maximum ACC, adjust the sensitivity of the
Emergency, or change any other preferences as
you want.

Keep Vision Drive in top condition and troubleshoot problems
common with these simple steps.

Basic Maintenance

LiDAR Sensor Cleaning: Clean the sensors with a cloth
smooth and dry every week to avoid clogging.

Maintenance and Solution Issues

System update: Check regularly for

Updates available in the main menu. The

Updates improve system performance and security.

Checking connections: Make sure the system is OK

connected to the power supply (ESP32) and check the cables

once a month to avoid disconnections.

Common Problem Solving

The system does not turn on: Check the connection of the power

source power and restart the vehicle.

ACC does not adjust speed: Make sure the sensors are

clean and perform a new calibration from the settings menu.

The Emergency System is activated for no apparent reason: This

It can happen if there is dirt on the sensors. Clean the sensors

and check the sensitivity of the system in the settings.

Calibration Failed: Attempt to calibrate in an area

clear without obstacles. If the problem persists, restart the

system and repeat the process.

Screen frozen or slow: Restart the system. If the problem

Continue, check to see if a software update is available.

Frequently Asked Questions (FAQ)

1. How do I know if Adaptive Cruise Control (ACC) is on?
working correctly?
You will see the active ACC icon on the screen and you will notice that it adjusts the
vehicle speed automatically according to the distance of
safety with other vehicles.

2. Does the Emergency System activate without intervention?
Yes, this system detects sudden braking from other vehicles and
Activates emergency braking automatically to improve
security.

3. What should I do if the system is unresponsive or freezes?
Reboot the system from the settings menu. If the
problem, check the connections and check for an update
of software.

4. How often should I clean the LiDAR sensors?
It is recommended to clean the sensors weekly to ensure
that detect distance and obstacles accurately.

5. Does Vision Drive work well in all weather conditions?
The system is designed for different conditions, but in cases
In case of heavy rain or snow, some sensors may have their
effectiveness. Be careful in these cases.

RESOURCES
ADDITIONAL

members

Ponce Thiago Cain

Suarez Tudisca Simon

Mazzoni Teo Geronimo

Garofalo Thiago Ariel

Meleri Thiago Joaquin

Racioppi Giuliano Daniel

Updates and Downloads

Check the download page on our

website for updates

software and system improvements

https://vision-drive.github.io/

Technical Support

Phone Number

 +54 9 11 2829-6905

Gmail

Visiondriveimpa@gmail.com

Online Community

Social networks

https://linktr.ee/visiondrive_2024

Github

https://github.com/orgs/impatrq/teams/visiondrive

Trello

https://trello.com/b/eQXwQucZ/kanban