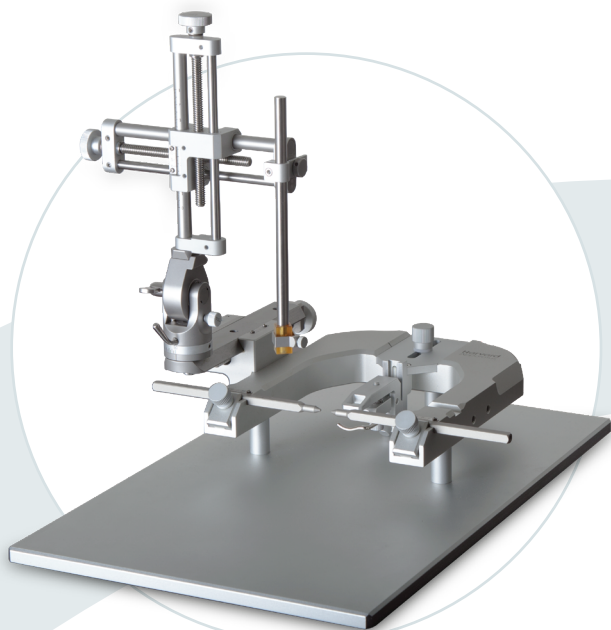


Small Animal Stereotaxic Instruments

USER'S MANUAL



Compact Stereotaxic Instruments
Standard U-Frame Stereotaxic Instruments
Digital Stereotaxic Instruments



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Warranty & Repair Information

Manual Description

This manual is designed to provide all operational and program information required to operate Harvard Apparatus Stereotaxic Instruments. The functions and features are described in the Technical Specifications section.

Warranty

Harvard Apparatus warrants this instrument for a period of two years from date of purchase. At its option, Harvard Apparatus will repair or replace the unit if it is found to be defective as to workmanship or materials. This warranty does not extend to damage resulting from misuse, neglect or abuse, normal wear and tear, or accident. This warranty extends only to the original consumer purchaser.

IN NO EVENT SHALL HARVARD APPARATUS BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. **THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR USE, OR OF ANY OTHER NATURE.** Some states do not allow this limitation on an implied warranty, so the above limitation may not apply to you.

If a defect arises within the two year warranty period, promptly contact **Harvard Apparatus, 84 October Hill Road, Holliston, Massachusetts 01746** using our toll free number 1-800-272-2775, or outside the U.S. call 508-893-8999. Our E-mail address is support@hbiosci.com. Goods will not be accepted for return unless an RMA (returned materials authorization) number has been issued by our customer service department. The customer is responsible for shipping charges. Please allow a reasonable period of time for completion of repairs or replacement. If the unit is replaced, the replacement unit is covered only for the remainder of the original warranty period dating from the purchase of the original device.

This warranty gives you specific rights, and you may also have other rights which vary from state to state.

General Safety Information

Please read the following safety precautions to ensure proper use of the digital display for the Harvard Apparatus Stereotaxic Instrument. If the equipment is used in a manner not specified, the protection provided by the equipment may be impaired.

To Prevent Hazard or Injury

Use Proper Power Supply

The unit is supplied with an approved power supply.

Always use the provided power supply for the digital display.

Ground the Product

This product is grounded through the grounding conductor of the line cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making any connections to the input or output terminals of the product, ensure that the product is properly grounded.

Make Proper Connections

Make sure all connections are made properly and securely. Any signal wire connections to the unit must be no longer than 3 meters.

Observe All Terminal Ratings

Review the operating manual to learn the ratings on all connections.

Orient the Equipment Properly

Do not orient the equipment so that it is difficult to operate the disconnection device.

Place product in Proper Environment

Review the operating manual for guidelines for proper operating environments.

Avoid Exposed Circuitry

Do not touch any electronic circuitry inside of the product.



CAUTION: ANIMAL SHOULD BE MONITORED BY USER AT ALL TIMES.



CAUTION: FOR RESEARCH USE ONLY. NOT FOR CLINICAL USE ON PATIENTS.



**CAUTION
REFER TO
MANUAL**



**PROTECTIVE
GROUND
TERMINAL**

Introduction

The Harvard Apparatus Small Animal Stereotaxic Instruments offer everything you have come to expect in a high quality stereotaxic instrument. These instruments are used in a wide array of neurological research areas including neuroanatomy, neurophysiology, neuropharmacology, and neurosurgery. Relevant applications include electrical stimulation, injection, signal recording, and brain lesion. The Harvard Apparatus Small Animal Stereotaxic Instruments are suitable for mouse, rat, and other like-sized animals.

The line offers the standard u-frame as well as a compact frame option. Available accessories include probe holders, species and anesthesia adapters, and a micro drill. In addition to these accessories, Harvard Apparatus offers a full line of surgical products ranging from anesthesia and ventilation to temperature control and surgical instruments. The Harvard Apparatus Stereotaxic Instruments are available in single or dual manipulator arm versions, as well as standard manual or digital manipulator arm versions, ensuring there is something available for every application.

Features

- Standard u-frame or compact designs available
- 80 mm laser engraved scale
- 180° vertical rotation with absolute locking at any position
- 360° horizontal rotation with absolute locking at any position
- Resolution of 100 μm for manual, 10 μm for digital versions
- Single or dual manipulator arm available in manual or digital versions

Installation

COMPACT STEREOTAXIC INSTRUMENT SET UP

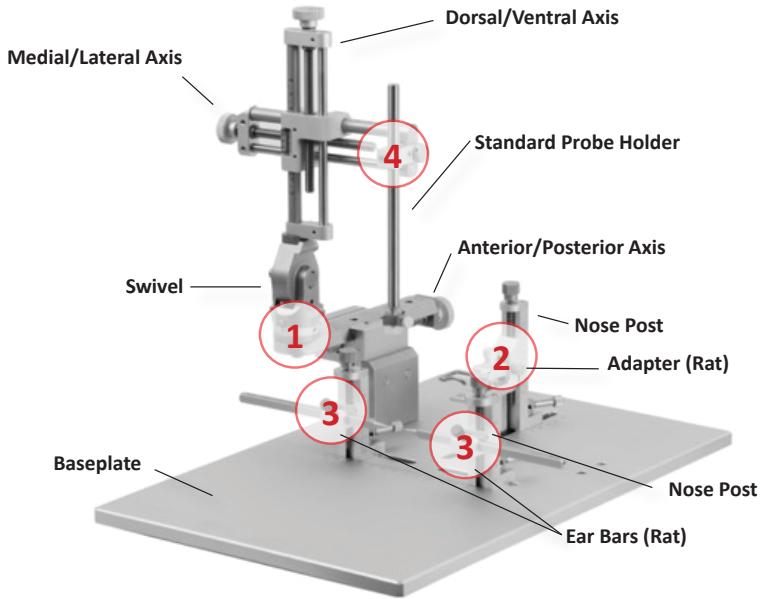


Fig.1 Compact Stereotaxic Instrument (shown with Rat Adapter and Ear Bars)

- Carefully unpack the shipping box and read through user manual.
- Secure X/Z manipulator arm to base.
 - o Using Figure 1 as a guide, retract the lock screw located at the bottom of the X/Z manipulator arm by rotating it counterclockwise.
 - o Carefully attach the X/Z manipulator arm to the protractor base of Y manipulator arm (1).
 - o Align the “0” on the protractor base scale to the vertical line on the X/Z manipulator arm.
 - o Tighten the lock by rotating it clockwise.
 - o Insert the perpendicular position button into the X/Z manipulator arm and tighten the locking screw, located on the opposite side of the button.
- Install the adapter onto the frame.
 - o Loosen the locking screw (2) to move the adapter back and forth until it is in the desired position.
 - o To secure, tighten the locking screw.

Installation

- Install ear bars.
 - o Place one ear bar from chosen pair into the left ear bar groove (3) and the other into the right ear bar groove (3). Ensure the scale is facing outwards to ensure easy reading.
 - o Position the ear bars as desired and tighten the locking screw to secure them.
- Install probe holder.
 - o Insert the probe holder onto the Z manipulator arm through the “V” block.
 - o Tighten the locking screw (4).
 - o Adjust the vertical height of the probe holder as needed using provided Allen Key.

Installation

STANDARD U-FRAME STEREOTAXIC INSTRUMENT SET UP

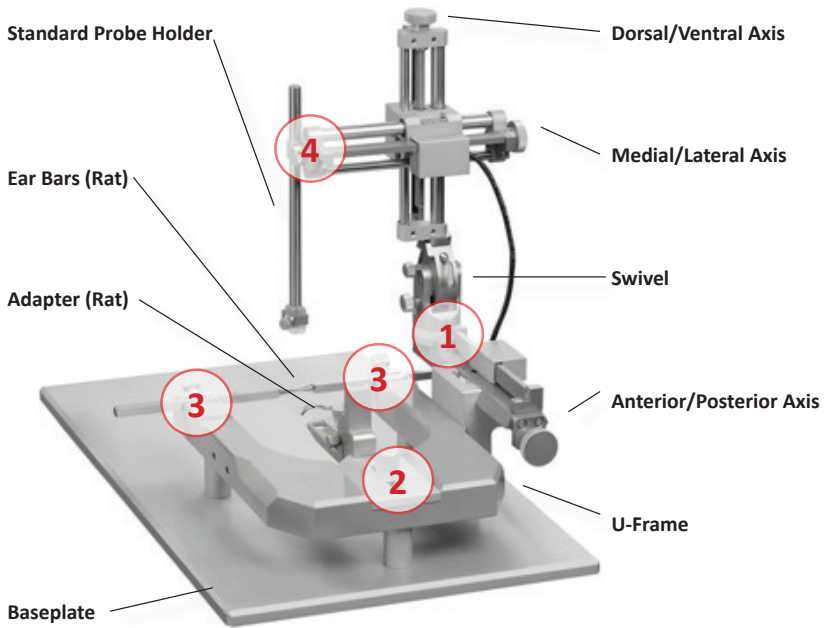


Fig.2 Standard U-Frame Stereotaxic Instrument (shown with Rat Adapter and Ear Bars)

Installation

- Carefully unpack the shipping box and read through user manual.
- Secure X/Z manipulator arm to base.
 - o Using Figure 2 as a guide, retract the lock screw located at the bottom of the X/Z manipulator arm by rotating it counterclockwise.
 - o Carefully attach the X/Z manipulator arm to the protractor base of Y manipulator arm (1).
 - o Align the “0” on the protractor base scale to the vertical line on the X/Z manipulator arm.
 - o Tighten the lock by rotating it clockwise.
 - o Insert the perpendicular position button into the X/Z manipulator arm and tighten the locking screw, located on the opposite side of the button.
- Install the adapter onto the u-frame.
 - o Loosen the locking screw (2) to move the adapter back and forth until it is in the desired position.
 - o To secure, tighten the locking screw.
- Install ear bars.
 - o Place one ear bar from chosen pair into the left ear bar groove (3) and the other into the right ear bar groove (3). Ensure the scale is facing outwards to ensure easy reading.
 - o Position the ear bars as desired and tighten the locking screw to secure them.
- Install probe holder.
 - o Insert the probe holder onto the Z manipulator arm through the “V” block.
 - o Tighten the locking screw (4).
 - o Adjust the vertical height of the probe holder as needed using provided Allen Key.

Installation

DIGITAL DISPLAY



Fig.3 Connection Diagram of each X-, Y- and Z-Axis Sensor to Digital Display Module



Fig.4

- Set up the stereotaxic instrument as previously detailed.
- Attach the sensor cables to the jacks located on the rear panel of the digital display. Cables and jacks are both colored coded as shown above.
 - o Red = X axis
 - o Yellow = Y axis
 - o Blue = Z axis
- Turn the digital display on using on/off switch located on on the rear panel.
- Once Bregma has been located, zero all 3 axes simultaneously by pressing the “CLR” button on the front panel (see Fig. 4). Once the digital display has been zeroed, the real time position of each manipulator arm will displayed as the arm is moved.

Ordering Information

| Order# | Product |
|------------|---|
| Mouse Only | |
| 75-1820 | Compact Mouse Stereotaxic Instrument, Single Manipulator |
| 75-1821 | Compact Mouse Stereotaxic Instrument, Dual Manipulator |
| 75-1822 | Compact Mouse Stereotaxic Instrument, Single Manipulator, Digital |
| 75-1823 | Compact Mouse Stereotaxic Instrument, Dual Manipulator, Digital |
| 75-1824 | Two Mice Stereotaxic Instrument, single Manipulator |
| 75-1825 | Two Mice Stereotaxic Instrument, single Manipulator, Digital |
| Rat Only | |
| 75-1816 | Compact Rat Stereotaxic Instrument, Single Manipulator |
| 75-1817 | Compact Rat Stereotaxic Instrument, Dual Manipulator |
| 75-1818 | Compact Rat Stereotaxic Instrument, Single Manipulator, Digital |
| 75-1819 | Compact Rat Stereotaxic Instrument, Dual Manipulator, Digital |
| Mouse/Rat | |
| 75-1826 | Mouse and Rat Stereotaxic Instrument, Single Manipulator |
| 75-1827 | Mouse and Rat Stereotaxic Instrument, Dual Manipulator |
| 75-1828 | Mouse and Rat Stereotaxic Instrument, Single Manipulator, Digital |
| 75-1829 | Mouse and Rat Stereotaxic Instrument, Dual Manipulator, Digital |

| Order# | Product |
|---------|---|
| Rat | |
| 75-1800 | Standard U-Frame Stereotaxic Instrument, Rat, 18° ear bars, Single Manipulator |
| 75-1801 | Standard U-Frame Stereotaxic Instrument, Rat, 18° ear bars, Dual Manipulator |
| 75-1802 | Standard U-Frame Stereotaxic Instrument, Rat, 18° ear bars, Single Manipulator, Digital |
| 75-1803 | Standard U-Frame Stereotaxic Instrument, Rat, 18° ear bars, Dual Manipulator, Digital |
| 75-1804 | Standard U-Frame Stereotaxic Instrument, Rat, 45° ear bars, Single Manipulator |
| 75-1805 | Standard U-Frame Stereotaxic Instrument, Rat, 45° ear bars, Dual Manipulator |
| 75-1806 | Standard U-Frame Stereotaxic Instrument, Rat, 45° ear bars, Single Manipulator, Digital |
| 75-1807 | Standard U-Frame Stereotaxic Instrument, Rat, 45° ear bars, Dual Manipulator, Digital |

Ordering Information

| Order # | Product |
|--------------------|--|
| Mouse | |
| 75-1808 | Standard U-Frame Stereotaxic Instrument, Mouse, Single Manipulator |
| 75-1809 | Standard U-Frame Stereotaxic Instrument, Mouse, Dual Manipulator |
| 75-1810 | Standard U-Frame Stereotaxic Instrument, Mouse, Single Manipulator, Digital |
| 75-1811 | Standard U-Frame Stereotaxic Instrument, Mouse, Dual Manipulator, Digital |
| Mouse/Neonatal Rat | |
| 75-1812 | Standard U-Frame Stereotaxic Instrument, Mouse/Neonatal Rat, Single Manipulator |
| 75-1813 | Standard U-Frame Stereotaxic Instrument, Mouse/Neonatal Rat, Dual Manipulator |
| 75-1814 | Standard U-Frame Stereotaxic Instrument, Mouse/Neonatal Rat, Single Manipulator, Digital |
| 75-1815 | Standard U-Frame Stereotaxic Instrument, Mouse/Neonatal Rat, Dual Manipulator, Digital |

Ordering Information

ACCESSORIES

| Order# | Product |
|---------------------|---|
| Species Adapters | |
| 75-1849 | Rat Adapter |
| 75-1850 | Mouse Adapter |
| 75-1851 | Mouse/Neonatal Rat Adapter |
| 75-1852 | Neonatal Mouse Adapter |
| 75-1854 | Spinal Cord Adapter, rat and mouse |
| Anesthesia Adapters | |
| 75-1883 | Mouse or Neonatal Rat (<30g) Mask for Active Anesthesia Scavenging |
| 75-1878 | Mouse or Neonatal Rat (~30 to 70g) Mask for Active Anesthesia Scavenging |
| 75-1879 | Rat (<300g) Mask for Active Anesthesia Scavenging |
| 75-1880 | Rat (>300g) Mask for Active Anesthesia Scavenging |
| 75-1859 | Rat Mask for Passive Anesthesia Scavenging |
| 75-1860 | Mouse or Neonatal Rat (~30 to 70g) Mask for Passive Anesthesia Scavenging |
| Ear Bars | |
| 75-1861 | Cat/Monkey Ear Bars, 18° |
| 75-1862 | Cat/Monkey Ear Bars, 45° (non-rupture) |
| 75-1863 | Rat Ear Bars, 18° |
| 75-1864 | Rat Ear Bars, 45° (non-rupture) |
| 75-1866 | Rat Ear Bars, Hollow, 45° (non-rupture) |
| 75-1867 | Mouse Ear Bars, 60° |
| 75-1868 | Mouse Ear Bars, Rubber (non-rupture) |
| 75-1869 | Mouse Ear Bars, Cuff |
| 75-1884 | Mouse Ear Bars, Dual Sided, Non-Puncture and Rubber Tips |
| 75-1885 | Mouse Ear Bars, Dual Sided, Puncture and Jaw Holder |

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