

ML-Series

User's Manual

(USA ONLY)



Contents

1. Safety Information	3
2. Operating Environment	4, 5
3. Installation / Moving	6
4. Maintenance / Checking	7
5. Machine Overview	8
6. Operation Panel Overview	9
7. Basic Operation	12
8. Counting Mode	13
9. User Setting	14
10. Daily Cleaning	20
11. Accessories & Option, Specification	21

Safety Information









These warnings and precautions are included in order to prevent injury to you and others, as well as preventing any potential damage to your machine. Be sure to read and understand all of these instructions before using the machine.

Use common sense for operating any electrical appliance and whenever using your machine. Also, follow all warnings and instructions marked on the machine and in the accompanying literature.

Important safety symbols







This section explains the meanings of all icons and signs in the user' guide. These safety symbols are in order, according to the degree of danger.

Explanation of all icons and signs used in the user's guide :

	Warning : Hazards or unsafe practices that may result in severe personal injury.
	Caution : Hazards or unsafe practices that may result in severe personal injury.
	Do not attempt
	Do not touch.
	Do not disassemble.
	Make sure the machine is grounded to prevent electric shock.
	The power plug be pulled out before taking necessary action.
	Follow directions explicitly.

Operating Environment

Warning

	<p>Do not use if the power cord is damaged or if the electrical outlet is not grounded.</p> <p>▶ This could result in electric shock or fire.</p>
	<p>Do not place anything on top of the machine (water, small metal or heavy objects, etc.).</p> <p>▶ This could result in electric shock or fire.</p>
	<p>Do not bend, or place heavy objects on the power cord.</p> <p>▶ This could result in electric shock or fire.</p>
	<p>Do not remove the plug by pulling on the cord; do not handle the plug with wet hands.</p> <p>▶ This could result in electric shock or fire.</p>
	<p>If the machine gets overheated, it releases smoke, makes strange noises, or generates an odd odor, immediately turn off the power switch and unplug the machine.</p> <p>▶ This could result in electric shock or fire.</p>
	<p>Never operate the machine without the protective cover. The reflected beam, although invisible, can damage your eyes.</p> <p>▶ When using this product, these basic safety precautions should always be followed to reduce risk of fire, electric shock, and injury to persons.</p>

Operating Environment








Caution

	<p>Be careful not to put your hand, hairs and clothes(including tie) when handling machine.</p>
	<p>Do not forcefully pull the note out during counting. ▶ It can cause damage to the machine.</p>
	<p>Be care when removing jammed notes. ▶ You may get injured.</p>
	<p>Make sure the machine stops completely before opening the covers of the machine. ▶ Otherwise, there is a risk of an injury.</p>
	<p>Do not disassemble the machine except having been instructed in the user manual. ▶ It can damage the machine.</p>
	<p>When removing jammed paper, do not use tweezers or sharp metal objects. ▶ It can damage the machine.</p>
	<p>During an electrical storm or for a period of non-operation, remove the power plug from the electrical outlet. ▶ This could result in electric shock or fire.</p>

Installation / Moving



Caution

	<p>Before moving the machine, turn the power off and disconnect the cord. Make sure lift the machine using both hands. ▶The machine could fall, causing injury or machine damage.</p>
	<p>Do not place the machine on an unstable surface.</p>
	<p>Make sure you plug the power cord into a grounded electrical outlet. ▶Otherwise, this could result in electric shock or fire.</p>
	<p>Do not overload wall outlets and extension cords. ▶This can diminish performance, and could result in electric shock or fire.</p>
	<p>Risk of explosion, if battery is replaced by an incorrect type Dispose of used batteries according to the instructions</p>

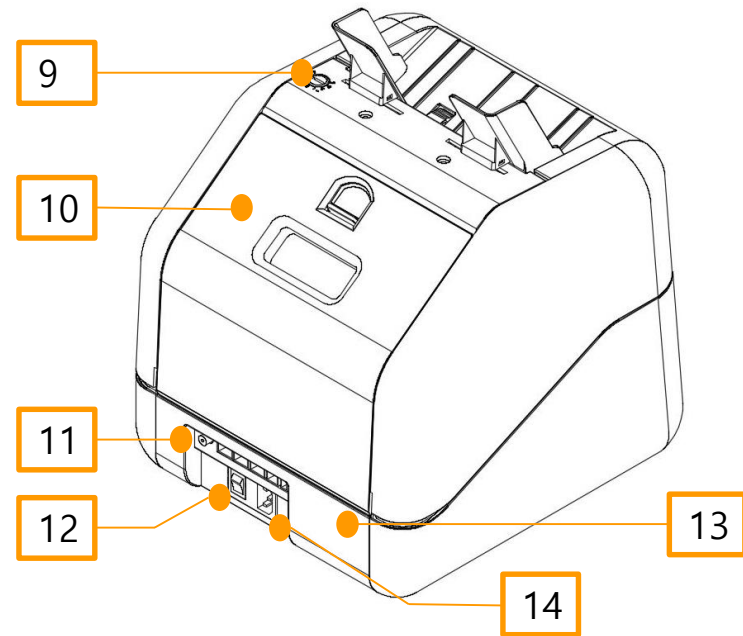
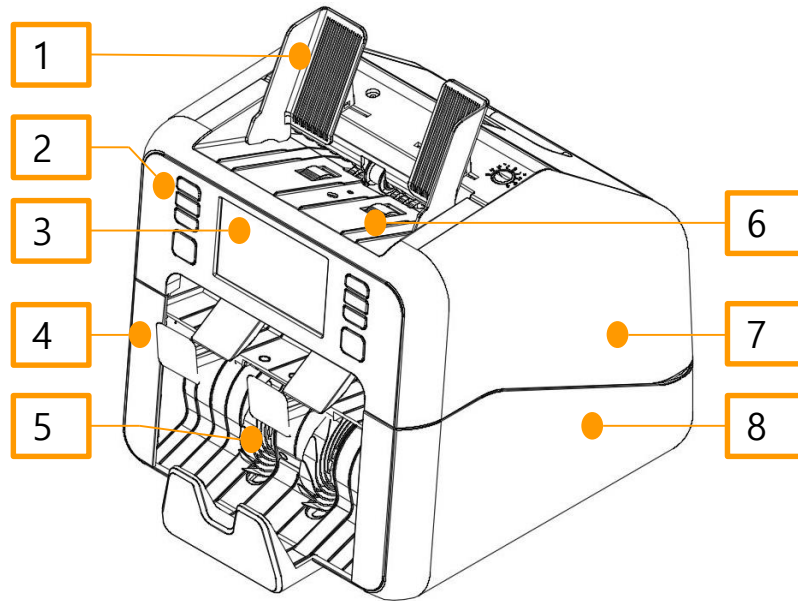
Maintenance / Checking



Caution

	<p>Unplug this product from the wall outlet before cleaning the inside of the machine. Do not clean the machine with benzene, paint thinner or alcohol; do not spray water directly into the machine.</p> <p>► This could result in electric shock or fire.</p>
	<p>When cleaning the machines, use dry cloth or cloth moistened with water. Do not pour the water onto machine.</p> <p>► It can cause damage to the machine.</p>
	<p>When you are working inside the machine replacing supplies or cleaning the inside, do not operate the machine.</p> <p>► You could get injured.</p>
	<p>Do not use air spray which contains flammable gas for cleaning.</p> <p>► It may cause failure or a fire.</p>
	<p>Do not disassemble, repair or rebuild the machine by yourself.</p> <p>► It can damage the machine. Call a certified technician when the machine needs repairing.</p>
	<p>Keep the power cable and the contact surface of the plug clean from dust or water.</p> <p>► Otherwise, this could result in electric shock or fire.</p>
	<p>Do not remove any covers or guards that are fastened with screws.</p> <p>Fuse replacement should only be repaired by a certified service technician. Repair by non-certified technicians could result in fire or electric shock.</p>

Machine Overview



1 Hopper Guide

2 Display Case

3 Touch LCD

4 LU Front Cover

5 Stacker

6 Hopper

7 Upper Cover

8 Lower Cover

9 Thickness Dial

10 Upper Rear Cover

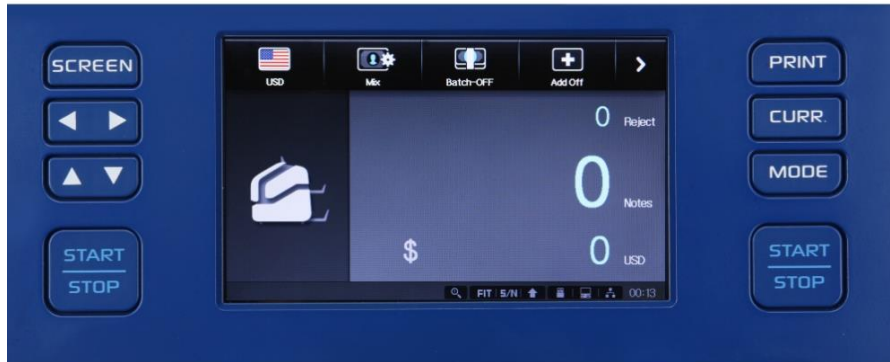
11 Interface Connector

12 Power Switch

13 Lower Rear Cover

14 Inlet

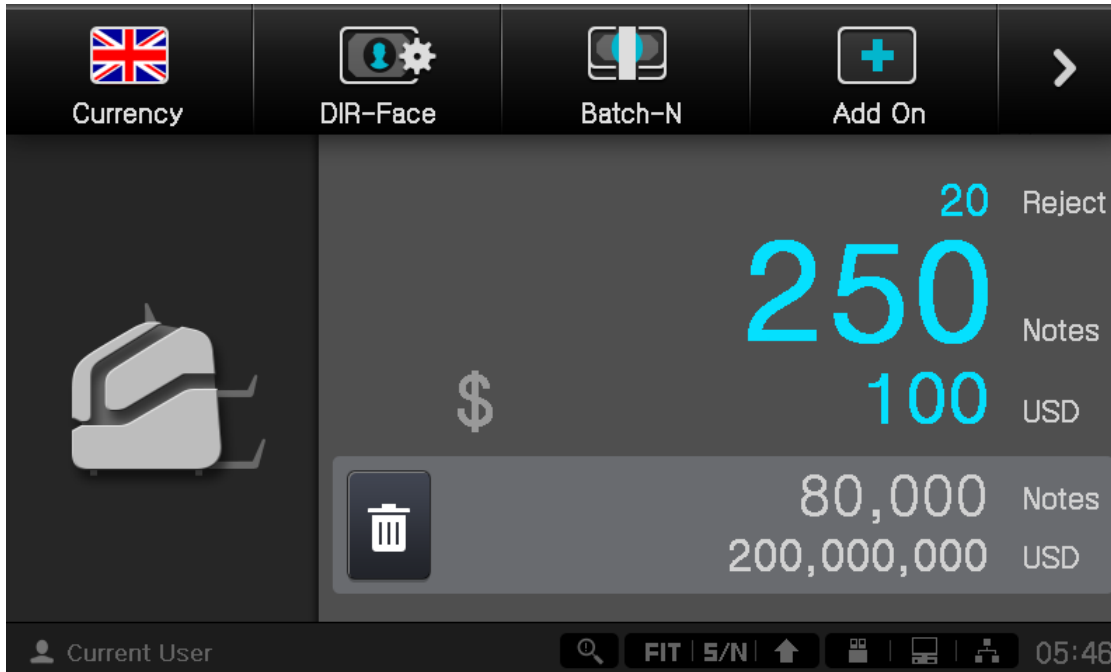
Operation Panel Overview



Model: ML-2V



Model: ML-2F










Mode Setting Area

Counting Result Area











Indicator Area

Operation Panel Overview

1. Key Configuration

NO	KEY	FUNCTION	NO	KEY	FUNCTION
1		Screen Saver Function.	5		Printing out the Denomination Information
2		Choosing Key on the Menu between Left and Right	6		Selecting Currency
3		Choosing Key on the Menu between Up and Down	7		Selecting Different Count Mode
4		Counting Stop or Restart.			










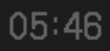
2. Screen Configuration for Mode Setting Area

NO	ICON	FUNCTION	NO	ICON	FUNCTION
1	 Currency	Selecting the currency	6	 Report	Checking the Summary. (Error List, Detail, Serial)
2	 DIR-Face	Selecting Different Count Mode. (Mix, PreSort, SP, DIR, Unfit, Serial, ATM, Fit) (Depending on the software, some modes may not work)	7	 User Setting	User Mode
3	 Batch-N	Selecting Batch Number	8	 Engineer Setting	Service Mode
4	 Add On	Accumulating all Counted Notes.	9	 Manual	Providing the countermeasures for errors.
5		Moving to the Next Page	10		Moving to the Previous Page

Operation Panel Overview

3. Screen Configuration for Indicator Area






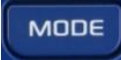
NO	ICON	DESCRIPTION	NO	ICON	DESCRIPTION
1		Current User ID	6		Icon will be ON during the data transfer
2		Icon will be ON when Suspicious Note is detected	7		Icon will be ON when USB Memory Card is connected
3		Icon will be ON when the Fitness Sorting Mode is ON	8		Icon will be ON when PC is connected
4		Icon will be shown when the ATM Sorting Mode is ON	9		Icon will be ON when LAN is connected
5		Icon will be ON when the Serial Number Printing Mode is ON	10		Time

Basic Operation

STEP 1. Plug the power cord into the power receptacle.

STEP 2. Turn on the Power Switch.

STEP 3. Select the Currency  

STEP 4. Select a Counting Mode.  

STEP 5. Adjust Hopper guide to the notes to be counted.



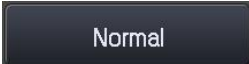
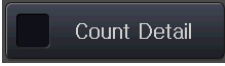
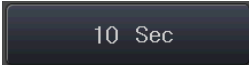



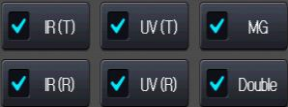

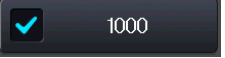
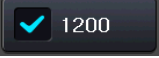
STEP 6. Put the notes onto the Hopper, and counting starts automatically.

Counting Mode





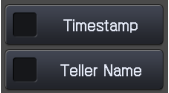

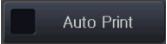
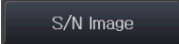

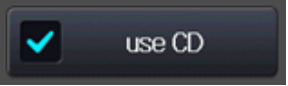

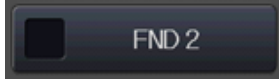
Mode		Description
MIX MODE	Mix	It count the all denomination of selected currency.
Presort MODE	PreSort	It sorts out the denomination by preselected batch setting. (This mode will be activated only when the "Batch by Denom" setting is ON in User Setting)
SP MODE	SP	It sorts out the same denomination as first inserted note
DIR MODE	DIR	It sorts out the note depending on the front or rear side of note.
		- Face : It sorts out the same face of notes
		- Orient : It sort out the same orientation of notes
		<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: right;"> - Auto : It sort out only the same face and orientation of notes as the first counted note </div> <div style="text-align: left;"> <div style="margin-bottom: 10px;"> Mix : All denominations counting </div> <div> Single : Single denomination counting </div> </div> </div>
Unfit MODE	Unfit	It sorts out only the unfit denominations of selected currency. (Depending on the software, this mode may not work)
ATM MODE	ATM	It sorts out only the ATM fit denominations of selected currency. (Depending on the software, this mode may not work)
Fit MODE	Fit	It sorts out only the fit denominations of selected currency. (Depending on the software, this mode may not work)
Serial MODE	Serial	It prints out the serial number of denomination of selected currency (Depending on the software, this mode may not work)

User Setting

1. Function


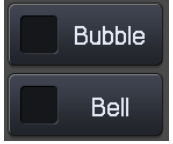
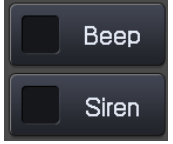
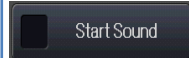

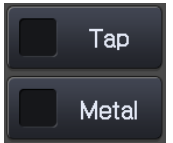





Icon	Sub-Icon	DESCRIPTION	Sub-Icon	DESCRIPTION
	Start Method 	Counting Start Function (Default: Automatic Start)	Start Delay 	Counting Start Delay Function (Default: Normal Start)
	Count Detail 	Details of counting result will be displaced in the screen during counting (Default: OFF)	Batch Keep Off 	Batch Counting Time Function (Default: Off)
	Batch by Denom 	PreSort mode On/Off Function (Default: ON)		
	CF Action 	Function when CF note is detected in Reject Pocket (Default: Continue Counting)	CF Sensor On/Off 	Each Sensor On/Off Function (Default: Each Sensor is ON) (It can be deactivated at Engineer Setting)
	S/N & Fitness & Auto Currency (note/min.) 	Counting Speed when S/N & Fitness & Auto Currency functions are used. (Default: 1000)	Value & Count (note/min.) 	Counting Speed when Value & Counting Currency functions are used. (Default: 1200)






2. External Device

Icon	Sub-Icon	DESCRIPTION	Sub-Icon	DESCRIPTION	
	Baurate 	Printer Data Transfer Speed Setting (Default: 115200)	Copies 	Printing Copy Setting (Default: 1 copy)	
	Paper Size 	Printer Paper Size Setting (Default: 3-inch)	Additional Print Option 	Additional Printing Option Setting (Time & User ID)	
PC Comm. 	Printing in PC connected (Default: Off)	Auto Print 	Auto Printing function (Default: Off)	S/N Image 	S/N Printing Setting S/N Image, OCR, S/N Image & OCR (Default: S/N Image)
		Use Customer Display (choose between i-click (N) and FND2)			
		LCD type		2-Line FND type	

User Setting



3-1. UI Config #1

Icon	Sub-Icon	DESCRIPTION	Sub-Icon	DESCRIPTION	Sub-Icon	DESCRIPTION
	Alarm 	Alarm Sound Setting (Default: Bubble)	Error 	Error Sound Setting (Default: Beep)	Start Sound 	Start Sound Setting (When turning on the machine)
	Touch 	Touch Screen Sound Setting (Default: Click)	Key 	Key Sound Setting (Default: Tap)	Volume 	Volume Setting
	ScrSaver 	Screen Setting during Screen Saver (Default: Clock)	Timeout 	Activating Screen Saver Time (Default: after 30min)	Background Color 	Background Color Setting (Default: Black)



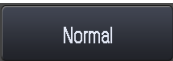

Icon	Sub-Icon	DESCRIPTION	Sub-Icon	DESCRIPTION
	Date 	Date Setting	Time 	Time Setting
	Date Display Format 	Date Display Format Setting (Default: Year/Month/Date)	Numeric Month 	Numeric Month Display Setting (Default: ON)

User Setting


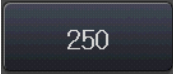


3-2. UI Config #2: Display Language

Icon	Sub-Icon	DESCRIPTION
	Display Language 	Selecting Language of Software (Default: English)

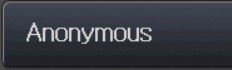
3-3. UI Config #3

Icon	Sub-Icon	DESCRIPTION	Sub-Icon	DESCRIPTION	Sub-Icon	DESCRIPTION
	TSP Calibration 	Touch Screen Calibration (Default: Factory Setting)	TSP Sensitivity 	Touch Screen Sensitivity Setting (Default: Normal)	Brightness 	Screen Brightness Setting

4. Pocket Size

Icon	Sub-Icon	DESCRIPTION	Icon	DESCRIPTION	
	Stacker Pocket Size 	Maximum Stacker Pocket Size Setting (Default: 250)		Reject Pocket Size 	Maximum Reject Pocket Size Setting (Default: 50)

5. User ID

Icon	DESCRIPTION	
	When Dual User function is Off (Default is Off)	Single User Identification Setting
	When Dual User function is On	Dual (Right and Left) User Identification Setting (The Right User and Left User can be selected separately)




* Remarks

1. Dual User Function can be turned on and off in the Engineer Setting
2. User Identification can be added or removed from the Engineer Setting
3. Before starting counting, right or left Start Key should be pressed to identify the right user or left user
4. The current user ID will be displayed at Indicator area



User Setting

6. Product Info

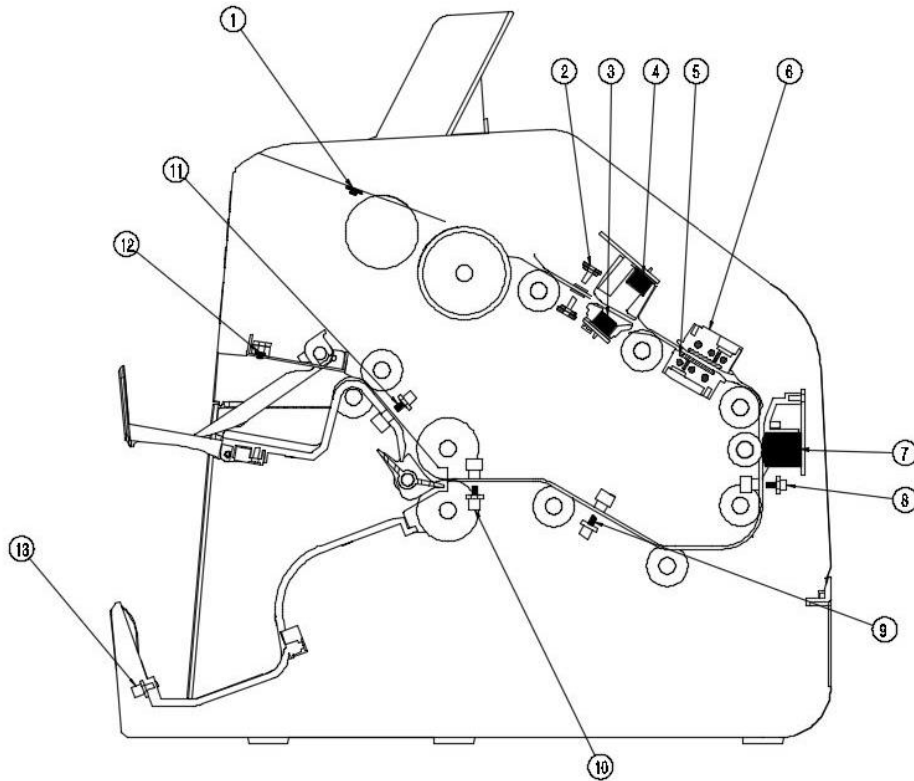
Icon	DESCRIPTION
	Information of Machine's Serial Number, Manufacturing Date Main Hardware Version & GUI Hardware Version
	Information of Main Firmware Version & GUI Firmware Version
	Information of Each Currency's Software Version & Fitness/Serial Number Printing Availability

* Remarks

- After changing the User Setting, press the  icon to save the new setting, otherwise the setting will remain unchanged

Daily Cleaning

1. Turn off the machine before starting the cleaning.
2. Remove any foreign material or the dust inside of the machine and clean the sensors, which is described as below.



NO	NAME
①	Hopper Sensor
②	UV&FL Sensor and Counter Sensor 1
③	Ultrasonic Sensor (Tx)
④	Ultrasonic Sensor (Rx)
⑤	Lower CIS Sensor (CIS2)
⑥	Upper CIS Sensor (CIS1)
⑦	MG Sensor
⑧	Counter Sensor 2
⑨	Counter Sensor 3
⑩	Counter Sensor 4
⑪	Counter Sensor 5
⑫	Reject Sensor
⑬	Stacker Sensor

Accessories & Option

1) Accessories

NO	NAME	Quantity
1	Power code	1 set
2	User's Manual	1 set

2) Options

NO	NAME
1	External Display (2-Line FND or LCD)
2	Thermal Printer (2 or 3 inch)

Specification

CONTENTS	DESCRIPTION	
Speed	Value Counting	1500 notes/min
	Fitness Sorting / OCR.	1200 notes/min
Operating Mode	Mix, PreSort, SP, DIR (Face & Orientation), Unfit, Fit, ATM & Serial (Depending on the software, Unfit, Fit, ATM & Serial Mode is not available)	
Software Upgrade	Off-line : USB / SD Card	On-line : Ethernet
Interface	LAN, USB, RS232C, Video Out	
Multi Currency Processing	Max 20 Currencies	
Electrical Spec	AC 100-240V, 50~60Hz	
Dimension	295(W) x 345(D) x 298(H) mm	
Features	1) Counterfeit Detection: UV, MG, MT, IR, FL	2) 5" Full Color LCD Touch Screen
	3) Parallel Operation	4) The Quickest Booting System
Options	1) Dual Serial Number Printing & Management	2) Auto Currency Function
	3) External Display (2-Line FND or LCD)	4) Thermal Printer (2" or 3")