QUICK START GUIDE

MV-2407sti

Short Throw Interactive
PicoP® Scanning Engine

STARTER KIT

MicroVision

MV-2407sti

SHORT THROW INTERACTIVE PICOP® SCANNING ENGINE STARTER KIT

The **MV-2407sti** is part of MicroVision's development platform for PicoP® scanning technology, a scanning engine solution based on MicroVision's proprietary laser beam scanning technology.

This kit is a prototype produced by MicroVision to demonstrate interactive display functionality and enable application development. It is not intended to represent a consumer-ready end product.

Finished form factor, industrial design, run time, user interface, auxiliary features, and any other commercial product considerations should be addressed as part of bringing a product to market to suit target audiences and differentiation requirements.

SAFETY INFORMATION, CLASS 3R

The MV-2407sti unit embeds a CLASS 3R LASER PROJECTOR MODULE and complies with IEC 60825-1: 2014 (edition 3). This device also complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 56 dated May 08, 2019.

The following safety labels are affixed at the factory.
DO NOT REMOVE THESE LABELS

CAUTIONS & WARNINGS

All users of the MV-2407sti Starter Kit must read this guide before operating the unit.

Warnings regarding use and care of the MV-2407sti Unit:

The MV-2407sti is a Class 3R Laser Product.

- **Do not stare at the beam.**
- **Avoid direct eye exposure.**

Use of controls, adjustments of performance other than those specified in this Quick Start Guide or User Guide may result in hazardous laser radiation exposure.

SERVICE & MAINTENANCE

THERE ARE NO OPERATOR SERVICEABLE PARTS INSIDE MV-2407sti Starter Kit

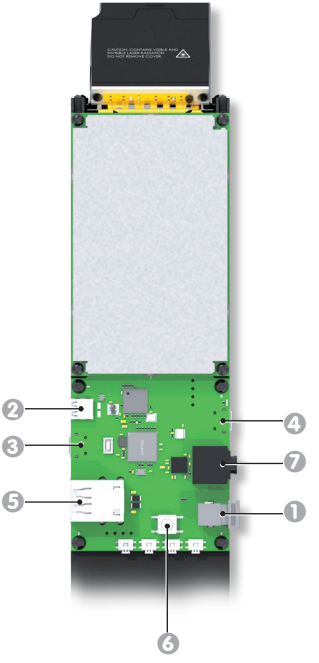
For preventative maintenance or repair of performance-related issues, the system must be returned to MicroVision.
See the Warranty in this Quick Start Guide for contact information to initiate a return.

- **Do not remove label or enclosure around the projector module.**
- **Do not separate the optical module from the electronics module.**

The optical module and electronics module have been calibrated together. Swapping optical and electronics modules may damage the MEMS mirror and will invalidate the laser product classification certification for the module and will invalidate any warranties that may apply.

IN THE BOX

1. MV-2407sti Starter Kit
2. Power supply
3. Micro-USB cable (x2)
4. Micro-HDMI cable



MV-2407sti KEY

❶ DC Power In
❷ Micro-HDMI Video In
❸ Micro-USB2 Port (Touch Events)
❹ Micro-USB2 Port (Module Control)
❺ USB Type A Port
❻ Power Button
❼ Audio Jack

DIRECTIONS

Download the End User License Agreement full documentation and Software Development Kits (SDKs) for MV-2407sti-xxx at:

https://github.com/microvision-inc/Interactive_Projection

Consult the bar code label on the box for your specific model.

Connecting to the Starter Kit:

1. **Power:** Connect the 12 Volt power adapter to the ❶ barrel power connector and to a wall supply.
2. **Display:** Connect Micro-HDMI video cable from the ❷ Micro-HDMI input on the System Interface Board to a HDMI output on the host system.
3. **Interactivity:** Connect Micro-USB cable from the ❸ Micro-USB2 connector on the System Interface Board to a Type-A USB2 port on the host system. This USB interface is used to transmit Human Interface Device (HID) touch events to the host device and the USB port will enumerate as USB Touch input device to Windows 10 or Android host system.
4. **Control (Optional):** Connect Micro-USB cable from the ❹ Micro-USB2 connector on the System Interface Board to a Type-A USB2 port on the host system. This USB interface can be used to control the PicoP Scanning Engine from the host system utilizing MicroVision's SDKs.

Power On/Off:

1. Turn on the system power by pressing the ❻ power button.
2. Turn off the system power by pressing the ❻ power button.

SERVICE AND SUPPORT

For questions and support please contact MicroVision Customer Service by e-mail at **customerservice@microvision.com**

Engineering and development support are not included with the purchase of the MV-2407sti. **For expanded support services beyond basic troubleshooting, please contact your MicroVision sales representative.**

NOTICE AND LIMITED WARRANTY

MV-2407sti STARTER KIT IMPORTANT NOTICE

The enclosed MV-2407sti Starter Kit is a "Prototype" intended for use for **ENGINEERING DEVELOPMENT OR EVALUATION PURPOSES ONLY** and is not considered by MicroVision, Inc., to be fit for commercial use. As a Prototype, this device may not meet the technical requirements of the European Union directive on electromagnetic compatibility.

The user assumes all responsibility and liability for proper and safe handling of the unit. Also be aware that the enclosed unit may not be regulatory compliant or agency certified (such as FCC, UL, CE, etc.) with the exception of IEC 60825-1 Laser Safety. MicroVision assumes no liability for application assistance, customer's product design, or software performance.

Subject to the terms of the MicroVision End User License Agreement found in the downloadable User Guide at https://github.com/microvision-inc MicroVision grants Customer a limited, non-transferable, non-exclusive license to use MicroVision software and firmware in connection with the use of the Prototypes. MicroVision is not selling any MicroVision software or firmware to Customer. Customer is not licensed to use MicroVision software or firmware in connection with any other application or for any purpose other than evaluation of the Prototype.

Contact Information. If you have any questions, please contact MicroVision Customer Service by e-mail at customerservice@microvision.com.

Limited Warranty. MicroVision warrants that the Prototype will be free of defects in material and workmanship for ninety (90) days from the delivery date. MicroVision will at its option, repair or replace the Prototype or refund the purchase price paid by Customer for the defective Prototype. The repaired or replaced parts or Prototype may include new, reconditioned or re-manufactured parts and equipment at MicroVision's option. Such repair, replacement or refund shall be the sole remedy of Customer in the event of MicroVision's breach of this limited warranty. All costs associated with shipment to MicroVision for warranty service, including but not limited to freight, duties, insurance and customs fees are Customer's responsibility. MicroVision will pay the freight costs associated with the return shipment to Customer. Duties, insurance, customs and any other fee are Customer's responsibility. The method of shipment will be at MicroVision's discretion. Repair or replacement of any parts or equipment does not extend the period of warranty. If a component MicroVision bought from a third party fails and the component is still covered by a warranty from a third party, MicroVision will take reasonable action to pass that warranty on to customer. **THIS LIMITED WARRANTY IS MICROVISION'S ONLY WARRANTY. MICROVISION EXPLICITLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND INFRINGEMENT.**

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SPECIFICATIONS MATRIX

Category	Characteristic	Specification
Display Performance	Display Technology	Laser beam scanning technology
	Input Resolutions	1280 x 720
	Output Resolution	1280 x 640
	Brightness Enhanced Brightness	65 lumens 80 lumens (typical video content)
	Color Depth	24-bit true color, 16.7M colors
	Aspect Ratio	16:9
	Throw Ratio	~1:1.5
	Focus Range	0.2 m - 1.0 m
	Display Refresh Rate	70 Hz
	Sequential Contrast	>80,000:1
	Brightness Uniformity	>70%
	Color Gamut (rel. sRGB)	>220%
	Start-up Time	<3 seconds from power off <0.1 seconds from ready state
Interactivity Performance	Interactive Sensing Technology	Scanning LiDAR
	Interactivity Depth Range	0.2 m - 0.5 m
	Sensing Field of View	Coincident with projection display
	Multi-touch	10 points
	Virtual Touch Function	Multi-touch on tabletop of wall

SPECIFICATIONS MATRIX

Category	Characteristic	Specification
Scanning Engine	Optical Module Size	33.9 x 38.1 x 55.9 mm
	Electronics Size	~50 x 83 mm
	Video Input Interface	MIPI-DSI Version 1.2
	Touch Event Interface	USB2 HID Class
	Control Interface	UART (with MicroVision SDK)
Starter Kit	Video Input Interface	HDMI Version 1.3
	Touch Event Interface	USB2 HID Class
	Control Interface	USB2 (with MicroVision SDK)
Power	Single Supply Input Voltage	12.0V
	Display Power @ 27% Video Image	4.9-5.5 W
	Sensing Power	<1.5W
Environmental	Storage Temperature	-30°C ...+70°C
Light Source	Laser Diodes	Red: ~638 nm Green: ~520 nm Blue: ~450 nm IR: ~830 nm
	Laser Safety Classification	Class 3R Laser Product IEC 60825 Ed. 3
Model Numbers	Scanning Engine	PSE-0407sti-411
	Starter Kit	MV-2407sti -411

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