

TB-V3-DYNAFLASH

User Guide

Rev.1.00

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history	date	content	manager
Rev.1.00	2021/10/29	Initial release version	Ono

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Introduction

Thank you for purchasing "DynaFlash".




This user manual summarizes the precautions when using DynaFlash.
Please read it carefully, understand it, and use it correctly.
Also, after reading, keep it in a place where you can refer to it at any time.

Safety Precautions Please be sure to observe them.




In order to prevent injury to the user or other people and damage to property, the precautions that must be observed are explained as follows.

- Before use, be sure to read this section and use the product correctly and safely.
- Be sure to follow the precautions shown here as they contain important information regarding safety.
- After reading this manual, keep it in a place where the user can always refer to it.

The degree of danger and damage that may occur if you ignore the indications and use the product incorrectly are classified and explained according to the following indications.














 dangerous	Improper handling may result in death or serious injury.
 caveat	Improper handling may result in death or serious injury.
 Note	Incorrect handling may lead to injury or damage to the house or household goods.


The following pictograms are used to classify and explain the types of items to be observed. (The following is an example of pictorial display)

	Be sure to turn off the power.
	Do not disassemble
	Never do this.



caveat

	In the unlikely event of an abnormality, turn off the power! ! Continuing to use the product in an abnormal state may result in fire or electric shock. Turn off the power immediately and contact our sales representative.
	If there is smoke, strange odors, or other abnormalities, turn off the power! ! Using the product in an abnormal state may cause fire or electric shock. Immediately turn off the power, check that smoke is no longer emitted, and then contact our sales representative.
	Before cleaning the machine, turn off the power and unplug the cord. There is a risk of electric shock.
	Do not disassemble, repair, or modify the product. Disassembling, repairing, or modifying the product may cause fire or electric shock due to short circuit or heat generation. Please ask our sales staff for inspection, adjustment and repair.
	Do not touch the cooling fan. The cooling fan rotates at high speed, so if you put your finger close to it, you may get injured. Please do not touch it.
	Do not block the intake and exhaust ports. Doing so may cause malfunction or fire.
	Do not place it in an unstable place. Placing the product on a wobbly table or tilted surface may cause it to fall or topple over, resulting in injury or malfunction.
	Do not use if dropped or damaged. It may cause fire or electric shock.
	Avoid direct contact with metal objects. It may cause fire or electric shock.
	Do not place in dusty, humid or wet locations. It may cause fire or electric shock.
	Do not get this product wet or touch it with wet hands. Failure to do so may result in malfunction of the device, smoke, fire, or electric shock.
	Do not touch the connector of this product. Dirt such as sweat and sebum adheres to the surface of the connector, causing poor contact of the connector. In addition, static electricity may cause internal failure of the device, fire, or electric shock.
	Do not look into the lens during projection. Doing so may cause serious eye damage such as blindness.

	<p>Radio waves emitted by this product may cause the electronic device to malfunction if used near high-precision electronic devices. etc. may occur.</p> <p>Examples of sensitive electronic devices: pacemakers, hearing aids, other electronic medical devices, fire alarms, automatic Moving door, etc.</p>
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Note



Do not use or store the product in the following places. •Humid or dusty locations •Poorly ventilated locations such as closets or bookshelves •Locations exposed to oily smoke or steam •Locations exposed to direct sunlight •Near heating appliances •Locations subject to high temperatures, such as closed automobiles •Effects of static electricity •Places exposed to water or chemicals Placing the product in such places may result in fire, electric shock, accidents, or deformation due to short circuits or heat generation.



Do not place heavy objects on it. This product may be damaged.

1. Overview _

This document is for reference when using inrevium DynaFlash for the first time. This document describes the procedure for checking the operation of the DynaFlash GUI application for the data included in the delivery of this device.

2. Product introduction

2.1. Features

High-speed projector DynaFlash uses Texas Instruments' DLP® technology and a high-brightness LED light source to project 24-bit gradation RGB color images at a maximum speed of 925 fps.

A high frame rate is achieved by controlling the Digital Micromirror Device (DMD) and LEDs at high speed using a high-speed control circuit built into the FPGA.

2.2. Company- confirmed PC

environment Only Windows 10 64bit is the only operating PC OS.

3. Hardware setup method

This section describes how to check the operation after purchase.

3.1. Bundled items

3.1.1. DynaFlash body



Figure 3-1 DynaFlash body

3.1.2. Power cable

AC100-240V compatible power cable.



Figure 3-2 Power cable

3.1.3. DynaFlash Communication

Card This is a PCI Express card for PC to communicate with DynaFlash.

A slot compatible with PCI Express Gen.3 x4 is required on the PC side.



Figure 3-3 DynaFlash communication card

3.1.4. DynaFlash communication cable

This is a 10m optical fiber cable with an MPO terminal for connecting the DynaFlash communication card and DynaFlash.



Figure 3-4 DynaFlash communication cable

3.2. Overall

configuration The configuration image after setup is described below.

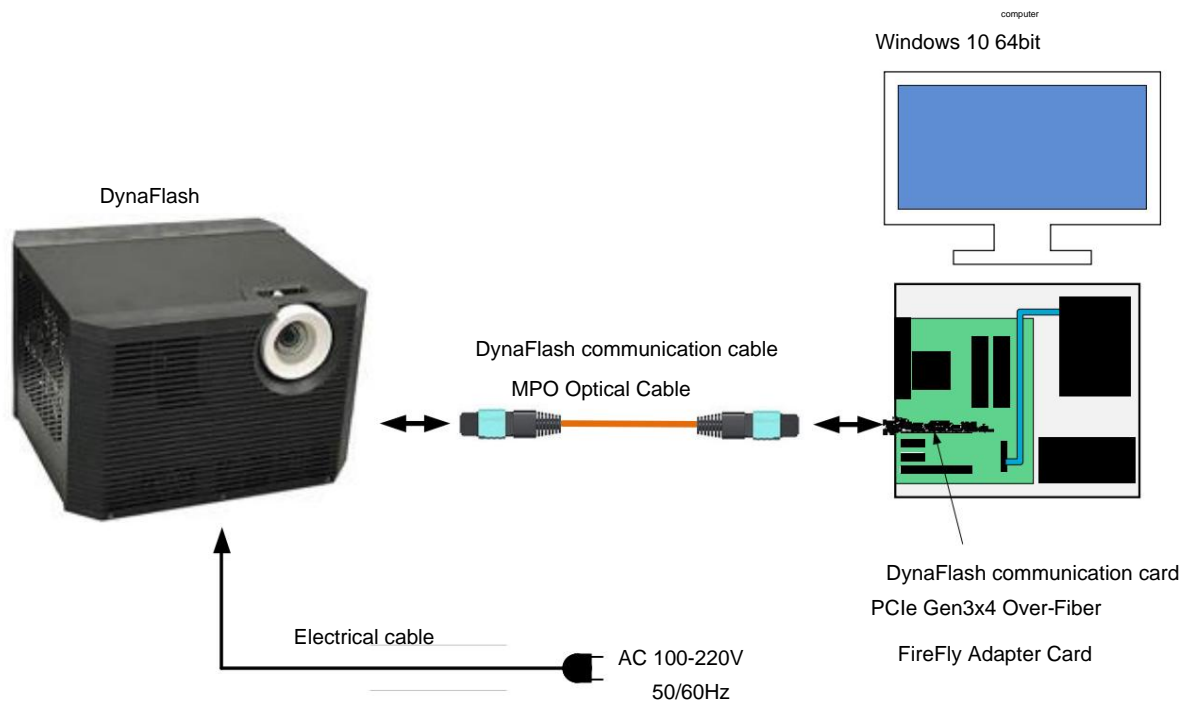


Figure 3-5 Setup image of configuration

3.3. Installation

When installing the DynaFlash, be sure to observe the following to prevent accidents such as failure and injury.

- Do not allow the projected light to shine directly into people's eyes.
- Do not place flammable objects in front of the lens.
- Make sure that the power supply can be grounded. Do not place it in an unstable place.
- Do not block the DynaFlash intake and exhaust slits.
- Do not forcibly bend the DynaFlash communication cable, step on it, place something on it, or

- otherwise place a load on it
-

3.4. Install **DynaFlash** communication card in PC Insert

DynaFlash communication card into PCI Express slot (Gen3x4 compatible) of PC.

When installing a PCI Express card in a PC, follow the manual published by the PC manufacturer and pay close attention to failures such as static electricity.

Below are some basic notes. • Make sure

that the PC is completely turned off before starting work • For safety, remove the power plug of the PC from the outlet • Wear an earth band when working

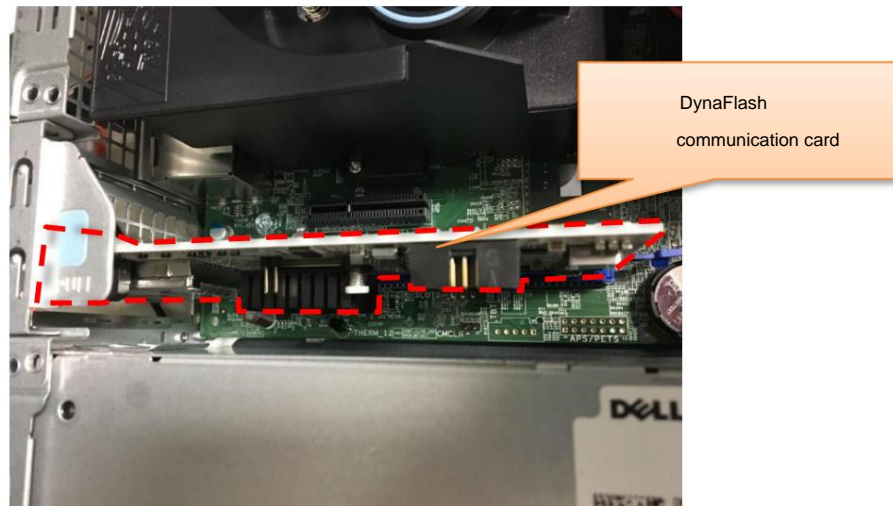


Figure 3-6 **DynaFlash** communication card installation diagram

3.5. Connection between DynaFlash communication card and **DynaFlash** with **DynaFlash**

communication cable Connect the DynaFlash communication cable to the DynaFlash communication card. The cable connector has no direction and you can connect either side.



Figure 3-7 **DynaFlash** side /PC side: **DynaFlash** communication cable connection diagram

3.6. Connecting DynaFlash and Power Cable

Connect the female 3-terminal side of the power cable to the inlet terminal on the back of the DynaFlash.



Figure 3-8 DynaFlash side: power cable connection position

3.7. How to turn on the DynaFlash

Connect the power cable to an AC outlet and push the power switch on the back of the DynaFlash to start the DynaFlash. It takes about 30 seconds to complete booting. Then turn on your PC.

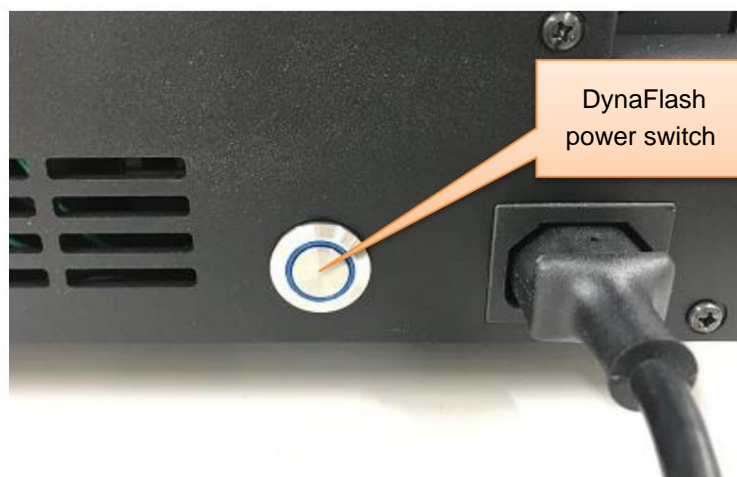


Figure 3-9 DynaFlash power switch

3.8. How to turn off the power of DynaFlash

Press and hold the DynaFlash power switch for 3 seconds to power off the DynaFlash.

3.9. How to power off/on **DynaFlash** while PC is running

To power on/off DynaFlash without shutting down PC, it is necessary to disable the DynaFlash device on Device Manager in advance. *For details on how to install the device driver, please refer to "4.2 Windows 10 64bit driver installation" below.

Before powering off the DynaFlash, right- **click** the device manager "DynaFlash KMDF Driver" to disable the device, then press and hold the DynaFlash power switch for 3 seconds to power off the DynaFlash.

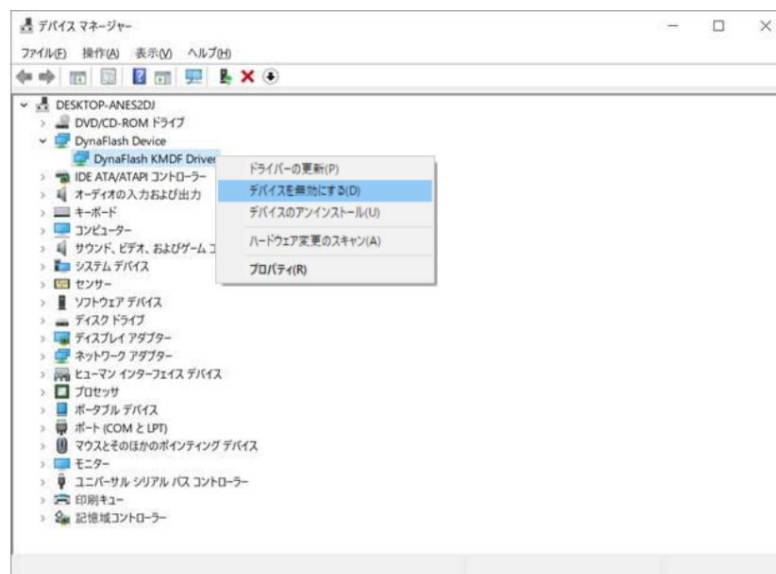


Figure 3-10 Device enable setting method

Conversely, when turning on the power of DynaFlash, press the DynaFlash power switch in advance to turn on the power of DynaFlash, wait for about 30 seconds until DynaFlash starts up, then right-click the device manager "DynaFlash KMDF Driver" and select the device. Enable.

4. Software setup method

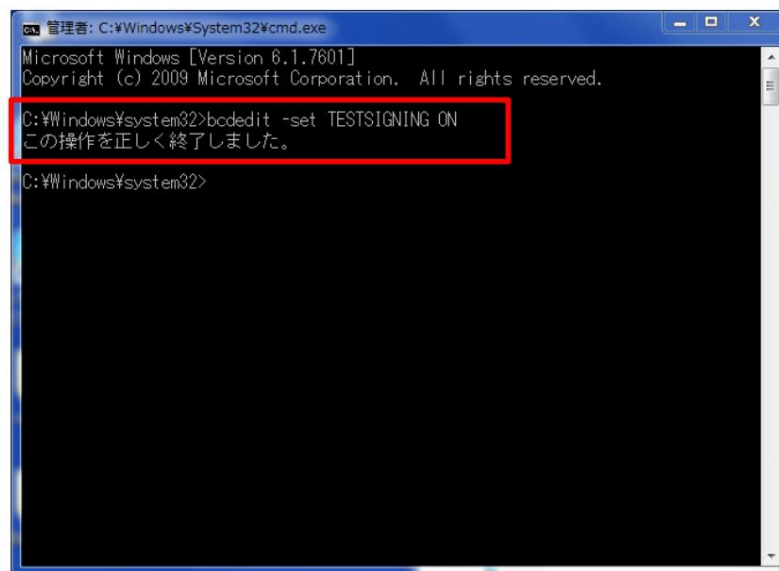
4.1. Software download Save the data provided by your company to your PC. Here, it is temporarily stored in "C:\work\DynaFlash\SOFT\".

C:\work\DynaFlash\SOFT\

App\x64\Release\DynaFlash.exe •DynaFlash application executable file
 Dynaflash_driver\DynaFlashSys_20XXXXXX •DynaFlash driver file (XXXXXX is the update date)
 Lib\x64\Release\DynaFlash200.dll •DynaFlash library file

4.2. Windows 10 64bit driver installation Press the Windows start button and type "cmd". Right-click "cmd.exe" displayed here and click "Run as administrator".

Once the "Command Prompt" starts, type "bcdedit -set TESTSIGNING ON" and press Enter to complete. "This operation completed successfully." is displayed.



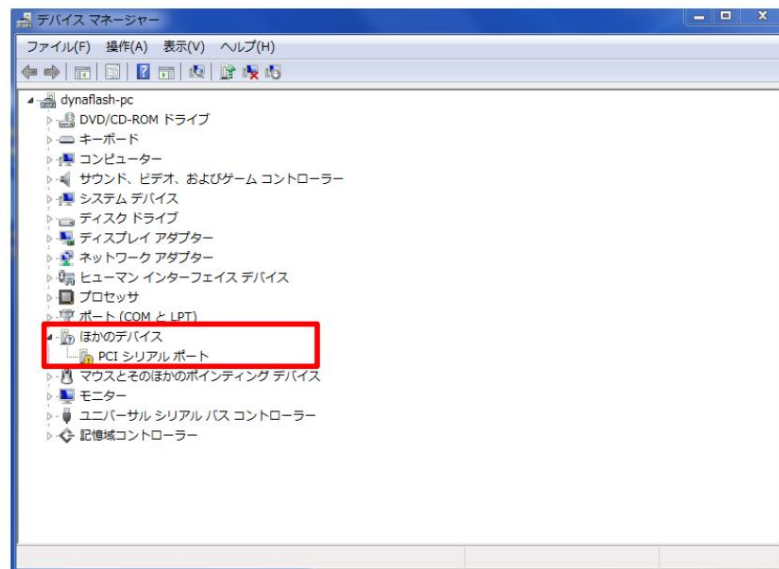
*If an error occurs On

DELL PCs, etc., commands may not be accepted if Secure Boot is enabled in UEFI (BIOS). Disable Secure Boot setting in UEFI.

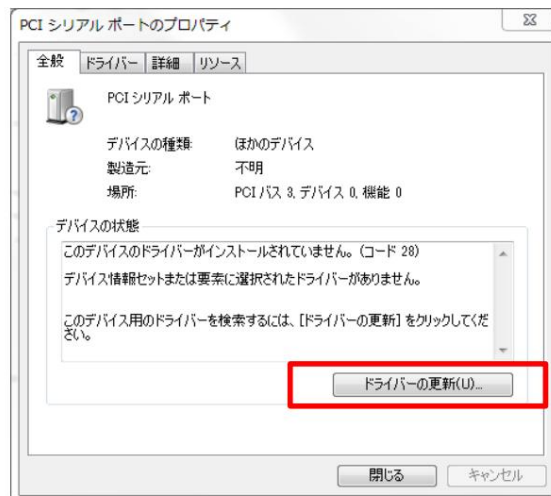
After that, when you restart, the notation "Test mode" will be added to the lower right of the Windows desktop, and the driver for DynaFlash will be available.

After restarting, press the Windows Start button, type "Device Manager" and press Enter.

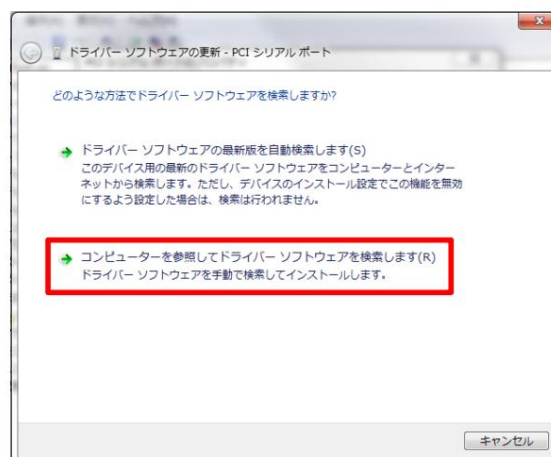
In Device Manager, unknown devices are detected as below.



Double-click the detected unknown device, and click "Update Driver" from Properties.

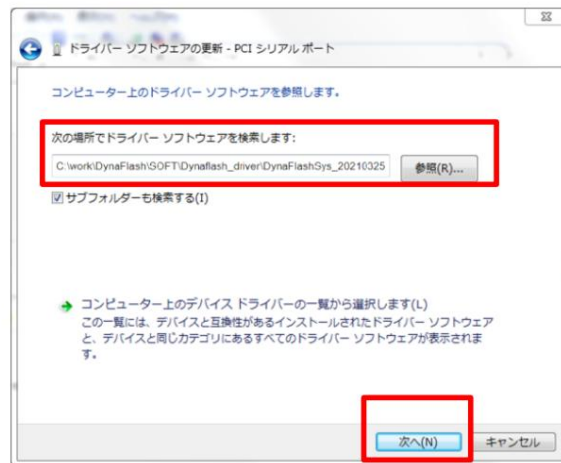


Click "Browse my computer for driver software".

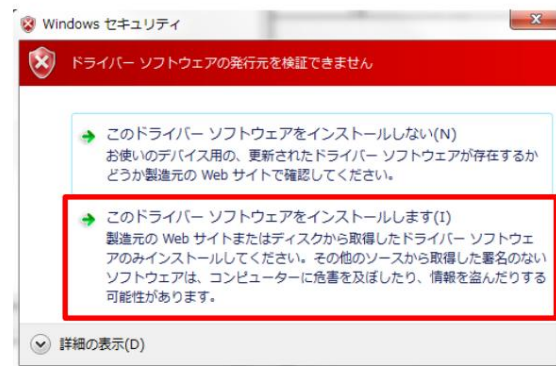


"Search for driver software in these locations"

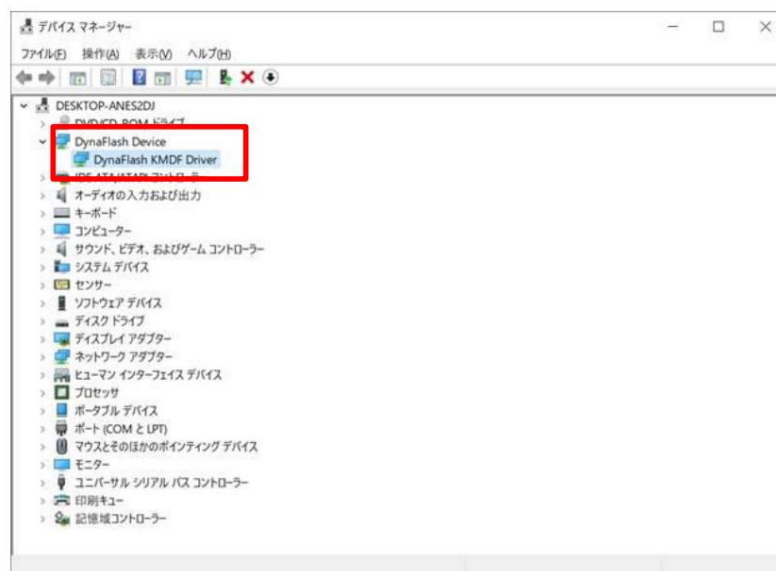
Specify "C:\work\DynaFlash\Soft\Dynaflash_driver\DynaFlashSys_20YYMMDD"
and click "Next".



Click "Install this driver software anyway".



It is recognized as "DynaFlash KMDF Driver".



5. Operation check

5.1. Running DynaFlash

GUI Right-click the "C:\work\DynaFlash\SOFT\App\x64\Release\DynaFlashAPP.exe" icon and run it with administrator privileges to start the DynaFlash GUI application.

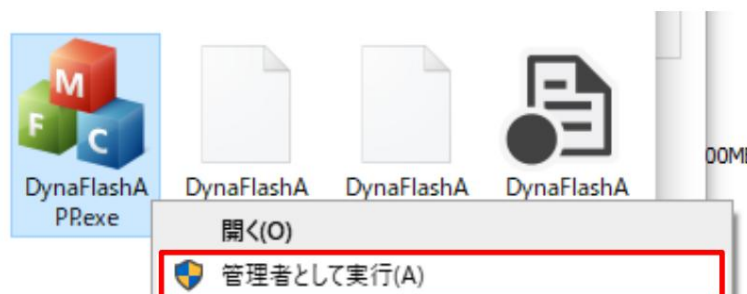


Figure 5-1 How to Run with Administrator Privileges

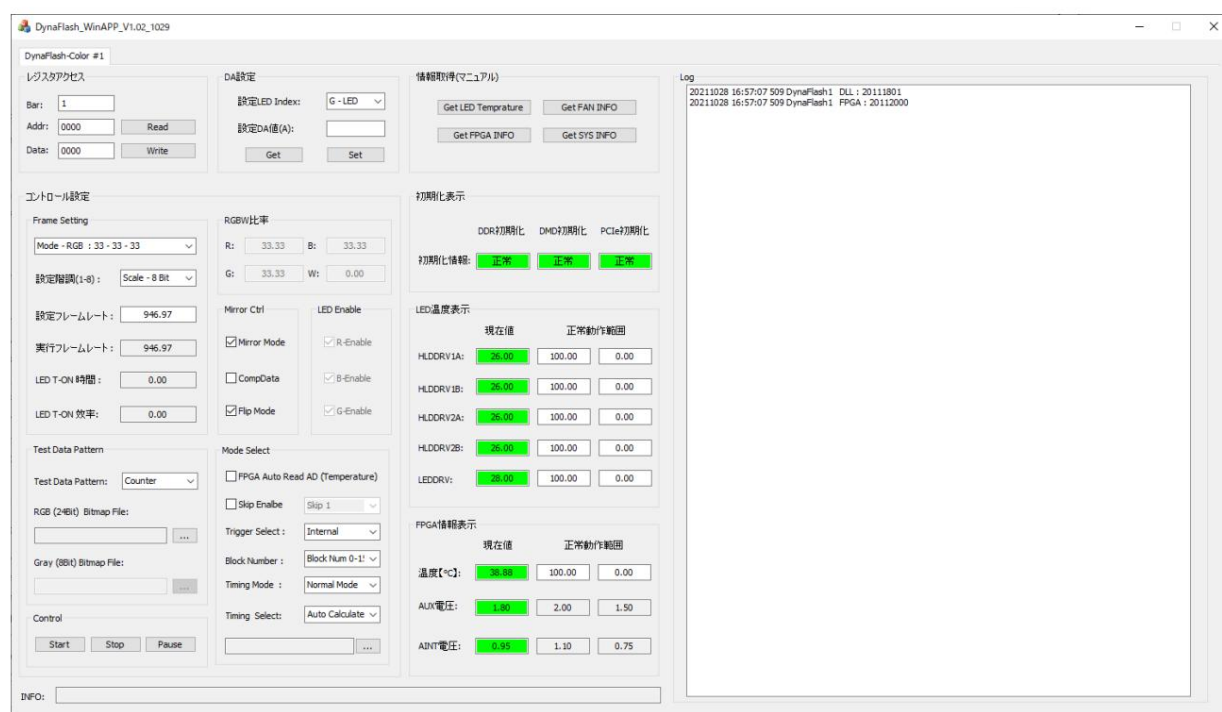


Figure 5-2 DynaFlash GUI application launch screen

* If you execute without specifying administrator privileges, the components in the GUI will not be displayed and it will start up. be careful.

5.2. DA setting (brightness

setting) Change the actual brightness by setting the current from the DA setting. The maximum value that can be set is 2.5A for R/G-LED and 25A for B-LED. Select the target LED from the setting LED index, manually enter the numerical value in the DA setting value, and then set with the Set button.

Also, the Get button retrieves the current settings.

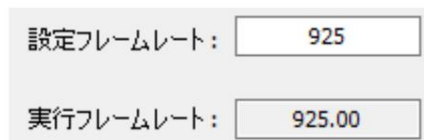


The DA setting screen is titled "DA設定". It contains two labels: "設定LED Index:" with a dropdown menu showing "G - LED", and "設定DA値(A):" with a text input field containing the number "2". Below these are two buttons: "Get" and "Set". The "Set" button is highlighted with a blue border.

Figure 5-3 DA setting screen

5.3. Control Settings: Set Frame Rate Set the frame rate.

Manually enter a value in the Set frame rate field. The execution frame rate is calculated from the entered value and displays the actual used frame rate up to two decimal places.

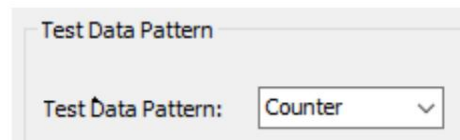


The Setting frame rate screen has two labels: "設定フレームレート:" with a text input field containing "925", and "実行フレームレート:" with a text input field containing "925.00".

Figure 5-4 Setting frame rate screen

5.4. Test Data Pattern

Select the test data pattern to display. Counter, color bar, etc. can be selected.

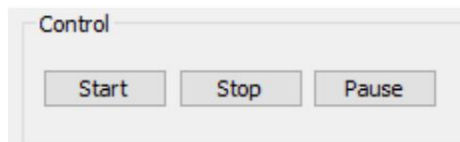


The Test Data Pattern screen is titled "Test Data Pattern". It contains a label "Test Data Pattern:" followed by a dropdown menu showing "Counter".

Figure 5-5 Test Data Pattern screen

5.5. Start / Stop After

setting the above, projection starts with the Start button. During projection, press the Stop button to stop projection.



The Start/Stop screen is titled "Control". It contains three buttons: "Start", "Stop", and "Pause".

Figure 5-6 Start/Stop Screen

5.6. Exiting the DynaFlash GUI To

exit the DynaFlash GUI, confirm that projection has been stopped by pressing the Stop button, then press the X button on the top right of the GUI application.



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