

USER'S MANUAL 990-867
REVISION 2: January 2015



AMADA MIYACHI AMERICA, INC.

INSTALLATION MANUAL

FOR THE

DELTA MARKER WORKSTATION

MANUAL DOORS WITH MOTION



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REVISION RECORD

| Revision | EO | Date | Basis of Revision |
|-----------------|-----------|-------------|--------------------------|
| 1 | N/A | 06/08 | Engineering Release |
| 2 | N/A | 01/15 | Update Company Logo |

FOREWORD

Thank you for purchasing the Delta Marker Workstation. If you have any questions about the contents of this manual, or find any errors or omissions, please notify America Miyachi America at:

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WARNING

This instruction manual describes how to perform procedures on lasers. These procedures **MUST** be performed as detailed by QUALIFIED and TRAINED personnel.

Procedures not performed as prescribed in this manual may expose personnel to laser radiation hazards.

Be sure to wear protective goggles having an optical density of at least 6 at a wavelength of 1064 nanometers.

CDRH COMPLIANCE STATEMENT

The Amada Miyachi America laser workstation is certified to be fully compliant with all applicable standards and regulations as set forth by the United States of America's Health and Human Services (HHS), Food and Drug Administration (FDA), Center for Devices and Radiological Health (CDRH), standard 21 CFR 1040.10 for Class I laser devices.

Workstation Specifications

| Item | Delta Marker Workstation |
|----------------|--|
| Width | 39.8 in. (101.10 cm) |
| Height | 74.7 in. (189.74 cm) |
| Depth | 25.5 in. (64.77 cm) |
| Weight** | 290 lbs. (131.54 Kg) |
| Viewing window | Optical density greater than 5 at 1064 nm wavelength |
| Exhaust port | 3 in. (7.62 cm) port*** Two on back panel |

** Approximate weight (excluding Laser). The weight will depend on actual components mounted in workstation.

*** When applicable

Laser Safety Labels (See Figures Included in Appendix A)

The following safety labels are mounted on the workstation as shown:

- 2** **DANGER** VISIBLE AND/OR INVISIBLE LASER RADIATION WHEN OPEN. AVOID EYE AND SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.
- 3** **DANGER** VISIBLE and/or INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID EYE AND SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION
- 4, 5, 6** Standard laser safety symbols. Label 4 is the smallest; label 6 is the largest.
- 7** **CAUTION** TO PREVENT SHOCK HAZARD, DISCONNECT POWER SUPPLY CORD AND WAIT FIVE MINUTES BEFORE REMOVING COVER.

NOTE: The same laser safety labels shown mounted on the right-hand side of the workstation are also mounted on the left-hand side.

User Maintenance

WARNING: The Delta Marker Workstation has been manufactured and tested to meet standard CDRH, 21 CFR 1040.10, Class I accessible emission limits. If you suspect a light leak, DO NOT use the workstation until you have consulted with Miyachi Unitek Lasers. If necessary, we will have you return your unit to us, or send one of our technicians to your site.

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Section I. General Description

Description

The floor standing Delta Laser Workstation is approximately 39.80" wide x 25.5" deep x 74.7" high. It is a heavy duty steel CDRH Class I laser-safe enclosure with a hinged front access door, recessed electronic bay, two large Nd:YAG safety view ports, safety interlocks, interior lighting and fume extraction port. The electronic bay includes the control wiring distribution, PLC, control system. The workstation also includes control panel, and rear connection panel.

(Also, refer to the PVA650 installation and operations manuals).



Delta Laser Workstation Dimensions (Figure 1A)



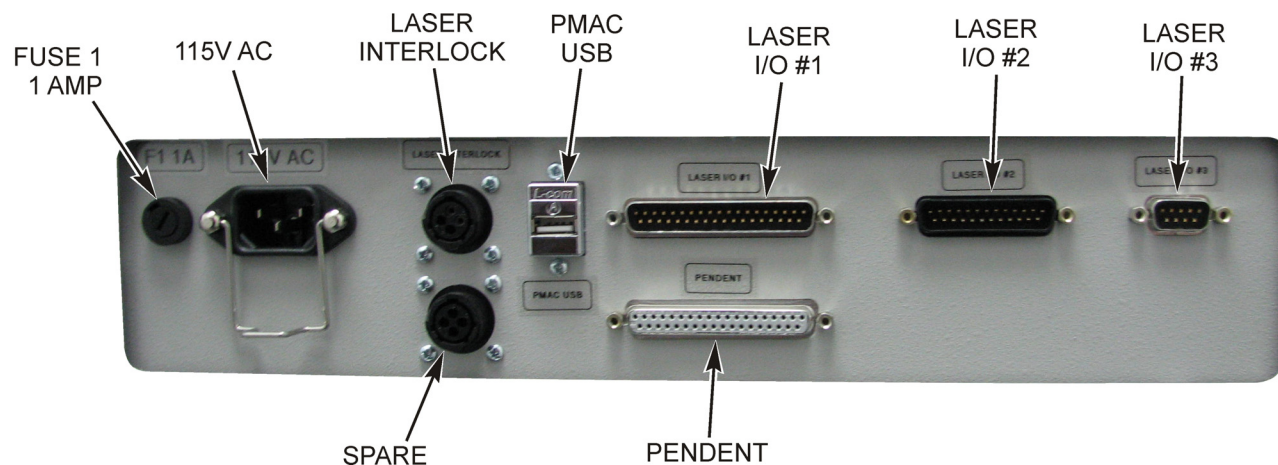
Workstation Facility Requirements (Figures 1A)

- Electrical:** The workstation requires 115 VAC, 12 Amps or 230 VAC 6 Amps. A power cable is supplied to connect the system to facility power.
- Air:** 80-100 PSI filtered air supply line supplied by customer ($\frac{1}{4}$ " dia quick-connect hose connection)
- Cover Gas:** Supplied by customer ($\frac{1}{4}$ " dia quick-connect hose connection supplied by MUC). Industrial grade Argon at 60-100 PSI. (Supplied by customer)

Section II. Components and Figures

Workstation Rear Connector Panel (Figure 1B)

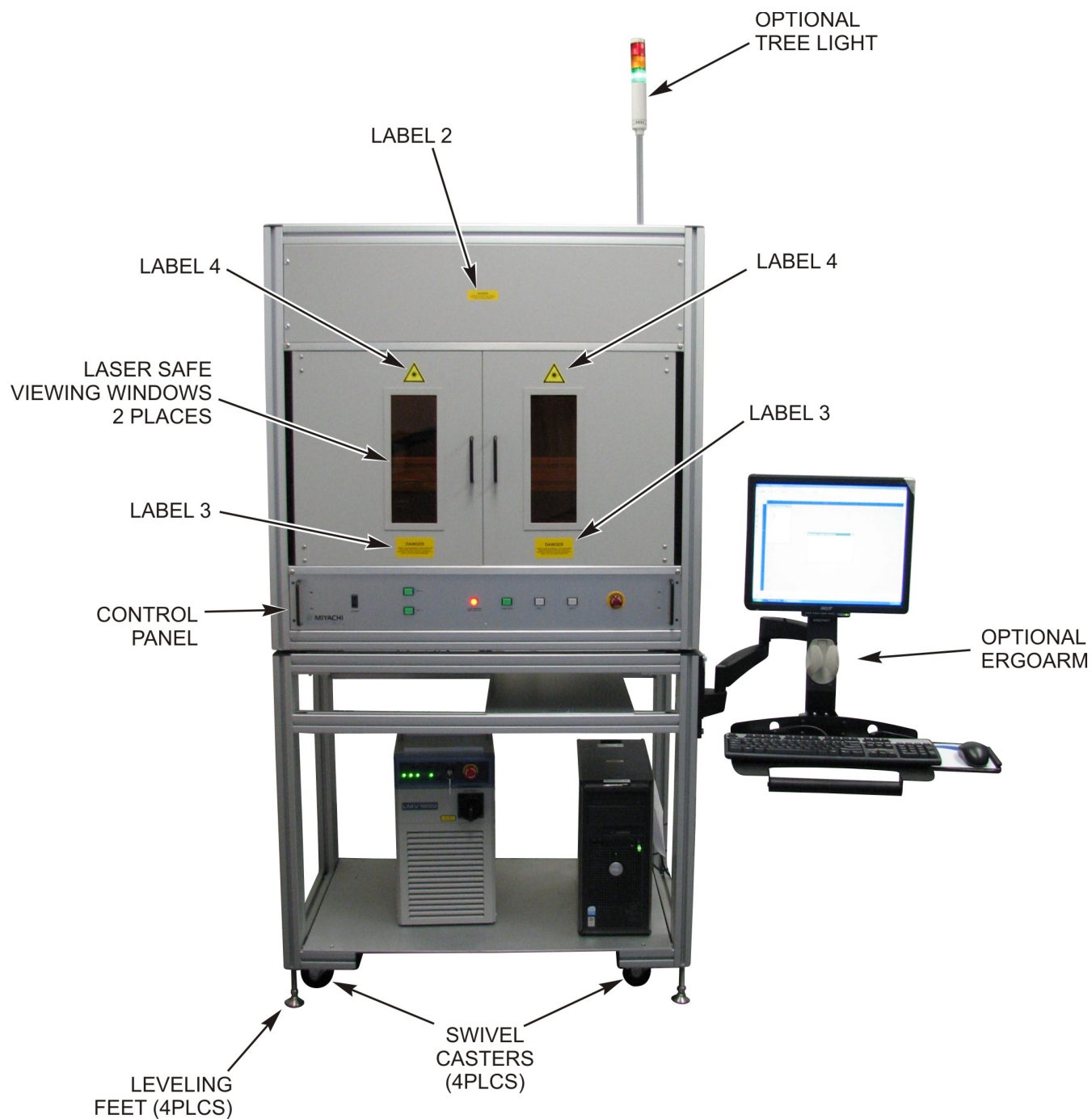
(Circuit Breakers may vary)



Workstation Components

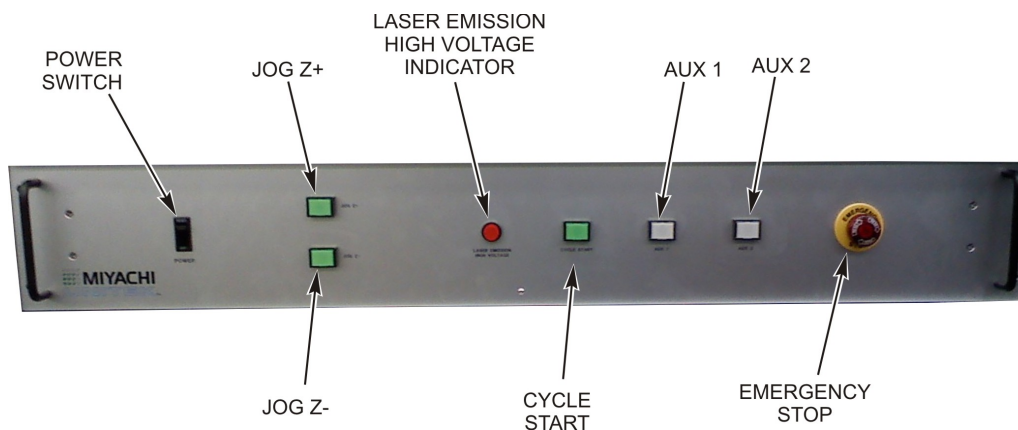
- Viewing Windows:** Windows are provided for safely viewing the weld operation while the laser beam is turned on.
WARNING: The windows are specially treated (See Specifications). Do not replace the windows with ones having a lower optical density specification. Excessive viewing of the laser weld area is not recommended even when viewing through the protective glass. Never stare directly into Laser Beam.
- Interlock Switches:** Two shutter interlock switches are wired in series, and one door interlock cable is provided. The laser will automatically be disabled if the interlock switches fail to close and laser operation is activated.
WARNING: Do not attempt to override these switches. Exposure to laser beam radiation can cause severe injury.
- EMO Button:** Pressing this button will disable the laser system and terminate motion. The laser will not operate again until the system is reset.
- Hinged Door:** The doors provide access to the interior of the enclosure. When they are open and the safety interlock system is connected to the laser, the laser cannot be operated.
- Height Adjustment:** Leveler feet with swivel pads.
- Lights:** One fluorescent light provides illumination of the interior work area.
- Power Strip:** An external 115 VAC power strip is supplied with the enclosure. It is provided for auxiliary workstation components.

Workstation Front View (Figure 2)



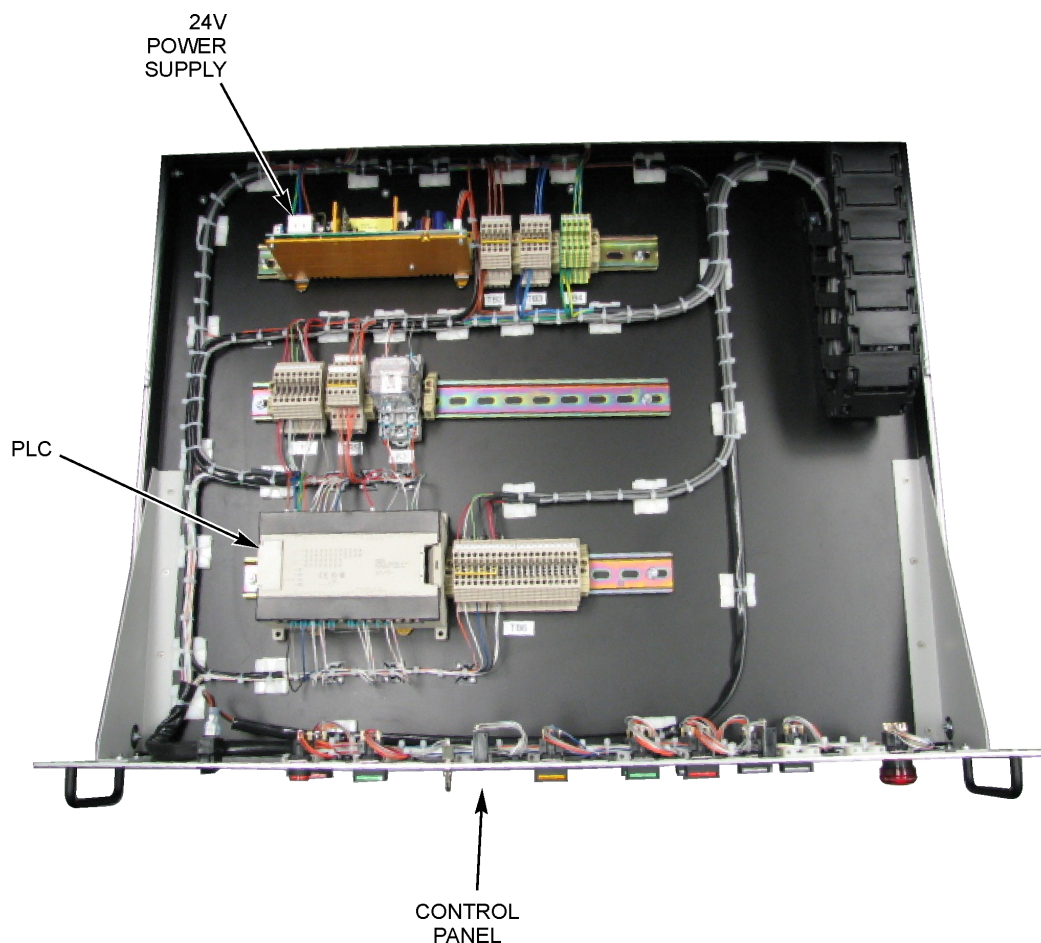
Workstation Control Panel (Figure 3)

(Panels may vary)



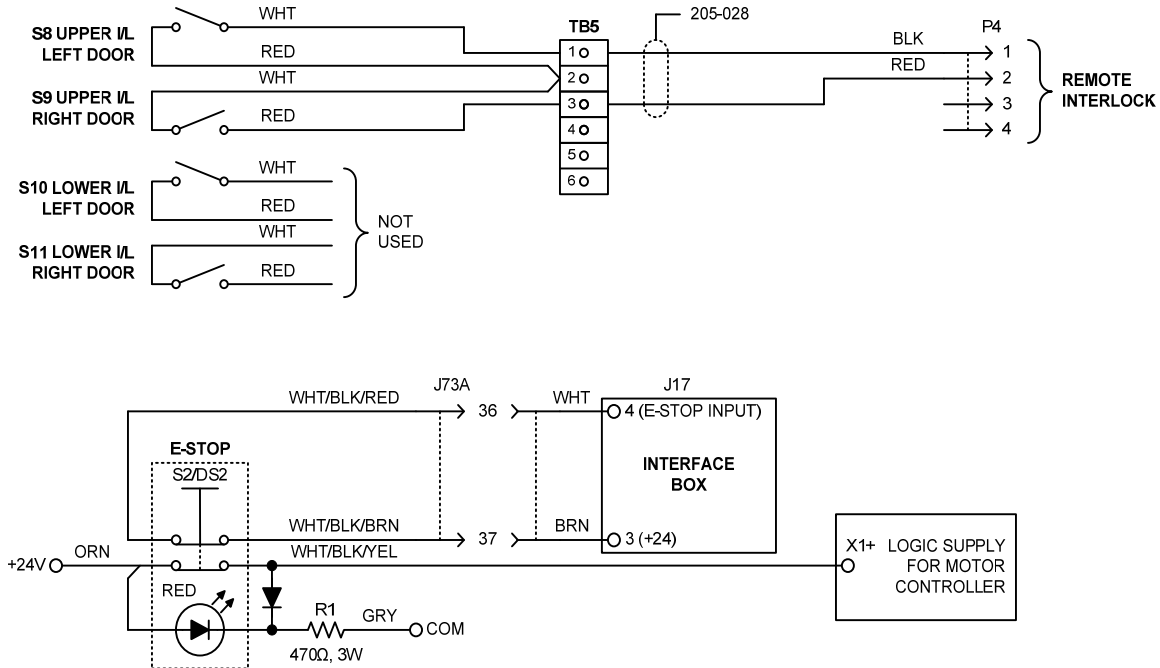
Workstation Electrical Bay – Front Access (Figure 4)

(Standard System Shown. Some components may vary or not shown)

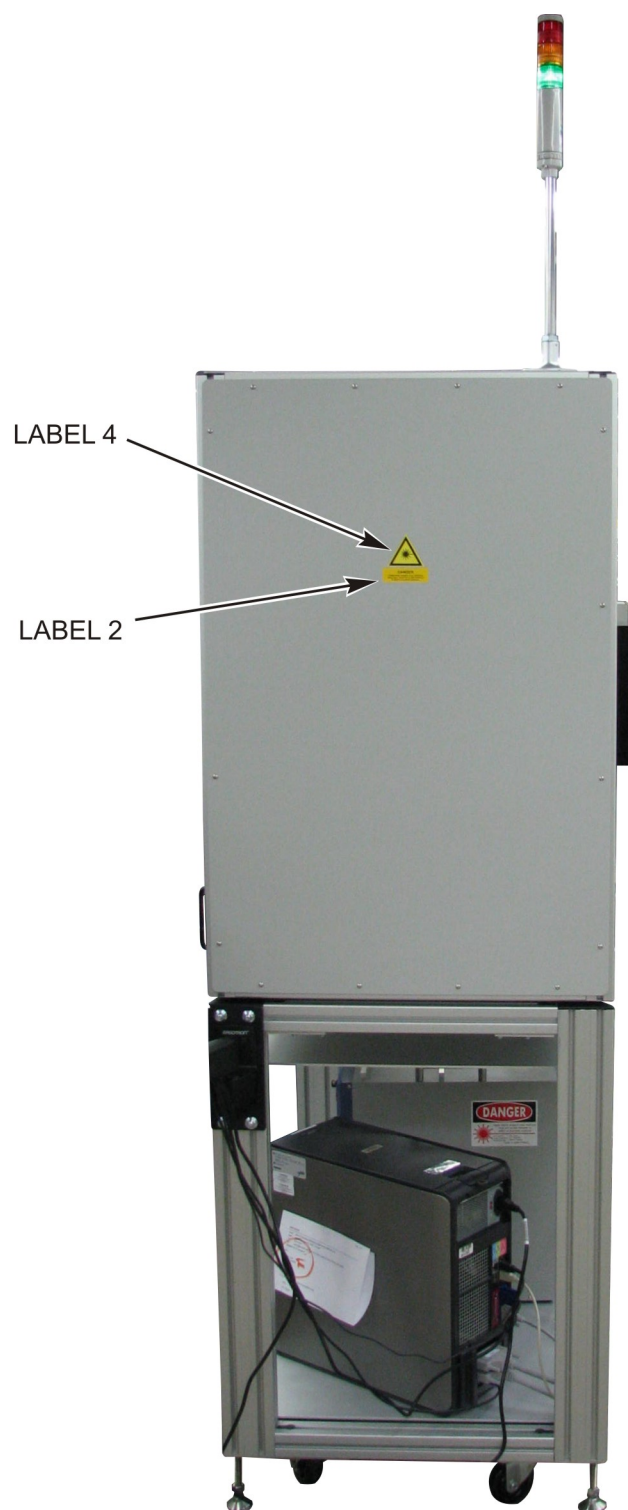


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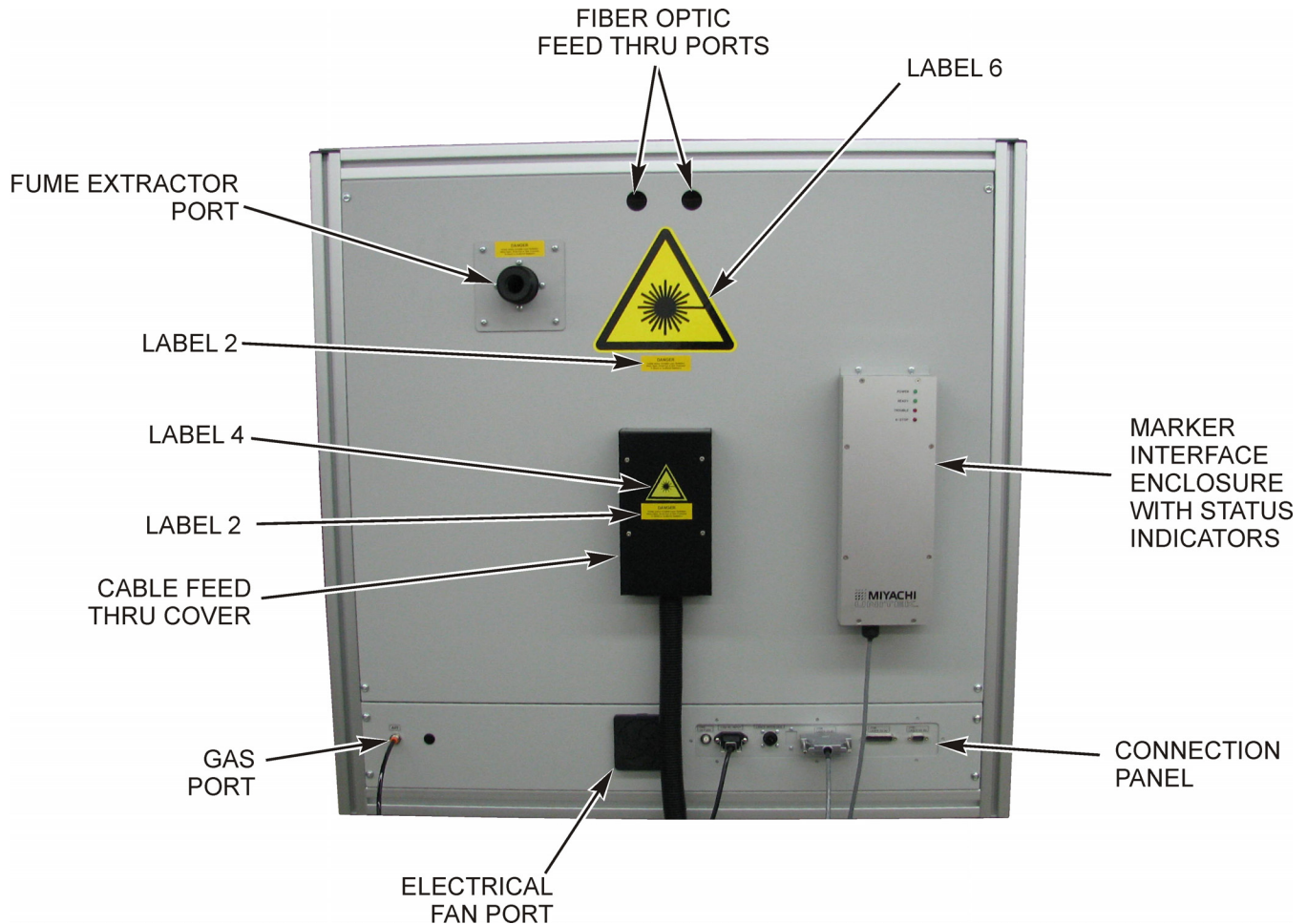
System Connection Utilizing Laser Emergency Stop and Door Safety Interlocks and Wiring Diagram (Figure 5)



Workstation Side View (Figure 6)



Workstation Rear View (Figure 8)



Exhaust Connections:

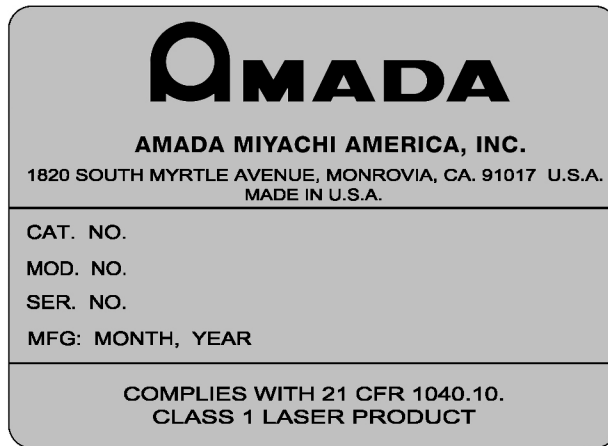
3" dia. exhaust connection is available to port exhaust gases from the enclosure interior (at rear of enclosure).

Fiber Optic Cable Entry Port:

These ports provide entry for fiber optic cable. **WARNING:** Once a strain relief grommet has been loosened for fiber removal or replacement completely retighten prior to operation of laser.

Appendix A

Labels and Warnings



1



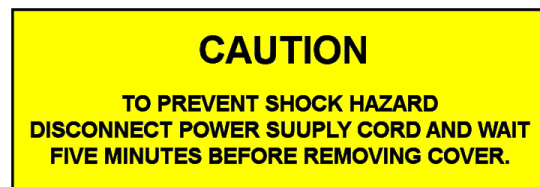
2 (425-113)



3 (425-098)



4-SMALL 5-MEDIUM 6 LARGE
INTERNATIONAL LASER
WARNING LABEL



7 (4-29777-01)

Appendix B

User Notes and Comments: