

Octal TOF Development Environment Guide

Introduction

This document is intended to assist with setup and running of the code for the UxV/35 ST Octal TOF board.

Important components:

- MCU: STM32L476RGT6
- TOF Sensor: VL53L5CX
- ST-Link V2 Programmer
- 2x USB Mini Cables
- UxV/35 Serial to USB board

Dev Env Setup

Begin by downloading and installing the STM integrated development environment from the STM website:

https://www.st.com/en/development-tools/stm32cubeide.html#get-software

Development for the ST Octal TOF board was done on a Windows 10 machine running version <u>1.13.2</u> of STM32CubeIDE. For initial setup it is recommend to match this configuration.

Once the IDE is installed and running, begin importing the Octal TOF project: File > Import > General > Existing Projects into Workspace



Locate the root directory. It will be called STOctalTOF_Project. Select this directory and two options should appear in the *Projects:* box. Select *KA_TOF_Proj* and then *finish*.

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After importing the next step will be to run the build command. Right-click on the project in *Project Explorer* and then select *Build Project* from the dropdown menu.



Programming

Programming requires the ST-Link programming tool. Connect the Kairos ST Programmer board to the ST-Link and connect the 10-pin flexible cable to the ST Programmer board.

If programming off of the drone, it is recommended to provide power to the board through the UxV/35 Serial board. Connect the TOF board to the Serial board making sure to align the keyed UxV/35 connectors.



The 10-pin flexible cable can now be connected to the TOF board. Connect a data capable USB Mini cable to both the ST-Link programmer and UxV/35 Serial board.

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To program, right-click on the project in the *Project Explorer* and select *Run As -> STM32 C/C++ Application.*



The first-time programming may require selecting the ST-Link for debugging. Open the *Run Configurations* window and select ST-Link S/N in the *Debugger* tab. Then select *Scan* and the connect programmer S/N should appear. Now select *Apply* and then *Close*.

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Successful programing should see the following *Download verified successfully* in the *Console* window.



Version History

Date and	Revisions	Reasons for Revision
Signature		
07/25/2024 Jack R.	Document was written. (v01.00.00)	



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