

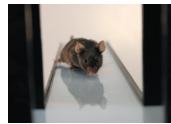
Instrumentation and Software for Research

SPECIALIZED MAZES

| Elevated Plus Maze | 2-5 |
|--------------------|------|
| Zero Maze | 6-7 |
| Barnes Maze | 3-11 |
| Water Maze | -15 |











| | OVERALL (L×W×H) | HEIGHT (W/CAMERA MOUNT) | ARMS (L×W) | CENTER (L×W) | WALLS (L×W) |
|----------|---|----------------------------|------------------------------------|-----------------------------------|--------------------------|
| ENV-560 | 42" x 42" x 42.25" (106.68 x 106.68 x 119.94 cm) | N/A | 20" x 4" (50.8 x 10.16 cm) | 4" x 4" (10.16 x 10.16 cm) | 15.94" (40.49 cm) |
| ENV-560A | 29" x 29" x 36.9" (73.66 x 73.66 x 93.73 cm) | 55.92" (142.04 cm) | 13.75" x 2.39" (34.9 x 6.07 cm) | 2.4" x 2.4" (6.1 x 6.1 cm) | 7.53" (19.13 cm) |

| PACKAGE CONTENTS | | | | | |
|------------------|--------------|---|---|---|--|
| A = MED-ELVM | | M-1M $B = MED-ELVM-1R$ | | | |
| # | SKU | DESCRIPTION | A | В | |
| 1 | DIG-713A | SuperPort TTL Module, 16 Input | A | В | |
| 8 | ENV-253SD | Individual IR Source + Detector | Α | | |
| 1 | ENV-256I-8 | IR Controller to 5V Inputs, 8 Channel | A | В | |
| 1 | ENV-560A-8 | IR Photobeam Elevated Plus Maze for Mouse | Α | | |
| 1 | ENV-560-IR | IR Photobeam Elevated Plus Maze for Rat | | В | |
| 1 | SG-210TTL-20 | DB-25 Cable, 20' (6.1 m) | A | В | |
| 1 | SG-210TTL-5 | DB-25 Cable, 5' (1.52 m) | A | В | |
| 1 | SG-256J | Junction Box | A | В | |

ELEVATED PLUS MAZE PACKAGE IR PHOTOBEAM

MED-ELVM-1M MOUSE MED-ELVM-1R RAT

With the addition of IR sensors, this maze package is for use with Med-PC software.

- Dual IR photobeam sensors at the entrance to each runway distinguishes between exploration & entrances for accurate position detection
- Multiple mazes can share some interface components, contact our sales team for cost saving options

ELEVATED PLUS MAZE STANDARD

ENV-560 RAT ENV-560A MOUSE

Without IR sensors, this maze is for use for manual scoring or with third party video tracking software.

- Sturdy base with plastic runways
- Interface and software packages sold separately
- Easily disassembled for storage
- Standard maze has black walls with white plastic runways (other colors available upon request)
- Sturdy support stand is held together with quick connect pins for easy disassembly
- IR control box is detachable for simpler cable management
- Runways easily snap on and off for cleaning



BLUE FLOOR INSERTS

ENV-560-RC RAT ENV-560A-RC MOUSE

- Use this blue PVC for high contrast color for improved video tracking performance using light colored animals
- Thin material will not interfere with IR photobeams

| | | OVERALL (L×W×H) | HEIGHT W/CAMERA MOUNT | ARMS (L×W) | CENTER (L×w) | WALLS (L×W) |
|--------|----|---|-----------------------------|-----------------------------------|----------------------------------|--------------------------|
| ENV-56 | 4 | 42" x 42" x 42.25" (106.68 x 106.68 x 119.94 cm) | N/A | 20" x 4" (50.8 x 10.16 cm) | 4" x 4" (10.16 x 10.16 m) | 15.94" (40.49 cm) |
| ENV-56 | 4A | 29" x 29" x 36.9" (73.66 x 73.66 x 93.73 cm) | 55.92" (142.04 cm) | 13.75" x 2.4" (34.9 x 6.1 cm) | 2.4" x 2.4" (6.1 x 6.1 cm) | 7.53" (19.13 cm) |



ELEVATED PLUS MAZE PACKAGE NIR BACKLIT

MED-NIRPMNM MOUSE MED-NIRPMNR RAT

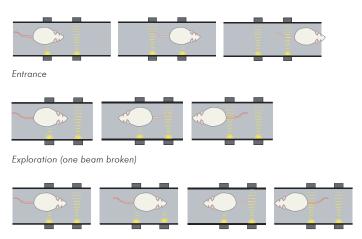
- Includes a maze and an NIR control box
- Control the lights manually when connected to a wall outlet, or remotely via a 28 V Med output

ELEVATED PLUS MAZE NIR BACKLIT

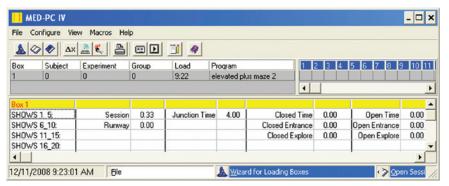
ENV-564 RAT ENV-564A MOUSE

Without IR sensors, this maze is for use for manual scoring or with third party video tracking software.

- NIR lighting is invisible to the animal, which eliminates distractions caused by bright overhead visible lighting such as shadows, glare, and reflections
- Evenly illuminated translucent polypropylene floor silhouettes the animal creating an easy to track, high contrast video image
- Track animals of various coat colors without worrying about ambient light or maze color
- ° NOTE: Requires monochrome video camera with an NIR filter



Exploration (two beams broken)



SOF-700RA-3 shown in Med-PC IV

ELEVATED PLUS MAZE DATA COLLECTION PROTOCOL

SOF-700RA-3 MOUSE+RAT

- Contains two Medstate Notation[™] procedures:
 - One defines the runway time as the moment the subject starts exploring the runway
 - The other requires the subject to clear both photobeams in the runway before the runway time is counted
- Set the session time and start delay
- Default session time = 15 minutes
- Default start delay = 5 seconds

- Data collection includes:
- Amount of entrances into open and closed runways
- Amount of explorations into open and closed runways
- $\,{}^{\circ}$ Time spent in the open and closed runways
- Number of full entrances into each of the four runways







ZERO MAZE STANDARD

ENV-561 RAT ENV-561A MOUSE

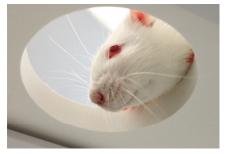
Without IR sensors, this maze is for use for manual scoring or with third party video tracking software.

- Wall height of runways optimized for video recording applications
- Lightweight & easy to clean plastic material
- Textured matte finish plastic reduces glare

ZERO MAZE NIR BACKLIT

ENV-561-BL RAT ENV-561A-BL MOUSE

- NIR lighting is invisible to the animal, which eliminates distractions caused by bright overhead visible lighting such as shadows, glare, and reflections
- Evenly illuminated maze floor silhouettes the animal creating an easy to track, high contrast video image
- Track animals of various coat colors without worrying about ambient light or maze color
- NOTE: Requires monochrome video camera equipped with an NIR filter, sold separately
- Closed runways feature hinged covers to prevent the animal climbing out of the maze









| PACKAGE CONTENTS | | | | | | |
|----------------------------------|--|-------------------------------------|---|---|---|---|
| A = ENV-562-M B = ENV-562-M-S | | C = ENV-562 D = ENV-562- | | 5 | | |
| # | SKU | DESCRIPTION | A | В | C | D |
| 1 | ENV-562-M-GB | Safe Box for Mouse | A | В | | |
| 1 | ENV-562-M-TOP | Barnes Maze Platform for Mouse | A | В | | |
| 1 | 1 ENV-562-R-GB Safe Box for Rat | | | | С | D |
| 1 | 1 ENV-562-R-TOP Barnes Maze Platform for Rat | | | | C | D |
| 1 | MSUB-ENV-562 | Barnes Maze Stand, 55" H (139.7 cm) | A | | C | |
| 1 | MSUB-ENV-562-S | Barnes Maze Stand, 35" H (88.9 cm) | | В | | D |

BARNES MAZE PACKAGE STANDARD

ENV-562-M MOUSE 55 in.
ENV-562-M-S MOUSE 35 in.

Without IR sensors, this maze is for use for manual scoring or with third party video tracking software.

- Modular design allows the same base to be used for rats and mice, simply switch maze platforms
- Safe box features:
 - Cage washable black polypropylene
- Removable steps to facilitate entry and decrease hesitation by the test animal to escape from the aversive environment (the maze top)
- Removable, and can be placed below any hole

ENV-562-R RAT 55 in.
ENV-562-R-S RAT 35 in.

- Maze surface features:
- Constructed from bright white or blue expanded PVC to ensure proper light distribution and reduce glare
- Material is also easy to clean
- Standard colors are white or blue, but custom colors are available
- · Custom sizes available

| BVDV | IES M | 1 | TOP | |
|------|-------|----------|-----|--|

ENV-562-M-TOP MOUSE ENV-562-R-TOP RAT

- Holes evenly spaced (see illustration)
- Drawer-style tracks under each hole for easy installation of a safe box
- Platform surface made of bright white expanded PVC for proper light distribution and reduced glare
- Durable & easy to clean material

| | WORKING AREA (L×W×H) | STEP (H) |
|--------------|--|-------------------------|
| ENV-562-M-GB | 5.27" x 2.11" x 1.26" (13.39 x 5.36 x 3.2 cm) | 0.692" (1.76 cm) |
| ENV-562-R-GB | 15.25" x 4.75" x 5.6" (38.7 x 12.1 x 14.2 cm) | 1.75" (4.45 cm) |



BARNES MAZE SAFE BOX

ENV-562-M-GB MOUSE ENV-562-R-GB RAT

- Black polypropylene box provides an escape from the aversive white maze-top environment
- Easily installed under the maze in drawer-style tracks below any hole of the maze
- Removable step for easier transition between maze surface and safe box decreases hesitation by the test animal
- Cage washable



BARNES MAZE STAND

MSUB-ENV-562 MOUSE+RAT | 55 in.

MSUB-ENV-562-S MOUSE+RAT | 55 in.

- Compatible with both mouse and rat maze tops
- Either 35" (88.9 cm) or 55" (139.7 cm) heights









ENV-596M shown in mouse pool

| | PACKAGE CONTENTS | | | | | | |
|-----------------------------|---|-----------------------------------|--------------------------------|---|---|---|--|
| A = MED-WMNM B = MED-WMNM-H | | | C = MED-WMNR D = MED-WMNR-H | | | | |
| # | SKU | DESCRIPTION | A | В | C | D | |
| 1 | ENV-594M | Water Maze Pool for Mouse (white) | A | В | | | |
| 1 | ENV-594M-FI | Floor Insert for Mouse | A | В | | | |
| 1 | ENV-594R | Water Maze Pool for Rat (white) | | | C | | |
| 1 | ENV-594R-FI | Floor Insert for Rat | | | C | D | |
| 1 | 1 ENV-594R-H Water Maze Pool for use w/Heater for Rat (white) | | | | | D | |
| 1 | ENV-597 | Pool Heater | | В | | D | |

WATER MAZE PACKAGE STANDARD

MED-WMNM MOUSE HEATED

- "False bottom" insert for stowing away the heater, and provides a smooth surface for placement of platforms or other accessories anywhere on the maze floor
- Constructed of chemical resistant polyethylene material
- White is the default color, black or blue are also available
- We recommend emptying the pool using a submersible pump (ENV-599), but a drain can be installed by request

MED-WMNR RAT
MED-WMNR-H RAT HEATED

- Three basic strategies to escape the maze:
- Praxic = remembering the movements needed to get to the platform
- Taxic = uses visual cues to reach their destination
- Spatial = using distal cues as points of reference to locate themselves





| | (OD×H) | CAPACITY |
|----------|-------------------------------------|-------------|
| ENV-594M | 54" x 30" (137.16 x 76.2 cm) | 200 gallons |
| ENV-594R | 80" x 30" (203.2 x 76.2 cm) | 500 gallons |



OVERALL (L×W×H)

47.3" x 47.3" x 6.55" (120.14 x 120.14 x 16.64 cm)

64.83" x 64.83" x 16.38" (164.67 x 164.67 x 41.61 cm)

WATER MAZE POOL

ENV-594M MOUSE ENV-594R RAT

- Polyethylene plastic is easy to clean
- White pool is supplied by default, also available in blue or black
- Blue pools are ideal for high contrast video without using dye
- Depth of pool optimal for use with our platforms
- A hard cover is also available (sold separately)

POOL SUPPORT STAND w/casters

ENV-593M-C MOUSE ENV-593R-C RAT

- Rugged pool support is powder coated to prevent corrosion
- Support stand has industrial swivel casters with builtin leveling pads to easily adjust and move the pool

SUBMERSIBLE POOL HEATER

ENV-597 MOUSE+RAT

• Controlled by an external thermostat to maintain consistent temperature

NOTE: Model may vary due to supplier availability



ADJUSTABLE WATER MAZE PLATFORM

ENV-596M MOUSE ENV-596R RAT

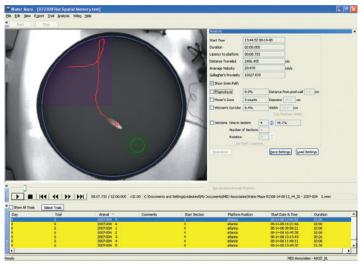
- Provides a textured surface on which the animal can escape the water
- Weighted base ensures that the platform will not drift from position after placement
- Telescoping design for adjusting the platform height as needed

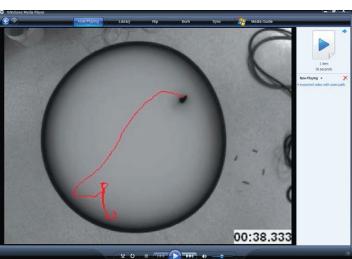
ON-DEMAND "ATLANTIS" WATER MAZE PLATFORM

ENV-595M MOUSE ENV-595R RAT

- Provides a textured surface on which the animal can escape the water
- Weighted base ensures that the platform will not shift position after placement in the pool
- Minimizes confounds due to extinction & non-spatial learning in probe trials (e.g. animal swimming a specified distance from the wall)
- Platform is held submerged well below the water's surface using electromagnets which can be deactivated, thus raising the platform
- Triggered manually or programmed with third party experiment control software or our Water Maze Tracking Software (SOF-845)
- To operate with third party software, use the TTL platform controller (SG-596MR-TTL, sold separately)
- Can be programmed to be raised:
 - At a defined time within the trial
 - When the animal remains in a region for a userdefined duration
- Operation is smooth and quiet to minimize audible or tactile cues when the platform becomes available







WATER MAZE TRACKING SOFTWARE

SOF-845 MOUSE+RAT

- Full control of study design, organize study by:
 - Day of session
 - Animal ID
 - Platform location
 - Start position
 - Maximum total duration
- Define pool parameters using a simple graphical interface:
- Size
- Platform location
- Start location

- Track & analyze animals swimming in real time:
- Latency to platform
- Average velocity
- Other swim path information
- Control an on-demand "Atlantis" platform

COMPUTER REQUIREMENTS

Windows 7, 8, or 10 (32 and 64-bit)

