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WEBSITE

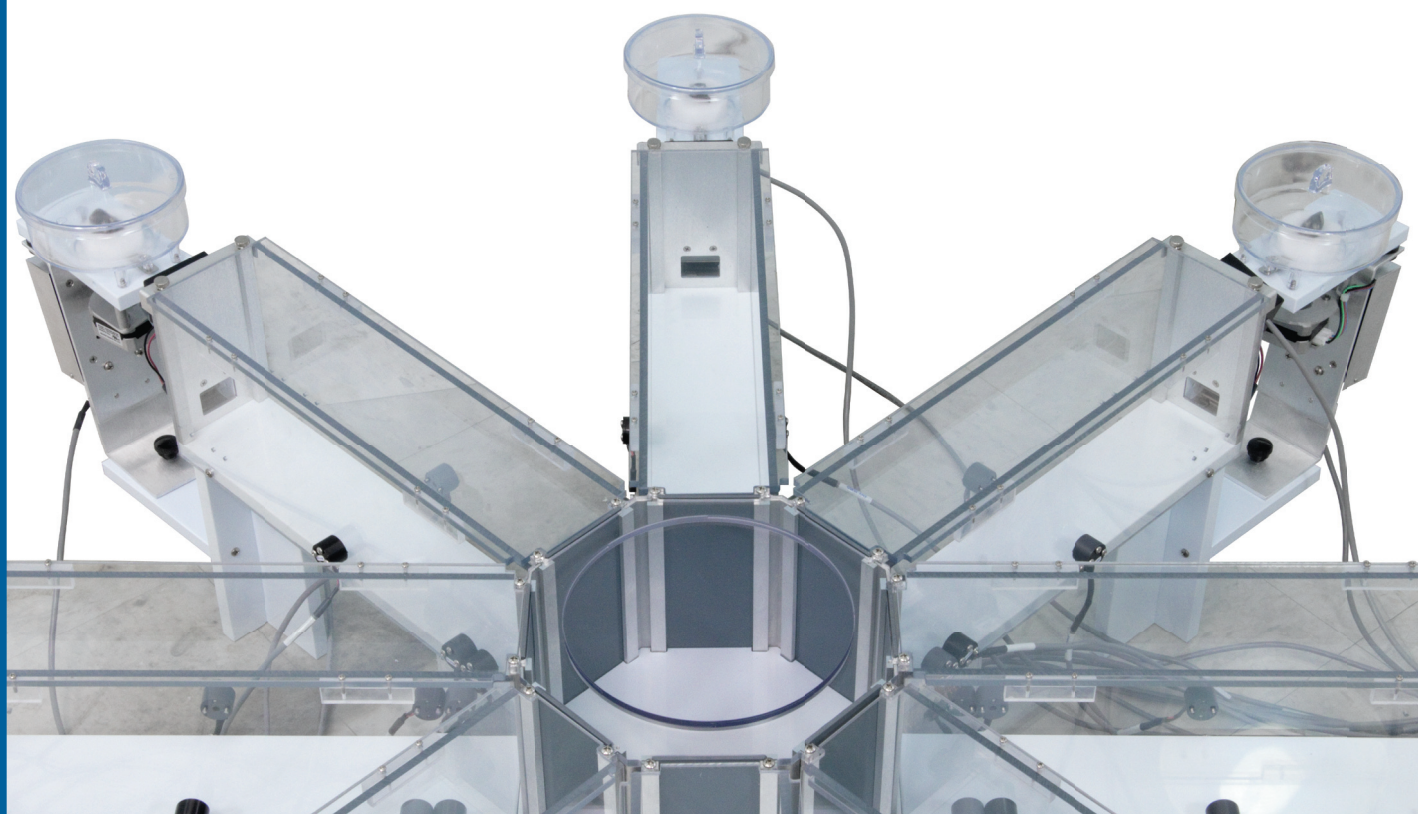
## MODULAR MAZES

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Our modular mazes make it easier than ever to have the type of maze you need when you need it. With four runway length options for rat and two for mouse, you can create the desired configuration easily and economically without the need to purchase additional maze systems.

By adding the IR Beam detection components, the software can differentiate between runway exploration and entrance by using dual sensors at the entrance to each runway and one sensor in the center. This results in more accurate position detection and reliable results. A pellet receptacle and head entry detector at the end of each goal runway with pellet dispensers allow for automated reinforcement.

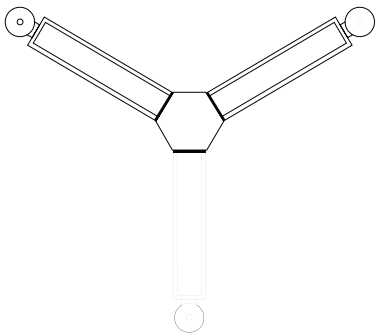
Our Near-Infrared (NIR) Backlit Mazes make identifying and tracking test animals easy regardless of coat or maze color, and without worrying about ambient light sources. NIR light is invisible to the animal, eliminating distractions caused by bright visible lighting. Backlighting the maze eliminates variables such as shadows, glare, and reflections common when using overhead lighting systems. The animal's movement can then be captured by a monochrome camera with a NIR filter mounted above the maze to capture an evenly illuminated maze floor silhouetting the animal, and producing a high contrast video image (camera and filter sold separately).

- Quiet automatic doors mounted underneath the maze floor which eliminate blind spots found in other mazes.
- No special equipment is needed, as the runway ends are compatible with our full line of current generation pellet feeders, receptacles, and guillotine doors for added versatility (see pages 14-17).
- Our standard modular maze packages can be easily converted to IR beam detection systems, making the standard package a versatile option for any lab.

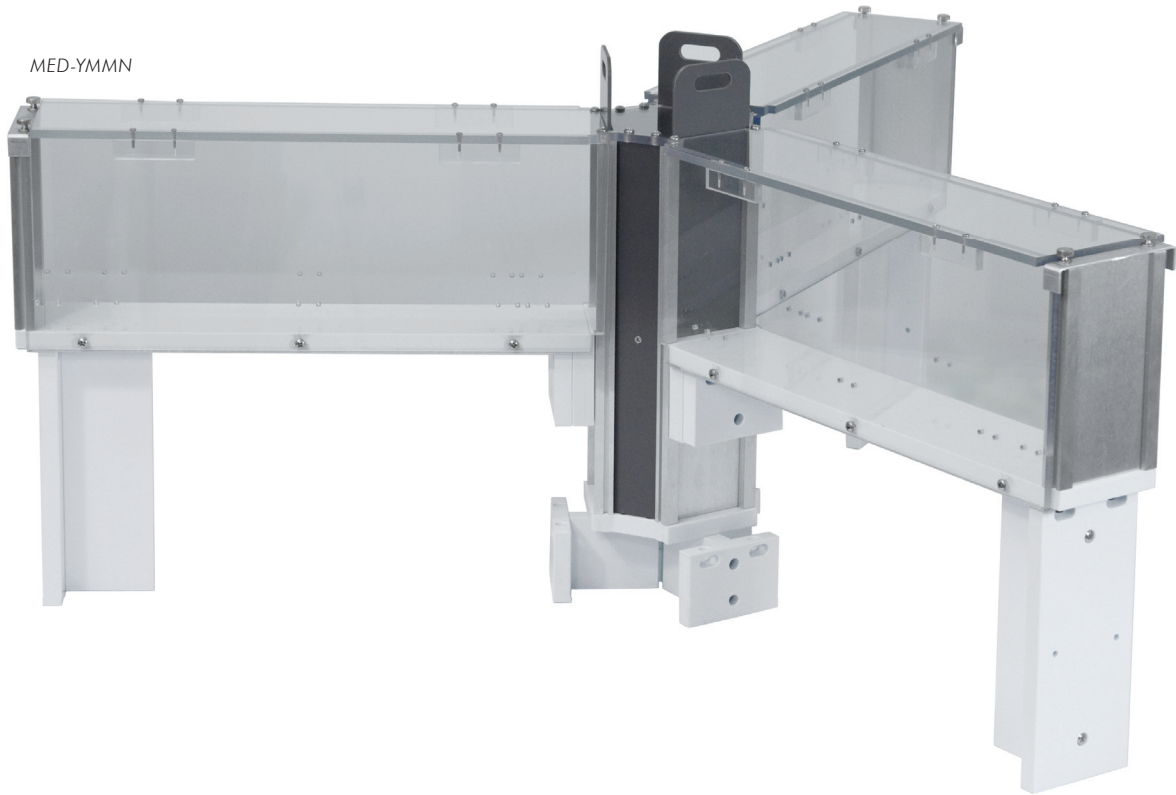
- Modular design allows swapping out of runways and hubs as needed, and can be used with Y-Maze (triangular), T-Maze (square), and Radial (octagonal) hubs.
- Available in standard, IR beam detection, or NIR backlit configurations.
- Optional blue runway inserts for improved contrast in video applications. (see page 13)

\*NOTE: Pictured with old feeder, now includes VeriFEED pellet dispenser

PACKAGE CONTENTS								
A = MED-YMMN B = MED-YMMN-AD			C = MED-YMRN D = MED-YMRN-AD			E = MED-YMAZ-U-1M F = MED-YMAZ-U1R		
#	SKU	DESCRIPTION	A	B	C	D	E	F
1	ENV-333U	Triangular Hub <i>for Mouse</i>	A	B			E	
1	ENV-533U	Triangular Hub <i>for Rat</i>			C	D		F
3	ENV-343U	Runway, 14.5" (36.83 cm) <i>for Mouse</i>	A	B			E	
3	ENV-542U	Runway, 18" (45.7 cm) <i>for Rat</i>			C	D		F
3	ENV-339U	Manual Door for Runway <i>for Mouse</i>	A					
3	ENV-340U	Auto Door for Runway <i>for Mouse</i>		B			E	
3	ENV-539U	Manual Door for Runway <i>for Rat</i>			C			
3	ENV-540U	Auto Door for Runway <i>for Rat</i>				D		F
2	ENV-200R2M	Pellet Receptacle Trough <i>for Rat</i>						F
2	ENV-303U	Pellet Receptacle Trough <i>for Mouse</i>					E	
2	ENV-204	VeriFEED Pellet Dispenser					E	F
2	FAB-ENV-343U-04	Pellet Dispenser Mount <i>for Mouse</i>					E	
2	FAB-ENV-538-63	Pellet Dispenser Mount <i>for Rat</i>						F
6	ENV-253SD	Individual IR Source and Detector					E	F
2	ENV-254-CB	Head Entry Detector <i>for Rat</i>						F
1	ENV-256I-8	8 Channel IR Controller to 5V Inputs					E	F
2	ENV-303HDW	Head Entry Detector for Pellet Receptacle					E	
1	DIG-713A	SuperPort 16 Input Module, TTL					E	F
1	DIG-716P1	SmartCtrl Package (4 In/8 Out)					E	F
1	SG-210TTL-20	DB25 Cable, 20' w/Shielded Power Leads					E	



MED-YMMN



Y MAZE PACKAGES  
STANDARD

- MED-YMMN **MOUSE** | **MANUAL DOOR**
- MED-YMMN-AD **MOUSE** | **AUTO DOOR**
- MED-YMRN **RAT** | **MANUAL DOOR**
- MED-YMRN-AD **RAT** | **AUTO DOOR**

- Economical maze configuration is well suited for manual scoring in low throughput scenarios
- Designed for use with video tracking software
- Interchangeable runways can be used with triangle, square, and radial hubs
- Automatic doors for runway access control eliminates disturbances caused by manual door

Y MAZE PACKAGES  
w/IR BEAM DETECTION

- MED-YMAZ-U-1M **MOUSE** | **AUTO DOOR**
- MED-YMAZ-U1R **RAT** | **AUTO DOOR**

- Dual sensors at the entrance to each runway distinguishes between runway exploration & entrance for more accurate position detection
- Pellet receptacles with head entry detectors at the end of each goal runway have pellet dispensers for automated reinforcement
- Operate with Med-PC software and interface hardware (sold separately)

A = MED-TMMN

B = MED-TMMN-AD

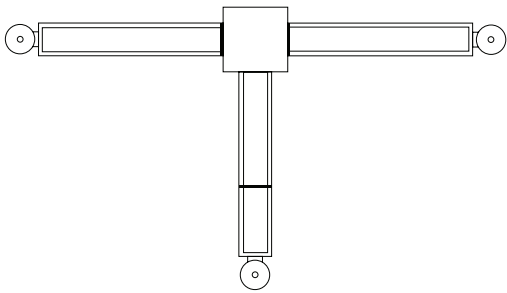
C = MED-TMRN

D = MED-TMRN-AD

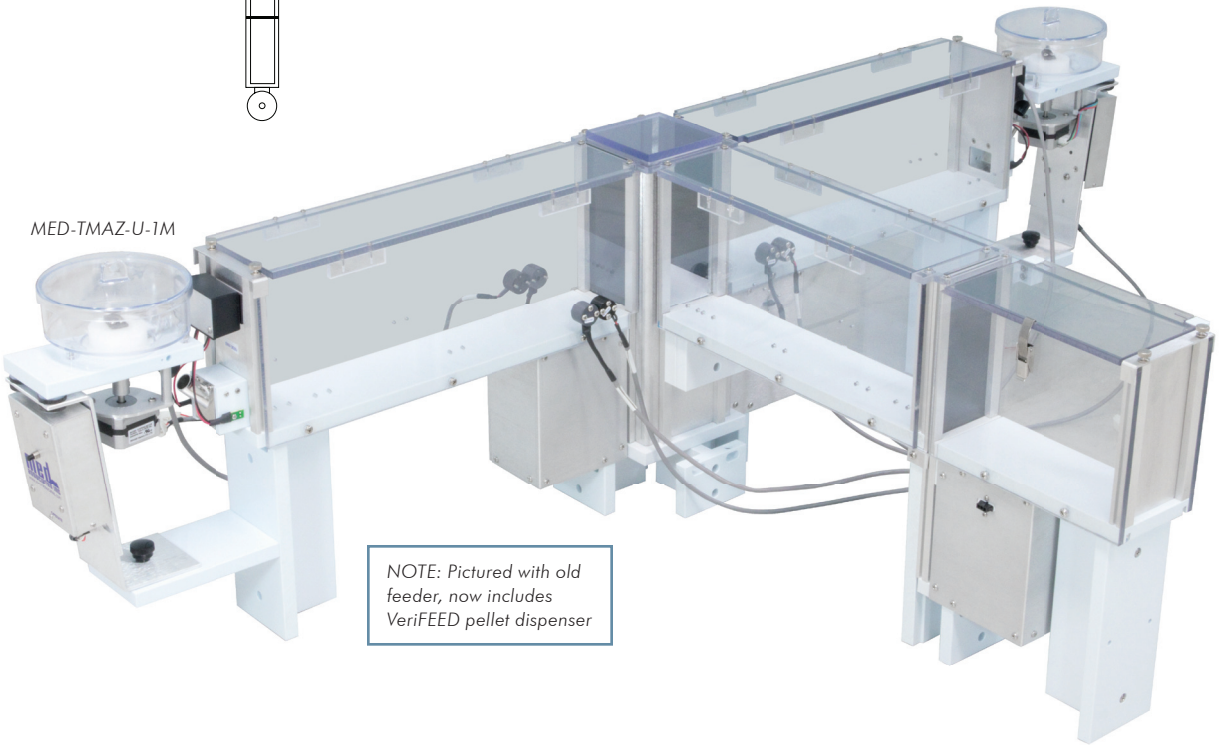
E = MED-TMAZ-U-1M

F = MED-TMAZ-U-1R

#	SKU	DESCRIPTION	A	B	C	D	E	F
1	ENV-334U	Square Hub <i>for Mouse</i>	A	B			E	
1	ENV-534U	Square Hub <i>for Rat</i>			C	D		F
1	ENV-341U	Runway, 12" (30.48 cm) <i>for Mouse</i>	A	B			E	
2	ENV-343U	Runway, 14.5" (36.83 cm) <i>for Mouse</i>	A	B			E	
1	ENV-346U	Start/Goal Box, 7.25" (18.42 cm) <i>for Mouse</i>	A				E	
1	ENV-541U	Runway, 12" (30.5 cm) <i>for Rat</i>			C	D		F
2	ENV-542U	Runway, 18" (45.7 cm) <i>for Rat</i>			C	D		F
1	ENV-546U	Start/Goal Box, 10" (25.4 cm) <i>for Rat</i>			C	D		F
3	ENV-339U	Manual Door for Runways <i>for Mouse</i>	A					
2	ENV-340U	Auto Door for Runways <i>for Mouse</i>		B			E	
1	ENV-340U-GB	Auto Door for Goal Boxes <i>for Mouse</i>		B				
3	ENV-539U	Manual Door for Runways <i>for Rat</i>			C			
2	ENV-540U	Auto Door for Runways <i>for Rat</i>				D		F
1	ENV-540U-GB	Auto Door for Runways <i>for Rat</i>				D		F
2	ENV-200R2M	Pellet Receptacle Trough <i>for Rat</i>						F
2	ENV-303U	Pellet Receptacle Trough <i>for Mouse</i>					E	
1	DIG-716P2	SmartCtrl Package (8 In/16 Out)					E	F
2	ENV-204	VeriFEED Pellet Dispenser					E	F
2	FAB-ENV-343U-04	Pellet Dispenser Mount <i>for Mouse</i>					E	
2	FAB-ENV-538-63	Pellet Dispenser Mount <i>for Rat</i>						F
1	ENV-253	IR Controller (4 channel)					E	F
4	ENV-253SD	Individual IR Source and Detector					E	F
2	ENV-254-CB	Head Entry Detector <i>for Rat</i>						F
2	ENV-303HDW	Head Entry Detector for Pellet Receptacle					E	
3	SG-216A-2	3-Pin Mini-Molex Extension 2' (61 cm)		B		D		
7	SG-216A-2	3-Pin Mini-Molex Extension 2' (61 cm)					E	F



MED-TMAZ-U-1M



NOTE: Pictured with old feeder, now includes VeriFEED pellet dispenser

T MAZE PACKAGES  
STANDARD

- MED-TMMNMOUSEMANUAL DOOR
- MED-TMMN-ADMOURSEAUTO DOOR
- MED-TMRNRATMANUAL DOOR
- MED-TMRN-ADRATAUTO DOOR

- Economical maze configuration is well suited for manual scoring in low throughput scenarios
- Designed for use with video tracking software
- Interchangeable runways can be used with triangle, square, and radial hubs
- Automatic doors for runway access control eliminates disturbances caused by manual door

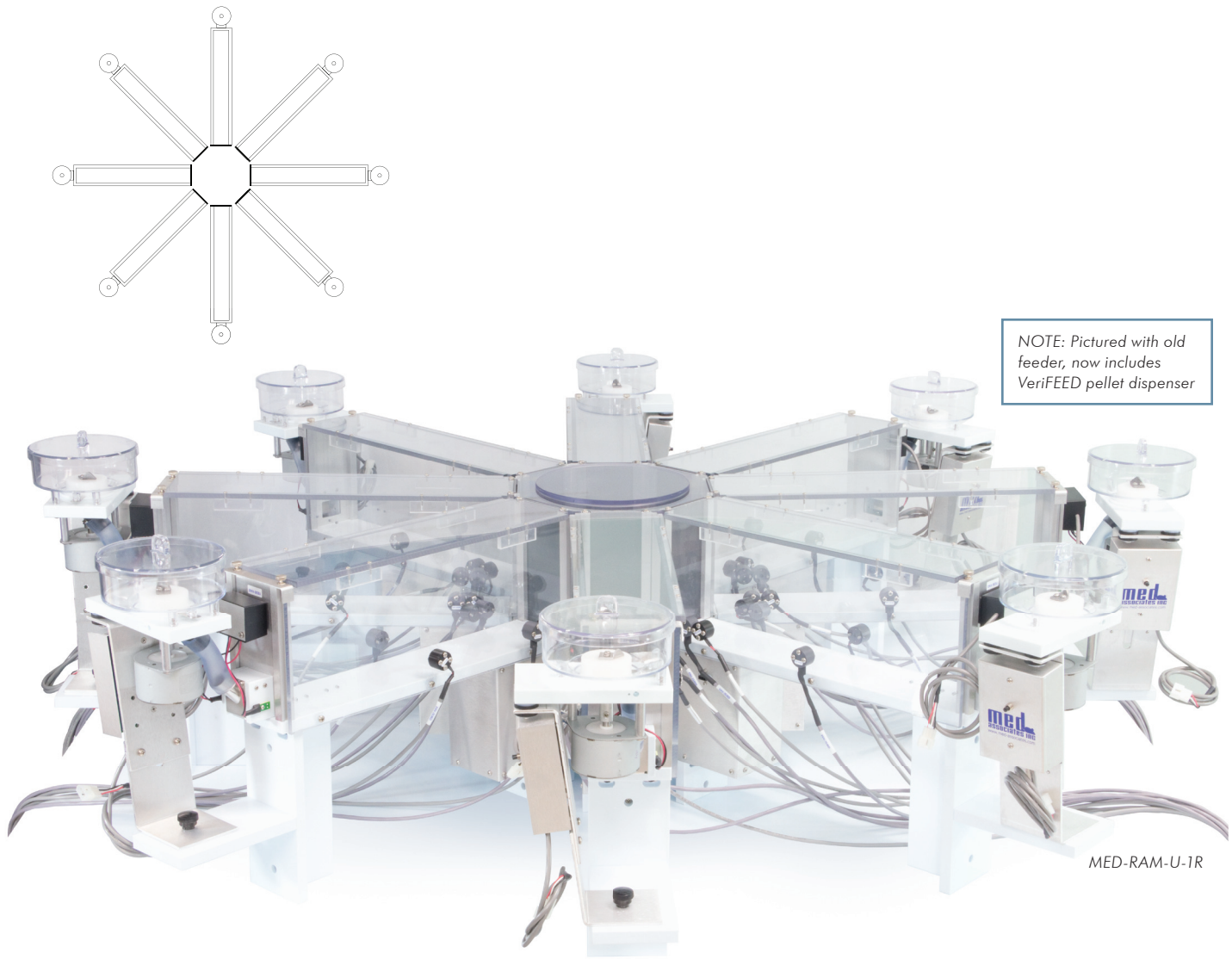
T MAZE PACKAGES  
w/IR BEAM DETECTION

- MED-TMAZ-U-1MMOUSEAUTO DOOR
- MED-TMAZ-U-1RRATAUTO DOOR

- Dual sensors at the entrance to each runway distinguishes between runway exploration & entrance for more accurate position detection
- Pellet receptacles with head entry detectors at the end of each goal runway have pellet dispensers for automated reinforcement
- Operate with Med-PC software and interface hardware (sold separately)

\*NOTE: Pictured with old feeder, now includes VeriFEED pellet dispenser

PACKAGE CONTENTS								
A = MED-RAMMN B = MED-RAMMN-AD			C = MED-RAMRN D = MED-RAMRN-AD			E = MED-RAM-U-1M F = MED-RAM-U-IR		
#	SKU	DESCRIPTION	A	B	C	D	E	F
1	ENV-338U	Octagonal Hub <i>for Mouse</i>	A	B			E	
1	ENV-538U	Octagonal Hub <i>for Rat</i>			C	D		F
8	ENV-343U	Runway, 14.5" (36.83 cm) <i>for Mouse</i>	A	B			E	
8	ENV-542U	Runway, 18" (45.7 cm) <i>for Rat</i>			C	D		F
8	ENV-339U	Manual Door for Runways <i>for Rat</i>	A					
8	ENV-340U	Auto Door for Runways <i>for Rat</i>		B			E	
8	ENV-539U	Manual Door for Runways <i>for Rat</i>			C			
8	ENV-540U	Auto Door for Runways <i>for Rat</i>				D		F
8	ENV-200R2M	Pellet Receptacle Trough <i>for Rat</i>						F
8	ENV-303U	Pellet Receptacle Trough <i>for Mouse</i>					E	
8	ENV-204	VeriFEED Pellet Dispenser					E	F
8	FAB-ENV-538-63	Pellet Dispenser Mount <i>for Rat</i>						F
8	FAB-ENV-343U-04	Pellet Dispenser Mount <i>for Mouse</i>					E	
8	ENV-254-CB	Head Entry Detector <i>for Rat</i>						F
24	ENV-253SD	Individual IR Source and Detector					E	
2	ENV-256I	IR Controller (16 Channel) to 5V Inputs					E	F
8	ENV-303HDW	Head Entry Detector for Pellet Receptacle					E	
2	DIG-713A	SuperPort 16 Input Module, TTL					E	F
1	DIG-716P2	SmartCtrl Package (8 In/16 Out)					E	F
1	SG-210CP-25	Power Cable 25' (7.6 m)					E	
2	SG-210TTL-20	DB25 Cable w/Shielded Power Leads, 20' (6.1 m)					E	F
4	SG-216A-2	Mini-Molex Extension, 3-Pin, 2' (61 cm)		B		D		
24	SG-216A-2	Mini-Molex Extension, 3-Pin, 2' (61 cm)					E	F



RADIAL MAZE PACKAGES  
STANDARD

MED-RAMMN **MOUSE** | **MANUAL DOOR**  
MED-RAMMN-AD **MOUSE** | **AUTO DOOR**  
MED-RAMRN **RAT** | **MANUAL DOOR**  
MED-RAMRN-AD **RAT** | **AUTO DOOR**

- Economical maze configuration is well suited for manual scoring in low throughput scenarios
- Designed for use with video tracking software
- Interchangeable runways can be used with triangle, square, and radial hubs
- Automatic doors for runway access control eliminates disturbances caused by manual door

RADIAL MAZE PACKAGES  
w/IR BEAM DETECTION

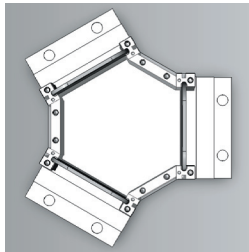
MED-RAM-U-1M **MOUSE** | **AUTO DOOR**  
MED-RAM-U-IR **RAT** | **AUTO DOOR**

- Dual sensors at the entrance to each runway distinguishes between runway exploration & entrance for more accurate position detection
- Pellet receptacles with head entry detectors at the end of each goal runway have pellet dispensers for automated reinforcement
- Operate with Med-PC software and interface hardware (sold separately)

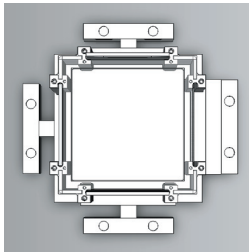
\*NOTE: Pictured with old feeder, now includes VeriFEED pellet dispenser

	SIDES	OVERALL (LxWxH)	WORKING AREA (LxWxH)
ENV-333U	3	6.75" x 6.75" x 12.68" (17.15 x 17.15 x 32.21 cm)	3.27" x 3.27" x 5" (8.31 x 8.31 x 12.7 cm)
ENV-533U	3	7.87" x 7.87" x 15.85" (19.99 x 19.99 x 40.26 cm)	4.63" x 4.63" x 6.6" (11.76 x 11.76 x 16.8 cm)
ENV-334U	4	6.67" x 6.67" x 12.85" (16.94 x 16.94 x 32.64 cm)	3.77" x 3.77" x 6.17" (9.58 x 9.58 x 15.67 cm)
ENV-534U	4	7.38" x 7.38" x 15.97" (18.75 x 18.75 x 40.56 cm)	4.5" x 4.5" x 6.5" (11.43 x 11.43 x 16.51 cm)
ENV-338U	8	11" x 11" x 12.79" (27.94 x 27.94 x 32.49 cm)	8.12" x 8.12" x 5.01" (20.62 x 20.62 x 12.73 cm)
ENV-538U	8	14" x 14" x 16.04" (35.6 x 35.6 x 40.74 cm)	11.1" x 11.1" x 6.6" (28.19 x 28.19 x 16.76 cm)

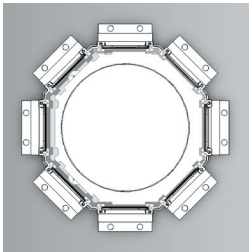
ENV-333U



ENV-334U



ENV-338U



- Our modular maze hubs feature a durable, easily cleaned white polypropylene base with sets of modular test chamber rails that accommodate any modular maze runway test chamber accessory.
- Compatible with all standard runways, pellet feeders, receptacles, and doors
  - Video friendly design accommodates optional under-mounted auto doors for obstruction-free video tracking
  - Removable polycarbonate lid

TRIANGULAR MAZE HUB

ENV-333U **MOUSE**  
ENV-533U **RAT**

- Arm offset = 120°
- For Y Maze configuration

SQUARE MAZE HUB

ENV-334U **MOUSE**  
ENV-534U **RAT**

- Arm offset = 90°
- For T or Plus Maze configurations

OCTAGONAL HUB

ENV-338U **MOUSE**  
ENV-538U **RAT**

- Arm offset = 45°
- For radial, T, or Y maze configurations

ENV-344U



12"



14.5"



18"



24"



30"



	LEG (H)	WORKING AREA (L×W×H)
ENV-341U	6.88" (17.48 cm)	11.59" x 2.88" x 5" (29.44 x 7.32 x 12.7 cm)
ENV-343U	6.88" (17.48 cm)	14.16" x 2.88" x 5" (35.97 x 7.32 x 12.7 cm)
ENV-541U	8.5" (21.59 cm)	11.79" x 3.56" x 6.63" (29.95 x 9.04 x 16.84 cm)
ENV-542U	8.5" (21.59 cm)	17.79" x 3.56" x 6.63" (45.19 x 9.04 x 16.84 cm)
ENV-543U	8.5" (21.59 cm)	23.79" x 3.56" x 6.63" (60.43 x 9.04 x 16.84 cm)
ENV-544U	8.5" (21.59 cm)	30" x 3.56" x 6.63" (76.2 x 9.04 x 16.84 cm)



MAZE RUNWAY 12"

ENV-341U **MOUSE** | 12 INCH  
ENV-541U **RAT** | 12 INCH

MAZE RUNWAY 14.5"

ENV-343U **MOUSE** | 14.5 INCH

MAZE RUNWAY 18"

ENV-542U **RAT** | 18 INCH

MAZE RUNWAY 24"

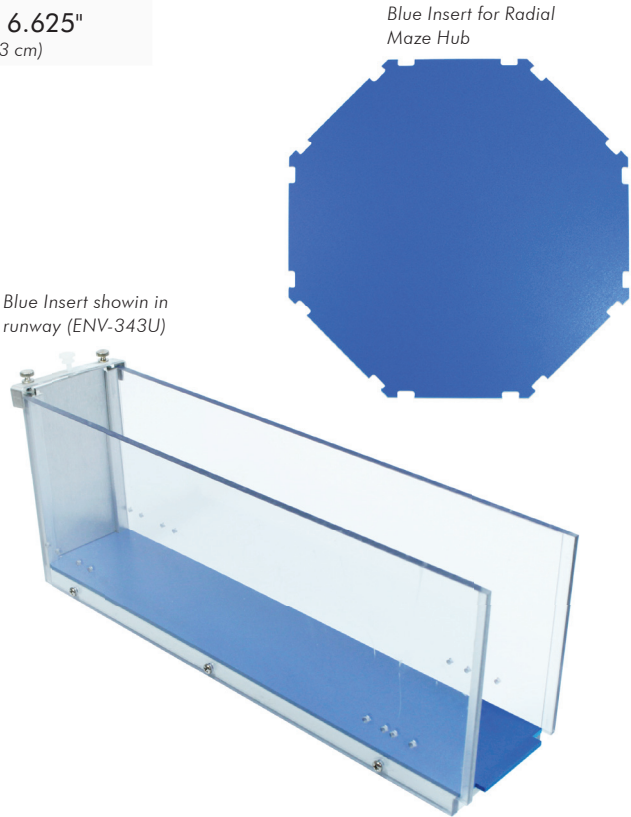
ENV-543U **RAT** | 24 INCH

MAZE RUNWAY 30"

ENV-544U **RAT** | 30 INCH

- Durable and easy to clean design, constructed with white polypropylene and clear polycarbonate
- Modular end walls to accommodate our modular components such as pellet/liquid receptacles and stimulus lights *(not included)*
- Runway side walls are pre-drilled for the addition of IR photobeam sensors
- Easily detachable pedestal for easy storage
- Includes removable ventilated lid

	OVERALL (L×W×H)	WORKING AREA (L×W×H)
ENV-346U	7.35" x 3.32" x 4.88" (18.67 x 8.43 x 12.4 cm)	7.1" x 2.88" x 4.87" (18.03 x 7.31 x 12.37 cm)
ENV-546U	10.59" x 4.62" x 7.37" (26.9 x 11.73 x 18.72 cm)	9.76" x 3.58" x 6.625" (24.79 x 9.09 x 16.83 cm)



START/GOAL BOX

ENV-346U **MOUSE** | 7.25 INCH  
ENV-546U **RAT** | 10 INCH

- Attach directly to the hub for use as a start box or as a goal box at the end of a runway
- Designed to be easily cleaned and maintained along with the rest of your modular maze components, the floors are constructed from white polypropylene, and the walls of clear polycarbonate with a hinged ventilated lid
- The ends feature standard modular bays designed to accommodate most modular test chamber components including pellet/liquid receptacles, stimulus lights, and more
- Walls are pre-drilled for easy installation of optional IR photobeam sensors

BLUE INSERTS

MED-TMAZM-BI **MOUSE** | **T MAZE**  
MED-TMAZR-BI **RAT** | **T MAZE**  
MED-YMAZM-BI **MOUSE** | **Y MAZE**  
MED-YMAZR-BI **RAT** | **Y MAZE**  
MED-RAMM-BI **MOUSE** | **RADIAL MAZE**  
MED-RAMR-BI **RAT** | **RADIAL MAZE**

- Our low profile (0.125" / 3 mm) blue PVC blue floor inserts provide a contrasting floor color for even better video tracking performance when using lightly colored animals.
- Will not interfere with IR beams or doors
  - Easily installed or removed

	DOOR OPENING (w×h)
ENV-340U	2" x 2" (5.08 x 5.08 cm)
ENV-540U	2.69" x 4" (6.83 x 10.16 cm)



**MANUAL DOOR FOR RUNWAY**

ENV-339U **MOUSE**  
ENV-539U **RAT**

Can be added to any modular maze system.

- Ideal for situations where it is unnecessary to have the process automated
- Defaults to a “normally down” position, must be held in the “up” position manually

**AUTO DOOR FOR RUNWAY**

ENV-340U **MOUSE**  
ENV-540U **RAT**

**AUTO DOOR FOR GOAL BOX**

ENV-340U-GB **MOUSE**  
ENV-540U-GB **RAT**

Can be added to any modular maze hub.

Apply a standard ground signal on the single control line to raise the door and remove the signal to re-lease it, allowing it to fall back to the floor.

- 28V DC motor driven door
- Door operation is programmed in Med-PC



**VERIFEED™ PELLET DISPENSER MODULAR + PEDESTAL**

ENV-204 **MOUSE+RAT** | **20+45MG** | **IR DETECT**

Reward variability should be based on your experimen-  
tal design, not on the performance of your equipment.  
This method delivers. It has been completely re-invent-  
ed from the ground up, informed by years of feedback  
from the field. With multiple design features that ensure  
reliable delivery and easy maintenance, we are setting  
the new standard.

*NOTE: Modular panel mounts, pedestal stand, and discs sold separately.*

**HOPPER + MOTOR**

- Easy-to-clean hopper snaps to the bracket with magnets, and opens into two separate parts
- Quickly and easily fill, empty, disassemble, and reas-  
semble the hopper without tools
- Compatible with any Med Associates interface
  - Requires one input and output
- Alerts Med-PC when hopper runs empty
- An infrared photo-beam detector is located at the  
entry point, and if pellet presence is not confirmed, it

will run through a logic sequence to dispense a pellet  
within 10 seconds

- No additional coding required

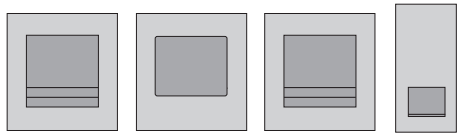
**DISC**

- Change pellet size by swapping out the hopper disc, no  
further adjustments necessary
- Variable torque motor and optimized entry port prevents  
crushing delicate pellets, such as sucrose
- Designed to prevent buildup and minimize breakage

**BRACKET**

- Can be mounted on any modular panel or placed next  
to the chamber on a pedestal
- Fits on all standard chambers and SACs for both rat  
and mouse

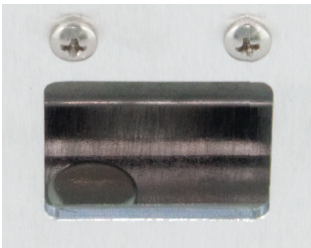
*NOTE: For full specifications, check out our website or the Operant Conditioning  
& General Behavior brochure.*



(From left) ENV-200R2M, ENV-200R2MA, ENV-200R7M, ENV-303U



ENV-200R7M detail



ENV-303U detail



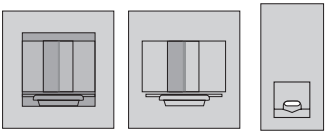
ENV-200R7M

	ACCESS OPENING (W×H)
ENV-200R2M	2" x 2" (5.08 x 5.08 cm)
ENV-200R2MA	2" x 1.65" (5.08 x 4.19 cm)
ENV-200R7M	2" x 2" (5.08 x 5.08 cm)
ENV-303U	1.13" x 0.8" (2.86 x 2.03 cm)

TROUGH PELLET RECEPTACLE

ENV-200R2M	RAT	STANDARD	1/4	INTERNAL
ENV-200R2MA	RAT	STANDARD	1/4	INTERNAL
ENV-200R7M	RAT	STANDARD	1/4	INTERNAL
ENV-303U	MOUSE	CLASSIC	1/2	INTERNAL

- Add a receptacle light for illumination or a head entry detector for pellet detection (sold separately)



(From left) ENV-200R1M, ENV-200R1AM, ENV-300R1AM

ENV-200R1M



ENV-200R1AM



ENV-300R1AM

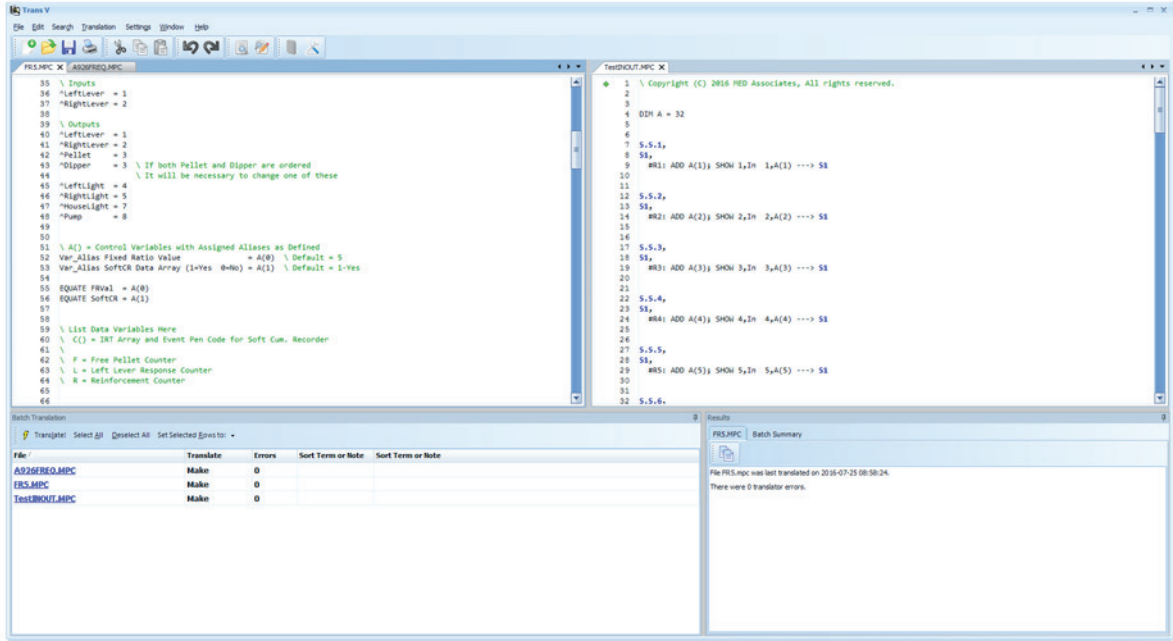


CUP PELLET RECEPTACLE

ENV-200R1M	RAT	STANDARD	1/4	INTERNAL
ENV-200R1AM	RAT	STANDARD	1/4	EXTERNAL
ENV-300R1AM	MOUSE	CLASSIC	1/2	EXTERNAL

- External cups are mounted unenclosed, making it ideal for applications where the animal is fitted with a head block for drug infusion or micro-dialysis
- Add a receptacle light for illumination or a head entry detector for pellet detection (sold separately)

	ACCESS OPENING (W×H)
ENV-200R1M	2" x 2" (5.08 x 5.08 cm)
ENV-200R1AM	N/A
ENV-300R1AM	N/A



Med-PC V (SOF-736, sold separately)

These MedState Notation Utilities add maze data collection functionality to our flagship Med-PC software. Developed for use with our IR beam modular maze systems, data is collected each time a pair of beams is broken by the test animal.

Data can also be exported using our MPC2XL Data Transfer Utility for further analysis. (sold separately, see our software brochure for more info)

These MedState Notation™ procedures may be edited by the user or used as a model to create unique applications. Custom coding services are available (sold separately, contact sales for more info).

Y-MAZE TRAINING & ALTERNATION PROTOCOL

SOF-700RA-32 MOUSE+RAT

- Designed for testing Delayed Alternation using our photobeam modular maze systems.
- The Delayed Alternation procedure consists of an initial trial in which the animal has to obtain a reinforcer within a specified period of time from either the right or left arm (specified or randomly selected). If the animal successfully completes the first trial, a second trial is conducted in which the animal must now obtain a reinforcer from the opposite arm that was used during the first trial.

Training procedure can be used to train animals with:

- Only right arm open
- Only left arm open
- Both arms open
- Random selection of right or left arm open

Trial ends if the animal:

- (a) Successfully retrieves a reinforcer (detected by head entry into pellet receptacle)
- (b) Fails to move within a specified period of time
- (c) Reaches the maximum trial time without making a head entry into a pellet receptacle

T-MAZE TRAINING & TESTING PROTOCOL

SOF-700RA-9 MOUSE+RAT

- Run left or right goal arm training as well as force run with random left/right selections.
- System is designed to end a trial (all doors closed) if:
  - (a) The animal does not complete the start runway within the user defined move time
  - (b) Following head detection
  - (c) The total trial time has elapsed
- User defined individual test parameters including:
  - Number of trials to run
  - Selecting training side or test
  - Set minimum times of move, total trial, and ITI

- Collects data points including:
  - Total trials completed
  - Total move errors
  - Total trials incomplete
  - Side code
  - Movement time
  - Arm time
  - Latency to goal

RADIAL MAZE DATA COLLECTION PROTOCOL

SOF-700RA-6 MOUSE+RAT

- Define adaptation and session test times
- The procedure will end a test session in the event that the animal has fully explored all eight runways

Standard data collection includes:

- Number of entries and time in zone for the hub and all eight runways
- End counts in each runway
- Total runways correct
- Total runway errors
- Sequence of runways entered
- Elapsed time to runway completion (in seconds)



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