

# Pipet-Lite™

**Multichannel Magnetic Assist Pipette  
with LTS™ LiteTouch™ Tip Ejection**

**8-, 12-, 16- (2x8), &  
24-channel models**

**L8-10**

**L8-20**

**L8-200**

**L8-300**

**L8-1200**

**L12-10**

**L12-20**

**L12-200**

**L12-300**

**L12-1200**

**L2X8-20**

**L2X8-100**

**L24-20**

**L24-100**

**L8-200 shown**



***RAININ***

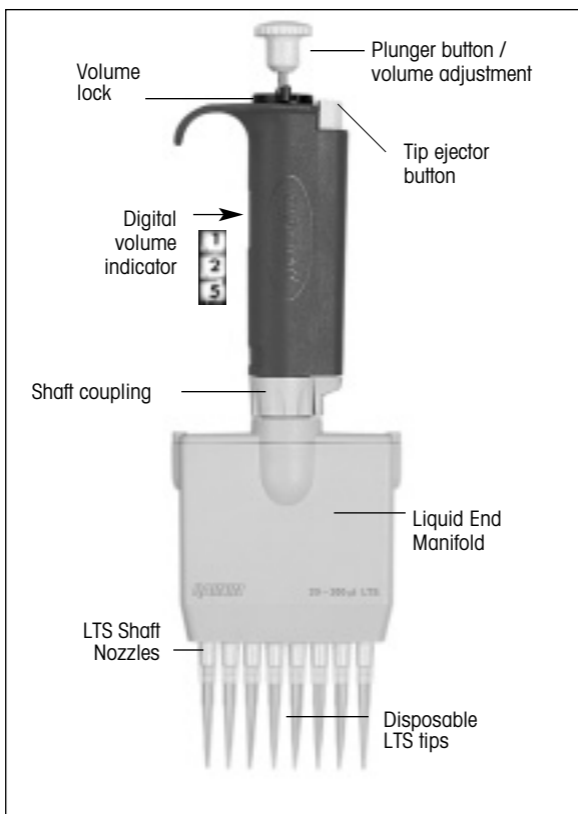
## Introduction

Pipet-Lite multichannel pipettes are based on the Pipet-Lite single-channel pipette which uses the patented LTS LiteTouch Tip Ejection System.

Four versions of the Multichannel Pipet-Lite are available: 8-channel (L8), 12-channel (L12), 16-channel in two rows (L2X8) and 24-channel in two rows (L24).

The 8- and 12-channel models are available in 5 volume ranges: 0.5 -10  $\mu\text{L}$ , 2-20  $\mu\text{L}$ , 20-200  $\mu\text{L}$ , 20-300  $\mu\text{L}$ , and 100-1200  $\mu\text{L}$ . The 2x8- channel and 24-channel models are available in two volume ranges, 2-20  $\mu\text{L}$  and 10-100  $\mu\text{L}$ .

This is an addendum to the Pipet-Lite manual (9920-237) which describes pipetting operation.



**Figure 1 Pipet-Lite L8-200**

Rainin is a registered trademark and LTS, Lite-Touch System, and Pipet-Lite, are trademarks of Rainin Instrument, LLC. Pipet-Lite pipettes are manufactured under U.S. Patents 5,614,153, 5,700,959, and 5,849,248. LTS LiteTouch Tip Ejection System is protected under U.S. patents 6,168,761 B1 and 6,171,553 B1. Other U.S. and national patents pending.

## Tip Selection

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Pipet-Lite multichannel pipettes must use RAININ LTS tips.

**L8-10, L8-20, L12-10, L12-20, L2X8-20 & L24-20: 20 $\mu$ L LTS tips**

**L8-200, L12-200, L2X8-100 & L24-100: 250  $\mu$ L LTS tips**

**L8-300 and L12-300 use 300  $\mu$ L LTS tips**

**L8-1200 and L12-1200 use 1200  $\mu$ L LTS tips (recommended)**

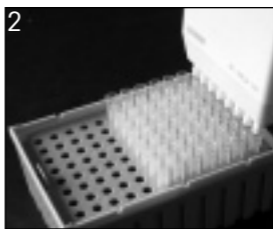
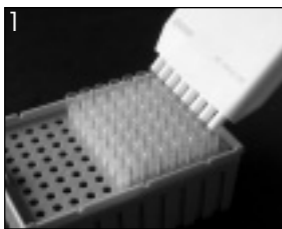
**OR 1000  $\mu$ L LTS tips – picks up 1200  $\mu$ L (except aerosol-resistant)**

LTS tips have a cylindrical cross-section with a well-defined seal ring, thin wall, and positive stop. They seal properly on the shaft and cannot be jammed or forced too far onto the shaft nozzles.

## Mounting LTS Tips: 8- and 12-channel

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Mounting racked LTS tips onto L8 and L12 pipettes is simple. First align the shaft nozzles into the row of tips, holding the pipette at a slight angle. (Figure 2.1). Position the pipette upright and press the nozzles into the tips until the “positive stop” is reached. (Figure 2.2). The tips are now mounted with proper sealing.



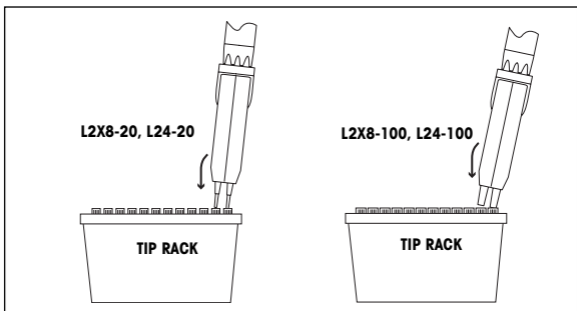
**FIGURE 2: MOUNTING RACKED LTS TIPS, L-8 AND L12**

You do not need to hand-tighten, use heavy pressure, or “rock” the nozzles onto the tips to obtain a good seal.

## Mounting LTS Tips: 2x8- & 24-channel

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1. Align the first row of shaft nozzles with the first row of tips, holding the pipette almost vertically. Move the pipette as shown by the arrow to align the second row of tips. You may need to “rock” or rotate the pipette to get all tips aligned.



**FIGURE 3: MOUNTING RACKED LTS TIPS, DOUBLE-ROW MODELS**

- When you are satisfied that all tip nozzles are aligned with the tips, lightly press both rows of shaft nozzles into the tips until you feel the “positive stops” in the tips.
- While maintaining slight pressure, “rock” the pipette back and forth and in a circular direction to ensure both rows of tips are attached. Do not press very hard; a little practice will help you find the optimal pressure and amount of rocking.

The tips are now mounted with proper sealing.

## **Tip Immersion Depth**

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The recommended depth for tip insertion into the sample for each Pipet-Lite multichannel model is shown in the table below.

<b>Pipet-Lite Model Depth</b>	<b>Immersion</b>
L8-10, L12-10	2 - 3 mm
L8-20, L12-20, L2X8-20, L24-20	2 - 3 mm
L8-200, L12-200, L2X8-100, L24-100	2 - 4 mm
L8-300, L12-300	2 - 4 mm
L8-1200, L12-1200	4 - 10 mm

Tip immersion depth is important. If exceeded, the volume measured may be inaccurate, possibly out of specification.

Tip angle: Operate the pipette within 20 degrees of vertical.

## **Tip Ejection**

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Simply press on the tip ejector button. All tips are ejected cleanly with minimal pressure on the thumb.

## **Positioning the Liquid End Manifold**

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The liquid end manifold can be rotated to any angle for convenience. You do not need to loosen the coupling nut.

## **Note for 2x8- and 24-channel models**

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On the 2x8-channel and 24-channel models, both rows of tips need to be touched-off. At the end of the dispense stroke, hold the plunger button down long enough to touch-off both rows of tips, then release thumb pressure and allow the plunger to return.

You can also touch-off both rows at the same time. Touch-off all tips at the bottoms of the wells.

Practice both methods to develop your own technique.

**L2X8-100**



**L24-20**



**L8-1200**



**L12-1200**



## Specifications

These manufacturer's specifications should be used as guidelines when establishing your own performance specification.

Model	Volume μL	Increment μL	Accuracy		Precision	
			%	μL (±)	%	μL (≤)
L8-10, L12-10 (range 0.5-10 μL)	1	0.02	2.5	0.025	1.2	0.012
	5		1.5	0.075	0.6	0.03
	10		1.0	0.10	0.4	0.04
L8-20, L12-20 L2X8-20, L24-20 (range 2-20 μL)	2	0.02	7.5	0.15	2.0	0.04
	10		1.5	0.15	0.5	0.05
	20		1.0	0.20	0.3	0.06
L2X8-100, L24-100 (range 10-100 μL)	10	0.2	3.5	0.35	1.0	0.1
	50		0.8	0.4	0.24	0.12
	100		0.8	0.8	0.15	0.15
L8-200, L12-200 (range 20-200 μL)	20	0.2	2.5	0.5	1.0	0.2
	100		0.8	0.8	0.25	0.25
	200		0.8	1.6	0.15	0.3
L8-300, L12-300 (range 20-300 μL)	30	0.2	2.5	0.75	1.0	0.3
	150		0.8	1.2	0.25	0.375
	300		0.8	2.4	0.15	0.45
L8-1200, L12-1200 (range 100-1200 μL)	100	2.0	3.6	3.6	0.60	0.60
	600		0.8	4.8	0.20	1.20
	1200		0.8	9.6	0.15	1.80

(Specifications subject to change without notice)

## Service

If you experience any problems with your multichannel Pipet-Lite, contact RAININ Technical Support at 800-543-4030.

# Ordering Information

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## Cat. No    Description

### **8-Channel**

- L8-10      8-channel, 0.5  $\mu$ L to 10  $\mu$ L
- L8-20      8-channel, 2  $\mu$ L to 20  $\mu$ L
- L8-200    8-channel, 20  $\mu$ L to 200  $\mu$ L
- L8-300    8-channel, 20  $\mu$ L to 300  $\mu$ L
- L8-1200   8-channel, 100  $\mu$ L to 1200  $\mu$ L

### **12-Channel**

- L12-10    12-channel, 0.5  $\mu$ L to 10  $\mu$ L
- L12-20    12-channel, 2  $\mu$ L to 20  $\mu$ L
- L12-200   12-channel, 20  $\mu$ L to 200  $\mu$ L
- L12-300   12-channel, 20  $\mu$ L to 300  $\mu$ L
- L12-1200 12-channel, 100  $\mu$ L to 1200  $\mu$ L

### **2x8 (16-Channel)**

- L2X8-20   16-channel in 2x8 configuration, 2  $\mu$ L to 20  $\mu$ L
- L2X8-100 16-channel in 2x8 configuration, 10  $\mu$ L to 100  $\mu$ L

### **24-Channel**

- L24-20    24-channel in 2x12 configuration, 2  $\mu$ L to 20  $\mu$ L
- L24-100   24-channel in 2x12 configuration, 10  $\mu$ L to 100  $\mu$ L

**LTS multichannel pipettes require LTS tips.**

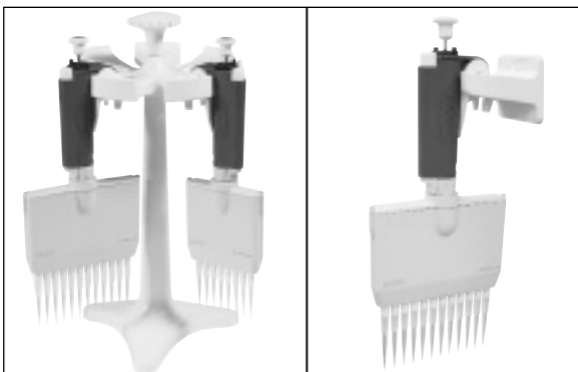
# Accessories

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## Cat. No    Description

- HU-M3    Package of 3 Magnetic Hang-Ups. Includes adhesive disk for attachment to a non-ferrous vertical surface
- HU-S3    Clamp with 3 Hang-Ups attached, for attachment to a shelf
- CR-7      Free-standing Pipette Carousel, for holding up to 7 pipettes
- HU-A3    Adapter for Multichannel pipettes for HU-M3, HU-S3 & CR-7

**To order pipettes or accessories, call 800-472-4646, or visit [www.rainin.com](http://www.rainin.com) on the web.**



**L8 and L12 models on HU-A3 Adapters on CR-7 Carousel (L) and HU-M3 Hang-Up (R)**

### **Limited Warranty**

See the enclosed Limited Warranty and Limitations of Liability Statement. Please complete and return the Warranty Registration Card on receipt of your pipette.

RAININ LTS pipettes are calibrated with RAININ LTS tips.

To assure excellent reproducibility and performance, use only RAININ LTS tips as recommended in this manual. Specified performance is guaranteed only when RAININ LTS tips are used.

## **Contacting RAININ**

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### **Technical Information:**

Phone: 800-543-4030  
Fax: 781-938-1152  
E-mail: [tech.support@rainin.com](mailto:tech.support@rainin.com)

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Phone: 800-662-7027  
Fax: 781-935-7631  
E-mail: [service@rainin.com](mailto:service@rainin.com)

### **Direct Order Line:**

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Fax: 781-938-1152  
E-mail: [pipets@rainin.com](mailto:pipets@rainin.com)

**Web:** [www.rainin.com](http://www.rainin.com)

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