



To Pick Up Ovation

1. Allow body to fill your palm
2. Rotate adjustable hook to rest comfortably on your forefinger

Electronic models are supplied with an Ovation Power Supply Unit to recharge the pipette's battery. Use of other power units can damage the pipette and invalidate warranty.

Select Function or Program

1. Press  button to advance the pipette to the desired liquid handling function or next setting within a function.
2. Press  or  button to change the settings within a function, such as volume, speed and count.



Recharging Port



To Install a Tip

1. Insert nozzle into tip
2. Lightly press down until a "click" is heard. This indicates the tip is securely sealed onto the nozzle.



To Aspirate & Dispense

1. Immerse tip into sample liquid.
2. Press and release pipetting trigger to aspirate sample. Wait **one second** after beep, then remove tip and place it into dispensing container **at same angle used during aspiration**. Press pipetting trigger again to dispense or mix sample.



To Eject a Tip

1. Point pipette tip into a waste container.
2. Press the tip eject button. The ejector sleeve is activated, effortlessly discarding the tip.

Initial Set-Up

When the Ovation pipette is first received, and whenever the battery icon on the LCD is flashing, the pipette's battery must be charged for approximately 90 minutes. Insert the power plug into recharging port and connect power supply to AC outlet. To ensure the pipette always has a full charge, it may be left connected to the power supply indefinitely when not in use.



WARNING! Only connect power supply to a compatible power source. Use of an incompatible power source can cause shock and fire hazard. Use only the power supply provided by VistaLab Technologies. Use of other power supplies can damage pipette and invalidate warranty. Unplug power supply before cleaning exterior.

Operation

- Press **⊙** to display the desired liquid handling function.
 - To review current settings, press and release the pipetting trigger to step through the full pipetting cycle
 - To adjust a setting, press **⏪** or **⏩** until desired value is displayed, then save the new setting by pressing **⊙**

- Press and release pipetting trigger to aspirate sample.

Note: To interrupt aspirating cycle and/or prevent accidental overfilling of a pipet (as when set volume exceeds capacity of serological pipet), quickly press and release pipetting trigger. PURGE will be on display. Pressing pipetting trigger again expels any liquid or air bubbles in the tip or pipet.

- To dispense, press pipetting trigger again.

- Liquid handling functions **P1** and **P2** have automatic "overflow". Hold trigger when dispensing to stop piston at its lowest position. **Move tips away from dispense area before releasing pipetting trigger to prevent accidental re-aspiration of sample.**

Pipette Display

Displays volume and values during set-up, e.g. # of mix cycles, # of multiple dispenses

Displayed when cal factor has been changed from factory setting of 1.000



Icon indicates remaining battery capacity

Symbol indicates next portion of aspirate (up) or dispense (down) cycle to be performed

Displays liquid handling function, setting or prompt that is active

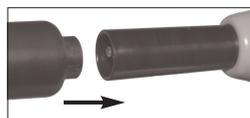
Using Serological Pipets

When extra length is needed to reach the bottom of tall vessels, serological pipets can be used with the Ovation Macro pipette. (In order to achieve optimum accuracy for a particular pipet, it may be necessary to adjust the Ovation's calibration. See the Ovation Electronic Single Channel and Macro Pipette Operator's Guide at www.vistalab.com for more information)

The nozzle on the 10mL model accommodates both tips and pipets.

To install Macro5 Sero-Adapter (included):

- Place a macro pipette tip onto the nozzle and push on ejector sleeve until click is heard. Grip tip firmly near the nozzle, and turn it in a counterclockwise direction to unscrew and remove nozzle from pipette. Store nozzle in a safe place.
- Carefully screw on adapter (clockwise). Ensure adapter is square to threads for proper installation.



Liquid Handling Functions

Function	Description
P1 , or P2	Pipette – Routine aspirating and dispensing at stored (user-defined) volumes (TC or "to contain" pipetting). Sample volume is dispensed with blow-out to expel all liquid.
PDB	Pipette with Delayed Blow-out – Routine aspirating and dispensing at stored (user-defined) volume (TC pipetting) with an operator-controlled delayed blow-out. This is especially useful when using viscous liquids or a serological pipet.
MULTI	Multiple Dispense – repetitive dispensing of equal volumes. Pipette calculates, displays and aspirates the total volume required, then dispenses in multiple aliquots.
SDILU	Serial Dilute – a sequence of dilutions. Sample is aspirated, dispensed into diluent and mixed. Diluted sample is automatically aspirated for addition to the next diluent.
MIX	Mix – repetitive cycles of aspirating & dispensing.

For detailed examples on setup, review and running of each liquid handling function, see the Ovation Electronic Single Channel and Macro Pipette Operator's Guide at www.vistalab.com

Settings and Prompts

Display	Description
FILL	Volume to be dispensed. (When using P1 , P2 or PDB , this is also the volume that will be aspirated)
SPEED	Speed at which the pipette aspirates, dispenses and mixes within a liquid handling function. 5 settings are available. (1 is the slowest and 5 is the fastest)
DIS	Shows the number of dispenses remaining when using MULTI .
DISP	Volume of individual dispense(s) when using MULTI .
MIX	Volume of dilution to be mixed when using SDILU .
VOL	Volume of sample to be mixed when using MIX .
COUNT	Number of dispenses to be made when using MULTI , or the number of mix cycles (1-9) when using SDILU or MIX .
PURGE	Ends any function and expels liquid remaining in tips. Press ⊙ during a function and PURGE appears on LCD. Press pipetting trigger to expel liquid or ⊙ again to cancel PURGE .
ZERO	Indicates the pipette pistons are at the blow-out or lowest position at the end of MIX . Pressing the pipette trigger when ZERO is displayed will return the pistons to the start position.
PRCE	Used for automatic repetitive dispensing with the MULTI function. When dispensing, press and hold the pipetting trigger to activate PRCE , and sample will be dispensed at timed intervals. Four settings are available. To set the PRCE interval: <ol style="list-style-type: none">Simultaneously press and hold ⏪ or ⏩ until ⊙ appears on display.Press and release ⊙ until PRCE appears on display, then press ⏪ or ⏩ to select setting (lower number = shorter interval).Press the pipetting trigger to return to routine operation.

Settings and Prompts (continued)

Display	Description
⊙	Ovation pipettes use "beep" tones to indicate various actions: <ul style="list-style-type: none">A single beep tone indicates the end of a pipetting step.A double beep tone indicates the completion of the (last) dispense cycle when using the MULTI function.A triple beep tone indicates the end of a liquid handling function.An alert tone indicates the pipetting trigger was pressed before set-up was completed, or an illegal action or programming event has occurred.
⊙	Beep tones can be disabled if desired. Simultaneously press and hold ⏪ or ⏩ until ⊙ appears on display. Press ⏪ or ⏩ to toggle "beep" setting ON or OFF, and press the pipetting trigger to return to routine operation.
LCD	The contrast on the pipette's liquid crystal display can be adjusted as needed: <ol style="list-style-type: none">Simultaneously press and hold ⏪ or ⏩ until ⊙ appears on display.Press and release ⊙ until LCD appears on display, then press ⏪ or ⏩ to increase or decrease contrast to desired level.Press the pipetting trigger to return to routine operation.
SLEEP	After 10 minutes of inactivity, the pipette automatically enters SLEEP to conserve battery power. Press any key or the pipetting trigger to resume operation.
HOME	When the pipette is first activated after SLEEP , the HOME prompt is displayed while the plunger is automatically reset.
CAL	Ovation pipettes have an internal software program for easy in-lab calibration. See the Ovation Electronic Single Channel and Macro Pipette Operator's Guide at www.vistalab.com for complete instructions. A Performance Verification procedure is also available on the web site.

Maintenance

The Ovation pipette requires minimal routine maintenance. Clean outer surfaces as needed with a soft cloth dampened with warm water. To decontaminate outer surfaces, wipe with a 70% aqueous solution of ethanol or isopropanol.

Recharging and Replacing the Battery

To ensure the pipette always has a full charge, it may be left connected to the power supply indefinitely when not in use. The battery should be recharged when the battery icon on the LCD is flashing which indicates a low charge. Recharge a fully drained battery for approximately 90 minutes.

For information on replacing the rechargeable battery, see the *Ovation Electronic Single Channel and Macro Pipette Operator's Guide* at www.vistalab.com

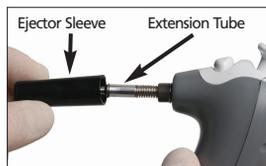
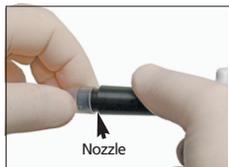
Nozzles and Nozzle Filters

Ovation pipettes feature a removeable nozzle with an internal aerosol/liquid barrier filter which prevents liquid from being aspirated into the pipette. If this filter becomes wet, the pipette will not aspirate fluid until the filter or entire nozzle is replaced.

To replace a nozzle:

Note: Wear gloves when performing this procedure.

1. Place a macro pipette tip onto the nozzle and push on ejector sleeve until click is heard. Grip tip firmly near the nozzle, and turn it in a counterclockwise direction to unscrew and remove nozzle from pipette.
2. Slide off the ejector sleeve. Place a gloved finger lightly against the end of the air tube, and press and release plunger to expel any liquid that may be present in the end of the tube. Gently wipe the end of the air tube with a slightly dampened, lint-free tissue, then dry it off.
3. Replace the ejector sleeve. Note: The ejector sleeve is slightly narrower on the end closest to the pipette body.
4. Screw on new nozzle. Tighten by hand, or use a macro pipette tip to ensure the nozzle is firmly attached to the extension tube.



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Maintenance (cont'd)

To replace a nozzle, nozzle insert, sero-adapter or filter: Instructions available on the VistaLab Technologies web site www.vistalab.com/support

Tips & Accessories

Catalog #	Description
9048	5 mL graduated tips, 0.1 mL increments, 100 tips/box
9050	10 mL tips, 35 tips/box
4058-5000	5 mL graduated tips, 0.1 mL increments, 250 tips/bag
4058-5102	5000µL graduated tips, 0.1 mL increments, VistaClear™ Box, sterile, 60 tips/box
4058-5133	5000µL graduated tips, 0.1 mL increments, VistaClear™ Box, sterile, filtered, certified RNase/DNase free, non-pyrogenic, 60 tips/box
4058-5332	5 mL graduated tips, 0.1 mL increments, sterile filtered, certified RNase/DNase free, non-pyrogenic, individually wrapped, 50 tips/bag
4058-6332	10 mL tips, sterile, filtered, certified RNase/DNase free, non-pyrogenic, individually wrapped, 50 tips/bag
4058-6000	10mL tips, 100 tips/bag
4058-6100	10mL tips, VistaClear™ Box, 35 tips/box
4058-6102	10mL tips, VistaClear™ Box, sterile, 35 tips/box
4058-6133	10mL tips, VistaClear™ Box, sterile, filtered, certified RNase/DNase free, non-pyrogenic, 35 tips/box
9060-5009	100-5000µL Model Nozzle Filter Kit, 10/bag
9060-5010	100-5000µL Model Nozzles, 2/box
9060-5011	100-5000µL Model Ejector Sleeve
9060-5012	100-5000µL Model Sero-Adapter
9060-6008	0.2-10mL Model Nozzle Insert, 1/bag
9060-6009	0.2-10mL Model Nozzle Filter Kit, 5/bag
9060-6010	0.2-10mL Model Nozzle, 1/box
9060-6011	0.2-10mL Model Ejector Sleeve
9060-9005	Power Supply – all Countries
9060-4001	Lithium Ion Battery
9057-4003	Pipette Stand

For the most complete information about specifications, tips, accessories and operating instructions, see our web site – www.vistalab.com



VistaLab Technologies, Inc.
2 Geneva Road
Brewster, NY 10509 USA
(888) 652-6520 (914) 244-6226