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1. FEATURES OF THE I-PETTE

The i-Pette is the ultimate in functionality, reliability, versatility and value. It features:

- Revolutionary in industry – first pipetting head design that enables pipetting with both 384 and 96 well Labware.
- High volume capacity — 1 μ L max per channel; 1 μ L dispensing volume under 3% CV (-125 model)
- Support full range of ESP disposable tips: 15 μ L, 50 μ L, 125 μ L and custom robotics tips
- Control of dispense rate and calibration values allow for pipetting various liquids with accuracy.
- Manual indexing for serial dilution through simple control lever.
- Easy to use Pocket PC (PPC) for calibration and control feedback.
- Reliable core technology that has been field tested for over two decades and used by major pharmaceutical companies and research laboratories.
- Easily removable pipetting heads for both disposable tips and fixed tips.
- Choice of disposable or Teflon coated (INSIDE/OUTSIDE) stainless steel tips.
- 9" x 14" footprint fits into compatible hoods.
- Lightweight and portable.

2. QUICK REFERENCE DIAGRAMS



3. SAFETY PRECAUTIONS

The i-Pette is designed and engineered to meet or exceed all safety standards.

Nevertheless, careless or abusive operation of these machines may still lead to possible hazardous situations. Please comply with the following guidelines:

Never open the instrument; there are no user-serviceable parts inside. In the rare occasion that you experience problems with your machine, please follow the remedies under Section 7 "Troubleshooting" in this manual. If this does not solve the problem, contact FLUIDX LTD.

Only operate the instrument in an indoor environment. Avoid direct exposure to sunlight and excessive humidity. Avoid operating the machine with wet hands.

Always connect the machine to a power outlet with ground connection.

Use only optional equipment and peripherals supplied by FLUIDX LTD.

Using any other add-on products or modifications may affect the performance of your machine and jeopardize the operator's safety.

In no circumstances should any part of the operator's body or any foreign object(s), except the labware in use, enter the area directly under the pipetting tips and above the elevator. In case of emergency, the machine can be stopped at any time by pressing the STOP button.

Always wear appropriate protective clothing/goggles when dealing with corrosive or radioactive substances.

Immediately remove pipetting head from main unit and clean up stainless steel tips or dispose the disposable tips after operating the instrument.

When dealing with volatile organic solvents, the machine should be operated inside a fume hood.

3.1 SAFETY INSTRUCTIONS:

ALWAYS USE STRAP CUTTERS.

Use only cutters specifically designed for strap cutting. Claw hammers, crow bars, or chisels will cause tensioned strapping to hazardously fly apart.



CUT STRAPPING CAREFULLY

When cutting vertically tensioned strapping, stand to one side, hold the strapping against the package and cut below the hold.



The strapping will rebound downward – away from you. This will help prevent personal injury. Other people should remain at a safe distance.



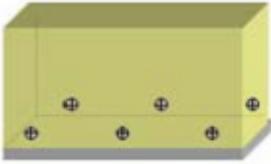
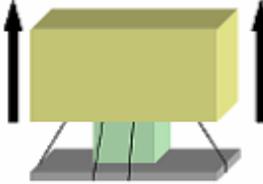
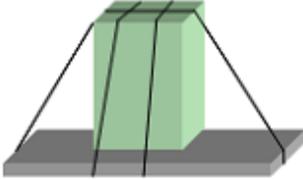
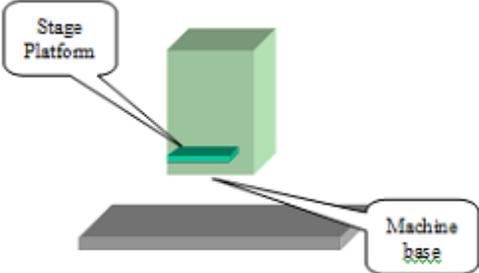
When cutting horizontally tensioned strapping, stand to the left of the cut, hold the strapping against the package, and cut to the right of the hold.



The strapping will rebound to the right – away from you. This will help prevent personal injury. Other people should remain at a safe distance.



3.2 UNPACKING CRATE

<p>Remove six screws from crate (3 on each side).</p>	
<p>Carefully lift and discard the upper part of the crate.</p>	
<p>Cut the three tie-wraps that are secured to the base of the crate.</p>	
<p>Machine is ready for relocation. Lift by the base while moving. <i>Do not lift by the stage platform.</i></p>	 <p>CAUTION : Never move the machine by holding its "Stage platform"</p>

3.3 MOVING & INSPECTING THE PIPETTOR

Lift the unit up by placing your hands at the spots indicated by the two arrows. Keep your back straight to avoid possible injury (we recommend this task to be handled by two people together as the unit is quite heavy).

Place the unit on a steady, sturdy, flat and level surface.

Carefully remove items from the accessories boxes. Avoid piercing the box with a long sharp object as this may damage the contents.

After unpacking the pipettor, inspect the unit for visible damage that may have occurred during transportation such as scratches or dents in the casing, bent tips etc. If you notice any damage to the unit, contact both the freight carrier and FLUIDX LTD. immediately.

DO NOT PLUG IN OR TURN ON THE SYSTEM.



4. OPERATIONS OVERVIEW (HARDWARE)

4.1 Setting of of Pipettor:

1. After confirming that there is no damaged or missing item, begin to test the pipettor.
2. Please note that this testing procedure should be performed only after you have read through the entire instruction manual.
3. Position the pipettor on top of a sturdy, safe, clean surface. For detailed information on how to choose a location, please refer to the sections under 3.1 Safety precautions and 3.9 Conditions of use.
4. Make sure the ON/OFF switch is at the OFF position. Connect the power entry connector and a power outlet with ground connection using the power cord provided.
5. Your pipettor is now ready for testing.

The i-Pette is a high precision instrument designed for high throughput liquid operations using 96 or 384 well microplates.

These operations most commonly begin with the installation of the pipettor head into the pipettor main unit. The user has the choice of two types of pipettor heads:

- type 1: Pipettor head with non-disposable stainless steel tips.
- type 2: Pipettor head with disposable tips made of polypropylene. For this option, the disposable tips are installed onto the pipettor head prior to operation according to the following instructions.

Once the pipettor head is installed, the user generally places a source labware containing specific liquid onto the elevator. The user then fills the tips using the FILL or FILL VOLUME commands. The source labware is then replaced with the destination labware, which is then dispensed upon with the contents of the tips using the DISPENSE or EMPTY commands.

Upon completion of the operations:

- for non-disposable tips: Clean non-disposable tips using the head washing station
- for disposable tips: Eject tips using the tip ejector and discards the tips. A manual indexing option is available for the 96 channel I-PIPETTE to enable it to work with 384 well labware.

Refer to the i-Pette PPC GUI operating manual for details on how to perform the pipettor operations.

4.2 CONDITIONS OF USE

The i-Pette is designed to perform optimally and safely under normal laboratory settings. Use of these instruments in other environments is not recommended. FLUIDX LTD. will not be responsible for any unsatisfactory results if the instrument is not operated under the conditions and intent outlined in this instruction manual.

The following is a list indicating some of the ideal operational parameters for your instrument. This is not an exclusive list; please contact FLUIDX LTD. if you have further questions.

- Environment: indoor, temperature regulated, non-dusty
- Operation Temperature: 50F - 100F
- Voltage: 100V — 240V
- Size of particles in liquid: less than 0.032" diameter (to prevent blockage of tips)
- This unit should not be used in a moving environment or relocated frequently

5. DISPOSABLE TIPS AND HEAD USAGE



The EZ-Load pipettor heads from FLUIDX simplify the use of disposable tips for multiple channel pipetting by making tip loading and unloading a simple manual process without the requirement for any tools.

The EZ-Load heads are used in conjunction with specially-made disposable pipette tip racks that allow the transfer of a rack of tips directly from the package into the EZ-Load head.

The tops of the pipette tips are sealed against the face seal by the pipettor's automatic electric loading mechanism. A reliable seal is provided for optimal pipetting performance.

The ESP EZL tips in EZ-Load format can be loaded on the head in three easy



5.1 INSTALLING THE PIPETTING HEAD

Important Note: Before you install the pipetting head, please make sure:

- The fill volume of machine is not greater than the tip volume of pipetting head
- For non-disposable tips usage: The pipetting head had been cleaned since the last usage and there is no remaining liquid inside tips.
- For disposable tips usage: A new set of disposable tips has been loaded onto the pipetting head correctly and there is no remaining liquid inside tips. (see Section 4 Disposable pipetting Tips Usage for details).
- There is no foreign object between the plunger block and the pipetting head.

			
Move locking lever all the way forward	Slide head into channels	Gently press the head all the way into the pipettor	Push the locking lever all the way to the back

5.2 REMOVING THE PIPETTING HEAD

The pipetting head can be easily removed by reversing the above procedure.

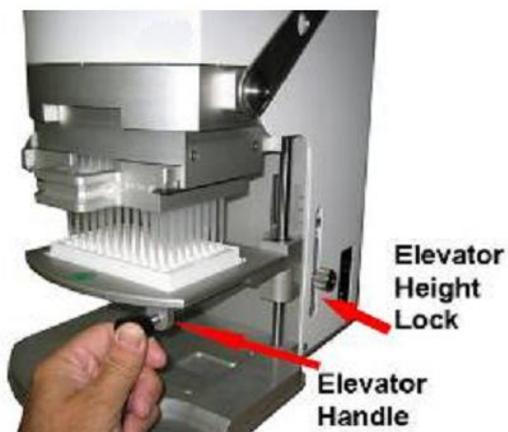
Important Note: Due to vacuum suction, some gaskets may become stuck to the pipetting head. This situation can be easily avoided by carrying out the following step.

After opening the locking levers, wait a few seconds to allow air to get inside. The pipetting head will drop automatically once the vacuum diminishes.

When pipetting head is removed from pipettor, user must re-define maximum volume of the pipettor during head installing.

If the pipettor crashed, remove pipetting head before restarting the machine and make sure no fluid is left inside the pipetting head.

5.3 PLATE HEIGHT



The user can perform all the functions by manually raising and lowering the elevator. The elevator can be locked at any height by turning the elevator handle knob clockwise. User can also bring the tray seat to same height by adjusting the height-positioning screw.

A height-positioning screw guarantees that the tray seat will stop at set height; its locking mechanism will stop the tray seat from traveling beyond set height position. To adjust height position, slightly loosen the screw by turning counter-clockwise, bring screw to desired height, then lock. To lock,

turn height-positioning screw clockwise.

NOTE Properly setting the plate height will ensure minimal adhesion of liquid to the tips, which will increase pipetting accuracy.

5.4 EMERGENCY STOP



For emergency stop at any time, press the STOP button on the PPC controller.

6. CARE AND MAINTENANCE

Proper care and maintenance can ensure the efficiency, safety and durability of your instrument.

It is imperative that an appropriate daily cleaning procedure be devised so that the pipetting head assembly does not become contaminated or attacked by harsh solvents. Please follow these guidelines carefully:

Grade mineral oil can be purchase at drug store. We do not supply mineral oil.

6.1 FOR DISPOSABLE TIPS USAGE:

- Always eject tips from pipetting head after use. Never leave tips on pipetting head overnight.
- Lubricate pipetting head o-rings every other pipetting with the supplied lubrication box. Refill box with heavy grade mineral oil when necessary.
- Never expose pipetting head o-rings to UV light as this will cause damage to the o-rings.

6.2 GENERAL MAINTENANCE:

- Periodically apply a thin layer of mineral oil to the bottom of the plunger block (see picture in section 3.4) in order to promote proper vacuum seal. Caution: use mineral oil ONLY; over lubrication may produce adverse effect.
- Regularly inspect the underside of the plunger block as well as the top of the pipetting head for dirt or foreign objects. Failure to do so may severely jeopardize the performance of the instrument.
- Inspect all moving parts regularly. Carefully remove any dirt or foreign objects. Lubricate with high-quality instrument-grade lubricant that contains silicone or molybdenum when necessary.
- Visually inspect the stainless steel tips or disposable tips every time before a pipetting session. Replace any bent stainless steel tips or damaged disposable tips before proceeding.
- Regularly inspect the instrument for worn components and replace them immediately.
- Clean the unit regularly with a clean cloth moistened with a mild solvent or cleanser. Avoid cleaning the LCD area with solvent or cleanser. These can dull the surface and damage the LCD.
- Maintain the cleanliness of your work area.

7. TROUBLESHOOTING

Problem: Leakage

Signs: Uneven liquid levels among the tips; drippings from tip(s) even when EMPTY or DISPENSE commands are not in use;

Solution: Apply thin film of mineral oil to the gasket(s) suspected of leaking. Make sure there is no foreign object(s) between the plunger block and the pipetting head.

Make sure both the locking levers are at horizontal positions.

Check the top of the pipetting head, make sure there is no missing or damaged gasket(s).

If disposable tips are used, make sure tips are loaded correctly.

Every tip has to cover both o-rings.

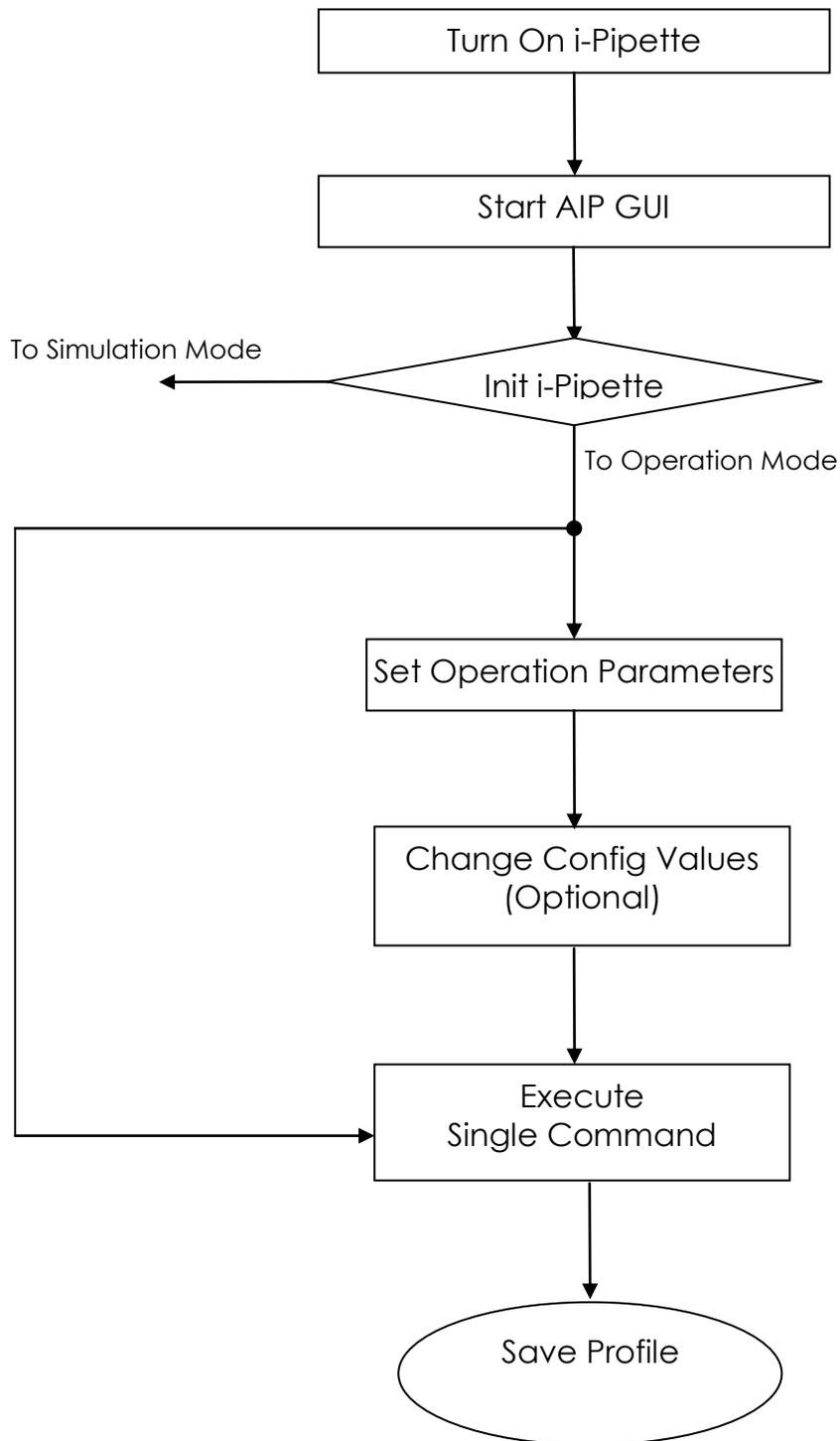
Problem: Machine crashed

Solution: Remove pipetting head before restarting the machine and make sure no fluid left inside the pipetting head.

8. SPECIFICATIONS

- Dispensing Precision (500) <3% CV at 5 ul (125) <3% CV at 1 ul
- Dispensing Accuracy (500) +/- 1% at 10 ul(125) +/- 1% at 1 ul
- Resolution (500) 1 ul (125) 0.1 ul
- Pipette Volume (500) 5-500 ul (125) 1-125 ul
- Dimensions 9"W x 14"D x 19"H 229W x 356D x 483H mm
- Weight Approx. 44 lbs. (20 kg)
- Power 100 to 240 VAC, 50/60 HZ
- Operating Temperature 50 - 100 °F

9. OPERATIONS OVERVIEW (SOFTWARE)



10. TO RUN OR UPDATE I-PETTE SOFTWARE

The i-Pette operating software is normally loaded into the PDA before shipment.

To turn on, press the power button on the right-side top of the PDA.

Go to "Start" then "Programs". Use the stylus to select the "Apricot" icon to run the software.

The software may require updating periodically. An updated installation file "Setup.CAB" will be sent to users on CD or via email, this file can be transferred from a PC to the PDA.

The PC must run MS Windows™ 2000 (or MS Windows XP™) as the minimum operating system.

To download the file from a PC:

(Follow step 6 only to download the file into the PDA without using a computer).

- 1) If connecting PDA to the PC for the first time, install the file "ActiveSync41Setup.exe" found on the CD supplied with original shipment, this sets up communication between the PDA and PC.
- 2) Connect desktop cradle to the PC. Attach free end of the USB cable into USB port on the PC. If the PDA battery charge level is low then recharge by connecting one end of the AC adapter to the cradle and the other to an electrical outlet.
- 3) Insert PDA into the desktop cradle and turn on.
- 4) Double click "My Computer" on the PC, locate new PDA icon with text "Mobile Device".
- 5) Copy updated software installation file "Setup.CAB" into any folder under "Mobile Device".
- 6) On the PDA, go to "Start" then "File Explorer". Select the folder which contains the file "Setup.CAB" under "My Documents".
- 7) Select "Setup" and follow installation instructions. The updated software will replace the old software within the PDA.

To run the software:

Select "Start" followed by "Programs" and then the "Apricot" icon.

11. PROGRAM INITIALISATION

With the software installed and running, the i-Pette model will be automatically detected, connection made and the appropriate interface entered.

When the i-Pette is turned on and connected, initialisation (homing tasks for plungers) will commence and the software displays "Operation Mode".

"Operation Mode" allows the user to control all functions and plunger movements of the i-Pette.

A wire connection or wireless connection between the i-Pette and PDA is required to use Operation Mode. If no connection is available the message "Select Correct COM Port or Check Connection!" will be displayed and the software will enter Simulation Mode.

NB. Simulation Mode is for demonstration purposes only. The default i-Pette model (IP96B-500) is used to set parameters and save profiles without the need for PDA connection.

If there appears to be no connection between i-Pette and PDA then first check physical connections.

Alternatively perform the following actions:

- Change COM port (use COM1 for wire connection and COM8 for wireless connection) in "Config" file, then tap "Init" to perform initialization without exiting the interface.
- Or exit and open the program again
- Or turn off, and then turn on, the i-Pette power.

If it is not possible to exit the program locate the "Reset" button on the left-side bottom of the PDA, insert the stylus into the small hole and press "Reset". Wait for the PDA to initialise as normal, then open program again.

12. MAIN SCREEN OVERVIEW

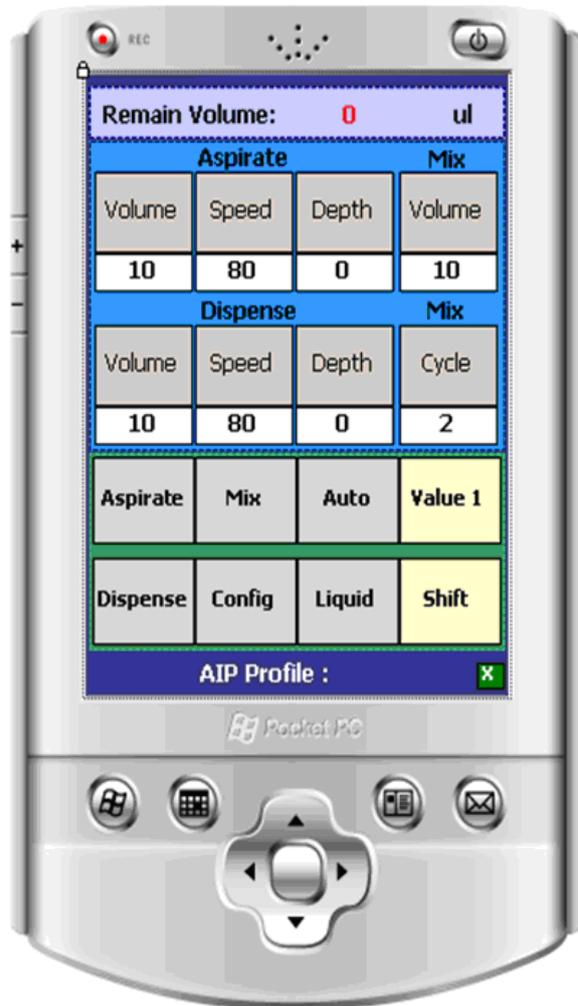


Fig. 1

Key for Fig. 1:

1	Tip Volume Bar	Display current actual remaining volume in the tips.
2	Aspirate Volume Input Button	Display and change aspirate volume value.
3	Aspirate Speed Input Button	Display and change aspirate speed value.
4	Dispense Volume Input Button	Display and change dispense volume value.
5	Dispense Speed Input Button	Display and change dispense speed value.
6	Dispense Depth Input Button	Display and change dispense depth value.
7	Aspirate Execution Button	Tap to execute aspirate operation.
8	Mix Execution Button	Tap to execute mix operation.
9	Dispense Execution Button	Tap to execute dispense operation.
10	Configuration File Button	Tap to open configuration parameter list.
11	Title Bar	Display new file or existing profile name.
12	Aspirate Depth Input Button	Display and change aspirate depth value.
13	Mix Volume Input Button	Display and change mix volume value.
14	Mix Cycle Input Button	Display and change mix cycle value.
15	Auto Execution Setting Button	Tap to open auto execution setting window.
16	Value Group Switch Button	Switch among the three groups of parameter values.
17	Liquid Class Setup Button	Tap to open liquid class setup files.
18	Execution Command Switch Button	Tap to switch into another set of execution commands.
19	Exit Button	Tap "X" button to exit.

13. USING THE SOFTWARE

13.1 Confirm Machine Model

When in "Operation Mode" the PDA will retrieve i-Pette details automatically, i.e. model and the original position. The i-Pette model will be shown within the "Configuration Form".

When in Simulation Mode, the default i-Pette model is IP96B-500.

13.2 Set Pipetting Head

An appropriate pipetting head volume must be set for the i-Pette before starting a protocol.

For i-Pette models IP96B-500 and IP96P-500 - default maximum volume is 500ul

For i-Pette models IP96B-125 and IP96P-125 - default maximum volume is 125ul

For i-Pette models IP384B-125 and IP384P-125 - default maximum volume is 125ul.

A message box will appear with option to change maximum pipetting volume. Choose "yes" to enter configuration window, max. volume change can be made.

To change to a different pipetting head:

- Reset the max. volume value in the "config form". (Select "config" to open).
- Then install the pipetting head and change tips as required.

NB. The maximum volume setting can be changed without changing pipetting head.

14. SET OPERATION PARAMETERS

Set parameters for volume, speed and cycle within the parameter setting panel (Fig.2) before running single execution commands.

Depth parameters can only be set for instruments fitted with an elevator motor (models IP96P-500, IP96P-125, IP384P-125).

Aspirate			Mix
Volume	Speed	Depth	Volume
248.5	76	60	150
Dispense			Mix
Volume	Speed	Depth	Cycle
100	80	40	3

Fig. 2

14.1 Changing aspirate parameters

Select "Volume" found under "Aspirate" title. The following panel (Fig. 3) will be displayed:

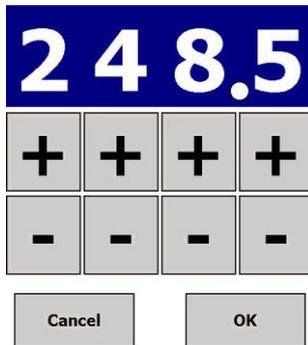


Fig. 3

Using the '+' or '-' buttons change each digit as required.

Select "OK" to exit and save new value.

To change aspirating speed select "Speed" under "Aspirate" title, the following (Fig 4) will be displayed:

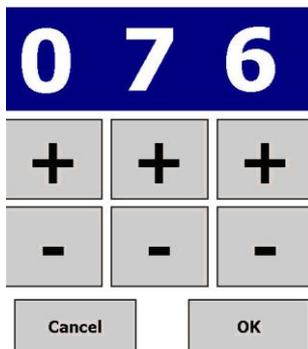


Fig. 4

Using the '+' or '-' buttons change each digit as required.

Select "OK" to exit and save new speed value. (Range is from 0 to 100).

To change depth select "Depth" under "Aspirate" title, the following (Fig. 5) will be displayed:

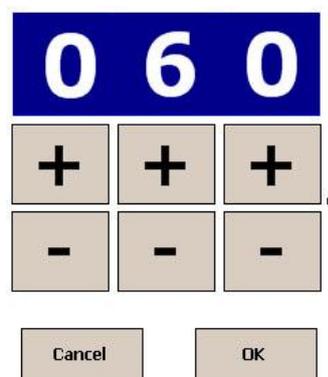


Fig. 5

Using the '+' or '-' buttons change each digit as required.

Select "OK" to exit and save new depth value. (Range is from 0 to 79. Set to 0 if no movement required).

14.2 Changing dispense parameters

Select "Volume" found under "Dispense" title to display input panel. Change volume, speed and depth values as in section 6.1.

14.3 Changing parameters for mixing

Select "volume" under "mix" title to display input panel. Change volume and cycle values as in section 6.1.

The aspirating speed and depth for the mix function are set as described in section 6.1.

The dispensing speed and depth for the mix function are set as described in section 6.2.

Three sets of values for aspirating, dispensing and mixing can be selected before running commands:

- Select "Value1", the text will change to "Value2".
- Set the second group of volume, speed, depth and cycle values.
- Select "Value2", the text will change to "Value3"
- Set the third group of values.
- Select "Value3" to display the first set of parameters.

N.B. A command can be run without changing values each time.

Example:

- Pre-airgap parameter is set as "Value1", aspirate volume as "Value2", post-airgap as "Value3".
- Select "Aspirate" button before executing the second and third aspirate command.
- Select "Value1" without inputting aspirate value each time.

All three groups of parameters can be saved within a user profile.



Fig. 6

15. PERFORMING COMMANDS

After setting operation parameters select an action from the command panel (Fig.7). This allows the user to complete a single command, set configuration parameters, automatic execution, liquid class or profiles.

Aspirate	Mix	Auto	Value 1
Dispense	Config	Liquid	Shift

Fig. 7

Select "Shift" to switch to next group of command buttons (Fig.8).

Blow	Profile	Default	Value 1
Empty	Init	Chg.Head	Shift

Fig. 8

15.1 Aspirate function

Place a filled plate on the stage, manually adjust to the required aspirate depth and input value as "Depth" under "Aspirate" title.

To use automatic mode:

Set "Depth" value without locking stage (if sensor block is unlocked or touches the bottom, the stage will not move).

To use manual mode:

Manually adjust the aspirate depth and lock the stage.

Select "Aspirate" to start aspirating, the stage will rise to the depth set (in automatic mode) or remain at the fixed depth (in manual mode).

The aspirating volume and depth performed will be those seen in the current set of "Aspirate" parameters.

If aspirating an airgap, allow the stage to move away from the tips. Alternatively set "Depth" value to 0 in automatic mode. If the instrument does not allow stage movement, the aspirate depth can only be changed manually. Hold the stage, or lock.

15.2 Dispense function

Place a plate on the stage, manually adjust the stage to set dispense depth and input value as "Depth" found under "Dispense" title.

To use automatic mode:

Set "Depth" value without locking stage (if sensor block is unlocked or touches the bottom, the stage will not move).

To use manual mode:

Manually adjust the dispense depth and lock the stage.

Select "Dispense" to start dispensing. Volume and speed will be those shown in current parameter settings.

If the instrument does not have an automated stage movement the dispense depth can be changed manually. Adjust the dispense depth, hold the stage or lock the stage to dispense.

15.3 Mixing function

Place a plate on the stage. Manually adjust the stage to set the aspirate or dispense depth of the mix. Input values in "Depth" found under "Aspirate" and "Dispense" titles.

To use automatic mode:

Set the aspirate and dispense values without locking stage (if sensor block is unlocked or the stage touches the bottom, the stage will not move).

To use manual mode:

Manually adjust the mix depth and lock the stage. Select "Mix" to start. Volume and speed for mix cycles will be those seen in the current parameter settings.

If the instrument is not fitted with an automated stage movement mix depth can be adjusted manually. Hold the stage or lock stage to dispense.

15.4 Emptying function

Place a plate on the stage; manually adjust the stage to the required depth to empty. Input "depth" value under "dispense" title.

To use automatic mode:

Set the "Depth" value without locking stage (if sensor block is unlocked or touches the bottom, the stage will not move).

To use manual mode:

Manually adjust the emptying depth and lock the stage. Select "empty" and any remaining liquid within the tips will be removed. (Speed can be changed under "dispense" title).

If the instrument does not have an automated stage movement, manually adjust the depth for emptying by holding the stage or locking it.

15.5 Blow-out function

Once the emptying process has been completed, select "Blow-out".

The i-Pette will execute "Blow-out" function to remove any remaining liquid attached to the tips.

If the remaining volume is not greater than 1ul, the blow command can be incorporated into the emptying function.

15.6 Auto function

Use the "auto" function to set the automatic execution of a command.

After setting a command, "Aspirate", "Dispense" or "Mix", select "auto" to open a new window (Fig. 9).

When the stage is raised a sensor is activated (set and lock position beforehand), the i-Pette will perform the pre-set command with the values displayed in the current interface.

This shortcut reduces the need to select "Aspirate", "Dispense" or "Mix" on the panel to start the function.

The interval of touching sensor is at least 3 seconds when continuing to do any function more than once.

To disable the Auto function set 'None' in the auto setting window. The Auto function can only be used in manual mode by using the touch sensor. For automatic mode the sensor block should be locked at the highest position to enable the stage to move freely.

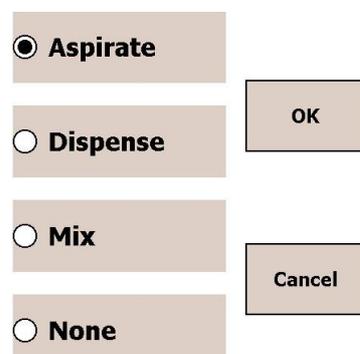


Fig. 9

15.7 Initialisation

If initialising is required (e.g. in the case of communication difficulties) select the "Init" button to commence.

15.8 Default

Set default values for all operation parameter settings (three groups), configuration parameter settings and auto execution setting.

15.9 Stopping

Pushing the red emergency stop button will terminate the operation immediately. Please note that in this instance the remaining volume in the tips may not be calculated accurately.

If possible, empty tips before performing another function. After stopping one function the i-Pette is able to perform additional commands directly without the need for initialisation, or other action, beforehand.

15.10 Changing pipetting heads

Pipetting heads can be changed on the following i-Pette models:

IP96P-500,

IP96P-125,

IP384P-125.

Select "Liquid", display will change to "Chg.Head". The select "Chg.Head" to unlock the pipetting head.

After fitting the new head, select "OK" to lock.

16. SET CONFIGURATION PARAMETERS

Select the "Config" within the command execution panel to display the "Config Form" (Fig. 10).

Select and change the value buttons on the right side as needed.

Select the "name" on the left side, restore the default values if necessary.

"Self Test" will activate i-Pette life test. The i-Pette will continuously perform aspirating and dispensing functions according to the set parameters until stopped by the user.

Pipettor Model	IP96B-500
COM Port	COM1
Max Volume (uL)	500
Over Shoot (uL)	12
Plunger Pause	Medium

Fig. 10

16.1 i-Pipette Model Number

The i-Pette model is shown within this panel (Fig. 10) but cannot be changed using this form.

16.2 COM Ports

The default communication port is COM1 for a wire connection between PDA and i-Pette.

If using a wireless connection, remove the wire cable from the PDA and use wireless connector, activate the wireless function in PDA.

After entering the software, go to "Config" window, select "COM Port" button, select "COM8".

Select the "Init" button to initialise.

16.3 Max Volume

Select the value button for "Max Volume" to display the Input Panel. Set the max. volume by using the '+' and '-' buttons.

16.4 Over Shoot

For model IP96B(P)-500:

Default over shoot value = 12uL

Max value = 48.

For models IP96B(P)-125 and IP384B(P)-125:

Default over shoot value = 3uL

Max value = 12uL

Select the "Over Shoot" value button to display the input panel (Fig. 11). Use '+' and '-' buttons to set.

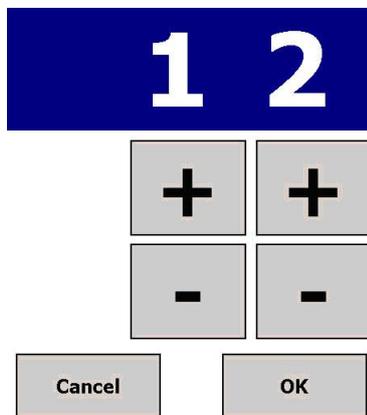


Fig. 11

16.5 Plunger Pause

The plunger-waiting interval can be adjusted as required. (Default = Medium).

Select the "Plunger Pause" value button, a new window will open (Fig. 12) to allow pause length to be chosen.

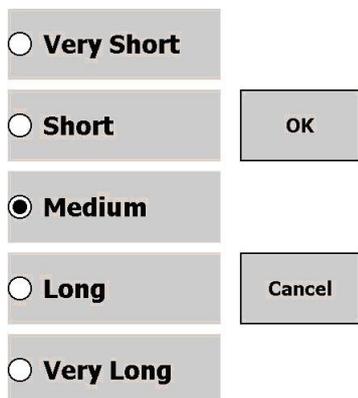


Fig. 12

17. CREATE USER PROFILES

User Profiles enable users to save set operation parameters, the auto-execution settings and configuration settings. There are nine profiles available.

When entering the main interface the last set of operation and configuration parameters selected are shown.

To save current settings as a profile, or to open a previously saved profile, select the "Profile" within the command execution panel, the "Select Profile" form will be displayed (Fig 13).

Notes:

Profile 1	Profile 2	Profile 3
Profile 4	Profile 5	Profile 6
Profile 7	Profile 8	Profile 9

Select a profile first, then click Save or Open

Save	Exit	Open
------	------	------

Fig. 13

17.1 Save Profile

Select a Profile button and tap "Save".

The current settings for operation, auto execution and configuration parameters are saved in the user profile. The profile window will close and the name will be shown within the title of the main interface.

17.2 Open Existing Profile

Select Profile button and tap "Open". The selected profile will open.

All parameter values for operation, auto execution and configuration settings are retrieved from the profile and the profile name will be shown in the title of the main interface.

17.3 Exit

Select "Exit" to leave this section without making changes.

17.4 Notes

The "Notes" text box allows the user to input a simple note, e.g. name of profile creator, purpose etc.

To enter note, click on small keyboard icon to open the keyboard for input.

Once saved, the note will be displayed when a profile button is selected.

17.5 Profile Exist

The profile buttons are different colours to show either existing or empty profiles.

A message stating that the profile cannot be opened will be displayed if the instrument model saved within a profile is not compatible with the current model.

18. DEFINE LIQUID CLASS

Select "Liquid" within the command execution panel to display the "Define liquid class" section (Fig. 14).

This can be divided into several volume ranges with a different calibration value for each range. (From zero to pipetting head max. volume).

Define liquid class	
500uL ~ 200uL	1604
200uL ~ 150uL	1620
150uL ~ 100uL	1650
100uL ~ 50uL	1680
0uL ~ 50uL	1700

Default	File	Cancel	OK
---------	------	--------	----

Fig. 14

Select the top left-side volume button to display a volume setting panel. Use '+' and '-' buttons to set the volume (Fig. 15). This volume is the lower limit for the current volume range and will become the upper limit for the next volume range.

Set up the remaining ranges in the same way.

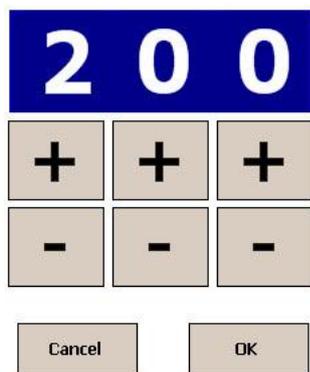


Fig. 15

Next, select the top right-side calibration value button, an input panel will appear. Use the '+' and '-' buttons to set the calibration value.

For model IP96B(P)-500:

Default calibration value = 1604

Range = 1500-1700

For models IP96B(P)-125 and IP384B(P)-125:

Default calibration value = 6416

Range = 6000-6800

Use the same method to set up calibration values for each volume range.

Select "Default" button to change settings back to default values.

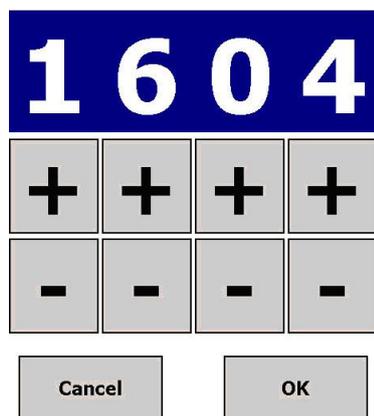


Fig. 16

To save the current class setting into a class file, or open an existing class file to operate, select "File" within the default liquid class window. The "Liquid Class File" form will appear (Fig. 17).

Up to 9 files can be saved.

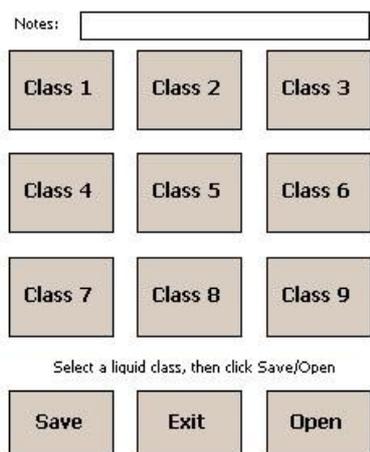


Fig. 17

18.1 Save Class File

Select a "Class" button followed by "Save". The current class setting is saved.

18.2 Open Existing Profile

Select a "Class" button, then "Open".

An option to save the current file will appear, followed by the class file selected.

Class setup is retrieved from the class file and is seen within the "Define liquid class" window when opened.

18.3 Exit

Select "Exit" to exit without making changes.

18.4 Notes

The "Notes" text box allows the user to input a simple note, such as a description for the class file. The note is displayed when the associated "Class" button is selected.

18.5 Class File Exist

Buttons for the existing class files and the empty files will appear in different colours to differentiate.

A message will appear stating that the class file cannot be opened if the instrument model saved within a profile is not compatible with the model in use.

19. APPENDIX A

SPECIFICATIONS

Operating system	Windows Mobile® 5.0 for Pocket PC, Premium Edition (Pocket versions of Microsoft software are included (Outlook, Word, Excel and Internet Explorer for Pocket PC))
Processors available	Marvell PXA270 processor 520 MHz
Memory	64 MB SDRAM
Flash memory	192 MB Flash ROM Flash ROM
Audio	Integrated microphone; Speaker and one 3.5 mm stereo headphone jack; MP3 stereo (through headphone jack)
Ports	Standard: 1 IrDA 1 USB 1.1 Client 1 Serial RS232 1 DC power 1 AC/DC connector Rear: 1 Charging/ActiveSync connector
Slots	1 Compact flash 1 secure digital
Display	3.5-in transfective TFT QVGA color; touch screen
Display size	3.5 - inch Transflective TFT QVGA
Input devices	Stylus Touch-sensitive display for stylus or fingertip
Wireless communication	Wi-Fi (802.11b); Bluetooth wireless technology
Software included, ROM	ActiveSync; Adobe Reader for PC; ClearVUE Suite (Word and Excel); ClearVUE Suite (PPT and PDF); Outlook 2002 Desktop; WorldMate (NA Retail only); Media Player Desktop
Security management	HP ProtectTools secured by CREDANT Technologies
Dimensions (w x d x h)	3.01 x 0.65 x 4.71 in (76.6 x 16.3 x 119.4 mm)
Weight	5.8 oz (164.4 g)
Power	Removable/rechargeable 1440 mAh battery
Warranty Feature	One-year parts and labor in most regions; 90 days technical support for software in most regions. Additional offers may

vary by region.

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