

A stylized logo graphic consisting of two overlapping triangles. The left triangle is a medium blue, and the right triangle is a darker blue. They overlap in the center, creating a darker shade of blue.

# MURIDEO<sup>®</sup>

## MU-STIX-GF

### USER MANUAL

STIX TEST ECOSYSTEM SIGNAL GENERATOR  
WITH FEMALE HDMI PORT

# Contents

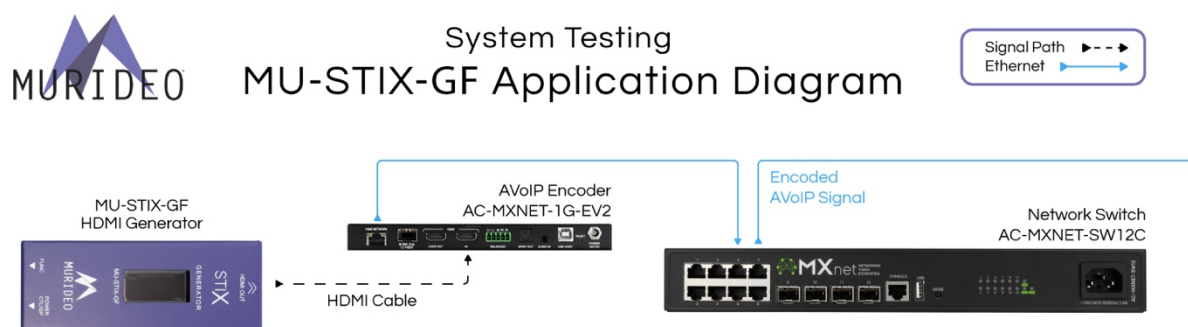
Introduction.....	3
Features .....	3
Box Contents.....	3
Product Overview .....	4
Technical Specifications .....	4
MU-STIX-GF Overview .....	5
Preparing For Use .....	6
Home Screen .....	6
Main Menu .....	7
Navigating the Menu .....	7
Timing .....	8
Color Depth (CD).....	8
Color Space (CSC).....	8
HDCP.....	9
Pattern.....	9
Machine Config.....	10
Return .....	10
Screen Saver.....	10
Firmware and Control.....	10
Control .....	18
Command List .....	19
Warranty .....	20
Obtaining Warranty Service.....	21
Disclaimer of Warranty .....	22
Support .....	22
Legal Notices .....	23

# Introduction

Murideo's MU-STIX-GF is an ultra-compact HDMI 2.1 test pattern generator designed to meet the evolving needs of professional AV integrators. With its female HDMI connector and enhanced design, this cost-effective, user-friendly tool offers increased flexibility for validating HDMI signal paths and display capabilities.

The STIX-GF supports both cutting-edge HDMI 2.1 (FRL) signals up to 48 Gbps and legacy HDMI (TMDS), making it ideal for a wide range of signal scenarios. It generates video test patterns at resolution timings from 720p/60 Hz up to 8K/30 Hz, including 4K/120 Hz. Equipped with 13 built-in test patterns and 6 preset timing options, the STIX-GF is ready to support even the most demanding HDMI testing environments and workflows. It can also generate 8 channels of PCM audio as 1 kHz tones at sample rates of 48 kHz, 96 kHz, and 192 kHz, providing a reliable way to test multi-channel audio paths.

Compact and power-efficient, the STIX-GF can operate from a USB-A port on an AV receiver or display, or through a USB Type-C connection to a mobile device. With its rugged construction and practical enhancements, the MU-STIX-GF is the perfect tool for accurate HDMI signal generation in the field or lab.



## Features

- Cost-effective HDMI 2.1b, 8K 48 Gbps (FRL) compliant generator
- Generates 720p, 1080p, 4K and 8K signal timings at 8-, 10-, and 12-bit color depths, in RGB, 4:2:2, and 4:4:4 color spaces
- Configurable HDCP with options for versions 1.4, and 2.3 (1.4 is TDMS only) or Off.
- 13 built-in test patterns and 6 preset timing options, including pseudo-random binary sequence, a diagnostic tool to identify transmission-related issues such as bit errors, signal attenuation, or timing problems.
- Generates 8-Channels of PCM audio as 1 kHz tones at sample rates of 48 kHz, 96 kHz, and 192 kHz
- Low power draw allows device to be powered over USB Type-A (from AVR or display) or via USB Type-C from mobile device.
- OLED color screen with an intuitive navigation menu

## Box Contents

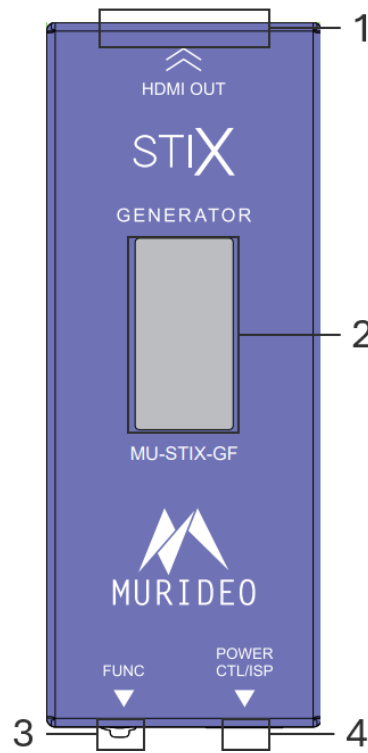
- (1x) Murideo MU-STIX-GF Unit
- (1x) 5' USB Type-C to USB Type-A Cable

# Product Overview

## Technical Specifications

Video	
HDMI Version	2.1
HDCP Version	1.4 and 2.3
HDCP ON/OFF	Yes
Resolution Timings	120 Hz - 4K 60 Hz - 4K, 1080p, 720p 30 Hz - 8K, 4K, 1080p
Video Encoding	RGB (Limited), YCbCr
Video Sampling Models	RGB 4:4:4, YUV 4:4:4, YUV 4:2:2
Color Bit Depth	12-, 10-, 8-bit
Patterns	Black, Checkbox, Stripes, Red, Green, Blue, White, White Ramp, Red Ramp, Green Ramp, Blue Ramp, PRBS, Color Bars
Audio	
Audio Channels	8-Channel (7.1)
Audio Output	8-Channel LPCM at 1kHz
Sampling Rates	48 kHz, 96 kHz, 192 kHz
Ports	
HDMI	19-pin Type-A, female
Power/Firmware & Control	USB Type-C
Environmental	
Operating Temperature	23° to 125°F (-5° to 51°C)
Storage Temperature	-4° to 140°F (-20° to 60°C)
Humidity Range	5% to 90% RH (No Condensation)
Cooling	Passive
Power	
Power	5 VDC, 270 mA
Power Consumption	1.35 W Maximum
Physical / Dimensions	
Dimensions (Unit Length/Width/Height)	mm: 12 x 32 x 82 in: .47 x 1.26 x 3.22
Dimensions (Packaged Length/Width/Height)	mm: 122 x 91 x 26 in: 4.80 x 3.58 x 1.02
Weight (Unit)	.09 lbs. (0.04 kg)
Weight (Packaged)	.34 lbs. (.15 kg)
*Specifications subject to change without notice. Mass & dimensions are approximate	

## MU-STIX-GF Overview



### MU-STIX-GF

1 – HDMI OUT

2 – OLED Screen

3 – Function Switch and Button

4 – USB-C Port Power, Control (CTL), In-system Programming (ISP)

## Preparing For Use

The Murideo STIX-GF is powered through the USB Type-C input using any standard USB power supply.

- Connect the STIX-GF to a power supply using the supplied USB cable. Any USB Type-C to C or Type-C to A cable may be connected to the STIX-GF.
- Connect the STIX-GF to the sink device to be tested with an HDMI cable.
  - Sink devices include AVRs, Displays, HDMI Matrixes, or any HDMI device with an HDMI Input.
- Signal parameters of the STIX-GF are configured manually.
  - The STIX-GF does not automatically adjust its configuration to match the preferred timing specified in the Sink device's EDID.

## Home Screen

By default, the STIX-GF will power up to the Home Screen shown below:



The user can set the following 5 parameters:

1. Test Pattern
2. Resolution and Timing
3. Bit Depth
4. Color space
5. HDCP Version

By default, these values are:

1. Color Bars
2. 1080p60
3. 8 bit
4. RGB444
5. No HDCP

To adjust these parameters, short press the function button (labeled FUNC).

## Main Menu



The main menu allows the user to select from 7 options:

1. TIMING
  - a. Resolution and Timing
2. CD
  - a. Color Depth / Bit Depth
3. CSC
  - a. Color space
4. HDCP
  - a. HDCP Version
5. PATTERN
  - a. Test Patterns
6. MACHINE CONFIG
  - a. Resetting and Firmware Version
7. RETURN
  - a. Return to Home Screen

## Navigating the Menu

1. To navigate the menu, short press the function button to scroll through the available options. Menu position is denoted by the Cursor (<<)
2. To select a menu option, press and hold the function button for 3 seconds.
3. Once a menu option is selected, the selected options sub menu will open.
4. After 10 seconds of function button inactivity, the STIX-GF will return to the home screen.
  - a. If the STIX-GF returns to the home screen due to inactivity, the last menu will be stored and recalled when the function button is pressed.
  - b. Example: The Timing menu is active, and the menu has not been returned to the main menu, timing out to the Home Screen. Upon a short press of the function button, the Timing Menu will be brought up in place of the main menu.

## Timing

Timing consists of two elements, Resolution and Frame Rate. The STIX-GF has six combinations to choose from:

1. 720p60
2. 1080p60
3. 4k30
4. 4k60
5. 4k120
6. 8k30

After selecting the menu option, the active selection will become highlighted.



## Color Depth (CD)

Color Depth, also known as Bit Depth or Bits Per Component, adjusts the Depth of the defined Timing Resolution and Chroma.

The STIX-GF has 3 selectable Color Depths:

1. 8 bit
2. 10 bit
3. 12 bit

After selecting the menu option, the active selection will become highlighted.

## Color Space (CSC)

Color space refers to the encoding method of the video signal. The STIX-GF is capable of outputting in a limited color space (16-235) in both RGB and YCbCr (short formed to YUV) formats.

There are three available color spaces:

1. RGB444
2. YUV444
3. YUV422
  - a. Limited to 8-bit Color Depth selection; transmitted at 12-bit Color Depth.

After selecting the menu option, the active selection will become highlighted.



## HDCP

HDCP (High-Bandwidth Digital Content Protection) is a form of digital rights management within the HDMI video transmission. The STIX-GF can be operated with or without HDCP enabled.

Available selections include:

1. No HDCP
  - a. Compatible with all signals.
2. HDCP 1.4
  - a. Compatible with TMDS signals below 18 Gbps.
  - b. Incompatible with FRL Signals.
3. HDCP 2.3
  - a. Compatible with TMDS signals below 18 Gbps.
  - b. Required for all FRL Signals if HDCP encrypted.

After selecting the menu option, the active selection will become highlighted.

## Pattern

In addition to testing HDMI sink devices, 13 Patterns are contained in the STIX-GF consisting of solid colors, ramps, and more. Giving the STIX-GF use for basic color checking and white balancing of displays.

Patterns Include:

1. Black
2. CHK\_BOX (Checker Box)
3. STRIP (Stripes)
4. Red
5. Green
6. Blue
7. White
8. RAMP (White Ramp)
9. R\_RAMP (Red Ramp)
10. G\_RAMP (Green Ramp)
11. B\_RAMP (Blue Ramp)
12. PRBS (Pseudorandom Binary Sequence)
13. C-BARS (Color Bars)

After selecting the menu option, the active selection will become highlighted.

# Machine Config

Machine Config contains the options for resetting the device to the default state or checking the current firmware of the unit. There are two options inside this menu option:

1. MACHINE RESET
  - a. Resets the STIX-GF back to the default state.
  - b. By Default, these values are:
    1. Timing
      - a. 1080p60
    2. CD
      - a. 8 bit
    3. CSC
      - a. RGB444
    4. HDCP
      - a. No HDCP
    5. PATTERN
      - a. Color Bars
2. MACHINE VERSION  
[Insert Machine Rev Picture]
  - a. Version
    - i. The Main Build Version
  - b. Revision
    - i. The Firmware Revision of the Main Build
  - c. After selecting MACHINE VERSION, press and hold the function button for 3 seconds to return to the main menu.

## Return

When in a sub menu, selecting the return option will return you to the previous menu. When in the main menu, the return option will return you to the home screen.

## Screen Saver

The blank (black) screen saver will appear after 5 minutes of inactivity; during this state the STIX-GF is still operational. Users may open the Home Screen at any time by pressing the function button. Additionally, upon receiving serial data, the Home Screen will open.

## Firmware and Control

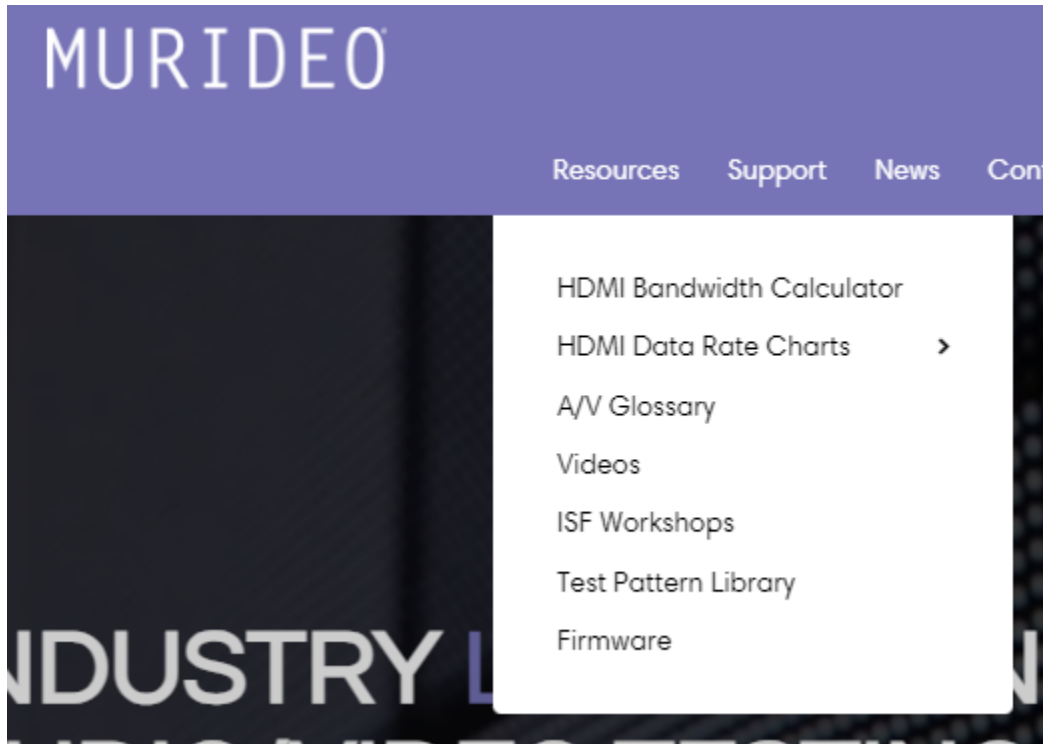
Updating the firmware

Requirements:

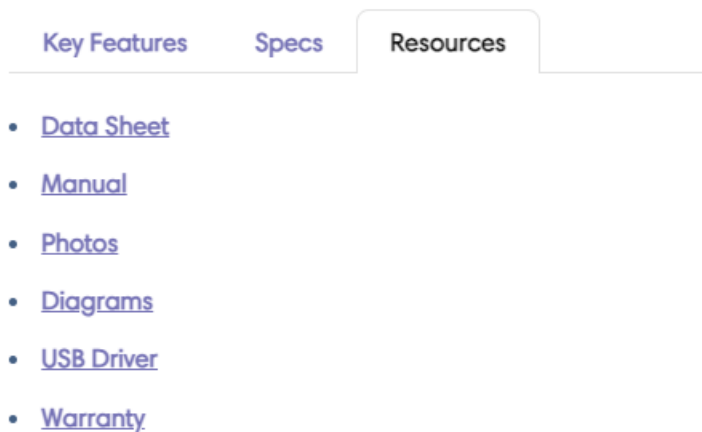
- Windows PC
- USB-A or USB-C to USB-C data cable for a direct serial connection
- Firmware FWM file and Uploader
- CH340 USB Serial Driver (available on [murideo.com](http://murideo.com))

Follow the steps below to update the firmware on the STIX-GF:

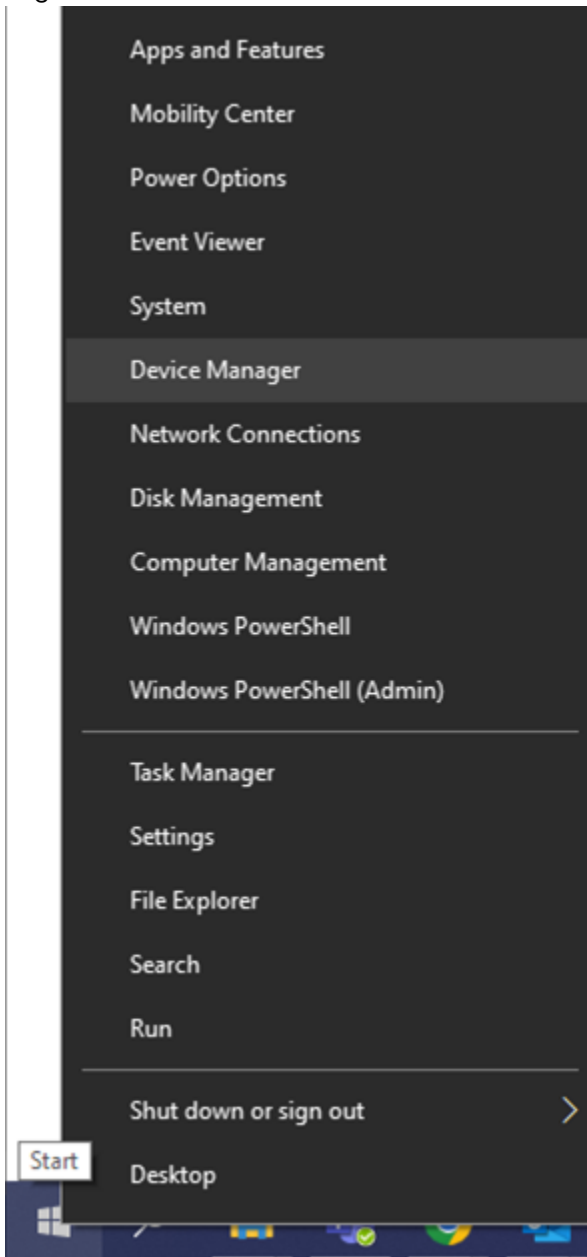
1. Find the firmware file under the Resources -> Firmware dropdown on <https://www.avproglobal.com/pages/murideo-brand-home-page>



2. Connect PC directly to the USB-C CTL/USP ports on the STIX-GF using a USB -C cable.
3. Download and install the CH340 USB Serial Driver.
  - a. Navigate to <https://www.avproglobal.com/products/mu-stix-gf>
  - b. Click on the Resources tab.
  - c. Click the USB DRIVER link.
  - d. Download the CH340 driver to your PC.

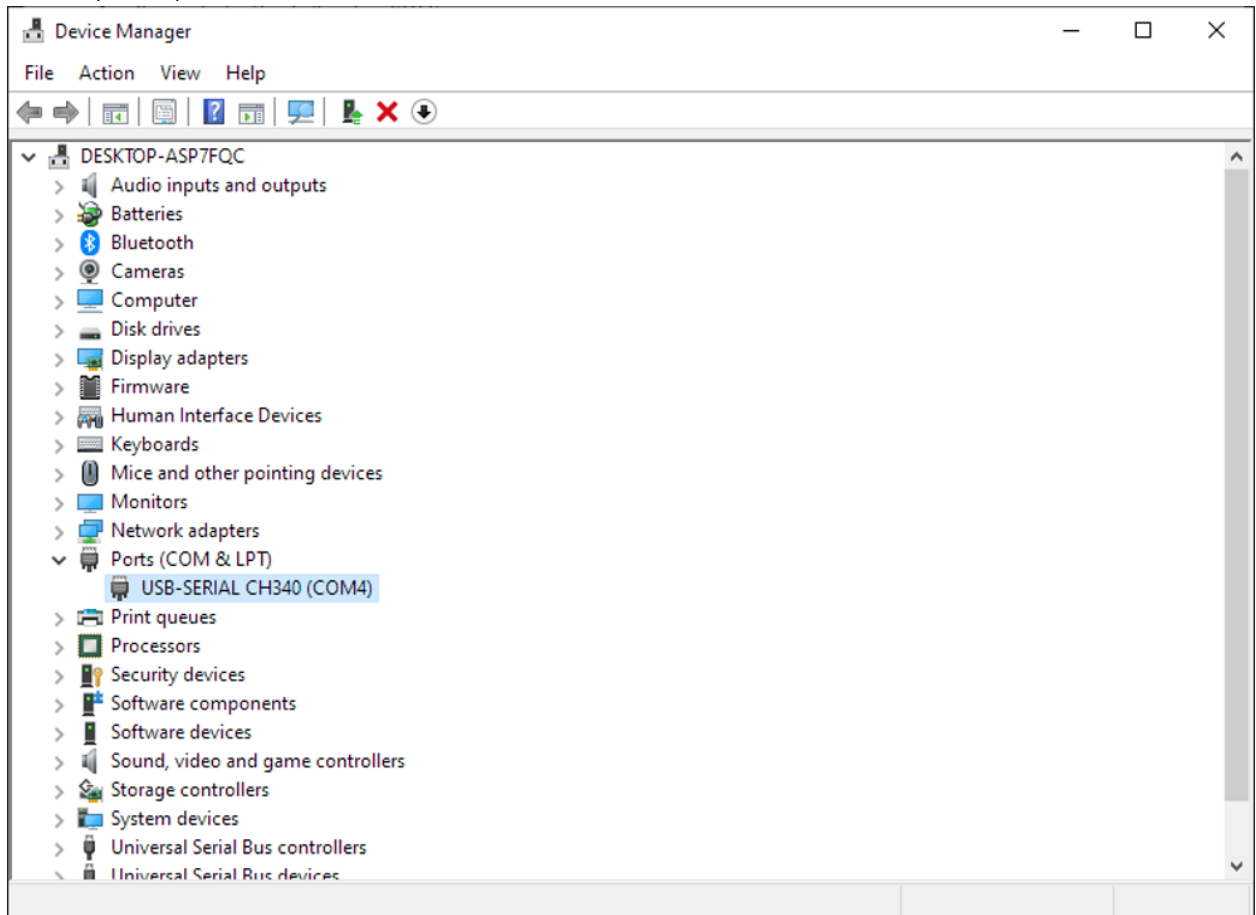


4. Right-click on the Windows Start button and select Device Manager.



Then select the Ports (COM & LPT) drop-down menu and locate the port labeled USB-SERIAL

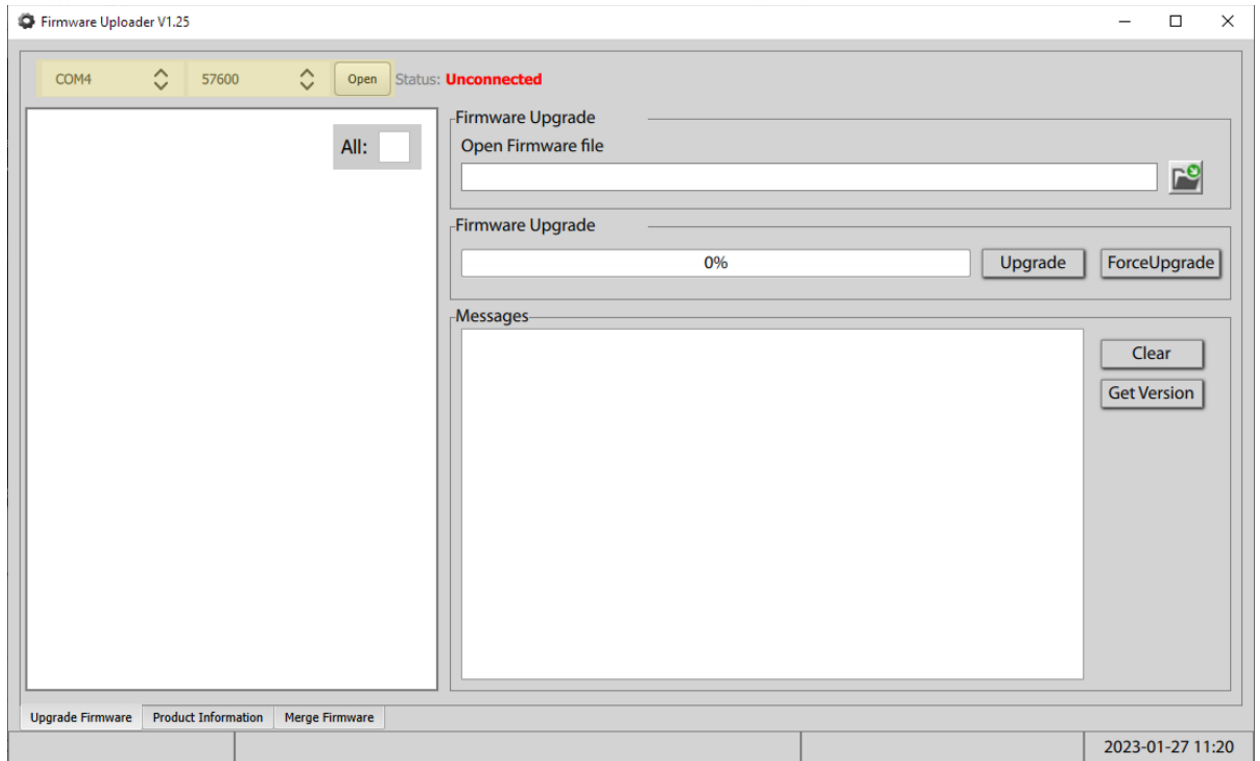
CH340 (COMX) to confirm the STIX-GF is connected to the PC.



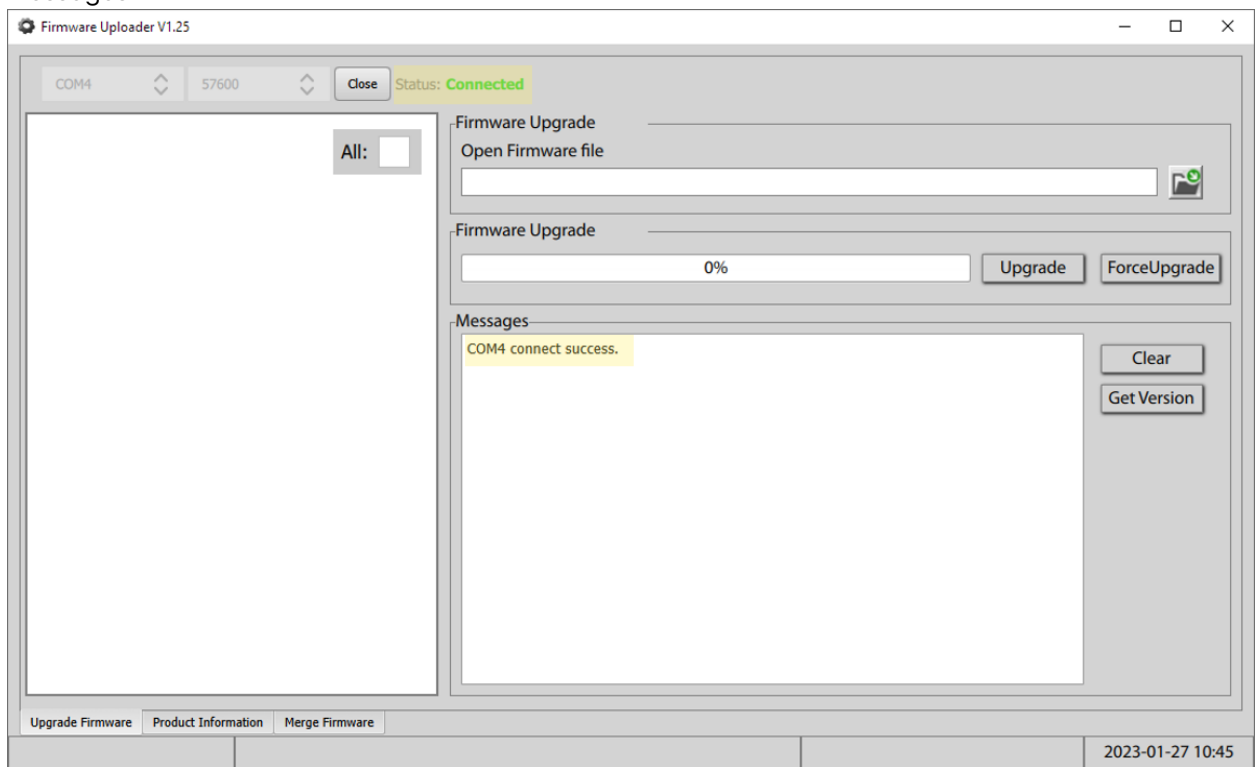
5. Open the Firmware Uploader program

Name	Status	Date modified	Type	Size
MU-STIX-GF_Ver1.12.00.01(4516).fwm		7/10/2025 3:33 PM	FWM File	114 KB
Firmware Uploader V1.25		10/16/2021 9:40 PM	Application	35,079 KB

Select the correct COM, Baud: 57600, and select the Open button to open the port.

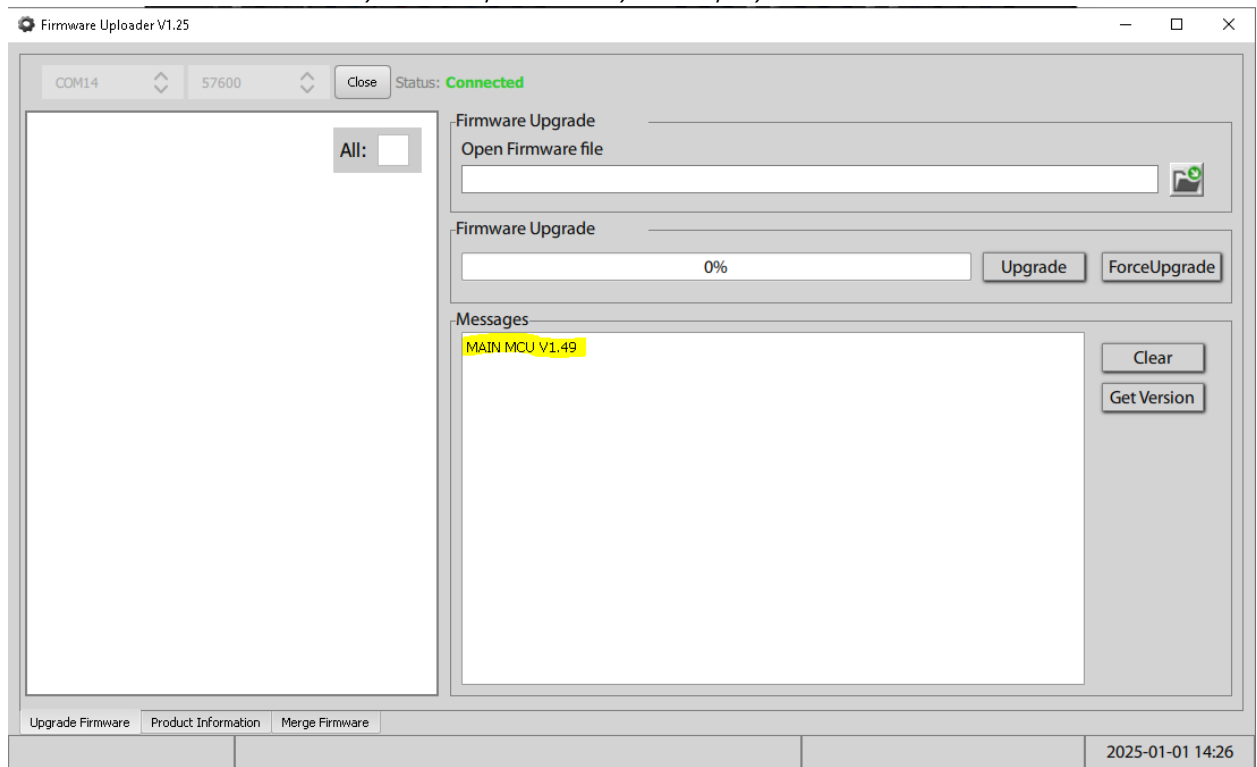



The Status will now show as Connected in green text with COMX connect success under Messages.







6. Select the Get Version button to see the current firmware version on the STIX-GF.

*Note: screenshots below is only an example and may not display the exact version.*

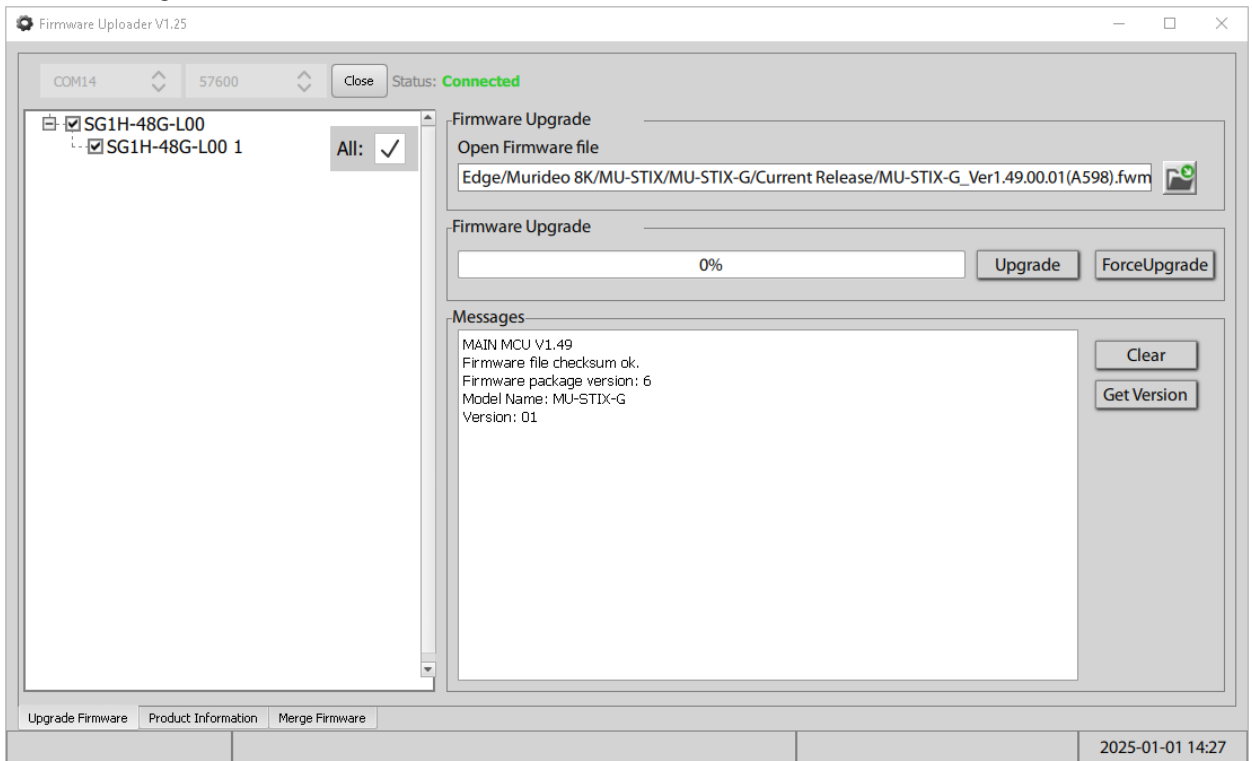


7. Select the file button  to load the firmware file. Make sure to select the correct firmware file for the device you are currently updating.

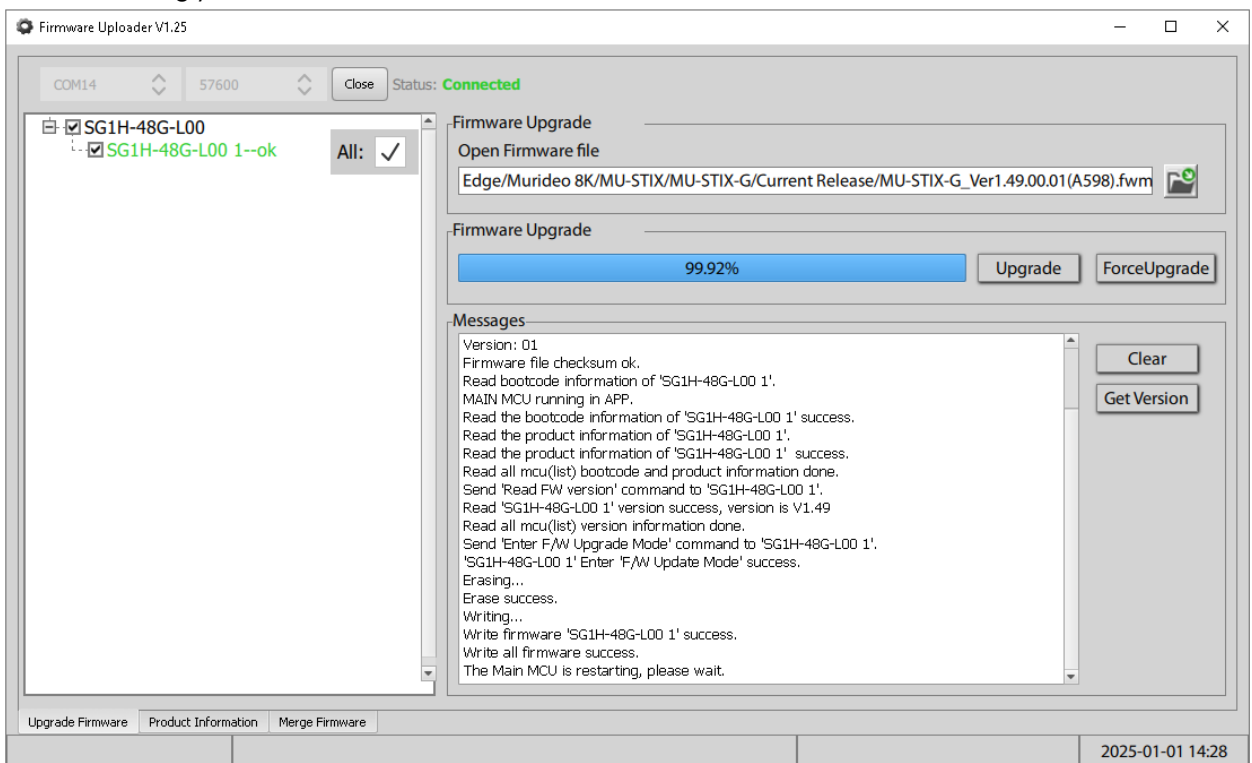
Name	Status	Date modified	Type	Size
 MU-STIX-GF_Ver1.12.00.01(4516).fwm		7/10/2025 3:33 PM	FWM File	114 KB
 Firmware Uploader V1.25		10/16/2021 9:40 PM	Application	35,079 KB

The firmware file will be loaded into the Open Firmware file field with the following information

under Messages:

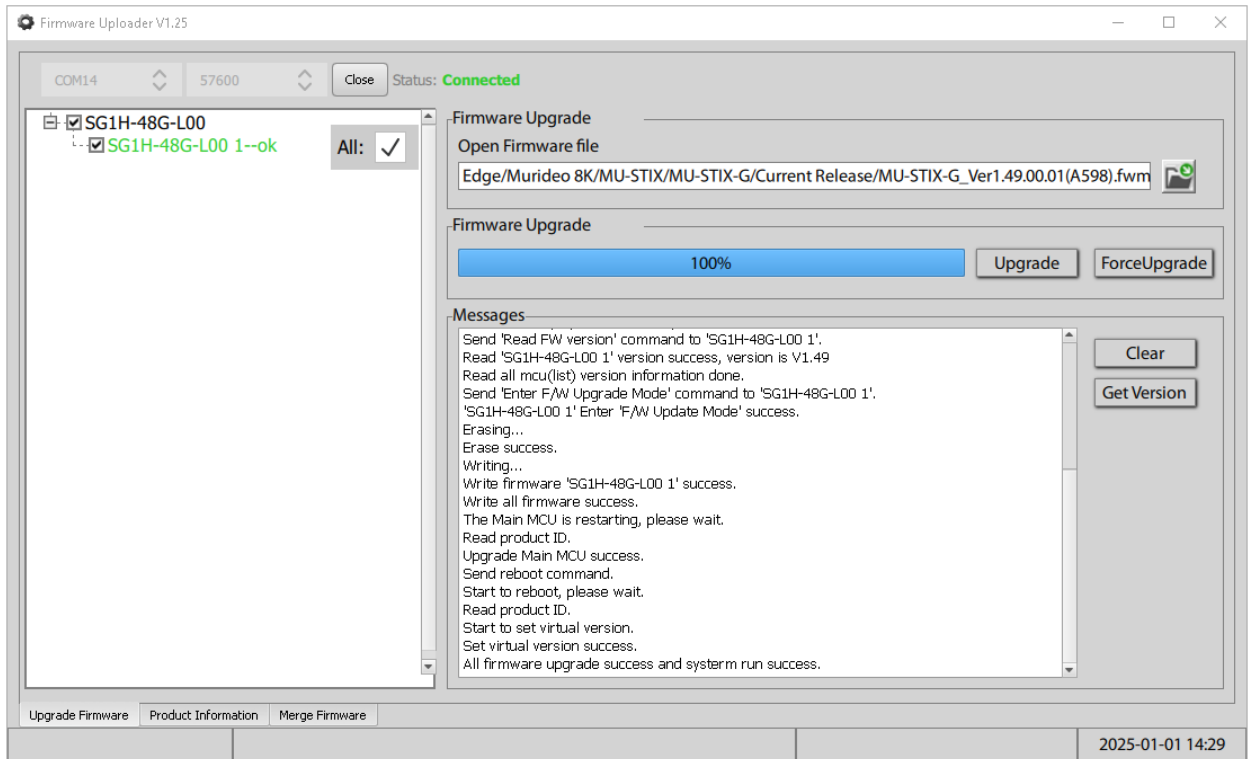


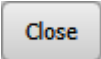
8. Select the Upgrade button to start the firmware update. The loading bar will pause at 99% for a few seconds before automatically rebooting the unit. Do not use the ForceUpgrade button. If the Uploader is not updating firmware for any reason, please contact Murideo Support to assist in troubleshooting your STIX-GF.





9. Once the loading bar reaches 100%, use the Get Version button again to ensure the new firmware version is correct (note: screenshot below is only an example and may not display the exact version).



10. Select the  button to close the port, then select the X at the top-right to exit the Uploader. The STIX-GF is now up to date on its firmware and is safe to disconnect from your PC and power.

# Control

The STIX-GF can be controlled through Serial communication from a USB port with serial capabilities (COM) using the internal USB to UART adaptor. Ensure the CH340 Driver has been installed before connecting the device.

## STIX-GF Serial Port Properties

Baud Rate	57600
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None

The STIX-GF features an ASCII API; commands sent to the unit should be followed by the carriage return control character. In the following example we will use <cr>:

USER SENT:	SET OUT1 STREAM OFF<cr>
ECHO RECEIVED:	OUT1 STREAM OFF<cr>

# Command List

Azz	All Commands start with Prefix System Address zz, {zz=[01-99](zz=00,broadcast address)}
H	Help
STA	Show Global System Status
SET RST	Reset to Factory Defaults
SET RBT	System Reboot
SET ADDR xx	Set System Address to xx{xx=[01~99]}
SET OUT x STREAM ON/OFF	SET Outputx STREAM ON/OFF{x=0~1}
SET OUTx BDTy	Set Output Signal Generator Bandwidth,and set it to RGB444 {x=[0-1](0=ALL),y=[1,2,4,5,6](1=9G,2=18G,4=32G,5=40G,6=48G)}
SET OUTx SGMTy	Set Output Signal Generator Timing {x=[0-1](0=ALL),y=[1-6](1=720p60Hz,2=1080p60Hz,3=4K30Hz,4=4K60Hz,5=4K120Hz,6=8K30Hz)}
SET OUTx CDy	Set Output x Video Color Depth y {x=[0-1](0=ALL), y=[1-3](1=8 Bit,2=10Bit,3=12Bit)}
SET OUTx CSCy	Set Output x Video Color Space y {x=[0-1](0=ALL), y=[1-3](1=RGB,2=YUV444,3=YUV422)}
SET OUTx HDCPy	Set Output x Video HDCP Format {x=[0-1](0=ALL), y=[1-3](1=NoHDCP,2=HDCP1.x,3=HDCP2.x)}
SET OUTx VPfy	Set Output x Video Pattern Format {x=[0-1](0=ALL), y=[1-13](1=BLACK,2=CHECKBOARD,3=STRIP,4=RED,5=GREEN,6=BLUE)} {(7=WHITE,8=RAMP,9=RED_RAMP,10=GREEN_RAMP,11=BLUE_RAMP,12=PRBS,13=COLOR_BAR)}
SET OUTx ASRy	Set Output Signal Generator Audio Sampling Rate {x=[0-1](0=ALL),y=[1,2,3](1=48K,2=96K,3=192K)}
GET ADDR	Get System Address
GET TMDS CHECK	Check TMDS Voltage Level Is Functioning Properly
GET OUTx STREAM	Get Outputx Stream ON/OFF Status {x=0~1}
GET OUTx BDT	Get Output x Video Bandwidth Format Status
GET OUTx SGMT	Get Output x Video Timing Format Status
GET OUTx CD	Get Output x Video Color Depth Format Status
GET OUTx CSC	Get Output x Video Color Space Format Status
GET OUTx HDCP	Get Output x Video HDCP Format Status
GET OUTx VPF	Get Output x Video Pattern Format Status
GET OUTx ASR	Get Output x Video Audio Sampling Rate Format Status
GET OUTx EDID DATA	Get Output x EDID DATA

# Warranty

AVPro Global Holdings (DBA MURIDEO) offers a 2-year international limited warranty for its Murideo products. Any product first sold to you is guaranteed to be free from defects in both components and workmanship under regular use. The warranty period commences on the date the item ships.

Attention:

Your invoice with the date of purchase, model number, and serial number of the product is proof of the date of purchase. The international Limited Warranty is applicable and shall be honored in every country where MURIDEO or its Authorized Service Providers offer warranty service subject to the terms and conditions provided in this international Limited Warranty Statement. Products included in this warranty:

- Murideo SEVEN Series Generators
- Murideo SIX Series Generators
- Murideo SIX Series Analyzers
- Murideo Fox & Hound Series
- Murideo HDMI Test Monitor Series
- Murideo GAX Series
- Murideo STIX Series

During the warranty period, the defective hardware of Murideo products will be either repaired or replaced with new or like-new products at Murideo's discretion. This International Limited Warranty covers the costs of service parts and labor required to restore your product to fully functional condition. MURIDEO will, at its discretion, repair or replace any defective products or parts covered by this International Limited warranty with refurbished parts of the product that are equivalent to new or like new products in both functionality and performance. A product or part repaired or replaced under this International Limited Warranty shall be covered for the remainder of the original warranty period applying to the product or part or for 90 days, whichever expires last. All exchanged parts and products under this International Limited Warranty will become MURIDEO's property.

## Obtaining Warranty Service

Warranty service or Returned Merchandise Authorization (RMA) under this International Limited Warranty will be honored only if claims are made within the warranty period. The process for notifications to MURIDEO or products outside the warranty period will be the same, but charges may apply. Contact details may be obtained on the MURIDEO website: <https://www.murideo.com/>

Customers are requested to perform the following actions before claiming MURIDEO product is defective:

- Owner must notify MURIDEO, during the warranty period, in writing of the alleged defect and allow MURIDEO a reasonable opportunity to inspect the allegedly defective product;
- No Product may be returned without MURIDEO's consent. The MURIDEO RMA# must accompany all returns, and all returns must be delivered to MURIDEO within the warranty period.
- Owner may, then at its own expense, return the allegedly defective Product, freight pre-paid and in the original packaging, accompanied by a brief statement explaining the alleged defect to MURIDEO;
- If MURIDEO determines that any returned Product is not defective, or if MURIDEO determines that the warranty does not cover the defect, MURIDEO will return the Product to the Owner at the Owner's expense, freight collect, and Owner agrees to pay MURIDEO reasonable cost of handling and testing.
- Upon determining that the returned product is defective, the Owner will need to present the invoice showing the original purchase transaction to receive warranty service. If shipping the product, the Owner will need to package it carefully and send it, transportation prepaid by a traceable, insured method, to the MURIDEO Service Center. Package the product using adequate padding material to prevent damage in transit. The original container is ideal for this purpose. Include the RMA #, your name, return shipping address, email address, and telephone number where you may be reached during business hours inside the shipping package with the unit. Any replacement unit will be warranted under these Terms and Conditions for the remainder of the original warranty period or ninety (90) days, whichever is longer. For important Aps on operating and troubleshooting the product, refer to the user manual, which can be downloaded from our website, <http://www.murideo.com/>.

## Disclaimer of Warranty

THIS WARRANTY IS EXPRESSED INSTEAD OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON MURIDEO'S PART, AND IT NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PARTY TO ASSUME FOR MURIDEO ANY OTHER LIABILITIES. THE FOREGOING CONSTITUTES THE BUYER'S SOLE AND EXCLUSIVE REMEDY FOR THE FURNISHING OF DEFECTIVE OR NONCONFORMING PRODUCTS AND MURIDEO WILL NOT, IN ANY EVENT, BE LIABLE FOR COST OF SUBSTITUTE OR REPLACEMENT, COST OF FACILITIES OR SERVICE, DOWNTIME COSTS, LOSS OF PROFITS, REVENUES OR GOODWILL, RELIANCE DAMAGES, LOSS OF DATA, LOSS OF USE IF OR DAMAGE TO ANY ASSOCIATED EQUIPMENT, OR ANY OTHER INDIRECT, INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES BECAUSE OF THE FACT THAT SUCH PRODUCTS WILL HAVE BEEN DETERMINED TO BE DEFECTIVE OR NONCONFORMING. THE RIGHTS AND OBLIGATIONS OF THE PARTIES UNDER THIS AGREEMENT SHALL NOT BE GOVERNED BY THE PROVISIONS OF THE 1980 U.S. CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS OR THE UNITED NATIONS CONVENTION ON THE LIMITATION PERIOD IN THE INTERNATIONAL SALE OF GOODS, AS AMENDED (COLLECTIVELY, THE "CONVENTIONS"); RATHER, THE RIGHTS AND OBLIGATIONS OF THE PARTIES SHALL BE GOVERNED BY THE LAWS OF THE STATE of SOUTH DAKOTA, INCLUDING ITS PROVISIONS OF THE UNIFORM COMMERCIAL CODE, AS APPLICABLE. FOR THE AVOIDANCE OF DOUBT, THE CONVENTIONS ARE HEREBY EXCLUDED.

This Limited Warranty gives you specific legal rights. You may also have other rights that vary from state to state or country to country. You are advised to consult applicable state or country laws to fully determine your rights. Some jurisdictions do not allow the exclusion or limitation of special, incidental, or consequential damages or limitations on how long a warranty lasts, so the above exclusion and limitation may not apply to everyone.

## Support

For service and support, contact your local dealer. To find your dealer or to contact MURIDEO support, go to: <https://support.murideo.com> or call +1-605-330-8491 for worldwide technical support.

## Legal Notices

MURIDEO® Logos are trademarks or registered trademarks of AVPro Global Holdings, Inc. in the United States or other countries. ISF® and the ISF logo are trademarks or registered trademarks used under license from Imaging Science Foundation, LLC. in the United States or other countries. All other trademarks and registered trademarks are the property of their respective owners in the United States or other countries. The absence of a trademark symbol does not constitute a waiver of Silicon Image's trademarks or other intellectual property rights about a product name, logo, or slogan. Limitation of Liability MURIDEO reserves the right to refuse warranty service of products under disputable conditions. MURIDEO also holds the right to declare the final decision on whether products are within warranty conditions. The following actions and damages will result in voiding the limited warranty:

- Damage caused by acts of nature, such as fire, flood, wind, earthquake, lightning, etc.
- Damage or incompatibility caused by failure to perform a proper installation or to provide an appropriate operational environment for the product, including but not limited to unstable wired/wireless network connection and phone lines, insufficient grounding, external electro-magnetic fields, direct sunlight, high humidity, and vibration.
- Damage caused by impact with other objects, dropping, falls, spilled liquids, or submersion in liquids.
- Damage caused by unauthorized repair or disassembling of the product.
- Damage caused by abuse, misuse, mishandling, or misapplication.
- Damage caused by third-party peripherals (including but not limited to visible damages on the motherboard or other electronic parts of the product, such as burn spots after electric discharge, melting fusing, splitting, etc.)
- Any unauthorized software or modification of built-in software not approved by MURIDEO.
- The product's serial number (or serial number stickers of its parts) has been modified, removed, blurred, or damaged.
- Defects caused by transportation, handling, or customer abuse.

Thank you for choosing MURIDEO!  
Please contact us with any  
questions, we are happily at your  
service!



2222 E 52<sup>nd</sup> Street North, Sioux Falls, SD 57104

Support:

Phone: +1-877-886-5112

Email: [support@avproedge.com](mailto:support@avproedge.com)