Quick Start Guide.

minilase™

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TYKMA™
LASERS FOR MARKING

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Thank you for purchasing the TYKMA Minilase™ Laser Marking System. Minilase™'s unique easy-to-use features and capabilities provide high-quality performance. What's more, it comes completely assembled and is fully operational within 15 minutes.

Most laser marking systems require elaborate, time consuming setup, plus complex assembly and training sessions. But, Minilase™ changes all of that. Let's get started!

Your Minilase™ is shipped fully assembled in one box. Minilase™ is a desktop system, so you should arrange for a suitable workbench or desk area. You will need:

• An area 17″ wide x 34″ deep with at least 50″ of headroom to accommodate the Minilase™ system footprint.

• Ample room next to the system for a Laptop or Desktop PC, Monitor, Keyboard and Mouse. You will be installing Minilase ™ Pro Software on your PC to program and run the Minilase™.

Items included with your Minilase™ System

• Minilase™ Laser Marking Workstation Fully Assembled

• Minilase™ Quick Start Guide, you're reading it!

• Minilase™ Pro SE Software Manual (Digital Copy)

• USB Stick with Minilase™ Pro SE Software Installation and Digital Manual Copies

• One (1) Power Cord

• One (1) USB Connection Cable

• Set of two (2) Keys for your Minilase™ System

Computer system requirements for Minilase™ Pro Laser Software:

• **Windows™ XP Pro / Windows™ 7 & 8 Professional 32/64 Bit**

• **Minimum Pentium 4 Processor**

• **Minimum 80 GB Hard Drive Storage System**

• **Minimum 2GB RAM**

• **USB 2.0**

Now, let's go through these easy steps to power up your Minilase™!

Step 1: Remove the Minilase™ System from the box and place it on the desk or bench top where you plan to use it.

Make sure the E-STOP is pulled toward you.

NOTE: If you purchased a Minilase™ MANUAL unit, this button is not included on your system.

Step 2: Connect the supplied power cord to the input plug on the right side of the Minilase™ system; then plug the power cord into a power conditioner or power strip with surge protection. **It is important that the Minilase™ be plugged into a surge protector to maintain warranty coverage.**

Step 3: If you have not already done so, please power up your desktop or laptop PC that you will use to run the Minilase™ Pro Software.

Step 4: Plug the supplied USB cable into the "USB to PC" labeled port on the right side of the Minilase™ system, next to the power cord port.

Step 5: Plug the other end of the USB cable into a USB 2.0 Port on your computer.

Step 6: Follow the instructions on the following page to install the Minilase™ Pro USB Drivers on your desktop or laptop PC.

Step 1: Make sure the E-STOP is pulled upward.

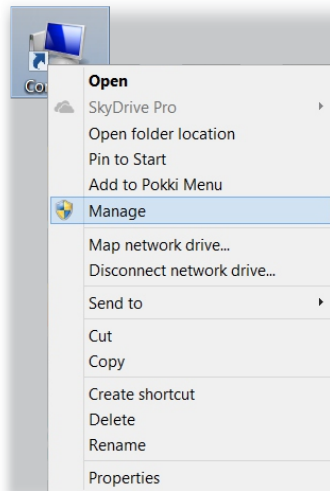*Step 2: Press rocker switch to ON and plug in power cord to power up Minilase™.*

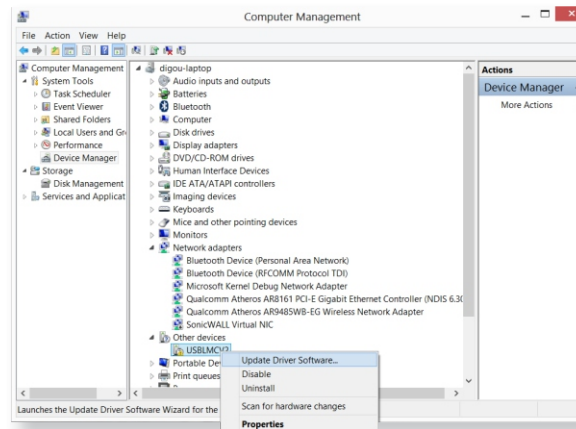*Step 4: USB to PC port on right side of Minilase™.*

USB Driver Installation...

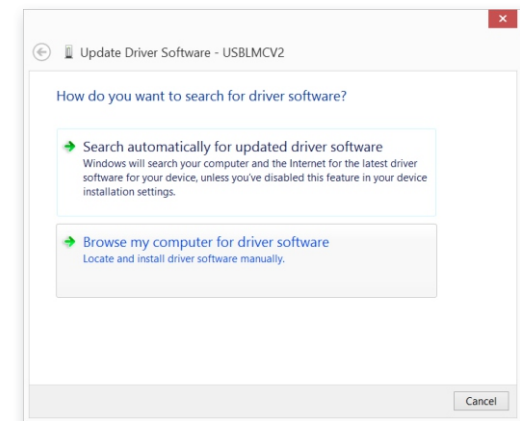**Step 1:** Right click on "My Computer" & select "Manage" to install USB Drivers

*** If prompted to Install Drivers proceed to Step 3 ***
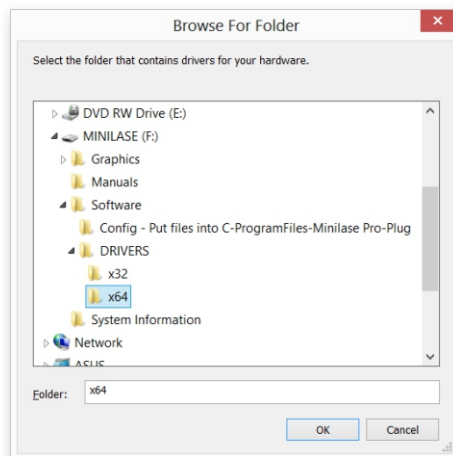
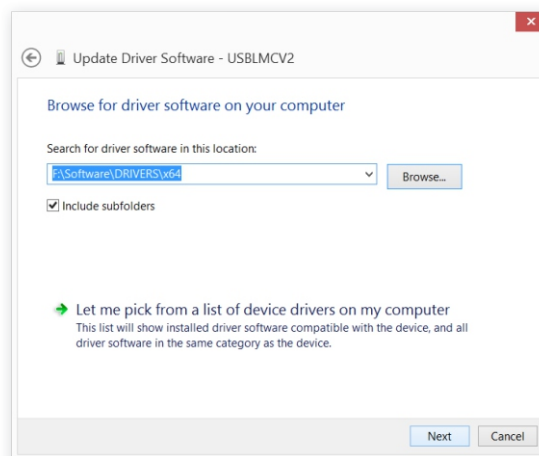**Step 2:** Locate "USBLMCV2" and click "Update Driver Software"

Step 3: Click "Browse my computer for driver software"

Step 4: Locate the drivers folder on the USB Stick and Select 32 or 64 bit folder, Click OK
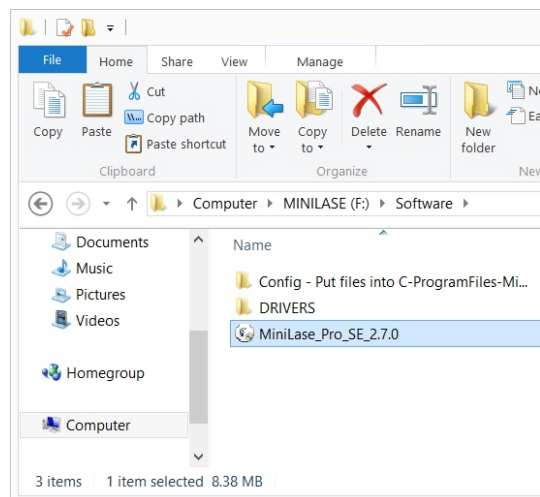
Step 5: Click next to finish Driver Installation

Follow the instructions on the following page to install Minilase™ Pro Software...

Software Installation...

Step 6: Locate "Minilase_Pro_SE" Installation file and double click

*** Every laser has a specific set of configuration files that contain lens corrections and proper system settings. Follow the following steps to install these files and complete the installation.

Step 7: Click on "Install".

Step 9: Locate "markcfg0" & "markcfg7" on the USB Stick in the "Software\Config" folder
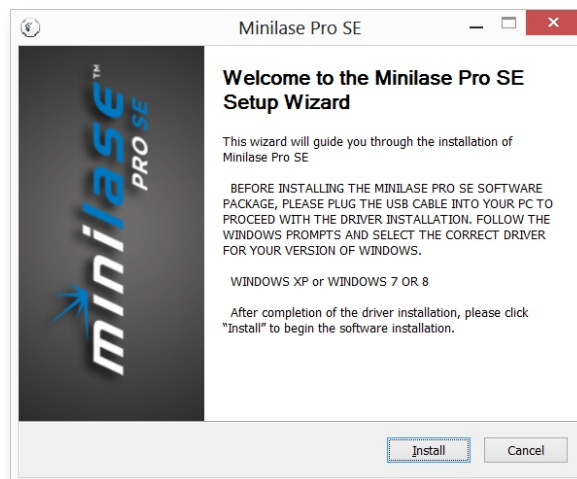
Step 8: Click "Finish" to complete the install
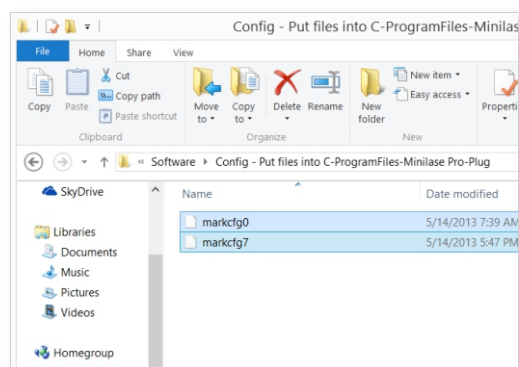
Step 10: Copy these files and paste into C:\Program Files(x86)\Minilase Pro SE\Plug. Software Installation is now complete
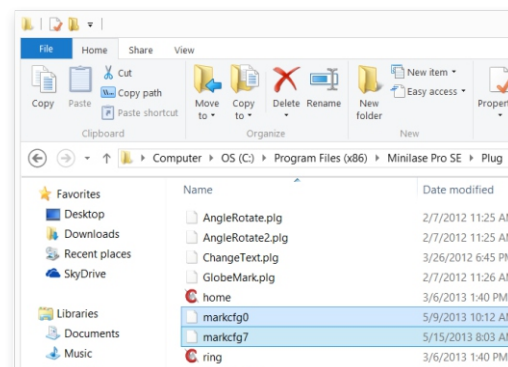
Step 11: After your software is installed, your Minilase™ System is ready to mark. To enable the system, insert one of the supplied keys into the Key Start — "Laser Enable" port on the front pendant. Turn the key to the RIGHT. Safety considerations require a key to enable all Class I Laser Systems to emit laser light in order to mark. If the key is not inserted and in the "On" position — you will be unable to mark. To protect the system from unauthorized use, remove the key and store it in a safe location.

Step 12: The laser will now enable. The next step is to open the door of your system, access the lens cover and remove it. To open the door, press the buttons labeled "Door Open/Close" on the operator pendant.

Step 14: LASER ENABLE

NOTE: If you purchased a Minilase™ MANUAL unit, use the in-set handle on the lower edge of the door to access the marking platform. Make sure the door opens and closes smoothly with no obstructions before proceeding to Step 10.

Step 13: Reach up inside the Minilase™ and remove the plastic lens cap located on the inside roof panel. After doing this, you'll notice two red laser pointing beams being emitted onto the T-Slot work surface. One of these red beams is emitted through the lens, while the 2nd red beam is emitted from another open area next to the lens. These two aiming beams are used in conjunction to focus the laser system, which will be discussed later.
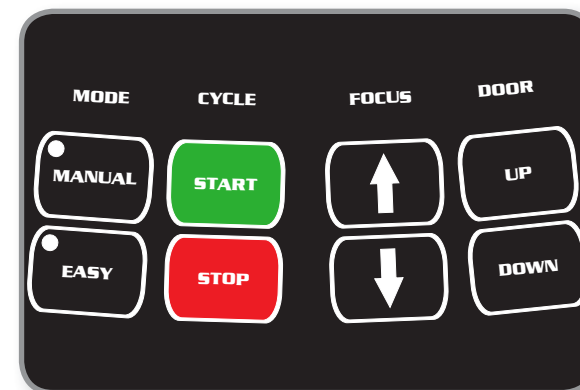
Step 9: Press DOOR UP/DOWN button.

Step 14: Now that your laser system is powered up, check to be sure the laser software and the laser system are communicating with each other. Make sure the door to your system is in the UP position and that the Minilase Pro SE software is open. Navigate to "File" then "Open and locate the file titled "Laser Test" on the Included USB stick. This file is located in the folder titled "Laser Test File".

Once you have loaded this file you will test for connectivity by doing a trace test. Place a white sheet of paper inside of the system on the T-Slot Bedplate and then click the icon titled "TRACE". You should see the word "TEST" being traced on the sheet of paper with the red aiming beam of the laser.
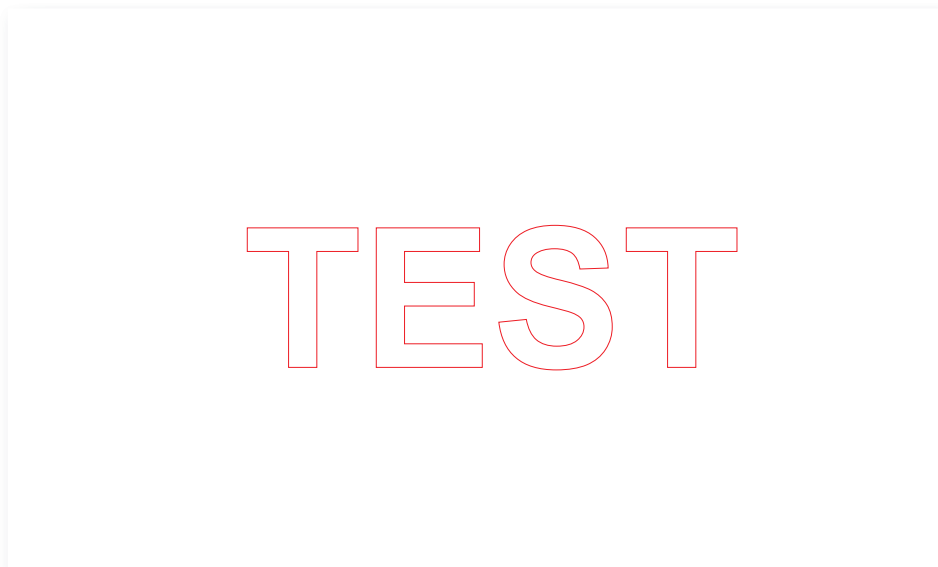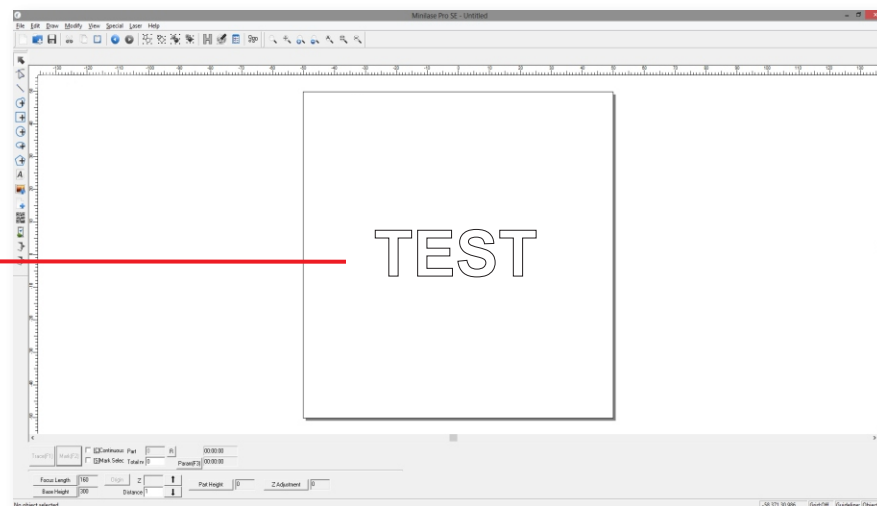
Step 15: Focusing your laser. Since a laser system uses a lens, the laser light coming through it is only able to be utilized at its exact focal point. Therefore, a fixed distance is maintained from the lens to the point where the marking will take place.

NOTE: If you purchased the Minilase™ MANUAL unit, the focus adjustment control is on the lower right side (facing front) of the enclosure. Manual rotation of the dial will bring the T-Slot Base to the proper focus level.

Now that communication is verified, you can focus the laser system. Minilase™ comes with an easy focus finder system comprised of the two red aiming beams previously discussed. Using the white piece of paper placed onto the T-slot bedplate, you should see the red aiming beams appearing as two red dots inside the system.

Focusing is simple from this point. The secondary aiming beam that is emitted from the opening to the rear of the lens is set to an angle. This angle is carefully positioned to intercept with the red aiming beam coming straight from the lens. This distance from the lens shows where the laser system is in focus.

Simply speaking, when the two red aiming beams are on top of each other, the laser system is in focus. When they are not on top of each other, the laser system is out of focus.

To bring the two dots on top of each other, use the Focal Height buttons on the Operator Pendant to move the T-Slot Base plate up or down, until the dots are on top of each other. So, to focus on any part you place in the system, make sure the two dots are aligned on the surface of the part where you wish to mark.

As the part height increases, lower the T-Slot work base.

As the part height decreases, raise the T-Slot work base.

Step 12: Use FOCUS buttons to move T-Slot Base plate up or down.

Step 16: OPTIONAL: If you purchased a fume extraction system for your Minilase™, you can now connect the fume extraction hose to the port located on the left side of the Minilase™ system as shown in the photo below. TYKMA carries a selection of fume extraction units that are ideal for removing dust, fumes or smoke that can be created by the marking process. **TYKMA highly recommends that Fume Extraction be used with every laser marking system for optimum performance and full warranty coverage. Please also consult the appropriate MSDS to ensure compliance with safe operating procedures within your plant environment.**


Step 13: Connect fume extraction hose to port.

Step 17: System Operator Pendant Functionality Overview

• **Laser Enable** – Key Start of the laser system as previously discussed. Left Position is OFF – Right Position is ON

• **Shutter** – This button allows laser light to be emitted from the lens. For the marking process to take place, the shutter must be open. When the shutter is open, the light bar will illuminate in RED. Anytime the laser is enabled, the light bar is red, and the door is closed; this light will be ON. When the door is opened the light will turn orange and the shutter will close as a protective measure. This action is controlled by safety interlock switches built into the system to ensure safe operation. When utilizing "Easy Mode", it is not necessary to manually open the shutter. In "Easy Mode" operation, the shutter will automatically open regardless of the shutter button condition.

• **Laser Ready** – Green Light indicates the laser system is ready.

• **Laser Busy** – When marking is in process, the light will be illuminated.

• **Marking Complete** – When the marking process is complete, the light will come on for a brief time.

• **System Fault** – If there is a fault with the system, this light will be illuminated. First check to make sure that the E-Stop control on the Operator Pendant is not depressed. If the E-Stop is depressed, pull up on the E-Stop Control to reset it to normal operation. The System should resume normal operation at this time. If this does not alleviate the problem and the E-Stop is in the correct "Up" position, please power down the Minilase™ System and contact TYKMA Technical Support at 877-318-9562.

Step 14: LASER ENABLE
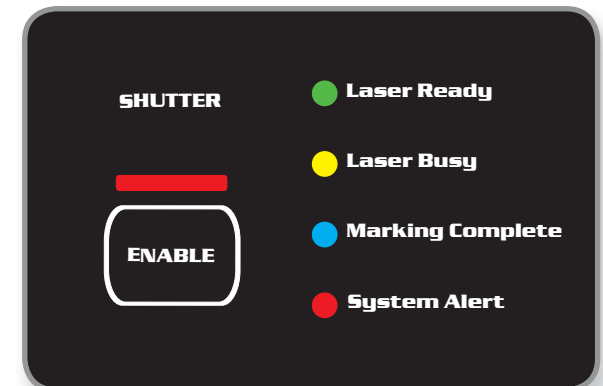
Step 14: SHUTTER
LASER READY, LASER BUSY, MARKING
COMPLETE, and SYSTEM FAULT buttons.

- **Manual/Easy Mode** – Top Position is MANUAL – Lower Position is EASY MODE.

  In Manual mode, to start the marking process, you must press the "Mark (F2)" button in the software or the "Start" on the operator pendant.

  In Easy mode, once you press the "Start" button, the door will automatically close and the marking process will start. Once the marking process is complete, the door will automatically open. This is ideal for high volume part runs.

  Easy Mode is not present on a Minilase Manual. You must close the door, Open the Shutter, and Press Start to bein makring.

Step 14: MODE, START/STOP, FOCAL HEIGHT, and DOOR OPEN/CLOSE buttons.

- **Start/Stop** – These buttons start or stop the laser marking process while in "Manual" or "Easy-Mode" on the system.

- **Focus** – This controls the level of the T-Slot tool base to focus the laser on your parts. This function will not work in "Easy Mode" which helps to prevent accidental changing of the focal height during large part runs.
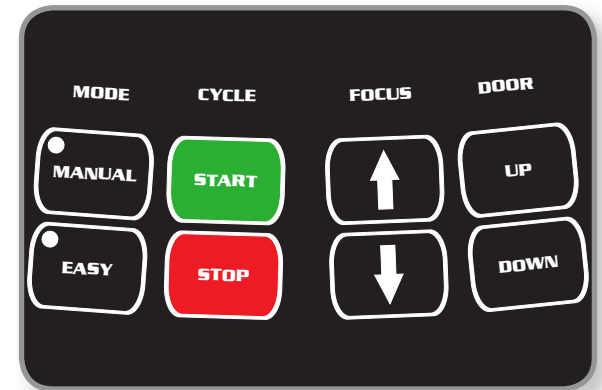
  If you purchased a Minilase™ MANUAL, this button is not included on your system. You will adjust the focal height using the manual control on the right front side of the Minilase™ system.

- **Door Up/Down** – The top button opens the door and must be held down to open the door completely. The bottom button closes the door and must be held down to close the door completely. These functions will only work in "Manual Mode".

  If you purchased a Minilase™ Manual, this button is not included on your system. You will manually open and close the door using the front handle. The door system is designed to remain open when fully extended upward. To close the door, simply pull the handle downward and the door will release from its upright position.

- **E-Stop** – Emergency Stop shuts down the system in case of an emergency. If the E-Stop is pressed, the door will open approximately 1 inch and the laser will be disabled. To disengage the E-Stop, pull up on the red E-Stop Control Button.

  If you purchased a Minilase™MANUAL, this button is not included on your system.

Step 14: E-STOP button.

STEP 18: T-Slot Tool Base Customization. The T-Slot tool base can be removed for customization and/or attaching fixtures or part holding devices. First, locate the two set screws on the arms extending from the inside rear wall that slides into the slots on the back of the T-Slot tool base. Once these screws are lose, the T-slot tool base will easily lide off of the arm mounts.

Step 15: T-Slot Tool Base Customization.

STEP 19: Maintenance. Your Minilase™ system requires very little maintenance, as it is air cooled and contains very few mechanical or moving parts. However, there is one cooling fan with a removable dust filter that require cleaning on a routine basis. (DO NOT BLOCK THIS PORT DURING LASER OPERATION). This fan is located on the right side of the system. This fan has a removable plastic cover. Simply pull on the cover with even pressure to remove it and replace the filter material. Replacement filter material can be purchased from TYKMA, or you can buy OEM filter material from any standard supplier and cut it to size.

Do not block these ports during laser operation.

TYKMA highly recommends and provides a variety of fume extraction equipment to minimize dust, fumes or smoke that can be created during deep marking processes, engraving anodized surfaces, plastics and other coated materials. Proper use and maintenance of your TYKMA Laser Marking System ensures optimum performance, warranty coverage and prolongs equipment life. Consult the appropriate MSDS to make sure your production operation is in compliance with government mandated environmental safety standards.

FILTER MAINTENANCE LOG:

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NOTES:

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