

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.

If the pipette leaks when using serological pipets, the nozzle, Sero-Adapter or nozzle insert may need to be replaced.

To replace a nozzle, nozzle insert, sero-adapter or filter:

The procedure for replacing a nozzle, nozzle insert, sero-adapter or filter is available on the VistaLab Technologies web site. Go to the documentation library in the support area at www.vistalab.com

Tips & Accessories

Catalog #	Description
9048	5000µL graduated tips, 0.1 mL increments, 100 tips/rack, 1 rack
4058-5000	5000µL 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, filtered, pyrogen-free, RNase/DNase certified, sterile, 60 tips/box
4058-5332	5000µL graduated tips, 0.1 mL increments, filtered, pyrogen-free, RNase/DNase certified, sterile, 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, filtered, pyrogen-free, RNase/DNase certified, sterile, 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
9060-9006	Power Supply w/4 pipette connections – 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



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Quick Reference Guide for Electronic Macro Pipettes

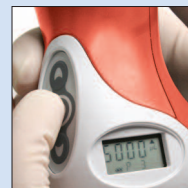
Refer to Operator's Guide at www.vistalab.com for complete instructions.



To Pick Up Ovation

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

Electronic models require 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

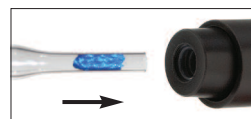
Symbol indicates next portion of aspirate (up) or dispense (down) cycle to be performed

Displays liquid handling function, setting or prompt that is active

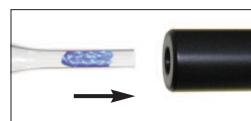
Using Serological Pipets

When extra length is needed to reach the bottom of tall vessels, glass or plastic serological or volumetric 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. Insert the end of a pipet into the nozzle until it stops.



The 5mL Ovation model requires installation of the Sero-Adapter (# 9060-5012) prior to use with serological pipets. Install adapter according to instructions included in kit. Insert the end of a pipet into adapter until it stops.



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 until TRNE 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
TRNE	Ovation pipettes use "beep" tones to indicate various actions: <ul style="list-style-type: none"> A <u>single</u> beep tone indicates the end of a pipetting step. A <u>double</u> beep tone indicates the completion of the (last) dispense cycle when using the MULTI function. A <u>triple</u> beep tone indicates the end of a liquid handling function. An <u>alert</u> tone indicates the pipetting trigger was pressed before set-up was completed, or an illegal action or programming event has occurred. <p>Beep tones can be disabled if desired. Simultaneously press and hold until TRNE appears on display. Press or to toggle "beep" setting ON or OFF, and press the pipetting trigger to return to routine operation.</p>
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 until TRNE 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.