

StellarMark C-Series

User Manual



Version 3.0

Released Feb, 2020

Release Note

| Version | Release Date | Change |
|---------|--------------|---|
| 01 | Oct, 2017 | First version |
| 02 | Jan, 2019 | Modify chapter 4.2 – Pyramid Focus Tool |
| | | Add chapter 4.3 – Manual Focus Tool |
| 03 | Feb, 2020 | Add CIIS series |
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Chapter **1**

Safety

Principles of CO₂ Laser

Safety Ratings

Safety Labels

The Safety Interlock System

Safety Measures

Operating environment



1.1 Principles of CO2 Laser

LASER is the acronym for Light Amplification by Stimulated Emission of radiation. A CO2 laser works by electrically stimulating the molecules within a carbon dioxide gas mixture. When focused through a lens, this highly-intense, invisible beam will vaporize many materials. Depending on the speed and intensity of the projected beam, a CO2 laser may be used to mark or cut through a wide variety of materials.

1.2 Safety Ratings

Laser marking systems that have the CDRH safety rating of Class 4 and the StellarMark CIIP Series A has been equipped with a red guidance pointer. This red dot allows the operator to safely see the focal point of the laser beam. It gives StellarMark CIIP Series a rating of 3R when it is integrated with a safety door while operation.

1.3 The safety interlock

With the optional item of safety shield, it gives the StellarMark CIIP Series marking systems the capability to automatically shut off the laser when the door is opened. There are some magnets on the side of safety door, which activate this safety mechanism. Do not attempt to remove or modify these magnets or any other component of the safety interlock system.

1.4 The safety Labels



According to CDRH standards, all fixed or removable covers that allow access to a laser beam must have the appropriate laser warning labels attached to them. These warning labels must be clearly visible to the operator prior to removing the cover. Additional labels must be applied inside of the machine and be visible in the event the covers are removed. A label clearly displaying the manufacturer's name, date of manufacture, description of product, model number, serial number, and compliance statement must be attached to the outside of the machine.



In compliance with CDRH standards, the required warning labels are affixed at the time of manufacture to the LaserPro StellarMark CIIP Series in the appropriate locations. These labels are not to be modified in any way or removed for any reason. Please familiarize yourself with the specific labels and their locations on the machine. Below is a list of all the safety labels and their locations on the machine.

Product Label

This label is located at the right-back side of machine. All the product information such as Serial Number, Model Numbers, Laser Power and Electric power can be found here. Before requiring any tech support, always provide service person the information on this label.

| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIS 12 050 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 12W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |

| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIS 12 010 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 12W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
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| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIS 12 140 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 12W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
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| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIS 12 070 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 12W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
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| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIS 30 050 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 30W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |


| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIS 30 010 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 30W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
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| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIS 30 140 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 30W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
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| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIS 30 070 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 30W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
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| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIS 30 200 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 30W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
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| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIP 60Ti 070 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 60W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |



| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIP 60Ti 140 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 60W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |


| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIP 60Ti 200 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 60W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |



| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIP 60Ti 300 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 60W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |

| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIP 60Ti93 070 | |
| Wavelength | 9.23-9.31 μm | |
| Power | CO ₂ 60W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |



| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIP 60Ti93 140 | |
| Wavelength | 10.57~10.63 μm | |
| Power | CO ₂ 60W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |

| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIP 60Ti93 200 | |
| Wavelength | 9.23-9.31 μm | |
| Power | CO ₂ 60W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |

| | | |
|---|----------------------------------|--------------------------------|
|  | | Serial Number 150357 |
| Manufacturer | Great Computer Corporation | |
| Product | Laser Marking System | |
| Model | StellarMark | |
| Model Number | CIIP 60Ti93 300 | |
| Wavelength | 9.23-9.31 μm | |
| Power | CO ₂ 60W | |
| Manufactured | January 2015 | |
| Input | AC100-240V, 50-60Hz, Max. 15A | |
| Class 4 Laser Product This product complies with EN60950-1:2001+ A11:2004 Made in Taiwan 4F-1., No.236, Fude 2nd Rd., Xizhi Dist., New Taipei City 22151, Taiwan | | |
|  | | |



CDRH Label

This label indicates the class level of CDRH.



CE Label

This label indicates the class level of CE









Emergency Stop Label

This label indicates the emergency stop button. You can find this label on the left side of the power supply unit



Warning Label

Warning Label is written all the necessary information to be aware of in every operation.

| WARNING | |
|--|---|
|  | Invisible laser radiation when operation. Avoid eye or skin exposure direct to laser radiation. |
|  | The scan lenses are fragile. Take extra caution when installing and cleaning. |
|  | Do not leave the machine unattended during operation. |
|  | Safety glasses required. |
|  | Dust mask required. |
|  | Read and understand operator's manual before using this machine. |

- Invisible laser radiation when operation. Avoid eye or skin exposure direct to laser radiation.
- The scan lenses are fragile. Take extra caution when installing and cleaning.
- Do not leave the machine unattended during operation.
- Safety glasses required.
- Dust mask required.
- Read and understand operator's manual before using this machine.

1.5 Safety Measures

- **LASER RADIATION WARNING:** Exposure to laser radiation may result in physical burns and severe eye damage. Proper use and regular maintenance of this machine is important to the safety of all people in the immediate area.
- Prior to operation, carefully read and familiarize yourself with the warning labels located on both your laser system and in this manual.
- Never leave the machine unattended during the laser cutting and engraving process. The laser may ignite combustible materials. A well-maintained fire extinguisher and operational smoke or fire detector should be kept in the vicinity of the machine.
- Resulting debris from laser cutting are very dangerous and may cause fire hazard



- Always wear safety goggles when the laser system is in operation. Reflective materials such as mirrors, enameled brass and anodized aluminum may partially-reflect some of the invisible laser radiation. Severe eye damage may occur if appropriate safety goggles are not worn.

NOTE

Each LaserPro laser machine is shipped with a single pair of safety goggles. If additional safety goggles are required, please contact GCC directly or an authorized GCC distributor. If you wish to purchase one on your own, please make sure the safety goggles meet these requirements:

190 - 398 nm OD5+

10,600 nm OD5+

Visible Light Transmission: 92.9%

- Connect the machine to a properly grounded power outlet. Ensure the voltage of the power source is identical to the voltage of the machine.
- Do not attempt to modify or disassemble the laser module.
- Do not attempt to remove or modify any component of the machine's laser interlock safety system.
- Ensure the immediate work area of the machine is well-ventilated. Odors, vapors, and dust are byproducts generated during the laser marking and cutting process. An exhaust system is recommended. Please contact GCC or your local GCC distributor for more information.
- Do not laser heat-sensitive surfaces or materials that may generate toxic fumes, such as PVC and Teflon.
- Regularly clean and maintain your machine according to our cleaning and maintenance instructions. Doing so will ensure a machine that will operate effectively and safely over a long period of time.



1.6 Operating Environment

Please follow the guidelines when considering a suitable location to set the LaserPro StellarMark CIIP Series. Improper work environments may lead to operational malfunction and/or unsafe working conditions. The LaserPro StellarMark CIIP Series should be placed and operated in a clean environment, avoid places where the machine is exposed to high temperatures, dust, or high humidity

- Keep the machine where the room temperature is between **15 – 30 degrees Celsius** or 58 – 85 degrees Fahrenheit.
- Avoid small, enclosed areas where a considerable amount of dust is present.
- Avoid areas where the humidity is above 70% or where the temperature is near the dew point.
- Setup the machine to be apart from the wall for at least 40cm (1.5 feet).
- Choose a flat surface that is not exposed to high levels of vibration.
- Be sure that your mounting platform has been securely fastened to the table, stand, or floor.
- Choose a location that is large enough to accommodate the machine, the computer and a work/storage table.
- Have a fire extinguisher close to the working location at all times.
- Make sure your smoke/fire detecting system is functioning.



Chapter **2**

Unpacking & Content

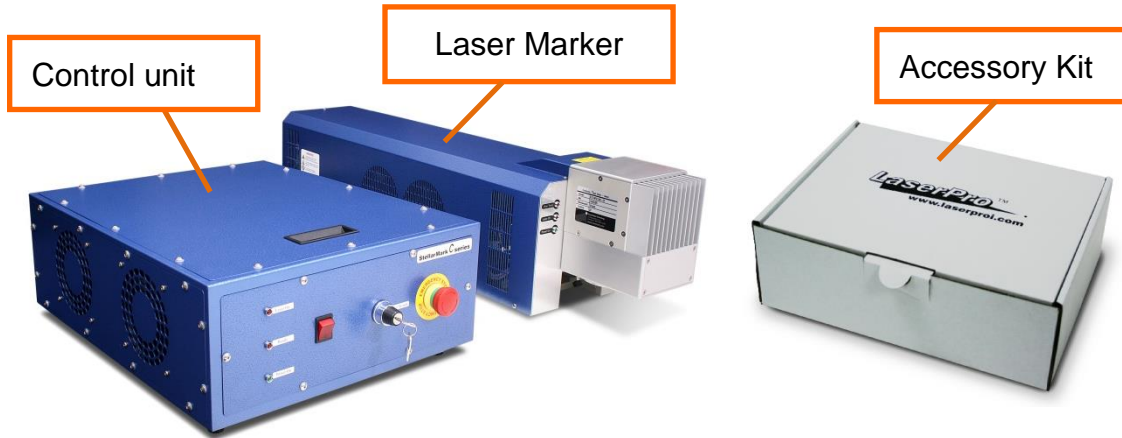
Unpacking and Unloading

Accessories Checklist



2.1 Unpacking and Unloading

The StellarMark CIIP Series is shipped in one crate that contains one laser marker, one control unit, the software and all of the necessary accessories in an accessory kit.



WARNING

To prevent damage to the machine or personal injury, please get assistance when loading and unloading the shipping crate.

NOTE

Please save the original shipping crate in case it is needed for future transport or product servicing.



2.2 Accessories Checklist



Before use, please check to see that the following items are shipped together correctly in the accessory kit.



| Item | Quantity |
|-----------------------------------|----------|
| Hex head screws driver | 1 |
| LaserPro CD set (User's Manual) | 1 |
| G-Mark Advance CD set (Software) | 1 |
| G-Mark Advance Keypro | 1 |
| Lens cleaner | 1 |
| Lens cleaning paper | 1 |
| Cotton Bud (100 units/ package) | 1 |
| CO2#900 Goggles | 1 |
| Lens parameter list | 1 |
| M6 screw plastic foot | 4 |
| Nut (M6xt5xS10). | 4 |
| I/O Terminal Platform(5ESDVM-12P) | 2 |
| I/O Terminal Platform(5ESDVM-10P) | 1 |
| Laser Head Power Cable (2.5M) | 1 |
| SCSI Cable 50pin (2.5M) | 1 |
| AC Power Cable(Europe) | 1 |
| AC Power Cable (US) | 1 |
| AC Power cable (Australian) | 1 |
| USB Cable 1.8M | 1 |
| Focus Tool | 1 |
| GCC Promise Card Set | 1 |
| System Key | 2 |
| Door Switch short Circuit Wire | 1 |



Chapter **3**

Mechanical Overview

Laser Marker

Control unit

Foot Print



Before you complete the installation, it is a good idea to become more familiar with the machine's features and components. You should also make note of the new features that have been developed exclusively for the StellarMark:

3.1 Laser Marker



3.1.1 LED Panel



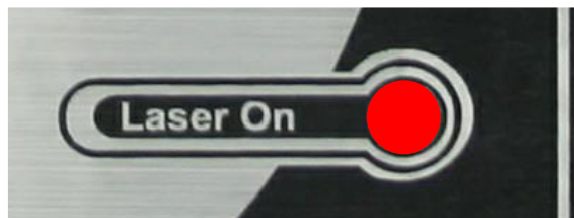
There are 3 LED lights on the panel and they will indicate out three working status of “Over Temp”, “Laser On” and “Power on” of the laser marker.



- Over Temp:
When the red LED light is on, the laser marker will stop firing.
Please turn off the master power of the laser marker and re-start it when the operating temperature is dropped below 30°C.



- Laser On:
When laser is firing, the red LED light is on.



- Power On:
When the laser is power on and the green LED light is on.



3.1.2 Scan Lens

The StellarMark™ CIIP Series gives you the choice of many sizes of scan lens to best suit your marking applications.

CIIP 12(4 sizes)

| | | | |
|---------|---------|---------|-----------|
| 010 | 050 | 070 | 140 |
| 10x10mm | 50x50mm | 70x70mm | 140x140mm |

CIIP 30(5 sizes)

| | | | | |
|---------|---------|---------|-----------|-----------|
| 010 | 050 | 070 | 140 | 200 |
| 10x10mm | 50x50mm | 70x70mm | 140x140mm | 200x200mm |



CIIP 60Ti / 60Ti93 (5 sizes)

| | | | | |
|---------|-----------|-----------|-----------|-----------|
| 070 | 140 | 200 | 300 | 300DL |
| 70x70mm | 140x140mm | 200x200mm | 300x300mm | 300x300mm |

- The smaller field size scan lens will produce a smaller spot size with higher marking resolution.
- The larger field scan lens will produce a larger spot size with lower marking resolution.

WARNING

The scan lens is very fragile and must be careful while the cleaning and installing.

Defective or unworkable scan lens due to abuse, mishandling, misuse, accident, alteration, negligence, improper installation, deficient cleaning or other causes will not be covered in the warranty.



3.2 Control Unit

Status Indicating Lights

- Laser On
- Ready
- Power on

Emergency Stop

Press the button to stop the laser in an emergency.
To reset this button, rotate it to the direction of an arrow.



Master Power

Laser Key Switch

This is used to start the laser firing.
While the key is off, it will be unable to fire the laser.

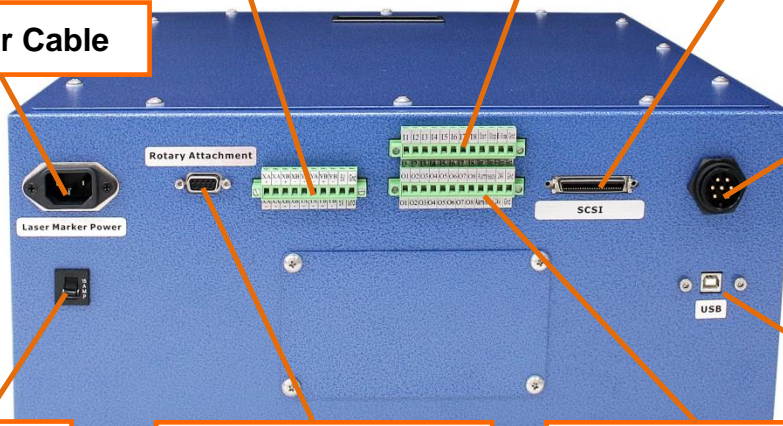
Encoder Terminal Connector

Input Terminal Connector

SCSI Cable

AC Power Cable

Laser Marker Power cable



Fuse

Rotary Attachment Connector

Output Terminal Connector

USB Cable



3.2.1 Input Terminal Connector

It will allow laser marker to receive signals **from** other automation devices.

3.2.2 Output Terminal Connector

It will allow laser marker to **send out** the signal to the other automation devices.

3.2.3 Rotary Attachment connector

It is a connector which connects to GCC provided optional item of Rotary Attachment,
It allows for precise 360° marking on round, cylindrical, or torus-shaped objects.

3.2.4 USB connector

It is a connector which connects to a desktop PC or Notebook.

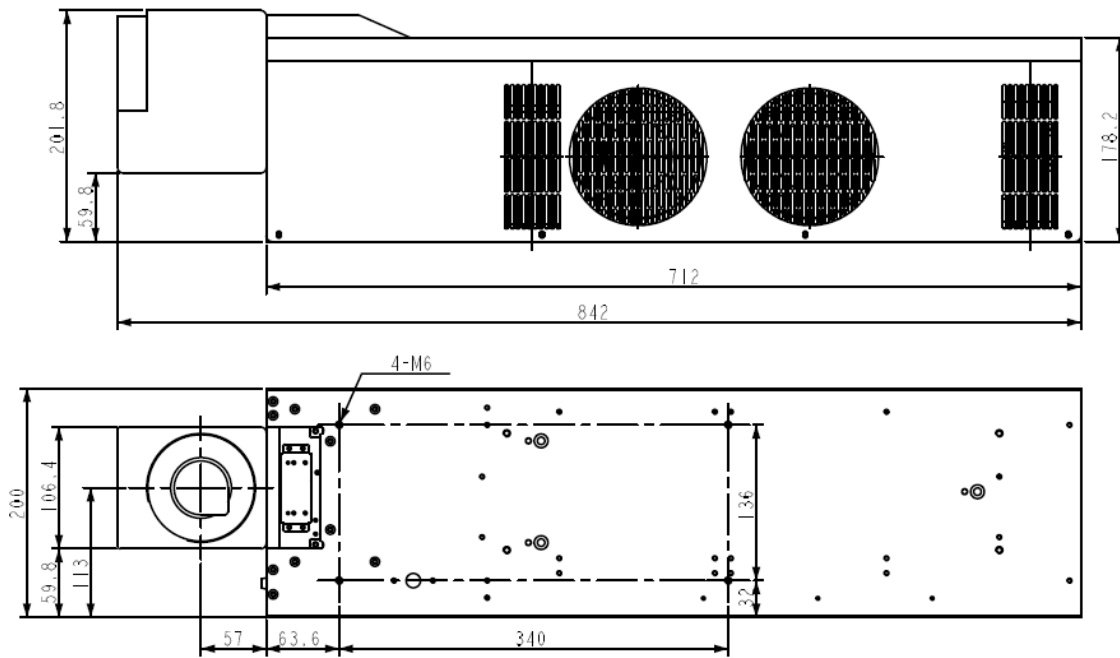
3.2.5 Encoder terminal connector

It is a connector which connects to an external device like encoder of conveyor.
It allows Non-stop, “on-the-fly” marking parts maximizes productivities.

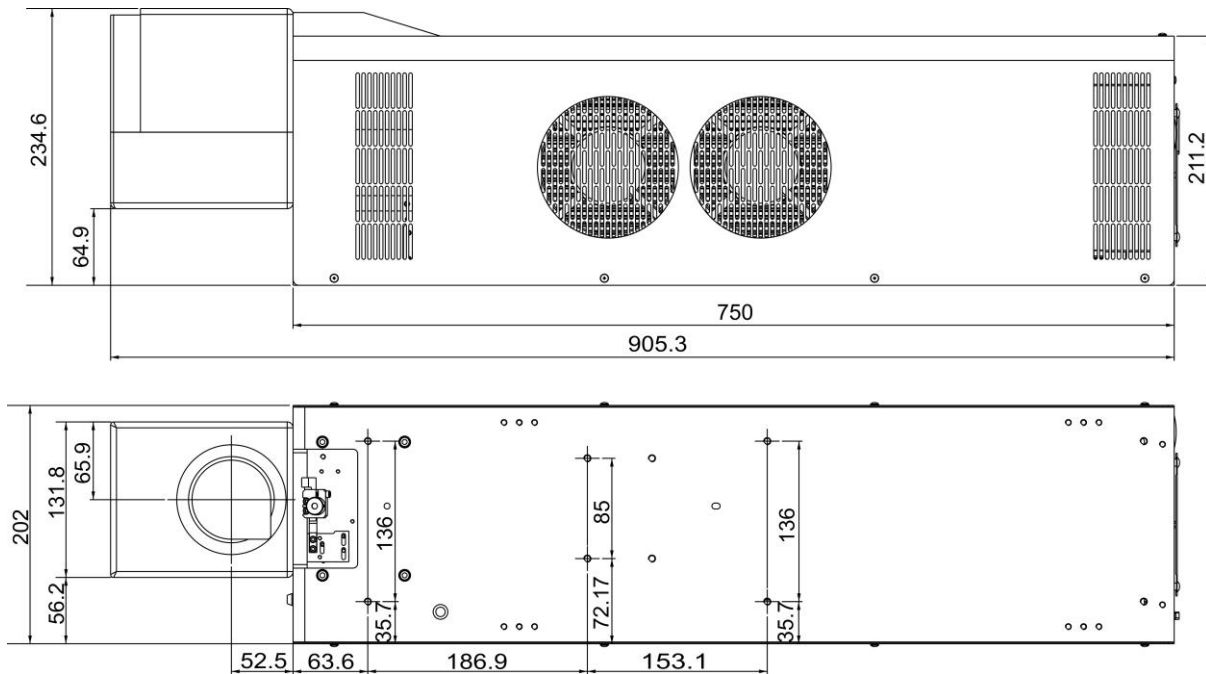


3.3 Foot Print

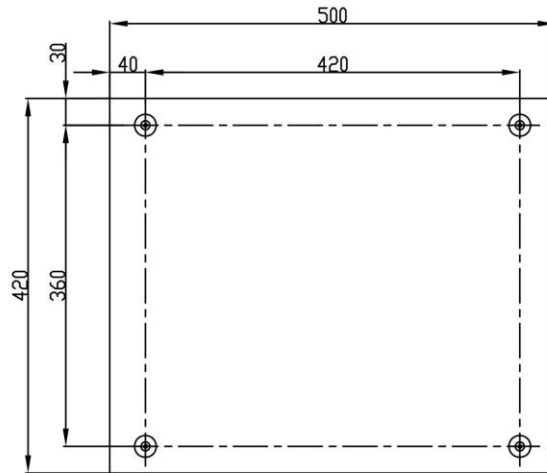
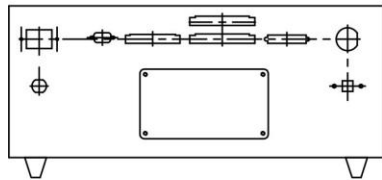
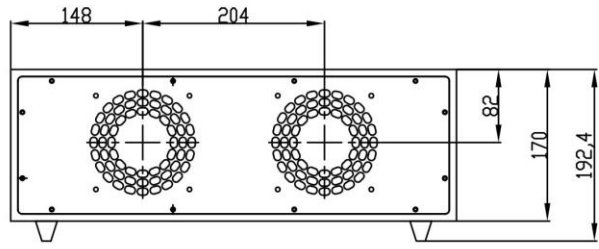
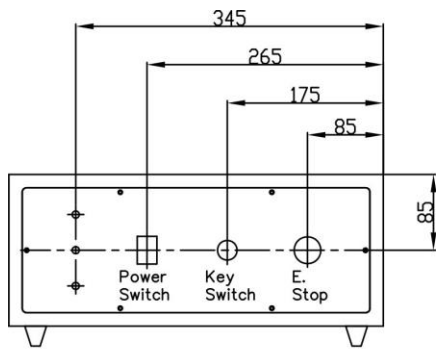
CIIP 12/30 Laser Marker



CIIP 60Ti / 60Ti93 Laser Marker



Control Unit



Chapter **4**

Working Distance

Recommended Working Distance

Pyramid Focus Tool

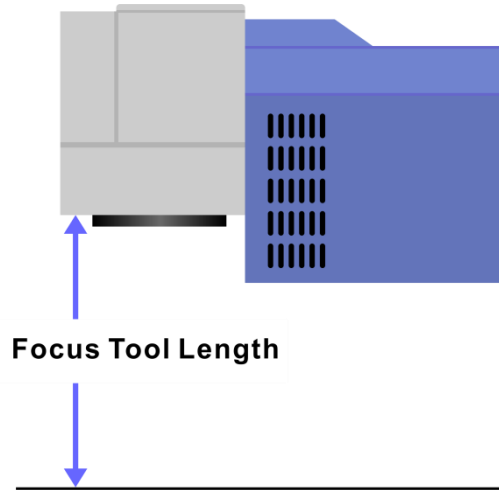
Focus Tool



4.1 Recommended Working Distance

Due to the characteristics of the scan lens, a certain distance between the marking object and scan lens has to be set for an optimized output quality.

The working distances for different scan lens are recommended as below:



| Scan Lens | Focus Tool Length |
|-----------|-------------------|
| 10x10mm | 31 ± 1mm |
| 50x50mm | 68 ± 1mm |
| 70x70mm | 96 ± 1mm |
| 140x140mm | 201.5 ± 2mm |
| 200x200mm | 290 ± 2mm |
| 300x300mm | 439 ± 2mm |

NOTE

In order to achieve the best output quality, the working distance must set precisely as recommended.

For instance, the 70x70 mm scan lens can only tolerate a distance which is +- 1mm different from the recommended working distance of 105mm.

If the working distance is set and out of the recommended range, the output work produced will be unsatisfactory.



4.2 Pyramid Focus Tool

The innovative and patented focus tool is an accessory unit for providing the best working distance on StellarMark CIIP series.

You will find the pyramid focus tool is located on bottom of the laser marker.

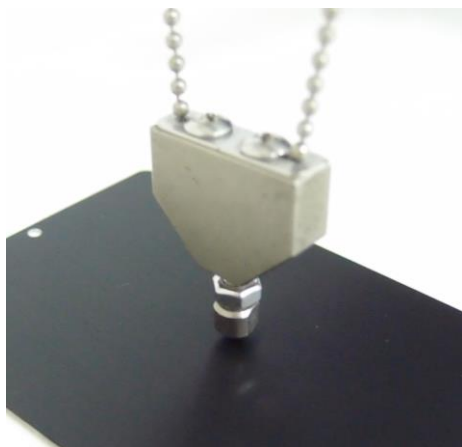


NOTE

Fixed length will be varied depend on the size of scan lens.

The fixed length of Pyramid Ruler equals the recommended working distance and you will no need to adjust the length.

Screw the Pyramid Ruler beneath the laser marker and let the to be marked material touches the bottom screw of Pyramid Ruler, the distance between the two is the best working distance.



NOTE 1.

With this tool, you can always have the best working distance for different materials by just place your desired marking material on the z axis table and move the z axis table up until the mark material touches the bottom screw of Pyramid Ruler.



Bottom screw of Pyramid Ruler

NOTE 2.

With its magnetic design, the “Pyramid Ruler” can easily be placed underneath the head of laser marker.



Magnetic



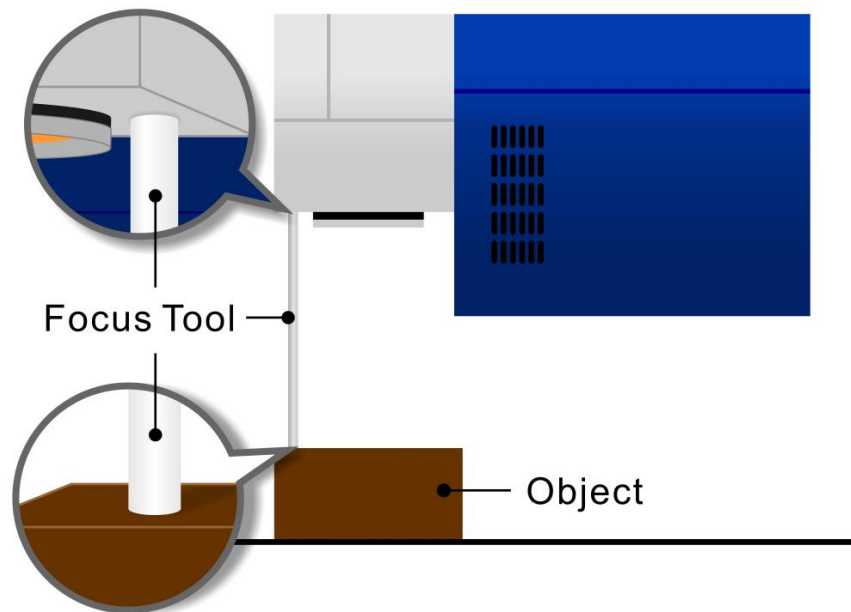
4.2.1 Calibrate the Pyramid Focus Tool

When changing to different size scan lens for different applications, the calibration of Two Point Focus Finder position is required.

Perform the adjustment per following steps.

Step 1. Take out the manual focus tool from the accessories kit

Step 2. Place the focus tool on the Z-axis table or any table surface for marking objects, adjust the Z-axis to allow the top of the focus tool to align with the bottom of the galvo head to define the optimized focus distance.



Step 3. Adjust the screw of the Pyramid Focus to fit the length with manual focus tool.

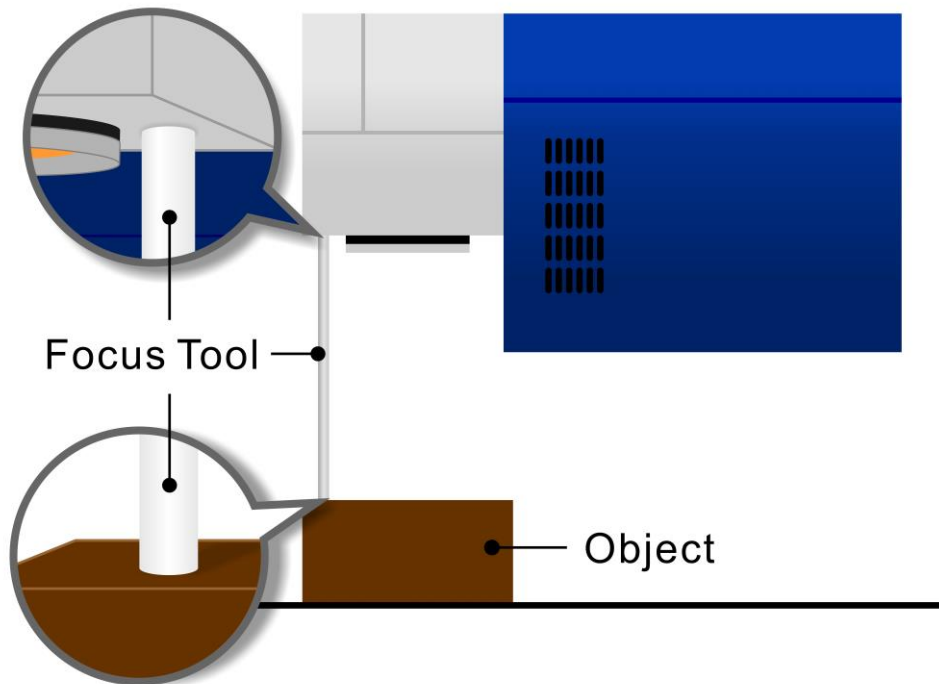


Step 4. Calibration is completed.



4.3 Manual Focus Tool

The focus tool offers you the most accurate focus distance. All you need is place the bottom of the focus tool at the position of the object to be marking and adjust the Z-axis to allow the top of the focus tool to align with the bottom of the galvo head to create the optimized focus distance.



WARNING

- The length of Focus Tool is calibrated with corresponding scan lens. Do not loosen the screws on Focus Tool to prevent incorrect focus distance.



Chapter **5**

Machine Setup

Cable Connection

Powering Up the Machine

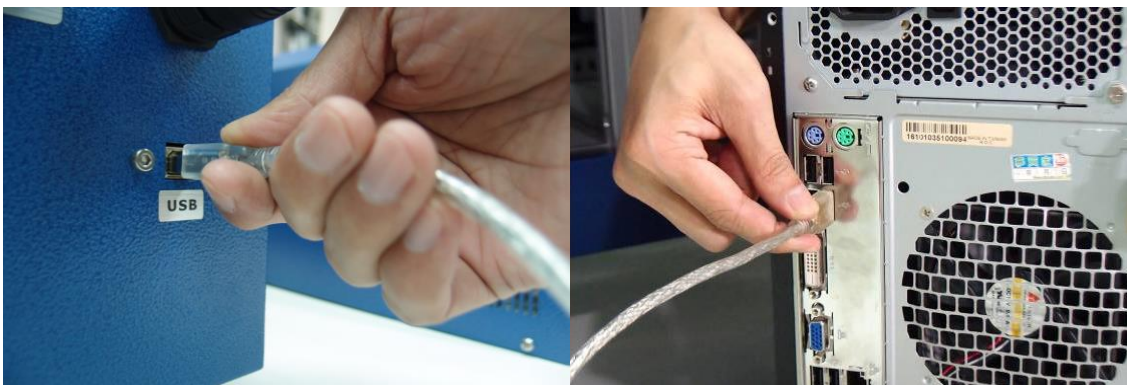


5.1 Cable connection

Step 1. Connect the Laser Marker Power cable between the Control unit and the Laser Marker.



Step 2. Connect the USB cable between a PC or Laptop and the Control unit



Step 3. Connect the SCSI cable between the Control unit and Laser Marker



Step 4. Plug the software keypro to a USB connector of you PC or Laptop.



5.2 Powering Up the Machine

CAUTION

Make sure both the LaserPro StellarMark CIIP Seres and the computer are turned off before connecting either to a power source.

Step 1. Connect the male end of the power cord to a quality surge protector and the connect the surge protector to a proerly grounded outlet.

Step 2. Do the same for the computer system

Step 3. Connect the female end of the power cord into the machine's power cable inlet located on the left side of the control unit.

NOTE

The StellarMark CIIP Series as been designed to work with AC Auto Switch 100 & 240 VAC, 50-60Hz



WARNING

The connection to the AC power source must be the last step.
Do not pull in or out the cable while the power is being turned on.



Step 4. Turn on the master power of the Control Unit



NOTE

Every time you turn off the power, you are required to re-start G-Mark Advance marking software, because the connection between computer and control unit is disconnected when the power is off, so the marking software is unable to control the laser firing.

Step 5. Turn the key switch on so you will be able to fire the laser



Step 6. Turn the PC or Laptop on then ready for software installation



Chapter **6**

Software Setup

Recommended Computer Configuration

Software Installation for Windows system

Software Installation for MAC system

Change the Series and Model Type



6.1 Recommended Computer Configuration

The StellarMark is able to accommodate Laptop and compatible PC operating systems. Both the machine and G-Mark Basic / G-Mark Library™ software were designed to work best using a Windows based system with the following minimum requirements.

Computer Configuration

- CPU Intel Pentium, 1GHz or above
- DRAM 1GB RAM or above
- CDROM One CD-ROM disk drive
- HDD 500 MB of free hard drive space
- SVGA Super VGA display (1204 x 768 min. resolution)
- Interface PC or Laptop

G-Mark Advance marking software

- Software is designed for Windows XP / 2000/ Windows Vista / Win 7 operating system

6.2 Software Installation for Windows system

Please perform the following steps:

Step 1. Take out the G-Mark installation CD from the accessories kit

Step 2. Insert the G-Mark installation CD into the CD-ROM drive

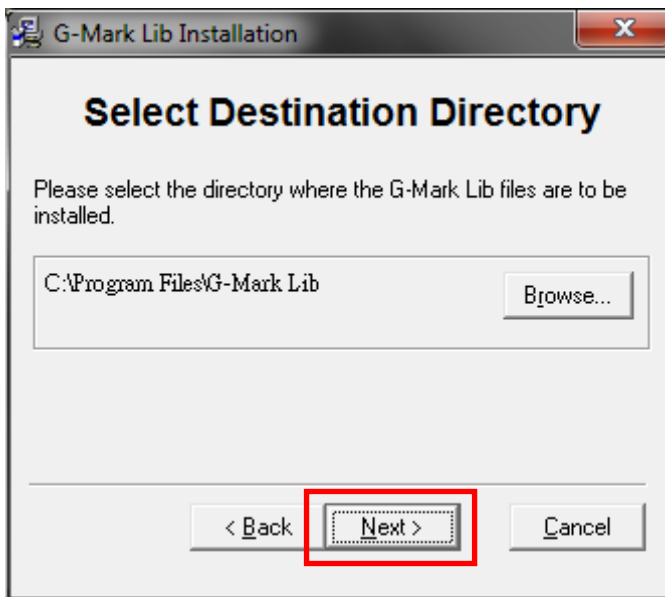
Wait a few seconds for the CD Manager to begin the Setup automatically



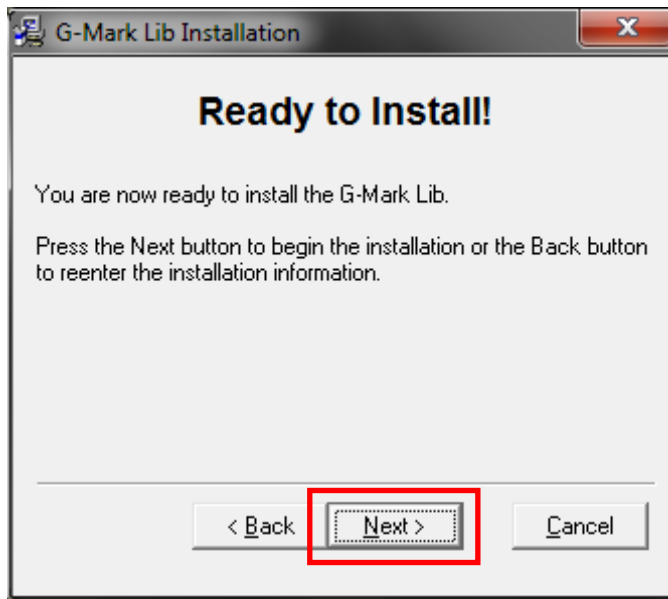
Step 3. Click on 32 bit or 64 bit version from the menu of the G-Mark installation CD depending on your operating system



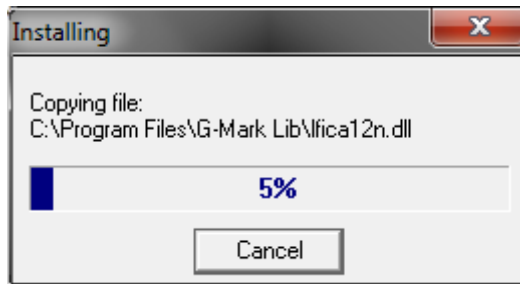
Step 4. Set the destination directory and click "Next>"



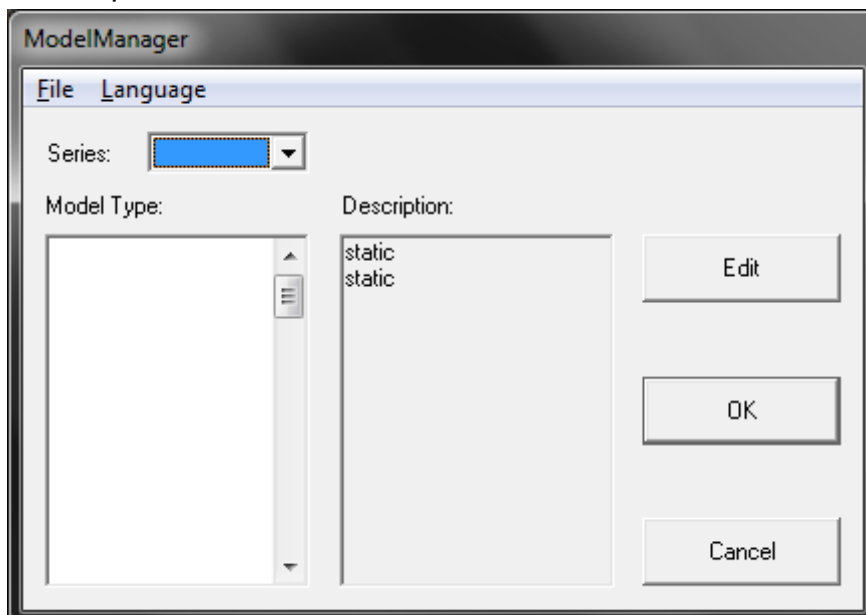
Step 5. Select "Next>"



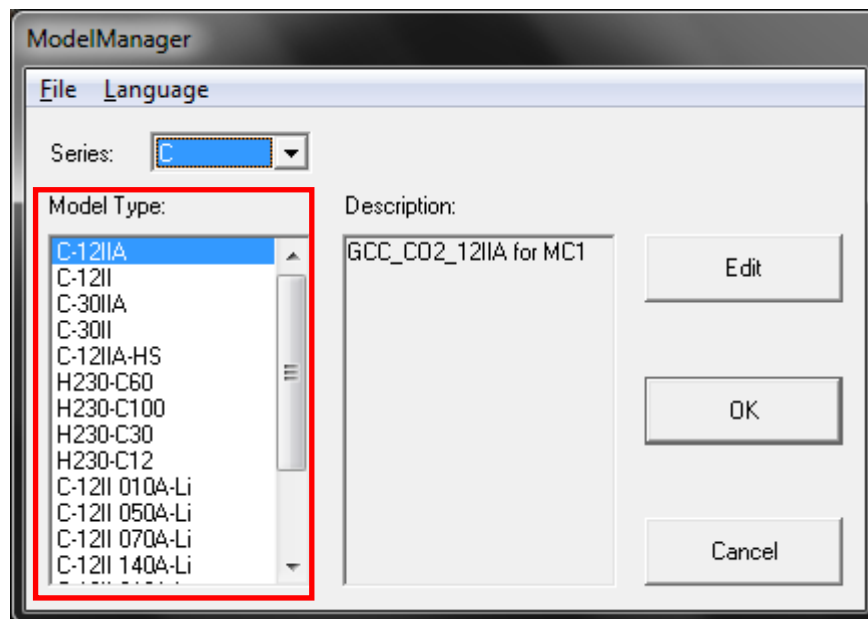
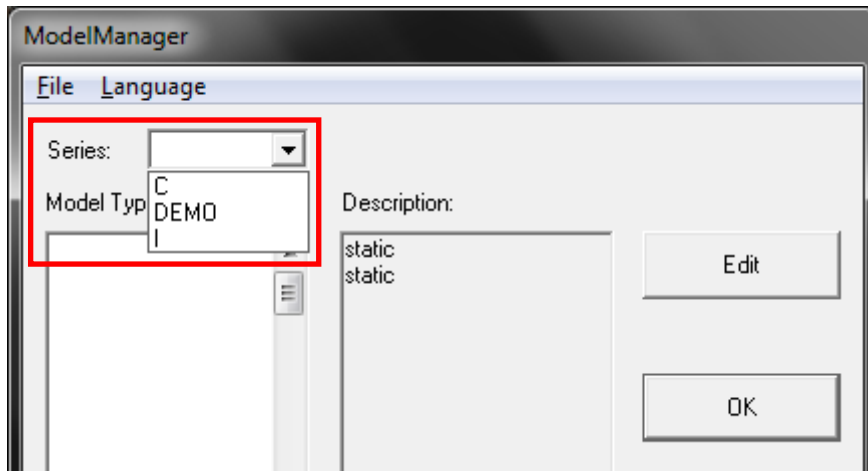
Step 6. Installing



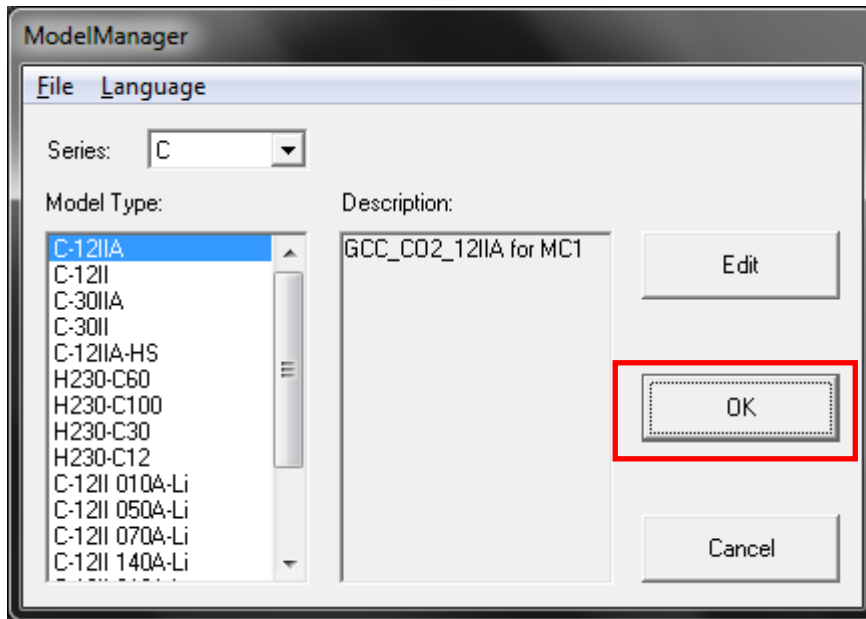
Step 7. At 95% completion of the installation, the ModelManger window will show up



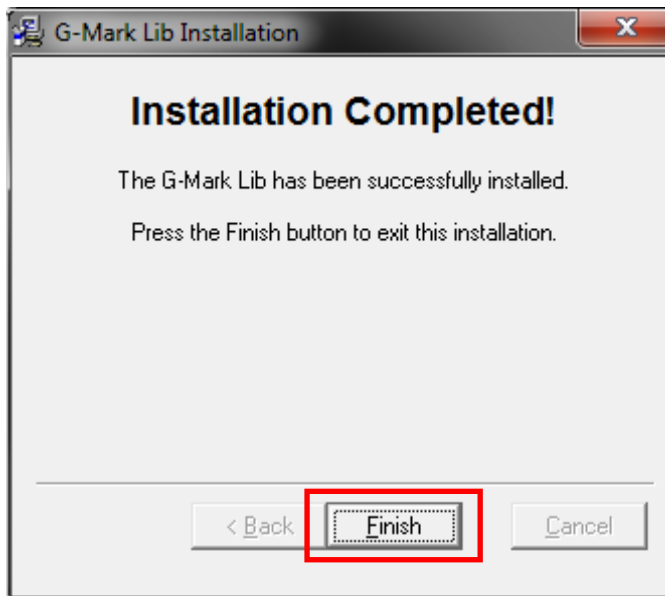
Step 8. Select your series & model type



Step 9. Click “OK”



Step 10. Click “Finish” to complete the installation



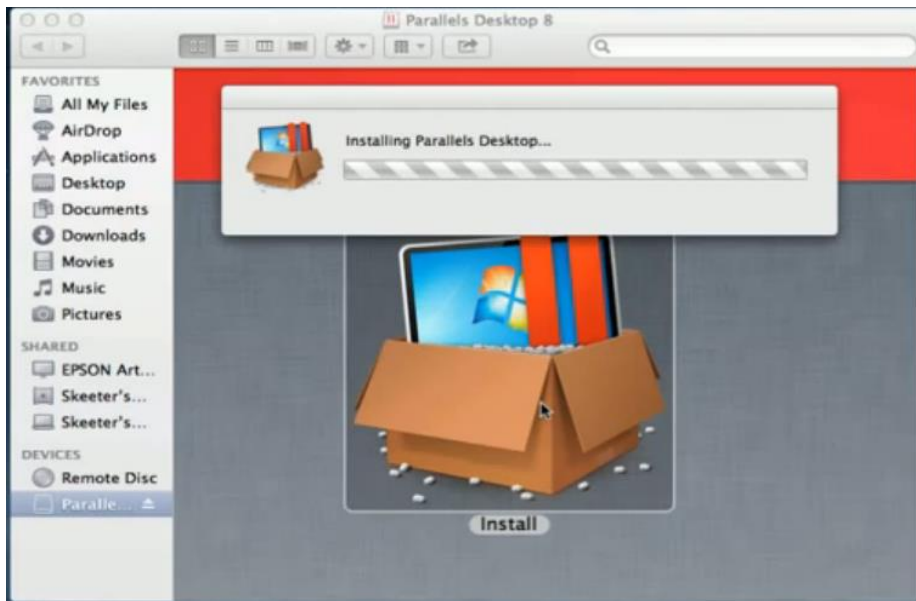
6.3 Software Installation for MAC system

MAC users can use GCC StellarMark machines by purchasing the Parallels Desktop software which allows you to install Windows OS in MAC computers and run Windows based software under MAC computer and output with G-Mark.

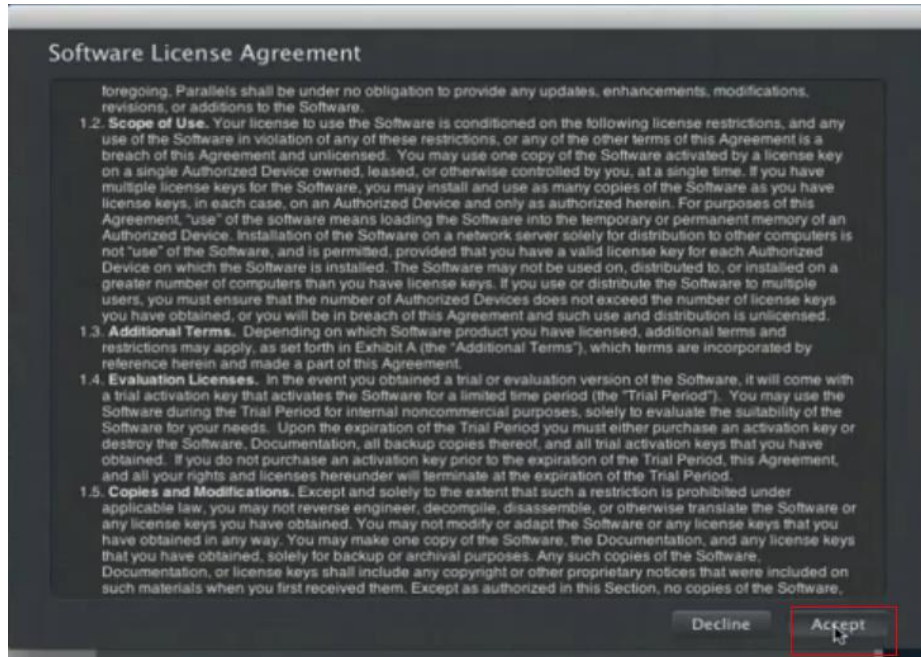
Step 1. Purchase Parallels Desktops on its official website.



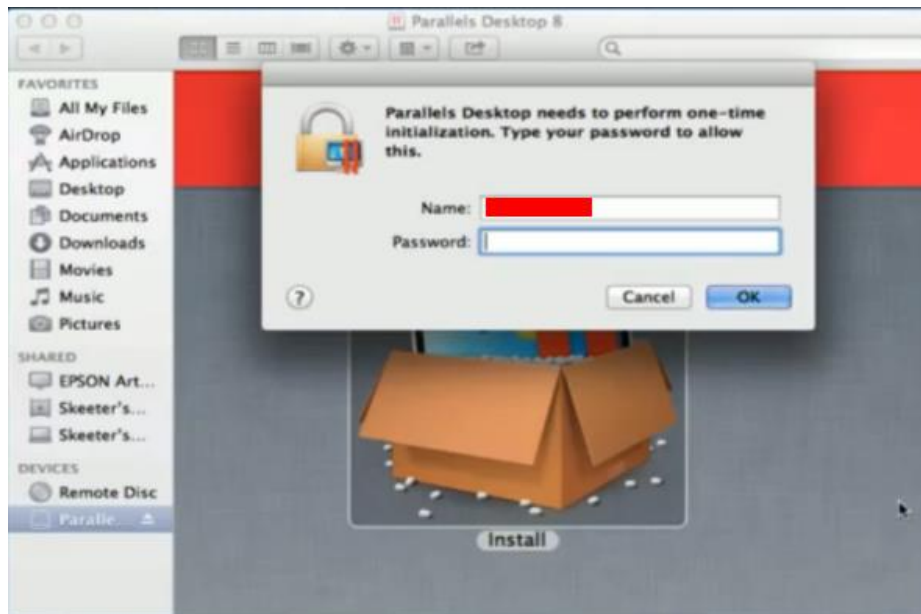
Step 2. Install Parallels Desktops under Mac OS environment.



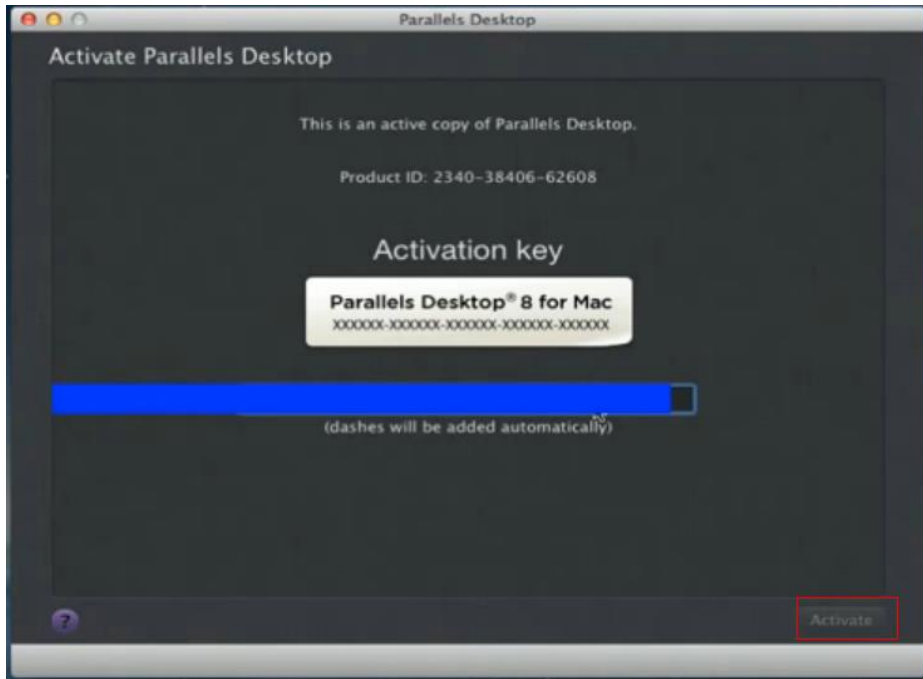
Step 3. Read Software License Agreement and press “Accept” to continue installation



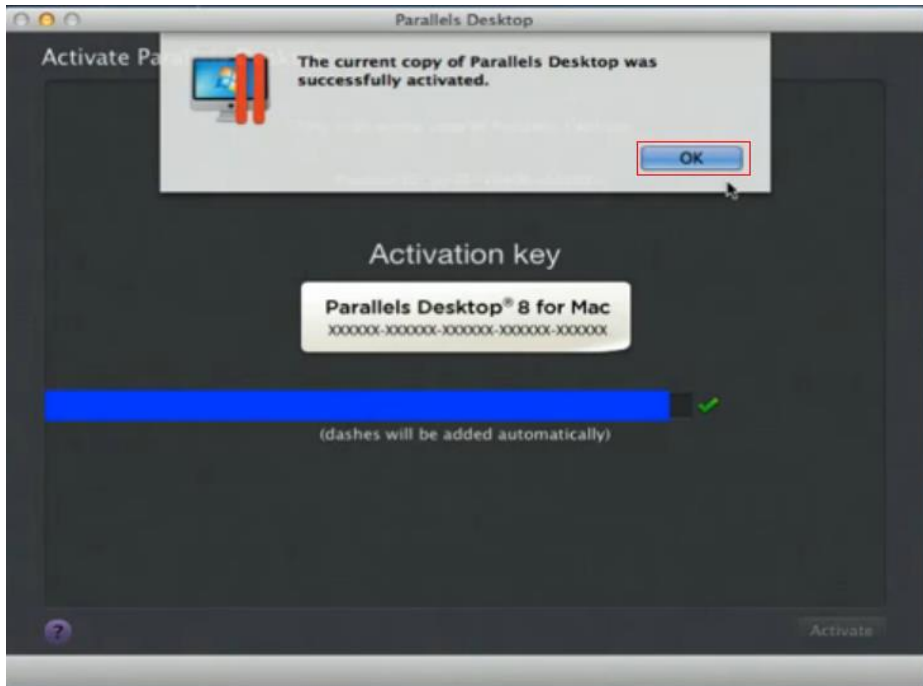
Step 4. Enter your Mac OS X User Name and Password then press “OK”



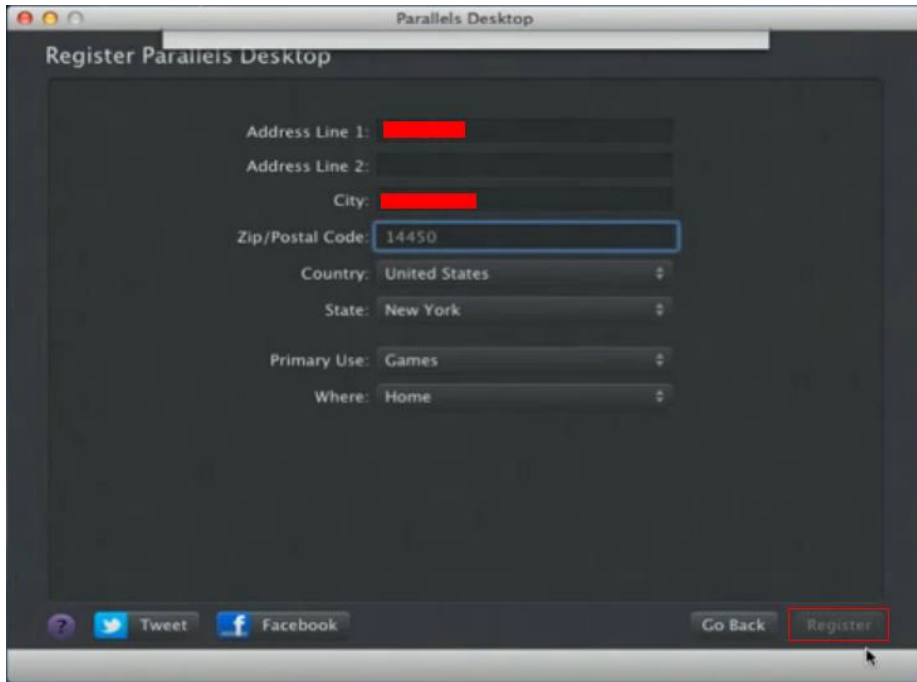
Step 5. Press “Active”



Step 6. Press “OK” when activation is complete.



Step 7. Register Parallels Desktop



Parallels Desktop

Register Parallels Desktop

Address Line 1: [Redacted]

Address Line 2: [Redacted]

City: [Redacted]

Zip/Postal Code: 14450

Country: United States

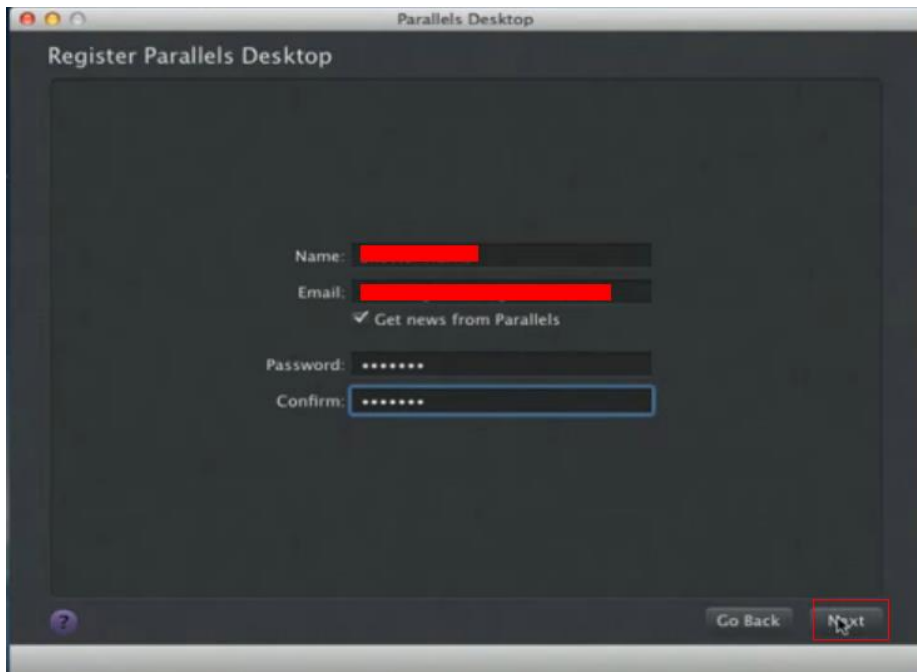
State: New York

Primary Use: Games

Where: Home

Tweet Facebook

Go Back Register



Parallels Desktop

Register Parallels Desktop

Name: [Redacted]

Email: [Redacted]

Get news from Parallels

Password: [Redacted]

Confirm: [Redacted]

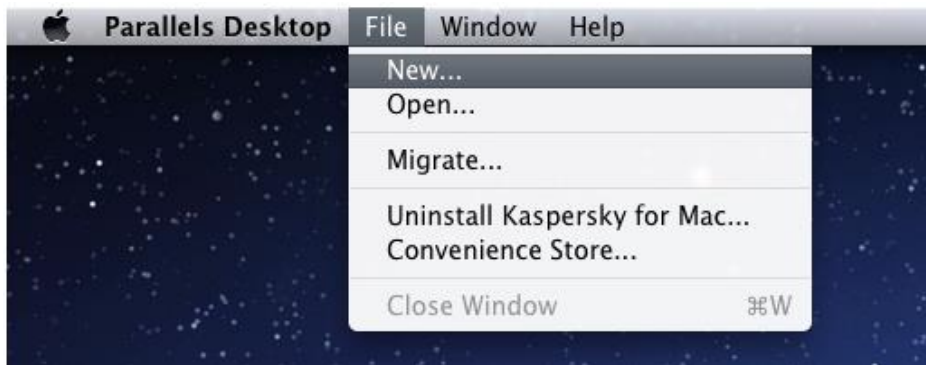
Go Back Next



Step 8. Press “Register” and “OK” to complete the installation of Parallels Desktop.



Step 9. Open **Parallels Desktop** (in the **Applications** folder) then choose **File** → **New**



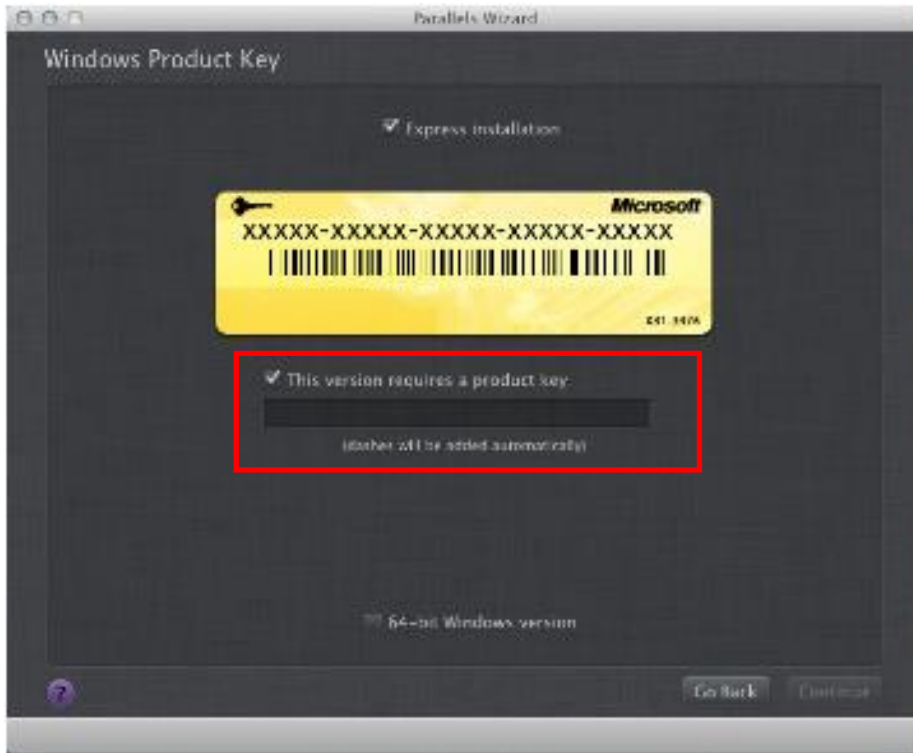
Step 10. Press “Install Windows from DVD or image file” then press “continue” to install windows OS



Step 11. Select CD-ROM drive with the Windows installation CD



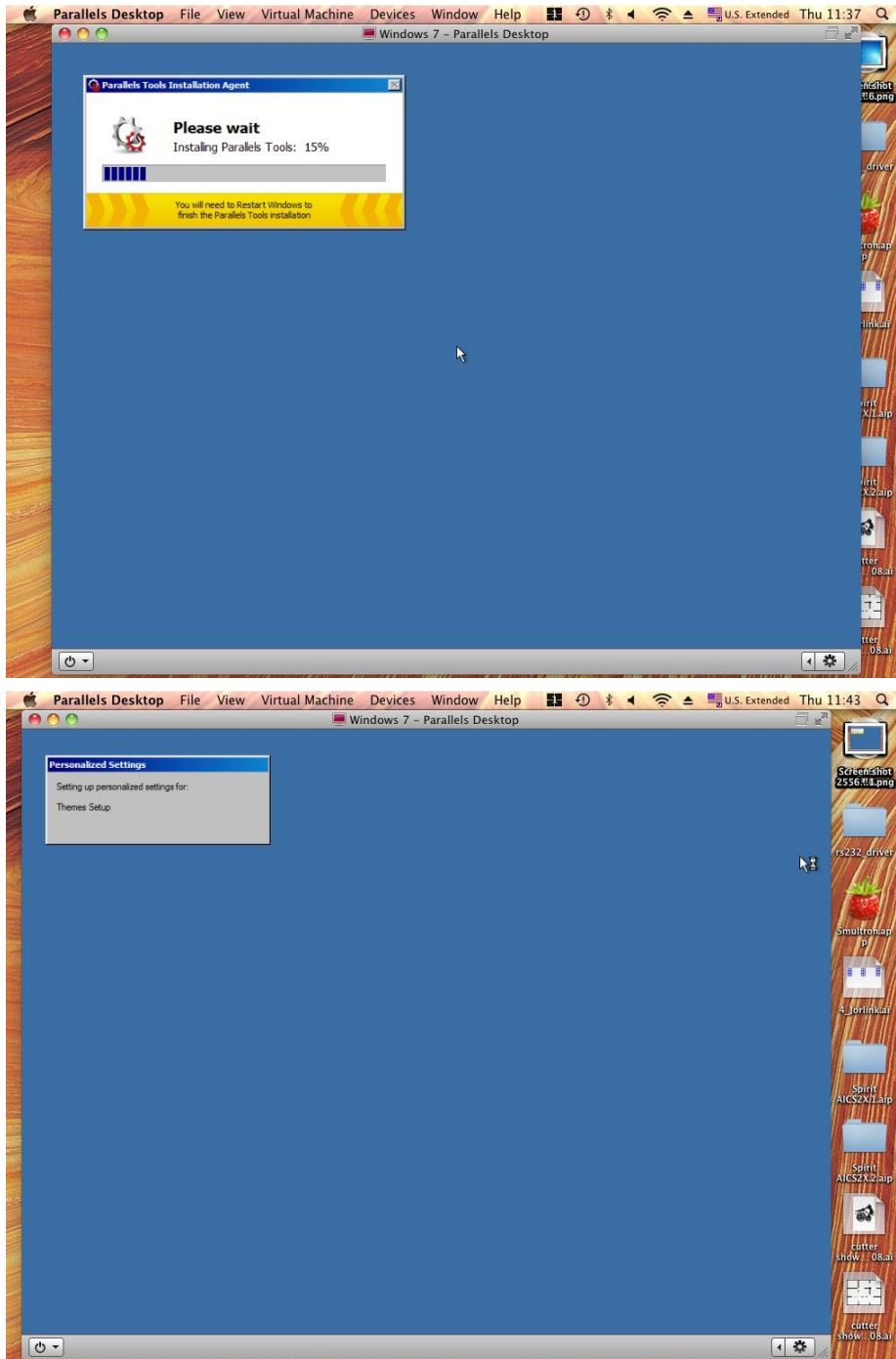
Step 12. Enter the Windows OS product key



Step 13. Select how you would like to run your Windows program.



Step 14. After the prior setting is complete the windows OS installation procedure will start automatically.



Step 15. Windows OS installation is complete then you can refer to “6.2 Software Installation for windows system” to install G-Mark / G-Mark Library.

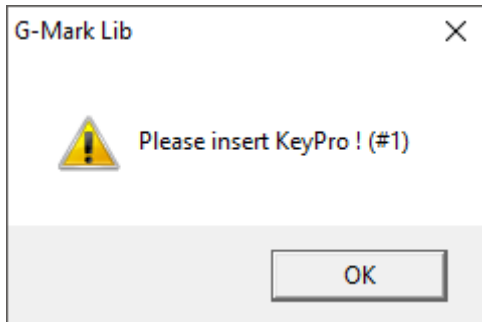


6.4 Communication Troubleshooting

After installing, some computers will not install the controller driver automatically and showing an error message when you open the G-Mark software program.

Please perform the following steps to solve problem.

- Error message 1 – Please insert KeyPro! (#1)



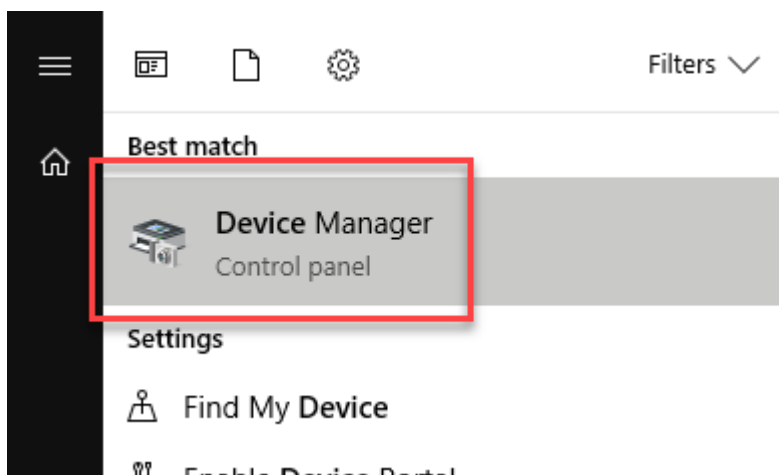
Fix 1:

Please close the G-Mark software program and re-plug the KeyPro from PC/Laptop, and then reopen the G-Mark software program.

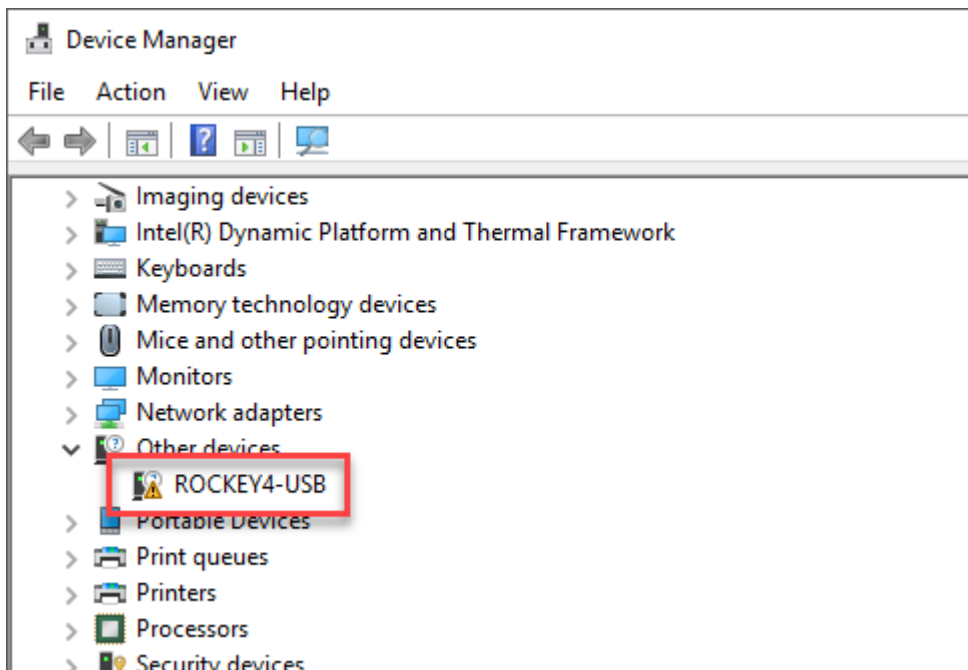
Fix 2:

Step 1. Select the “Start” button and type “device manager”.

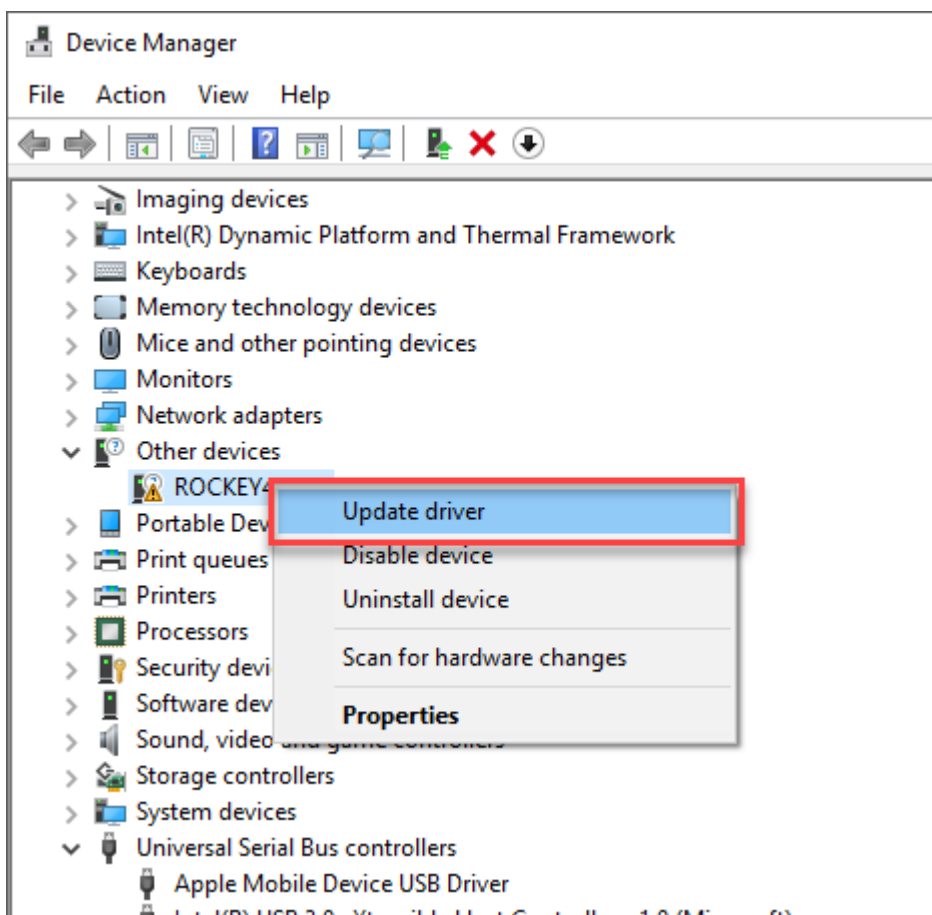
Step 2. Select “Device Manager”



Step 3. Please check if there is any “!” USB device from the below chart:



Step 4. Then click on “USB Driver” and click on right mouse button and update the driver.



Step 5. Click on "Browse my computer for driver software"

How do you want to search for driver software?

→ **Search automatically for updated driver software**
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

→ **Browse my computer for driver software**
Locate and install driver software manually.

Step 6. Key in the specific path: "C:\Program Files\G-Mark Lib\Drivers\MC1".
Then press "Next"

Browse for driver software on your computer

Search for driver software in this location:

C:\Program Files\G-Mark Basic \Drivers\MC1

Browse...

Include subfolders

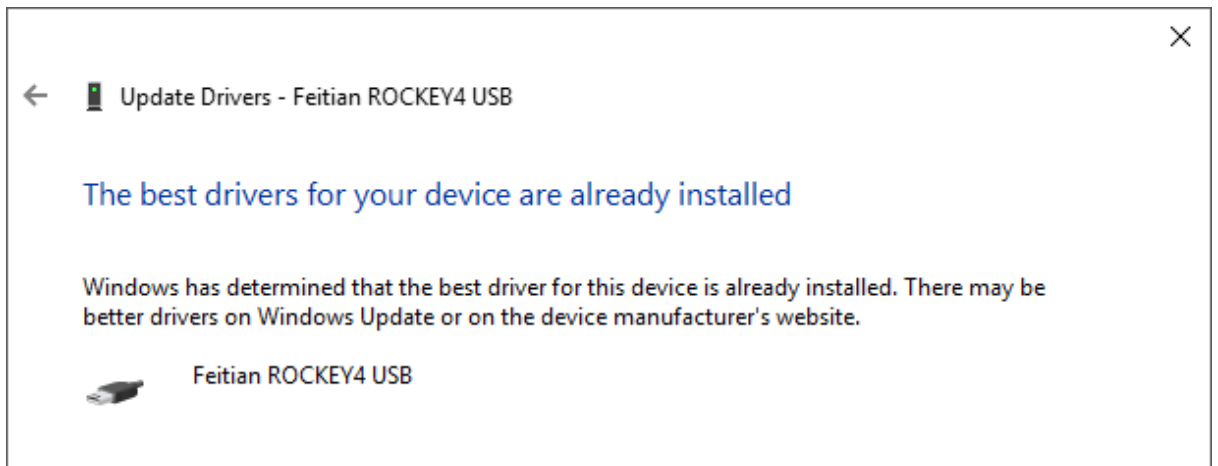
→ **Let me pick from a list of device drivers on my computer**
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.

Next

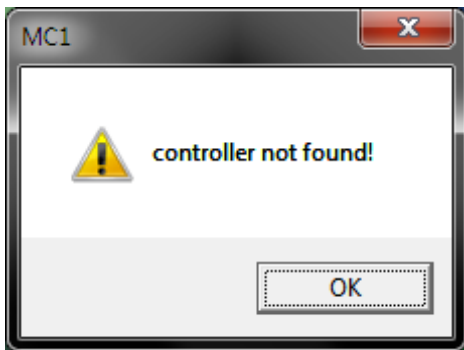
Cancel



Step 7. Press “Close” and now you can reopen the G-Mark software



- Error message 2 – Controller not found!



Fix 1:

Reconnect the USB cable between a PC or Laptop and the Control unit, and then reopen the G-Mark software program.

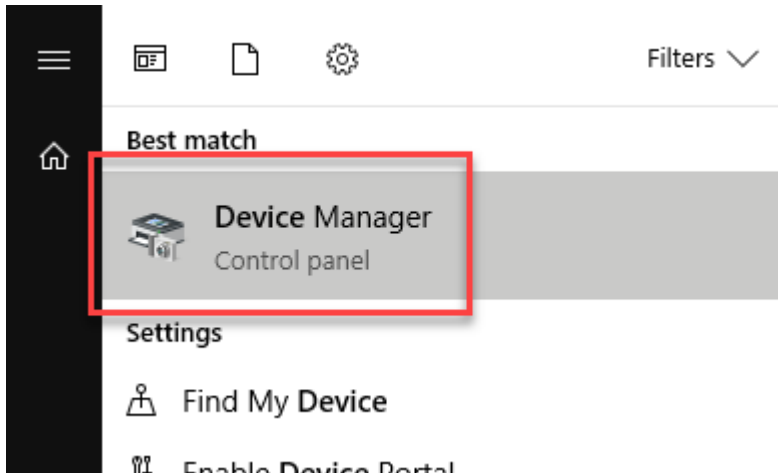
Fix 2:

Update the controller driver

Step 1. Select the “Start” button and type “device manager”.



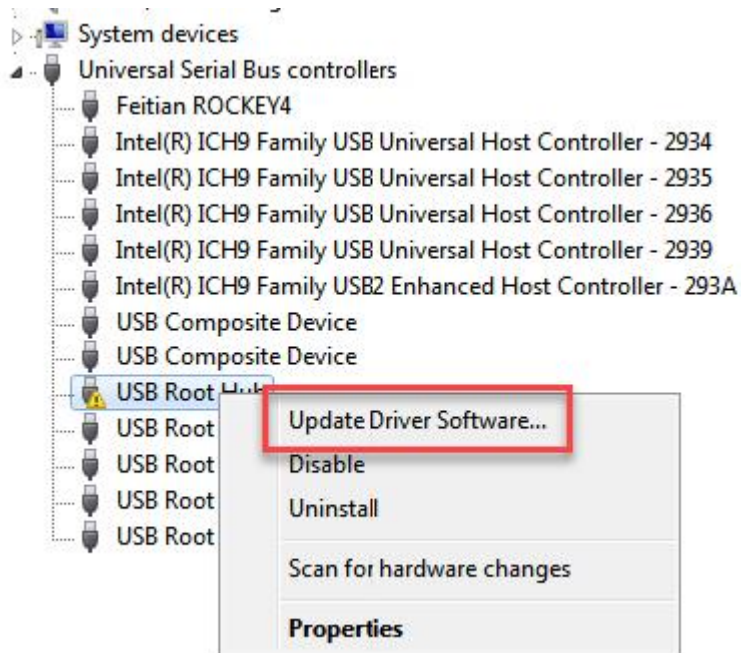
Step 2. Select “Device Manager”



Step 3. Please check if there is any “!” USB device from the below chart:



Step 4. Then click on “USB Driver” and click on right mouse button and update the driver.



Step 5. Click on "Browse my computer for driver software"

How do you want to search for driver software?

- **Search automatically for updated driver software**
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

- **Browse my computer for driver software**
Locate and install driver software manually.



Step 6. Key in the specific path: “C:\Program Files\G-Mark Lib\Drivers\MC1.
Then press “Next”

Browse for driver software on your computer

Search for driver software in this location:

C:\Program Files\G-Mark Basic \Drivers\MC1

Browse...

Include subfolders

➔ Let me pick from a list of device drivers on my computer
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.

Next

Cancel

Step 7. Press “Finish” and now you can activate the G-Mark software

The best driver software for your device is already installed

Windows has determined the driver software for your device is up to date.

 USB Root Hub



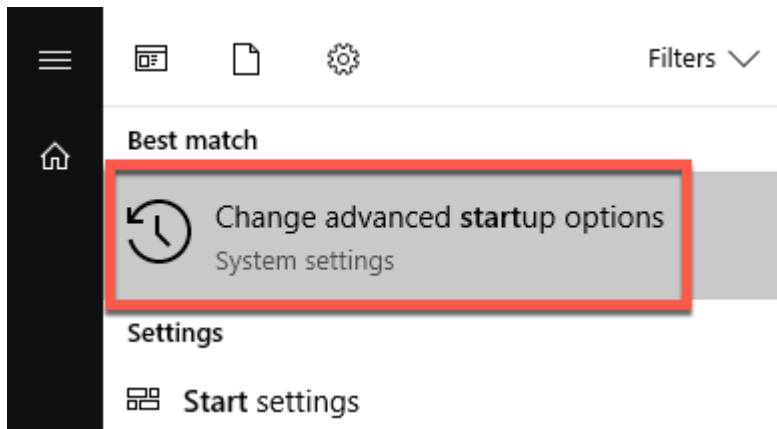
Fix 3:

Some users of windows 10 has found the “!” USB device from list of the device manager, but cannot update the driver. We recommended you disable the driver signature enforcement on safe mode, please perform the following steps

Step 1. Select the “Start” button.

Step 2. Type “startup”.

Step 3. Select “Change advanced startup options”.



Step 4. Select “Restart now” under the “Advanced startup” area.

Go back to an earlier build

This option is no longer available because your PC was upgraded more than 10 days ago.

Get started

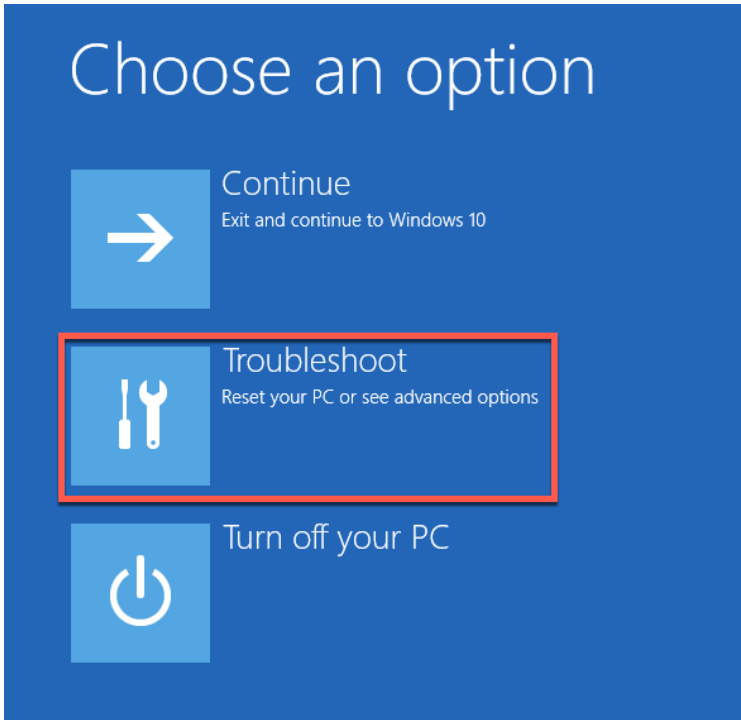
Advanced startup

Start up from a device or disc (such as a USB drive or DVD), change Windows startup settings, or restore Windows from a system image. This will restart your PC.

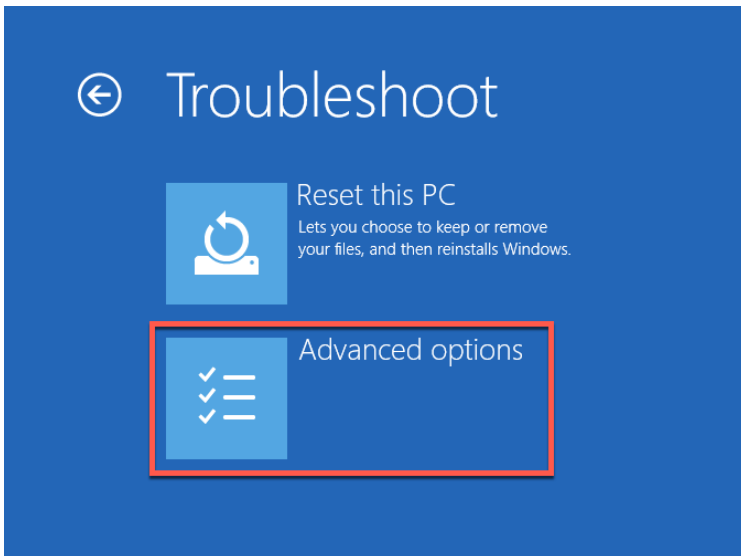
Restart now



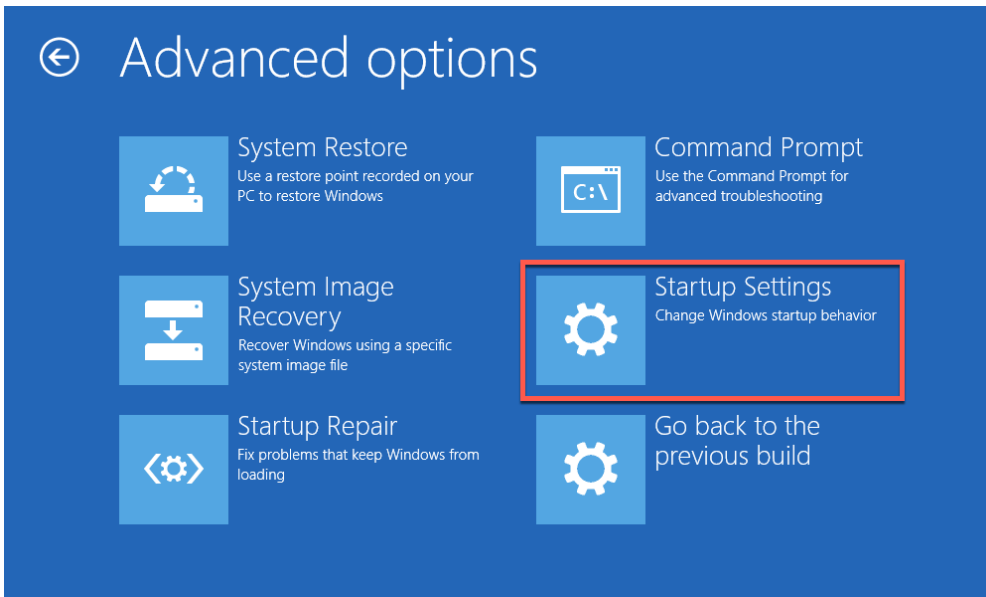
Step 5. Select “**Troubleshoot**”.



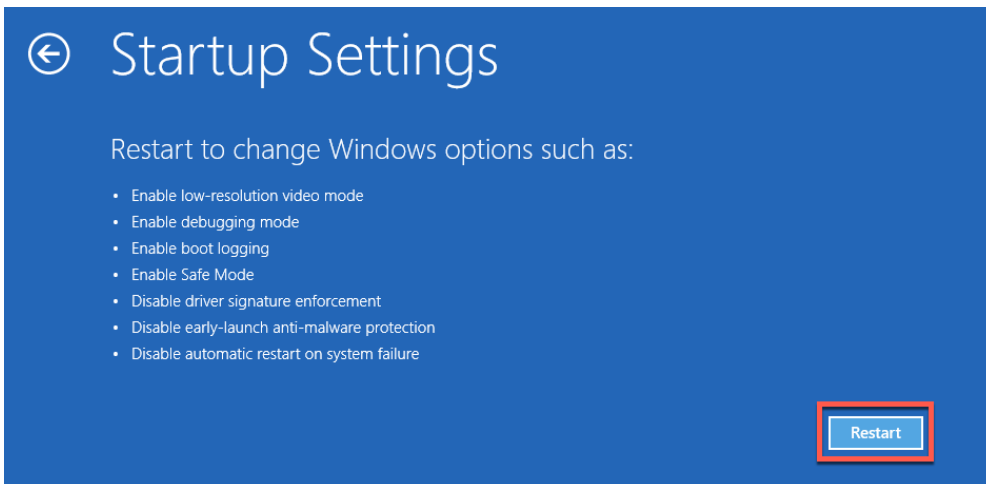
Step 6. Select “**Advanced Options**”



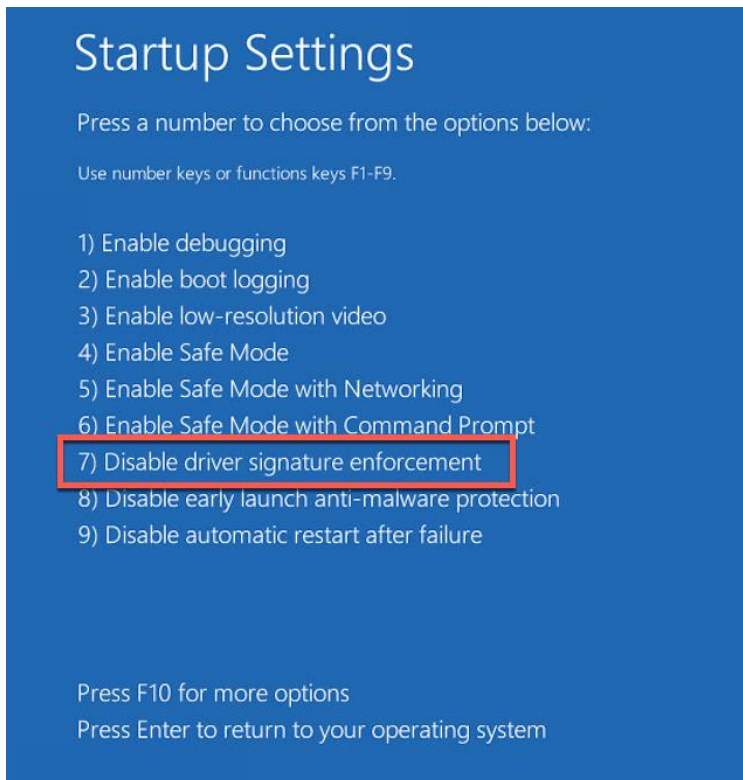
Step 7. Select “Startup Settings”.



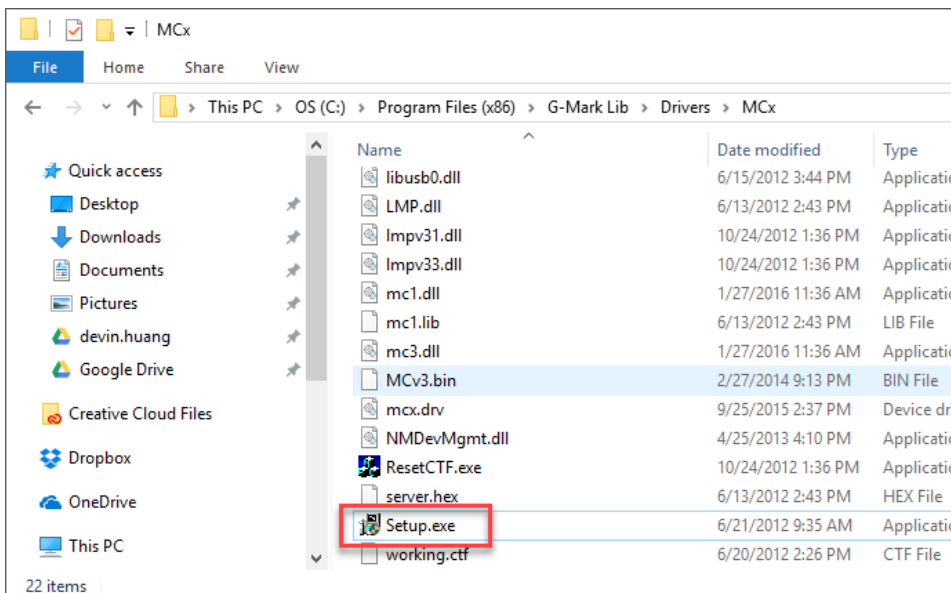
Step 8. Select “Restart”.



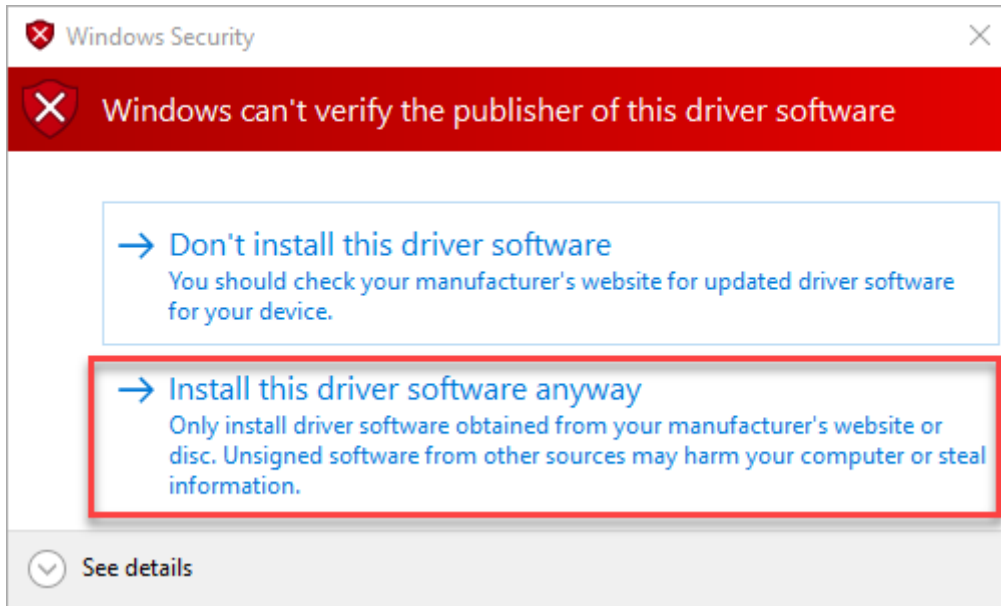
Step 9. A menu will appear where you can press “F7” on your keyboard to choose “**Disable driver signing enforcement**”.



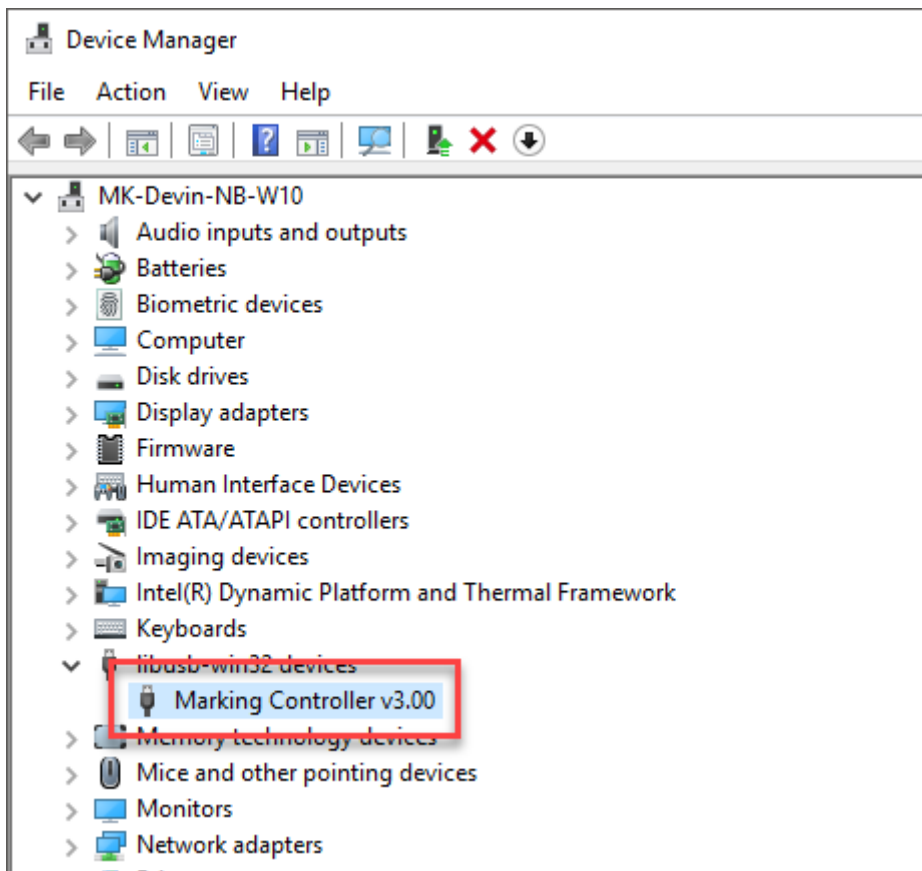
Step 10. After rebooting, go to “C:\Program Files (x86)\G-Mark Lib\Drivers\MCx” and click on “Setup.exe” to install.



Step 11.“Windows Security” will pop up, and then click on “Install this driver software anyway”



Step 12.After installing, go to device manager and make sure the controller driver has been installed.



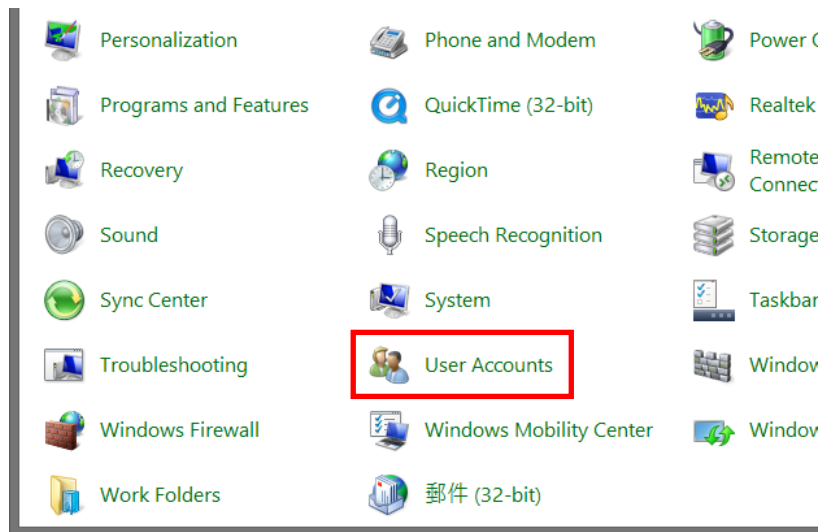
6.5 Change the Series and Model Type

After installing G-Mark, you can change the series and model type through the model manager program.

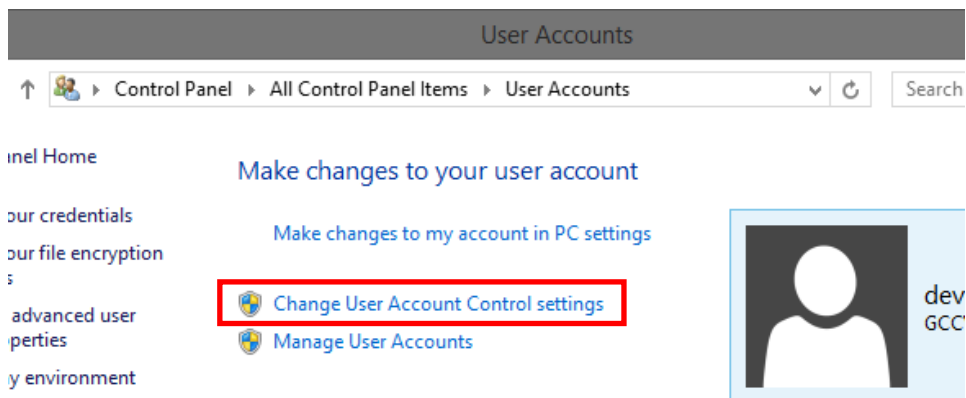
The following steps illustrate how to change the series and model type

6.4.1 Change the User Account Control Settings

Step 1. Please go to “control panel” and click on “User Accounts”



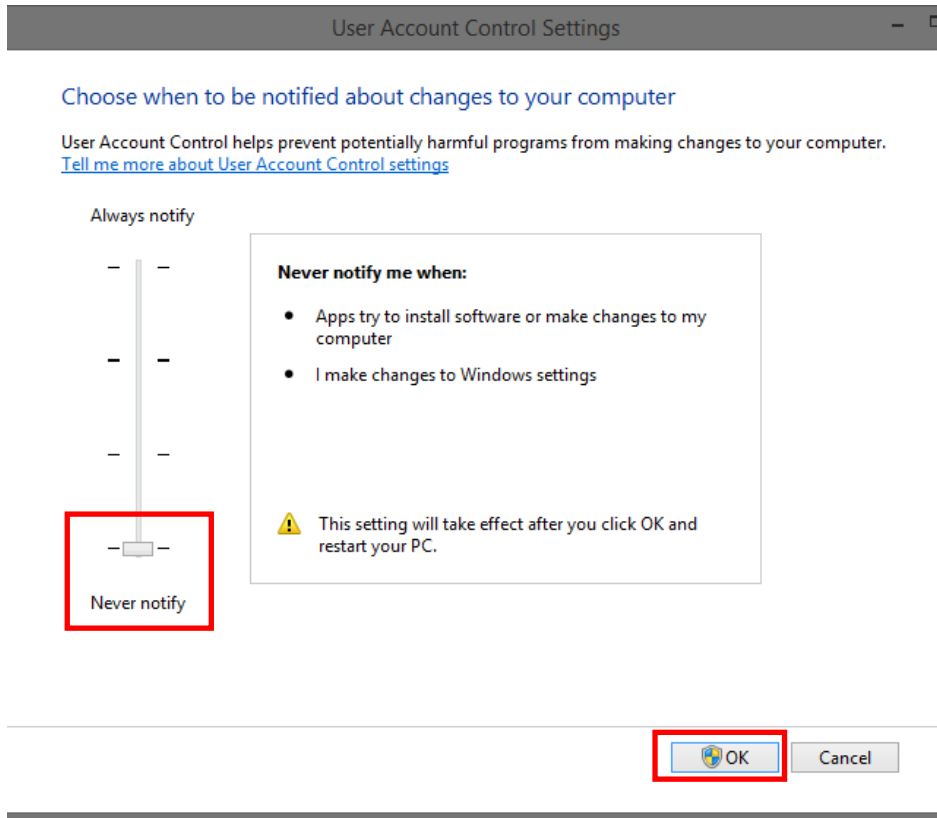
Step 2. Then click on “Change User Account Control settings”



To change your password, press Ctrl+Alt+Del and select Change a password.

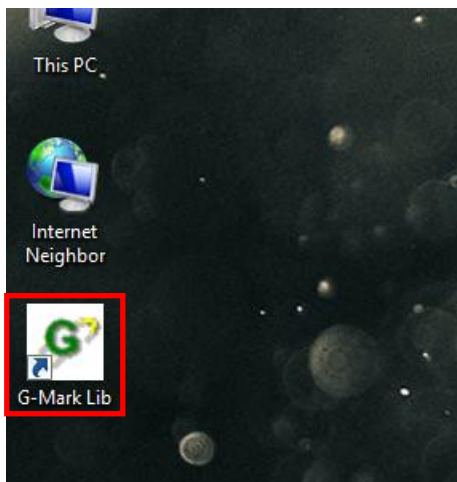


Step 3. Set the notification to be “Never notify” and press “OK” to complete the setting

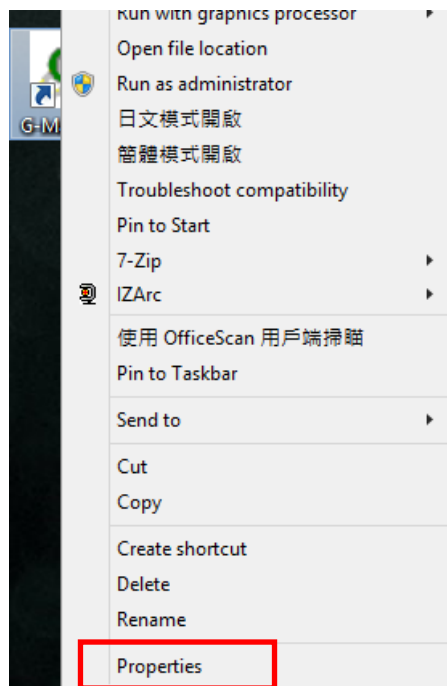


6.4.2 Setting the “Run this program as an administrator”

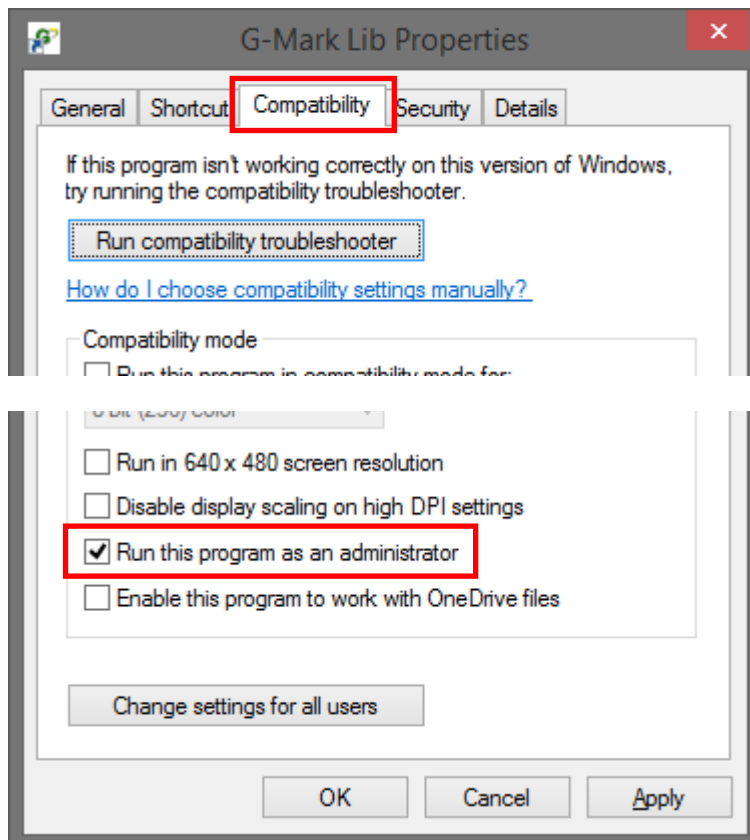
Step 1. Find the "G-Mark Lib" which is located at the desktop of PC



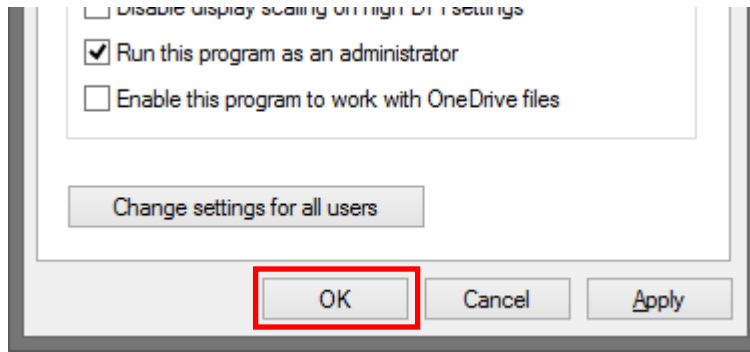
Step 2. Position the mouse on the "G-Mark Lib" and right-click, properties for the "G-Mark Lib" appears then press the properties.



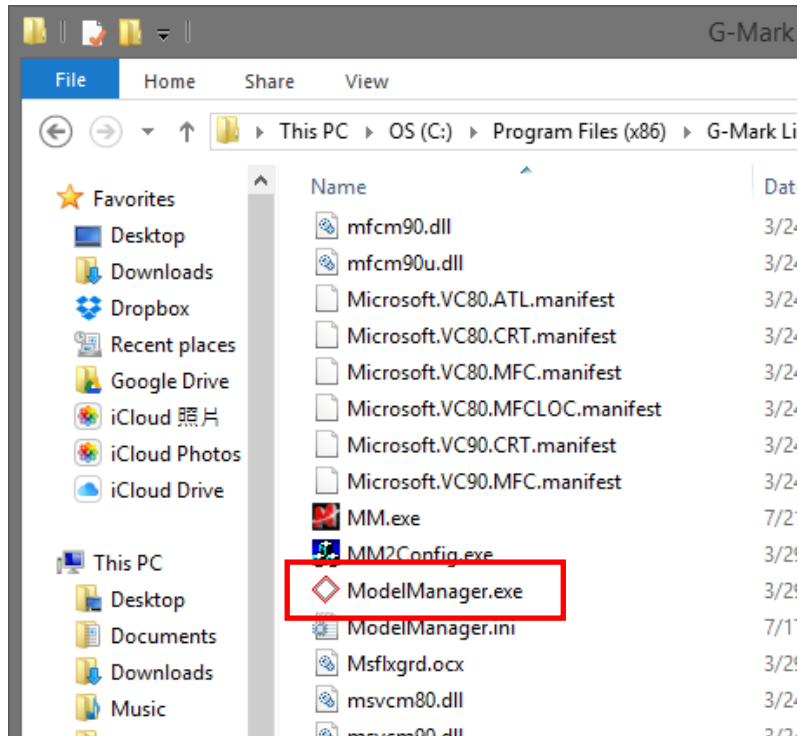
Step 3. Click "Compatibility" tab and select checkbox "Run this program as an administrator"



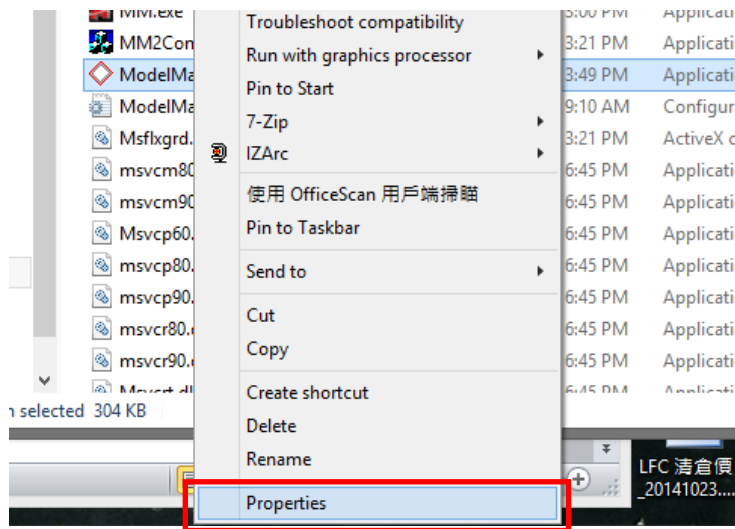
Step 4. Press “OK” to complete the setting



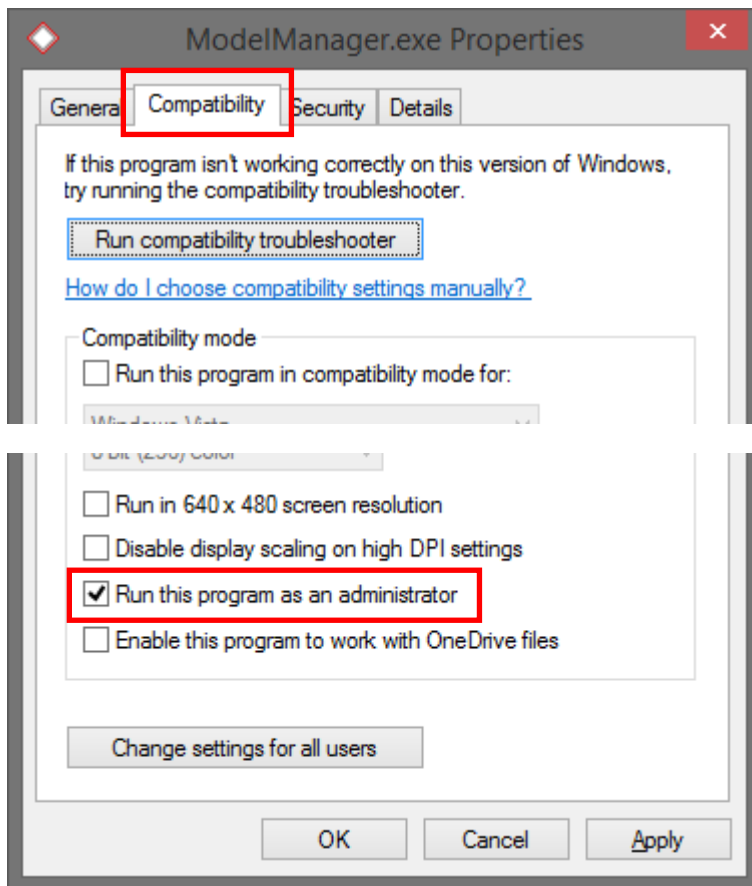
Step 5. Find the "ModelManager.exe" which is located at "C:\Program Files (x86)\G-Mark Lib"



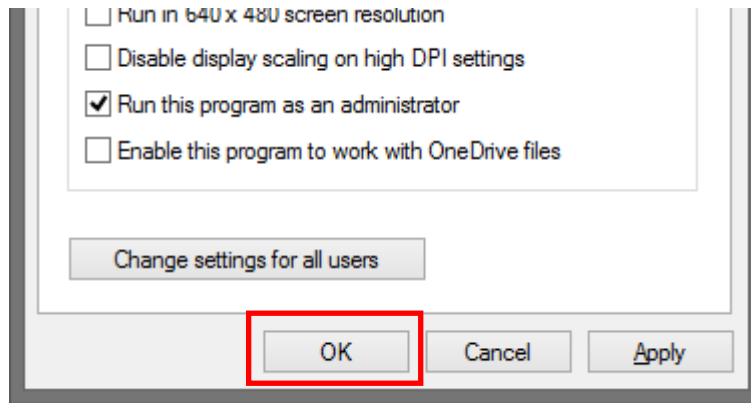
Step 6. Positions the mouse on the “ModelManager.exe” and right-click, properties for the “ModelManager.exe” appears then press the properties



Step 7. Click “Compatibility” tab and select checkbox “Run this program as an administrator”

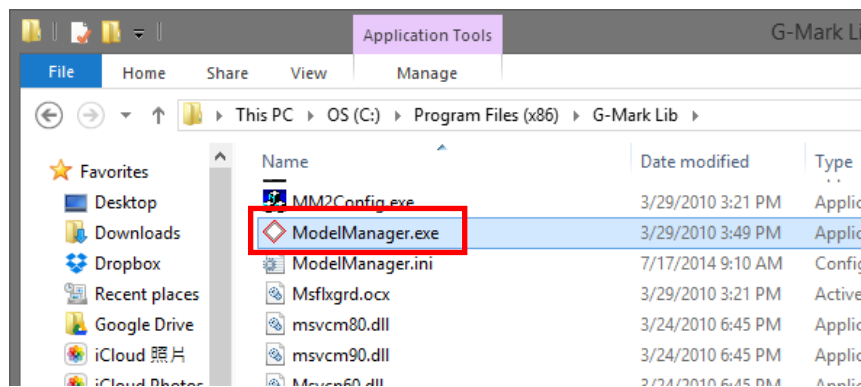


Step 8. Press “OK” to complete the setting

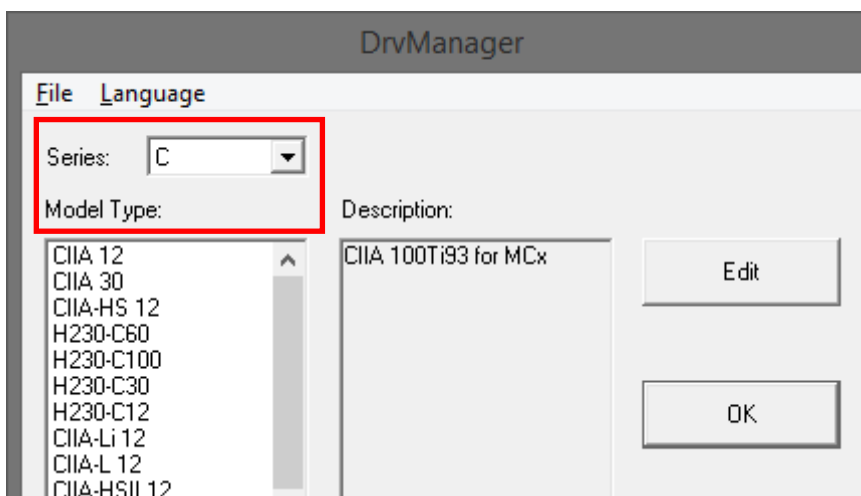


6.4.3 Change the series and model type

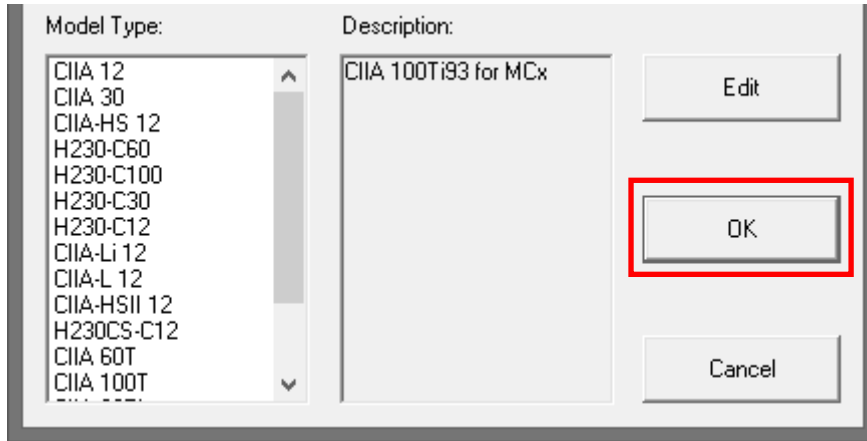
Step 1. Open the “ModelManager.exe” which is located at “C:\Program Files (x86)\G-Mark Lib”



Step 2. Model Manger window will show up, select your series & model type



Step 3. Press “OK” to complete the change series and model type



NOTE

Wrong setting for series and model type may cause the machine out of order.



Chapter **7**

Lens Adjustment

Import Lens Parameter

Lens Parameter Card

Lens Parameter Adjustment

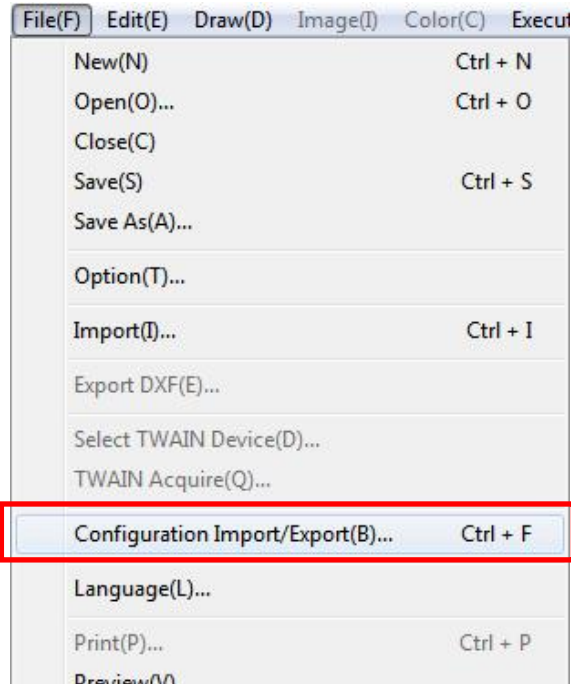


7.1 Import Lens Parameter

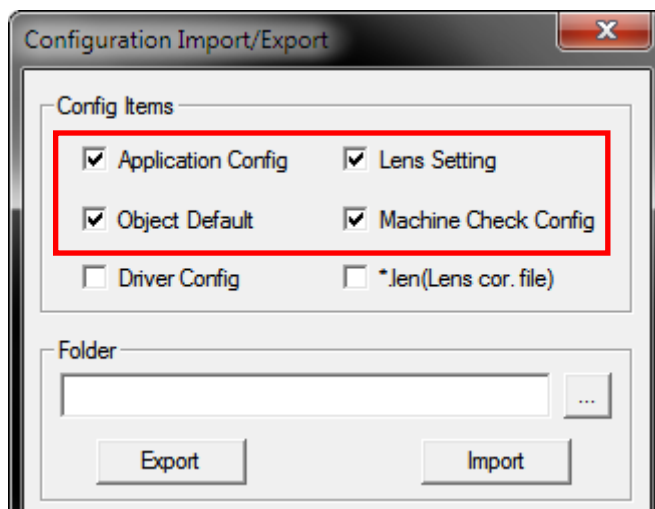
Please perform the following steps:

Step 1. Start the G-Mark program.

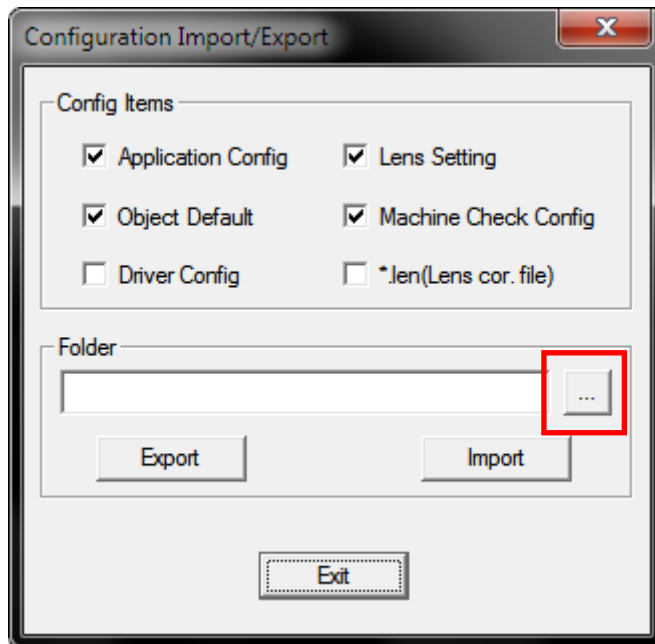
Step 2. Select File→Configuration Import/Export.



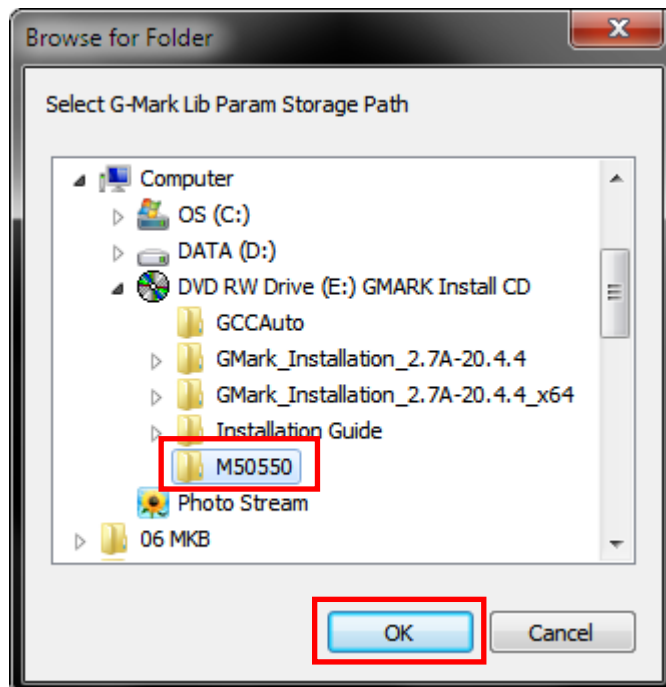
Step 3. Check the Application Config, Lens Setting, Object Default and Machine Check Config selections.



Step 4. Click on the Folder location icon shown below.



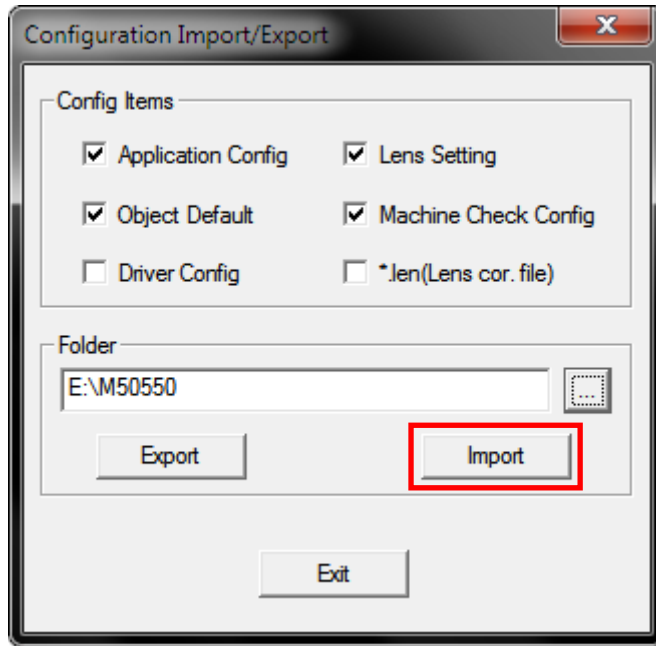
Step 5. Locate the Lens Parameter folder in the Installation CD and select OK. (The lens parameter folder is named with the serial number of your machine.)



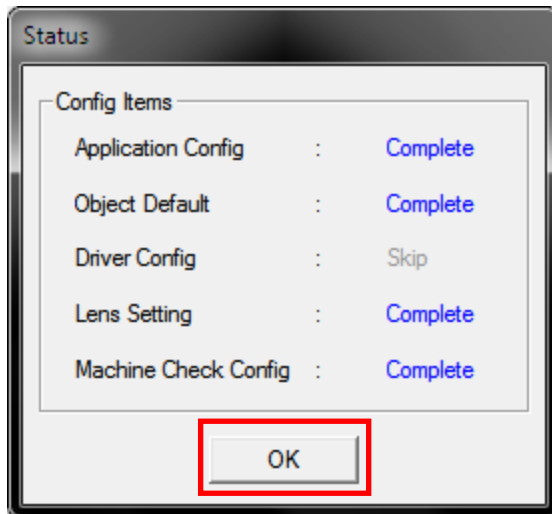
If there is no "Lens Parameter" folder found under G-Mark installation CD, please skip to follow "7.2 Lens Parameter Card" instructions.



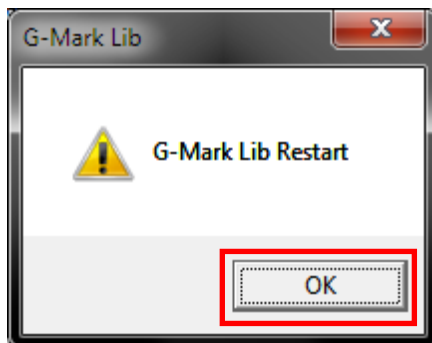
Step 6. Click the "Import" button.



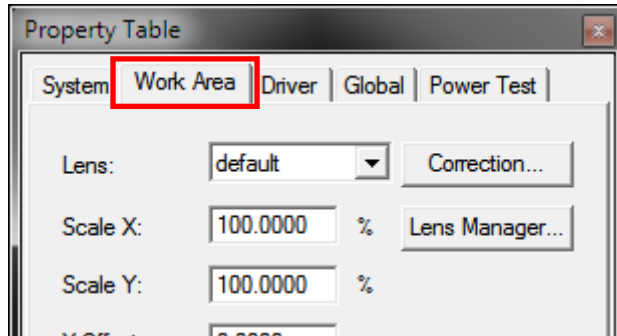
Step 7. Click on the "OK" button after the Status screen shows Complete.



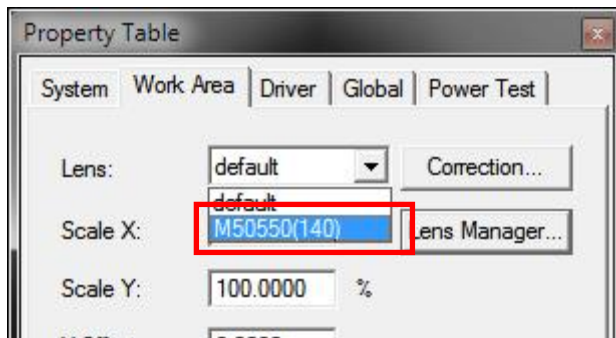
Step 8. Click on "OK" when the "Restart message prompts up.



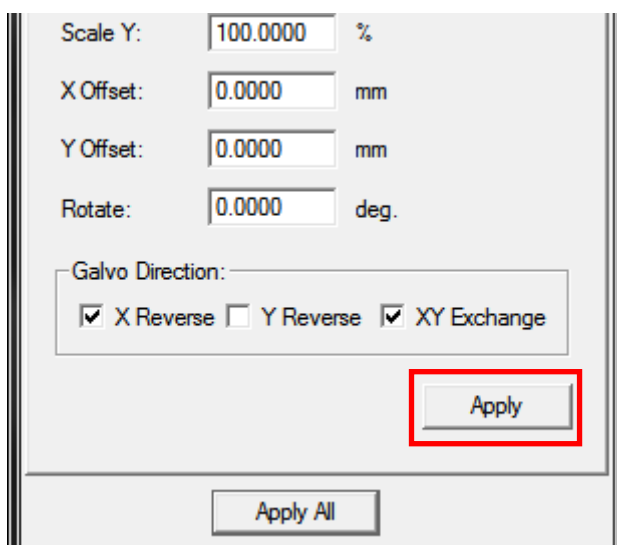
Step 9. Click on the "Work Area" Tab under the Property Table after G-Mark restarts.



Step 10. The Lens parameter can be found in the Lens list. (Named with the serial number of your machine.)



Step 11. Click on "Apply" after selecting the Lens and the settings will be loaded.



7.2 Lens Parameter Card

Before you start to operate the machine, the output scale of machine and the marking software must be adjusted to match each other.

Or the marking lines will be distorted or will have an improper scale of the marking content.

Step 1. Take out the lens parameter card from the accessory kit

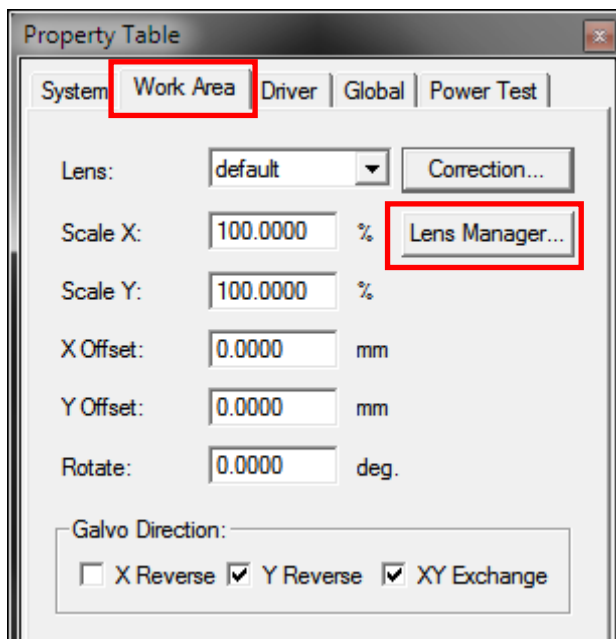


The image shows a lens parameter card for the GCC LaserPro StellarMark system. It features the following fields and controls:

- Working Area:** A text input field followed by "mm".
- Offset:** Two columns of input fields for X and Y, each followed by "mm".
- Scale:** Two columns of input fields for X and Y, each followed by "%".
- Rotate:** An "Angle" input field, and "Center X" and "Center Y" input fields.
- Checkboxes:** Three checkboxes labeled "X reverse", "Y reverse", and "XY exchange".
- Correction:** Three trapezoidal icons representing different correction types, each with its own X and Y input fields.

Step 2. Open G-Mark marking software

Step 3. Click on work area from property table and press "Lens Manager..."

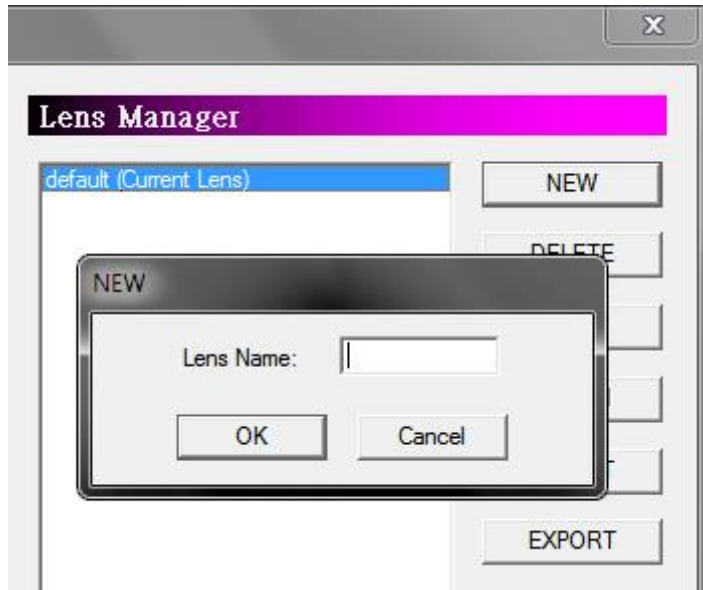


The image is a screenshot of the "Property Table" dialog box in the G-Mark software. The "Work Area" tab is selected and highlighted with a red box. The "Lens Manager..." button is also highlighted with a red box. The dialog contains the following settings:

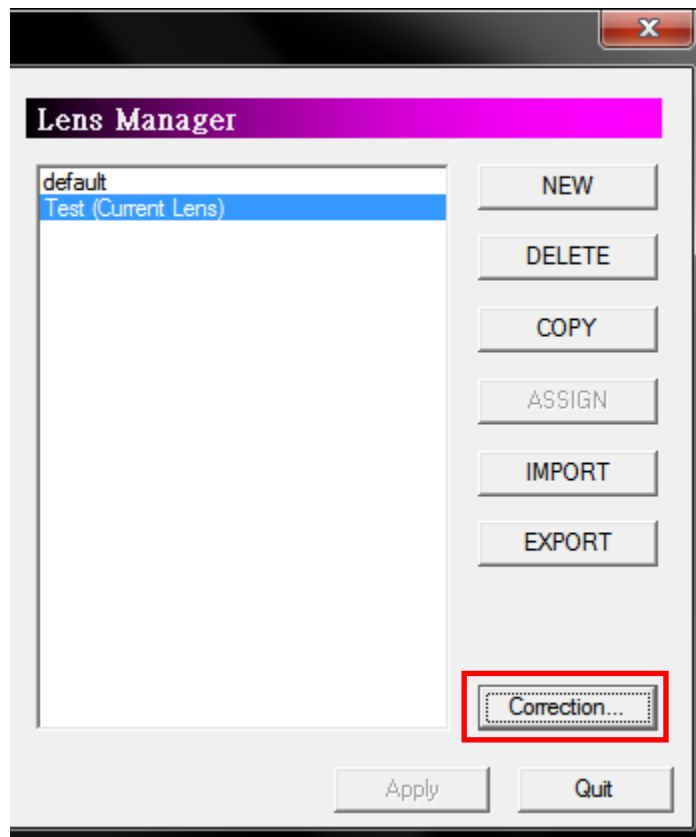
- System:** Work Area (selected), Driver, Global, Power Test
- Lens:** default (dropdown menu), Correction... (button)
- Scale X:** 100.0000 %, Lens Manager... (button)
- Scale Y:** 100.0000 %
- X Offset:** 0.0000 mm
- Y Offset:** 0.0000 mm
- Rotate:** 0.0000 deg.
- Galvo Direction:**
 - X Reverse
 - Y Reverse
 - XY Exchange



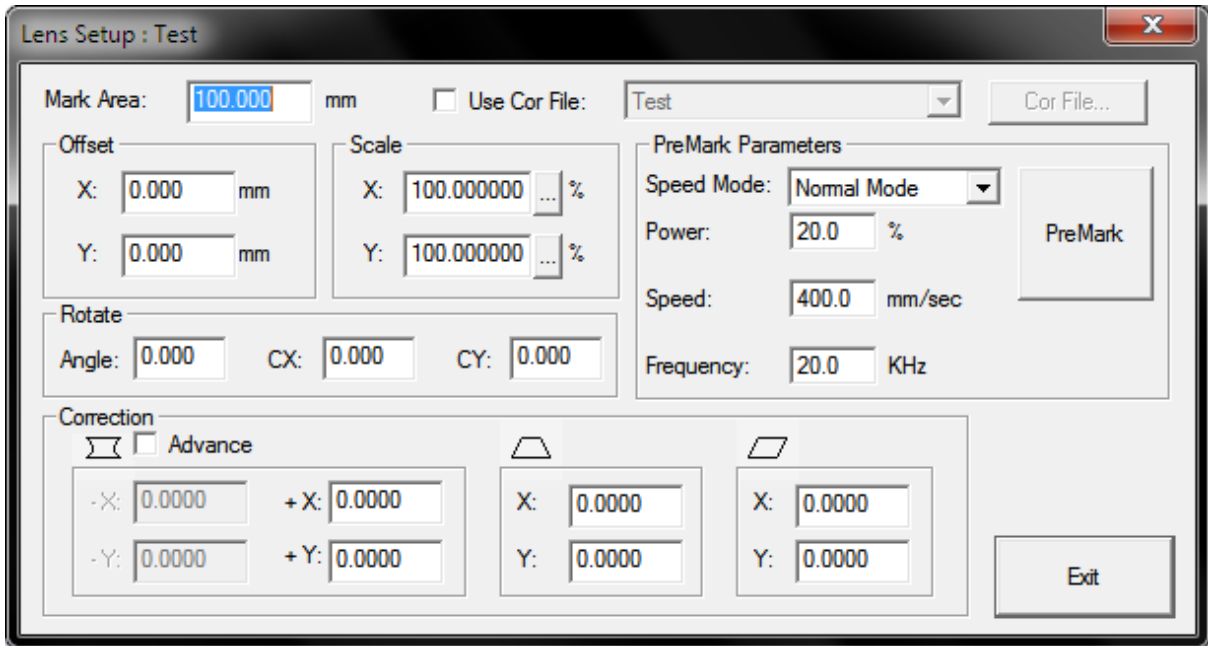
Step 4. Press “New” to create a new name for the lens and press “OK”



Step 5. Click “Correction...” to settings lens



Step 6. Fill in the numbers that are showing on the card to the below table.
Press “Exit” to save the settings of the lens



Lens Setup : Test

Mark Area: mm Use Cor File:

Offset
X: mm
Y: mm

Scale
X: %
Y: %

PreMark Parameters
Speed Mode:
Power: %
Speed: mm/sec
Frequency: KHz

Rotate
Angle: CX: CY:

Correction
 Advance

| | | | |
|---|---|--|--|
| -X: <input type="text" value="0.0000"/> | +X: <input type="text" value="0.0000"/> | X: <input type="text" value="0.0000"/> | X: <input type="text" value="0.0000"/> |
| -Y: <input type="text" value="0.0000"/> | +Y: <input type="text" value="0.0000"/> | Y: <input type="text" value="0.0000"/> | Y: <input type="text" value="0.0000"/> |

NOTE

If the size of scan lens is changed, the lens parameter will be varied, too.

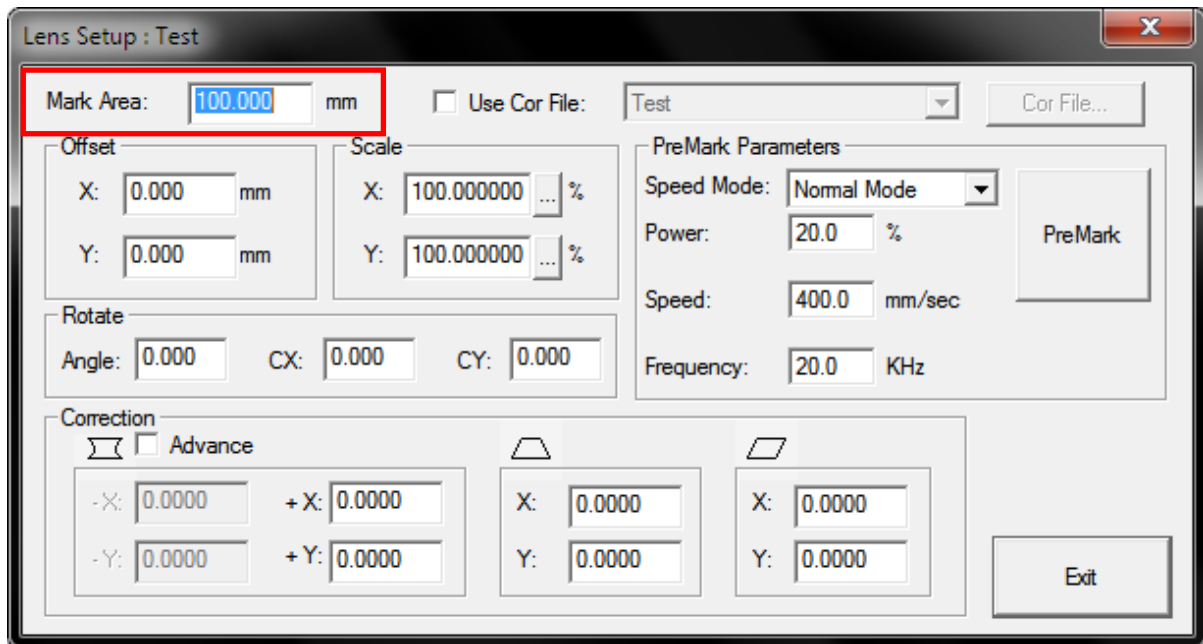


7.3 Lens Parameter Adjustment

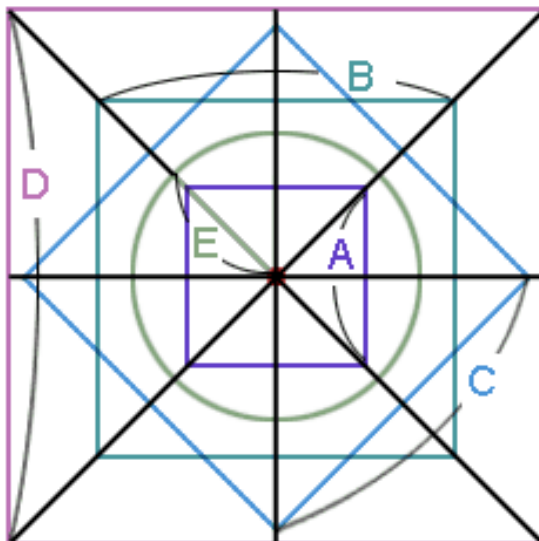
Please perform the following steps to find the appropriate lens parameter when changing a different scan field of scan lens:

Step 1. Create new name for the new lens.

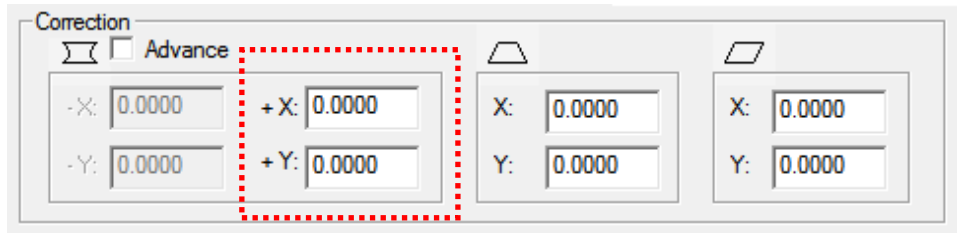
Step 2. Change the mark area and press “Exit” to save the settings



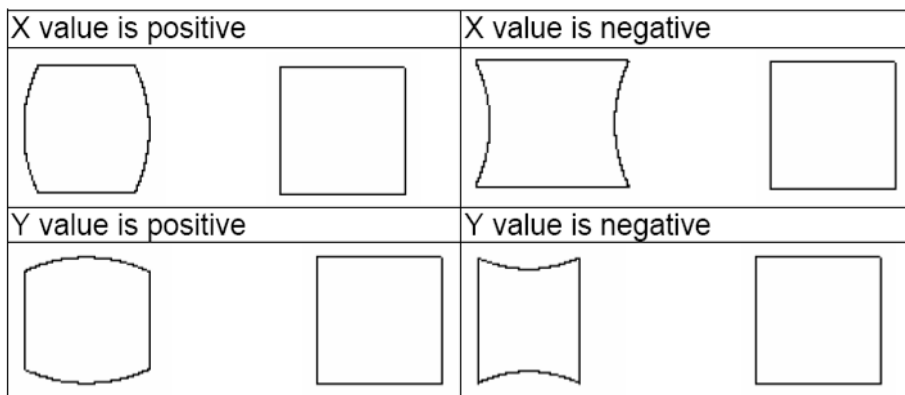
Step 3. Mark the below pattern and check the output quality.



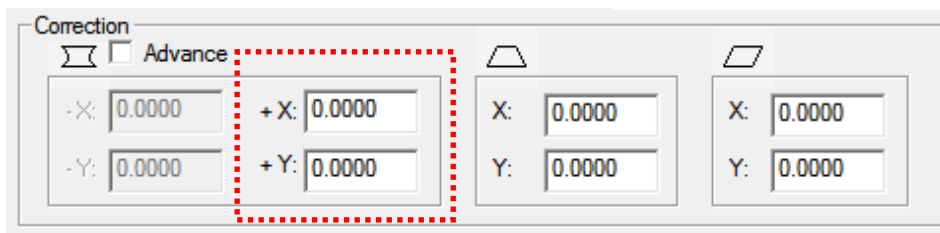
Step 4. If there is barrel square, go back to the “lens setup” to correct it.




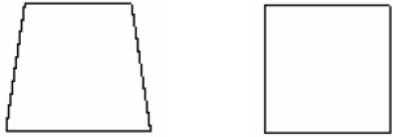


Step 5. If the figure becomes protuberant in X-axis, the X value will need to be increased like 0.002; while if now it become indentation, the X value will have to be reduced to as 0.0014. Keep adjusting the value until it is acceptable.



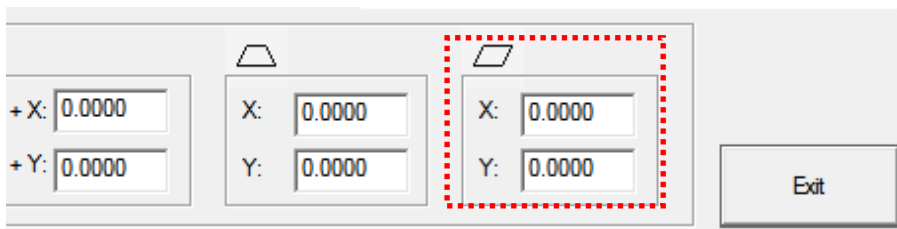
Step 6. If the square is trapezoid, go back to the “lens setup” to correct the irregular square.







Step 7. If the number is adjusted from 0.0 to 0.1, the adjustment range is from 0mm up to 0.5mm. (For 140x140mm scan lens)
Keep adjusting the value until it is acceptable.

| | |
|---|--|
| X value is negative | X value is positive |
|  |  |
| Y value is negative | Y value is positive |
|  |  |

Step 8. If there is an irregular parallelogram, go to the “lens parameter” under the Configure to correct the irregular angle.

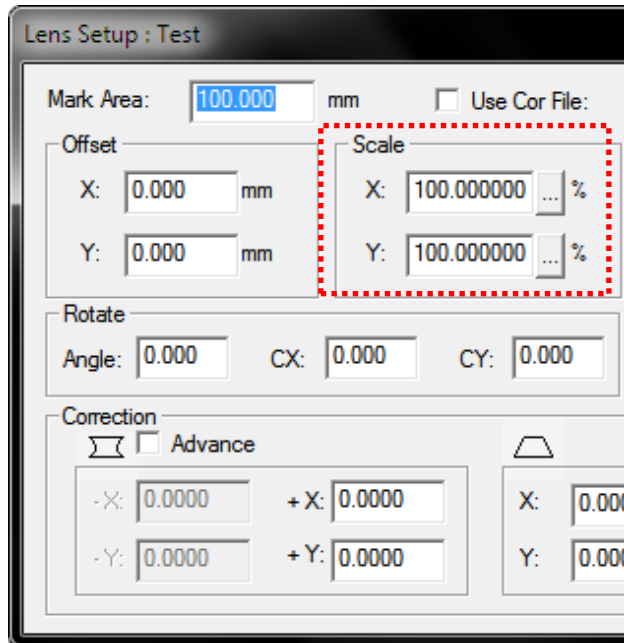


Step 9. Keep adjusting the value until it is acceptable.

| | |
|---|--|
| X value is negative | X value is positive |
|  |  |
| Y value is negative | Y value is positive |
|  |  |



Step 10. Measure the lengths of A, B, C, D and E of the square pattern.
Make sure these lengths match to the expected length you set from the marking software.



Step 11. If not, correct scale proportionally.



Chapter **8**

Error Message

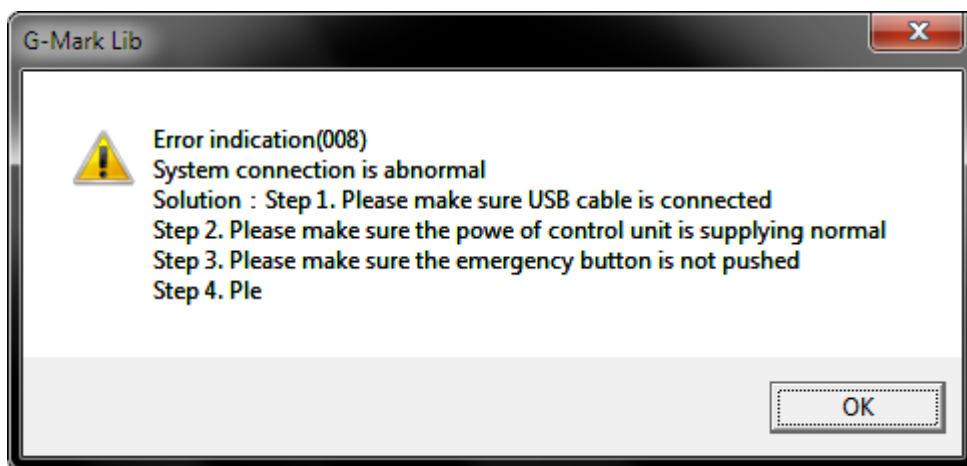


8.1 Error messages

The “Alarm” error indications represent the occurrence of errors which have arisen while the system is working abnormal.

When the error occurs, an “Error message” window will pop out on G-Mark software and the laser will be unable to fire until the problems are solved.

Once the problem is solved, “OK” button must be pressed to close the message window.



Chapter **9**

External Control

I/O pin assignment

Laser working flow chart

Laser reaction timing diagram



9.1 I/O Pin Assignment

| I/O | TYPE | DESCRIPTION |
|-------------|----------------|---|
| O1~O8 | OUTPUT | There are 8 output signals (StellarMark → External device) available to communicate with external devices. |
| Alarm (Out) | OUTPUT | <ul style="list-style-type: none"> ➤ When Alarm is inactivated, the laser marker will send signal out. ➤ When Alarm is activated, the laser marker will send out a signal out. ➤ When marking software is opened, the Alarm will be activated and laser marker will send a signal out in the beginning of work. Until the “Execute” button is pressed and the “Marking” window jumps out on marking software, then alarm will change to “inactivated” (laser marker will send a signal out). |
| Ready (Out) | OUTPUT | <ul style="list-style-type: none"> ➤ When G-Mark Advance software is opened, it will send out a signal out. ➤ When the “Marking” window jumps out and laser Marker is ready to fire; it will send a signal out. ➤ When laser marker is firing, it will send a signal out. |
| I1~I8 | INPUT | There are 8 input signals (External device → StellarMark) available to communicate with external devices |
| STOP | INPUT | When Stop- pin and Ground pin are at short status, laser marker will stop working. |
| START | INPUT | When Start- pin and Ground pin are at short status, laser marker will trigger the fire. |
| E-Stop | INPUT | This is terminal used to connect external emergency stop. |
| GND | POWER | Ground |
| 24V | POWER (Output) | A 24V is available |



- The Input and Output pins on the Control unit are corresponding with the I and O signals on the G-Mark software as below:

◆ Input pins

| | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|-------|------|--------|-----|
| I1 | I2 | I3 | I4 | I5 | I6 | I7 | I8 | Start | Stop | E-Stop | Gnd |
|----|----|----|----|----|----|----|----|-------|------|--------|-----|

Property Table

| Layer | Input | Output | | | | | |
|-------------------------------------|-------|-------------------------------------|----|-------------------------------------|----|-------------------------------------|----|
| Input Status | | | | | | | |
| <input checked="" type="checkbox"/> | 1 | <input type="checkbox"/> | 2 | <input type="checkbox"/> | 3 | <input type="checkbox"/> | 4 |
| <input type="checkbox"/> | 5 | <input type="checkbox"/> | 6 | <input type="checkbox"/> | 7 | <input type="checkbox"/> | 8 |
| <input checked="" type="checkbox"/> | 9 | <input checked="" type="checkbox"/> | 10 | <input checked="" type="checkbox"/> | 11 | <input checked="" type="checkbox"/> | 12 |
| <input checked="" type="checkbox"/> | 13 | <input checked="" type="checkbox"/> | 14 | <input checked="" type="checkbox"/> | 15 | <input checked="" type="checkbox"/> | 16 |

Not Available

The pin 9 ~ pin 16 from Input status are not available to communicate with laser marker.

◆ Output pins

| | | | | | | | | | | |
|----|----|----|----|----|----|----|----|-------------|-----|-----|
| O1 | O2 | O3 | O4 | O5 | O6 | O7 | O8 | Alarm ready | 24V | Gnd |
|----|----|----|----|----|----|----|----|-------------|-----|-----|

Property Table

| Layer | Input | Output | | | | | |
|-------------------------------------|-------|-------------------------------------|----|-------------------------------------|----|-------------------------------------|----|
| Output Status | | | | | | | |
| <input checked="" type="checkbox"/> | 1 | <input checked="" type="checkbox"/> | 2 | <input checked="" type="checkbox"/> | 3 | <input checked="" type="checkbox"/> | 4 |
| <input checked="" type="checkbox"/> | 5 | <input checked="" type="checkbox"/> | 6 | <input checked="" type="checkbox"/> | 7 | <input checked="" type="checkbox"/> | 8 |
| <input type="checkbox"/> | 9 | <input type="checkbox"/> | 10 | <input type="checkbox"/> | 11 | <input type="checkbox"/> | 12 |
| <input type="checkbox"/> | 13 | <input type="checkbox"/> | 14 | <input type="checkbox"/> | 15 | <input type="checkbox"/> | 16 |

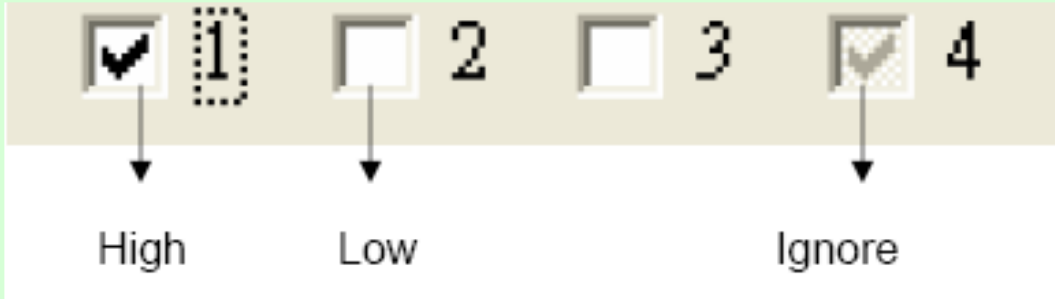
Not Available

The pin 9 ~ pin 16 from Input status are not available to communicate with laser marker.

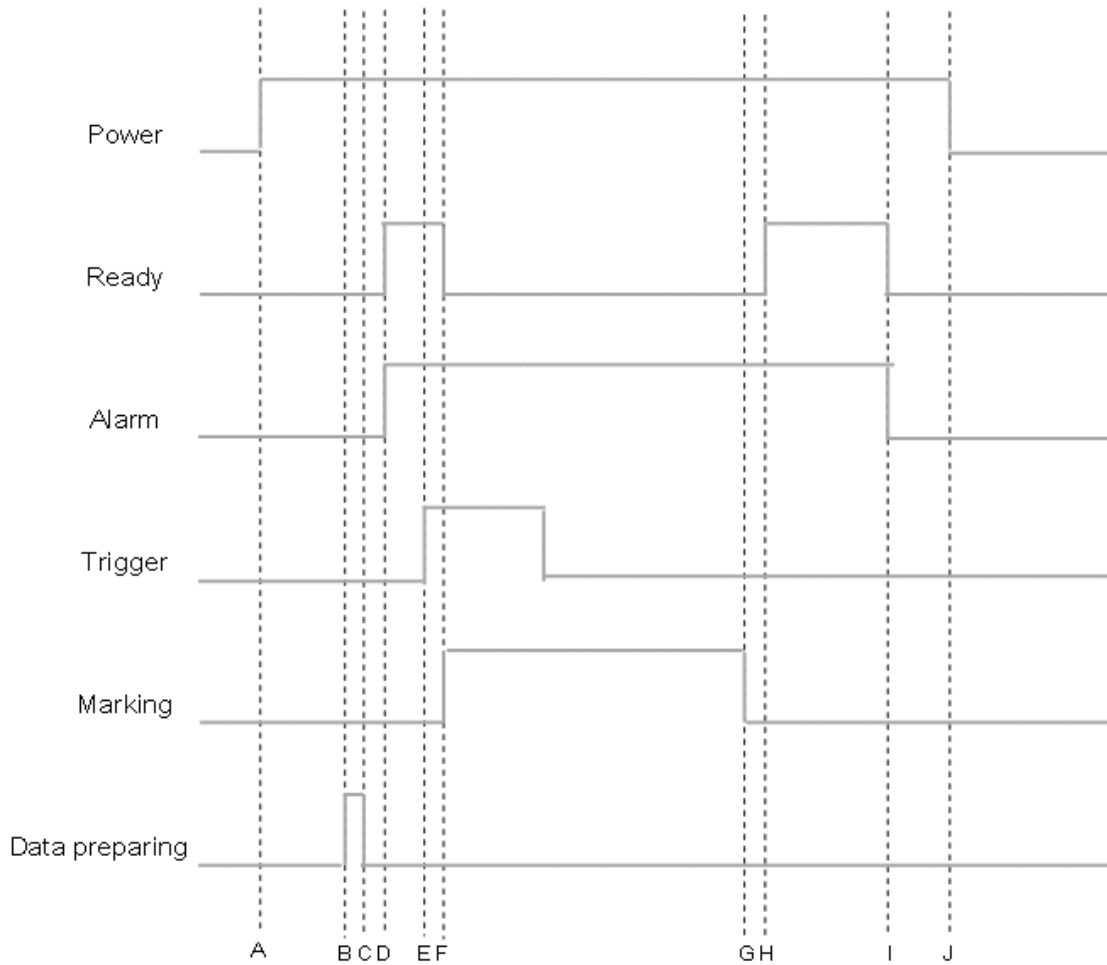


NOTE

High / Low definitions in G-Mark software



9.2 Laser Working Flow Chart



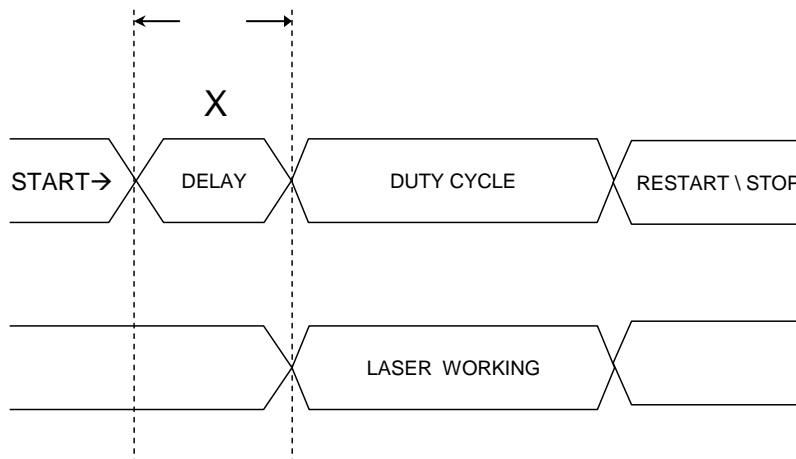
Definitions:

| | |
|-----|---|
| A | Power on |
| B | Time consuming between the “reading file” to the next step of “Ready to fire” will be depend on the size of working object. |
| C~D | After the file reading is completed, it will take less than $< 1 \mu \text{ sec}$ for the external device to receive a “Ready” signal from the laser marker |
| E | It will take between 0.1m sec ~ 50m sec for laser to trigger the fire after receive the command of “Start” |
| F | Ready signal is OFF when laser is firing |
| G | Job is completed |
| G~H | it will take about less than $< 1 \mu \text{ sec}$ for the external device to receive a “Ready” signal from the laser marker |
| I | G-Mark marking software is closed |
| J | Power off |

9.3 Laser Reaction Timing Diagram

◆ Start → Fire delaying time

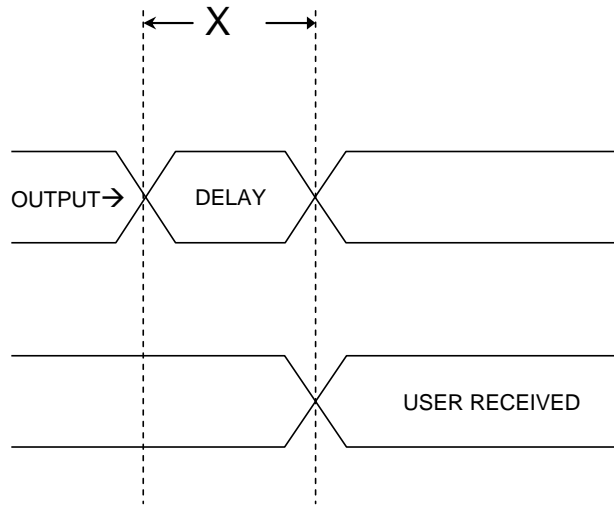
It will take about 0.1m sec $< X < 50\text{m sec}$ to fire after receive the command of “Start”



$0.1 \text{ m sec} < X < 50 \text{ m sec}$

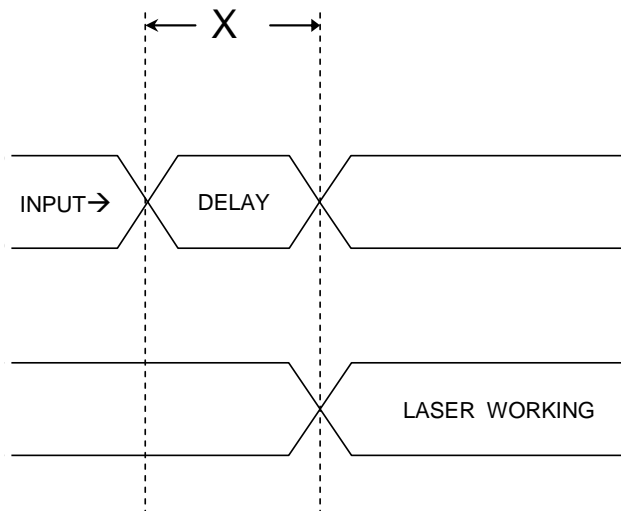


- ◆ Laser signal Output → External device delaying time
It will take about $X < 1 \mu \text{ sec}$ for the external device to receive an output signal from the laser marker



$$X < 1 \mu \text{ sec}$$

- ◆ Laser signal Output → External device delaying time
It will take about $10 \mu \text{ sec} < X < 20 \mu \text{ sec}$ for the laser marker to receive an input signal from the external device



$$10 \mu \text{ sec} < X < 20 \mu \text{ sec}$$



Chapter **10**

Basic Maintenance



Keeping your StellarMark CIIP Series clean and well maintained will ensure quality output, consistent reliability, and extended product life.

Smoke, dust or residue build-up inside the laser system or the mechanical components can cause a reduction in the laser power, reduced product life cycle, and a host of other avoidable problems.

This section will cover how to perform regular maintenance on the StellarMark CIIP Series's scan lens.

 **WARNING**

- Electrical shock may occur if you do not turn off and unplug the laser marker before cleaning.
- Damage may occur to the system if you do not turn off and unplug the laser marker before cleaning.
- Always turn off and unplug the laser marker before cleaning!

10.1 Regular spot check

Before each use, inspect the machine, the power and connector cables, and the working environment.

Look for frays in cables, proper connections, and any abnormalities that could have an effect on marking performance and/or user safety.

Be sure that the StellarMark™ is properly secured and mounted.

If a problem ever arises with the G-Mark Basic / G-Mark Library™ software or the StellarMark™ marking machine, be sure to notify your distributor as soon as possible.



10.2 Cleaning the scan lens

Oil from hands and the residue that builds up on the focal lenses can distort the laser beam passing through, resulting in poor quality markings and may cause cracks by the uneven heat conduction.

Please perform the following steps:

Step 1. Remove the focal lens from the marker



Step 2. Apply some lens cleaner on cotton swab



Step 3. Remove the residue mark.



Step 4. Let the focal lens dry before reattaching it to the marker.



Use acetone if the lens cleaner will not remove the mark. Be careful not to scratch the lens. After the mark is removed, follow the steps used to clean residue marks in order to finish the cleaning.

Oil from hands and the residue that builds up on the scan lenses can distort the laser beam passing through, resulting in poor quality markings and may cause cracks by the uneven heat conduction.



To clean the scan lens, simply remove the scan lens and inspect it for light and heavy residue marks.

To clean light residue marks, apply some lens cleaner on each side of the lens. Use a new, lint free cloth to remove the lens cleaner. Make sure that the cloth only travels in one direction to prevent scratching the scan lens. Let the lens dry before reattaching it to the StellarMark™. Be sure to clean only one side at a time.

To clean a heavy residue mark, apply some lens cleaner on each side of the lens. Use a cotton swab to remove the caked on residue mark. Be careful not to scratch the lens. Use acetone if the lens cleaner will not remove the mark. After the mark is removed, follow the steps used to clean light residue marks in order to finish the cleaning.



WARNING

Acetone is an **EXTREMELY FLAMMABLE LIQUID AND VAPOUR**. The vapour is heavier than air and may spread long distances making distant ignition and flashback possible.

NOTE

Never touch the scan lens with your bare hand. The oils from your hand will distort the laser beam passing through the lens. Use finger cots or rubber gloves when cleaning.



Chapter **11**

Appendix



11.1 CII/CIIP Series Specification

| Model No. | | CIIS 12 | CIIS 30V | CIIP60Ti/60Ti93 |
|---------------------------|-------------------|--|----------|--------------------|
| Laser Source | Wavelength | 10.6µm | | 10.6µm / 9.3µm |
| | Type | CO2, sealed-off | | |
| | Output power | 12W | 30W | 60W |
| | Cooling | Air-cooled, no water chiller required | | |
| Electrical Requirements | Power supply | AC Auto Switching 115V / 230V, 50-60 Hz / single phase | | |
| | Power consumption | 740W | 1240W | 1240W |
| Dimensions | Laser head | 842 x 200 x 201.8 mm | | 905 x 202 x 234 mm |
| | Control unit | 500 x 420 x 192.4 mm | | |
| Laser Makrer Weight | | 23 kg | | 30 kg |
| Control Unit Weight | | 17 kg | | 19 kg |
| Max. Linear Marking Speed | | 3,000 mm/s | | |
| Maximum Marking | | 10,000 mm/s | | |
| Operating System | | Microsoft Windows 2000 / XP / Vista(32/64 Bit) / 7(32/64 Bit) / 8(32/64 Bit) / 10(32/64 Bit) (Desktop pr laptop PCs) | | |
| Safety | | Class 4 (EN60825-1 Class 1 available with safety shield and LFC) 2006/42/EC Machinery Directive 2014/35/EU Low Voltage Directive 2014/30/EU Electromagnetic Compatibility Directive | | |

Lens Specification

CIIS 12 / 30V

| Model No. | 010 | 050 | 070 | 140 |
|---------------|------------|------------|------------|--------------|
| Working Area | 10 x 10 mm | 50 x 50 mm | 70 x 70 mm | 140 x 140 mm |
| Spot Size | 0.09 mm | 0.12 mm | 0.24 mm | 0.46 mm |
| Repeatability | 0.001 mm | 0.003 mm | 0.004 mm | 0.012 mm |

CIIP 60Ti

| Model No. | 070 | 140 | 200 | 300 | 300DL |
|--------------|-----------|-------------|-------------|-----------|-----------|
| Working Area | 70 x 70mm | 140 x 140mm | 200 x 200mm | 300 x 300 | 300 x 300 |
| Spot Size | 0.12 mm | 0.24 mm | 0.37 mm | 0.53 mm | 0.48 mm |



| | | | | | |
|---------------|----------|----------|----------|----------|----------|
| Repeatability | 0.004 mm | 0.008 mm | 0.012 mm | 0.017 mm | 0.017 mm |
|---------------|----------|----------|----------|----------|----------|

CIIP 60Ti93

| Model No. | 070 | 140 | 200 | 300 | 300DL |
|---------------|-----------|-------------|-------------|-----------|-----------|
| Working Area | 70 x 70mm | 140 x 140mm | 200 x 200mm | 300 x 300 | 300 x 300 |
| Spot Size | 0.11 mm | 0.21 mm | 0.32 mm | 0.46 mm | 0.44 mm |
| Repeatability | 0.004 mm | 0.008 mm | 0.012 mm | 0.017 mm | 0.017 mm |

