

---

# TOPST VCP-G Arduino IDE

## User Guide

**Rev. 1.00**  
**2025-03-xx**

※ The information in this document is subject to change without notice and should not be construed as a commitment by Telechips, Inc.

Kindly visit [www.telechips.com](http://www.telechips.com) for more information.

© 2025 Telechips Inc. All rights reserved.

TABLE OF CONTENTS

Contents

TABLE OF CONTENTS ..... 2

1 Introduction ..... 3

2 Installation Guide..... 4

2.1 Installation Guide ..... 4

2.2 Troubleshooting..... 5

3 References ..... 6

4 Revision History ..... 7

Rev. 1.00: 2025-03-xx..... 7

# 1 INTRODUCTION

This document describes how to use Arduino IDE for the TOPST Vehicle Control Processor (VCP), which is a powerful and efficient processor designed for automotive applications and based on the Telechips TCT7045. The goal is to integrate the TOPST VCP-G with the Arduino environment to provide a development environment that parallels the simplicity and flexibility of Arduino, specifically tailored for automotive semiconductors, and simplify and expedite the development process.

This document includes information on the following:

- Installation Guide

## 2 INSTALLATION GUIDE

This chapter describes how to download and install the TOPST VCP-G Arduino package to use with the Arduino Integrated Development Environment (IDE).

### 2.1 Installation Guide

#### Step 1: Download the Arduino IDE

First, you need the Arduino IDE which serves as the platform to program your Arduino boards.

1. Visit the official Arduino website: [Arduino Software](https://www.arduino.cc/en/software)
2. Select the version suitable for your operating system (Windows, macOS, or Linux).
3. Download and run the installer.

#### Step 2: Install the Arduino IDE

Follow these steps based on your operating system to install the Arduino IDE:

- Windows:
  1. Execute the downloaded .exe file.
  2. Follow the installation prompts. Ensure you install all the necessary drivers.
- macOS:
  1. Open the .dmg file.
  2. Drag the Arduino application to your Applications folder.
- Linux:
  1. Unpack the .tar.xz file.
  2. Open a terminal in the extracted directory.
  3. Run ./install.sh to install.

#### Step 3: Adding the TOPST VCP-G Board

To program the TOPST VCP-G board, you need to add the TOPST VCP-G .json file to the Arduino IDE through the Board Manager.

1. Open the Arduino IDE.
2. Navigate to **File > Preferences**.
3. In the "**Additional Board Manager URLs**" field, add the following URL:

`https://raw.githubusercontent.com/topst-vcp/topst-vcp-board-manager/main/package_topst_vcp_index.json`

4. Click **OK** button to save your changes.
5. Go to **Tools > Board > Boards Manager**.
6. Search for "TOPST VCP-G" in the Boards Manager.
7. When the TOPST VCP-G entry appears, select v1.0.0 from the dropdown menu and click **Install** button.

#### Step 4: Selecting the TOPST VCP-G Board

After installation, you need to select the TOPST VCP-G board:

1. Go to **Tools > Board** in the Arduino IDE.
2. Scroll down to find "TOPST VCP-G" and select it.

#### Step 5: Verify Installation

Test if your setup works by uploading a simple sketch:

1. Connect the TOPST VCP-G board to your PC by USB.
2. Select the appropriate port under **Tools > Port**.
3. Open **File > Examples > 01.Basics > Blink**.
4. Click **Upload** button to transfer the sketch to the board.

**Note:** If the upload process gets stuck in an infinite uploading state, it may be due to the FWDN mode not being activated. Disconnect the power cable, press and hold the FWDN switch, reconnect the power cable, and then release the button. If the issue persists, try running the Arduino IDE with administrator privileges.
5. If the onboard LED starts blinking, the board is set up correctly.

## 2.2 Troubleshooting

If you encounter any issues during the setup, refer to the [Arduino Troubleshooting Guide](#).

For more information and advanced features, refer to TOPST VCP documentation or visit [Arduino Help Center](#).

## 3 REFERENCES

[1] Contact TOPST for more details: [topst@topst.ai](mailto:topst@topst.ai)

**Note:** Reference documents can be provided whenever available, depending on the terms of a contract. If the reference documents are unavailable, the contents directly related to your development can be guided.

## 4 REVISION HISTORY

### Rev. 1.00: 2025-03-xx

- Official version release

## DISCLAIMER

This material is being made available solely for your internal use with its products and service offerings of Telechips, Inc ("Telechips"). and/or licensors and shall not be used for any other purposes. This material may not be altered, edited, or modified in any way without Telechips' prior written approval. Unauthorized use or disclosure of this material or the information contained herein is strictly prohibited, and you agree to indemnify Telechips and licensors for any damages or losses suffered by Telechips and/or licensors for any unauthorized uses or disclosures of this material, in whole or part. Further, Telechips, Inc. reserves the right to revise this material and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes.

THIS MATERIAL IS BEING PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, WHETHER EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE. TO THE MAXIMUM EXTENT PERMITTED BY LAW, TELECHIPS AND/OR LICENSORS SPECIFICALLY DISCLAIM ALL WARRANTIES OF TITLE, MERCHANTABILITY, NON-INFRINGEMENT, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, COMPLETENESS OR ACCURACY, AND ALL WARRANTIES ARISING OUT OF TRADE USAGE OR OUT OF A COURSE OF DEALING OR COURSE OF PERFORMANCE. MOREOVER, NEITHER TELECHIPS, INC. NOR LICENSORS, SHALL BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY EXPENSES, LOSSES, USE, OR ACTIONS HOWSOEVER INCURRED OR UNDERTAKEN BY YOU IN RELIANCE ON THIS MATERIAL.

THIS MATERIAL IS DESIGNED FOR GENERAL PURPOSE, AND ACCORDINGLY YOU ARE RESPONSIBLE FOR ALL OR ANY OF INTELLECTUAL PROPERTY LICENSES REQUIRED FOR ACTUAL APPLICATION. TELECHIPS, INC. DOES NOT PROVIDE ANY INDEMNIFICATION FOR ANY INTELLECTUAL PROPERTIES OWNED BY THIRD PARTY.

## COPYRIGHT STATEMENT

Copyright in this material provided by Telechips, Inc. is owned by Telechips unless otherwise noted. For reproduction or use of Telechips' copyright material, prior written consent should be obtained from Telechips. That prior written consent, if given, will be subject to conditions that Telechips' name should be included and interest in the material should be acknowledged when the material is reproduced or quoted, either in whole or in part. You must not copy, adapt, publish, distribute, or commercialize any contents contained in the material in any manner without the written permission of Telechips. Trademarks used in Telechips' copyright material are the property of Telechips.

**For customers who use Google technology:**

"Copyright © 2013 Google Inc. All rights reserved."