

acaia



Acaia Pearl Model S User Manual

FW 1.0.020

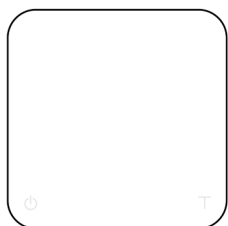
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In the Box

Introduction

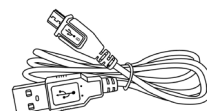
Thank you for choosing one of our scales. The Acaia Pearl Model S is designed and manufactured to the most rigorous standard to give you the best coffee brewing experience. First, check the shipping carton to find the following:



Acaia Coffee Scale



Heat Resistant Coaster

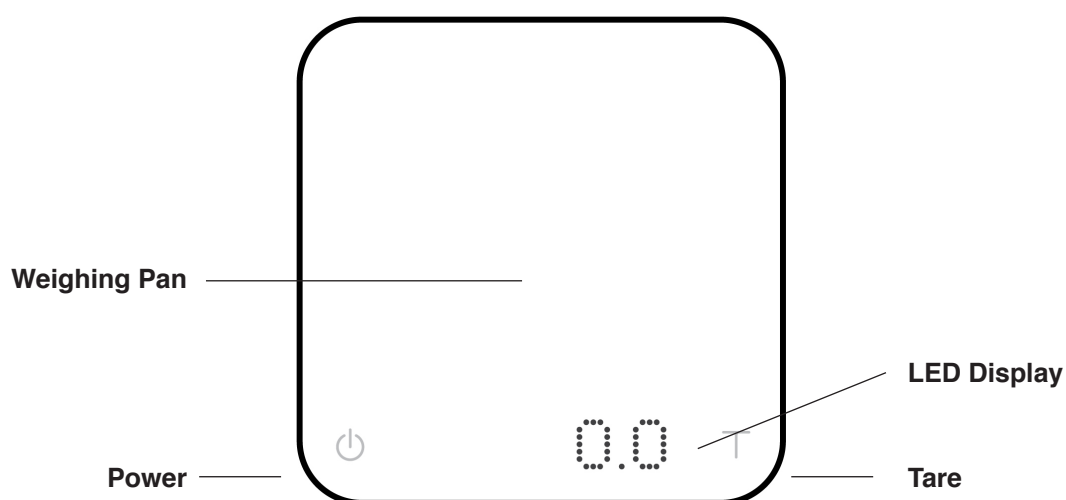


Micro-B USB cable

Next, follow the instructions in the “Getting Started” chapter in this manual to start using your scale. To take full advantage of the many features of the Pearl Model S, carefully read through this user manual for step-by-step procedures, examples, and other information.

Warning: Incorrect handling of this product could result in personal injury or physical damage.

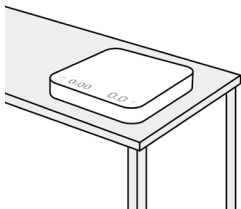
Scale overview



***Note: For the best performance, place the weight in the center of the weighing pan.**

Getting Started



Placement



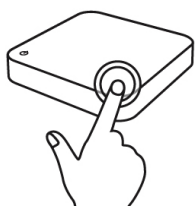
Select a work place that is stable, vibration-free and, if possible, a horizontal location for the weigh-ing platform.

Power on / off



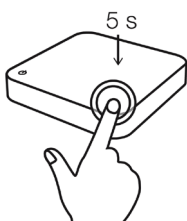
[Press]  to turn on the scale.
[Double tap]  to turn off the scale.

Tare weight



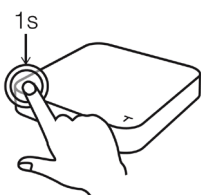
[Short press] T to tare / zero the weight.

Toggle units



[Press and hold] T for five seconds to toggle units.

Switch Modes



[Press and hold]  for one second to switch modes.

* Please see the “Mode Introduction” section for more details.

Using the Acaia Brewguide

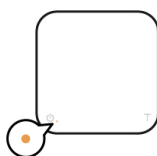
Using Brewguide for the first time

Brewguide is a step-by-step interactive guide to brewing coffee. Simply scan the Acaia Brewguide QR code on the coffee bean bag, and use the Acaia Brewguide app to download the recipe to your Pearl S. In the Brewguide app, you can also discover guides created by roasters around the world.



Download

Download the Brewguide app



Connect

Turn on the Bluetooth on your phone and connect with the Pearl S



Start personalization

Follow the instructions on the Brewguide app

Using Brewguide on Pearl S



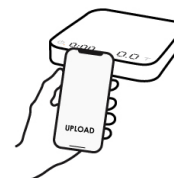
1

Search or scan QR Code to find the brewguide you need.



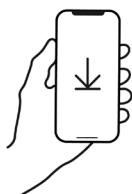
2

Select a brewguide.



3

Choose "Upload to Pearl S" in the app to send it to Pearl S.



4

Wait until the brewguide is sent to the Pearl S; this may take up to one minute.



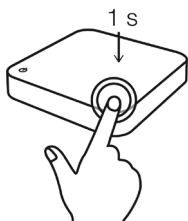
5

Just follow the guide and get brewing!



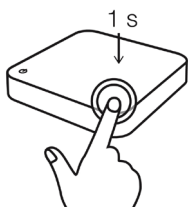
Brewguide action button


Enter Brewguide mode



In any scale mode, [press and hold]  for one second

Go to the next brewing step



In Brewguide mode, [press and hold]  for one second

Replay the current brewing step



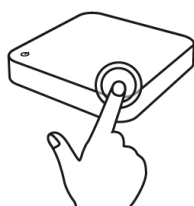
In Brewguide mode, [press]  to replay

Go back to the previous brewing step



In Brewguide mode, [press and hold]  for one second

Tare

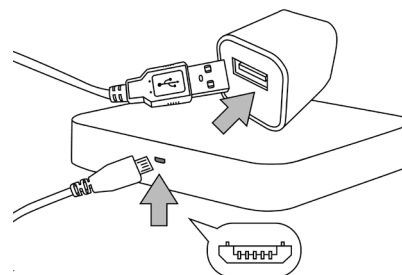


In Brewguide mode, [press]  to tare

Product Care Information

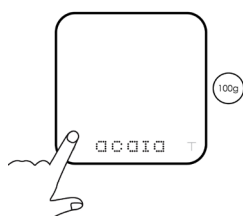
Battery charge

- You can charge the battery by plugging the USB cable into any of the power supplies listed be-low:
 - A computer
 - A USB wall-charger with an output of 5 volts and 1 amp
 - A DC car-charger with an output of 5 volts and 1 amp
- It takes about 3-4 hours to fully charge the battery from empty. Try not to let the battery completely run out before charging. Charge the battery as needed, but try not to charge the scale more than once a week.
- A fully charged battery can provide up to 16 hours of working time in normal brightness and up to 40 hours in low brightness mode.
- Battery percentage can be viewed via the Acaia apps.



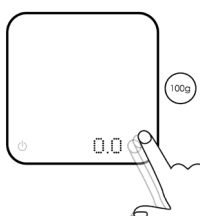
*** Note: Using a “fast-charging” charging block or charging hub (a charging block/hub delivering over 5v at 1A) could damage your Acaia scale’s circuit board.**

Calibration



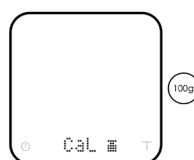
Turn on scale

Turn on the Acaia scale.



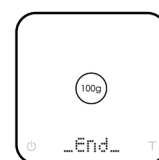
Tap T button

Make sure the scale is in weighing mode and the unit is set to 'gram', then tap the 'T' button rapidly.



See CAL display

Keep tapping the 'T' button until 'CAL' is shown on the display.



Place a weight

Place a weight (100g/500g/1000g) on the scale and wait until the display shows 'End'. Calibration is now complete!

Mode Introduction

Mode 1 - Weighing Mode



In the Weighing Mode, the scale will only display weight, in either grams or ounces.

- There are two different weighing units in Weighing Mode: grams and ounces. A green dot will appear in the upper right of the LED display and the scale will read 0.000 when weighing in ounces.
- The LED display shows [0.0] when the scale is measuring in grams.
- The LED display shows [0.000] when the scale is measuring in ounces.
- The readability is 0.1 g for grams and 0.005 oz for ounces.

Action	Operation
Tare Weight	Tap Tare button
Toggle Units g/oz	Long press Tare for 5 seconds
Reset Mode	Double tap Tare button
Switch Mode	Long press Power button

Mode 2 - Dual Display Mode



In the Dual Display Mode, the scale displays [0:00 0.0] with a timer (left) and weight (right).

- There are two different weighing units in Dual Display Mode: grams and ounces.
- When the scale is measuring in grams, the LED display shows [0:00 0.0].
- When the scale is measuring in ounces, the LED display shows [0:00 0.00].
- The maximum display time is 9 minutes and 59 seconds. The weight display on the right side displays 0.0 to 999.9 when the value is under 1000, and 1000 to 3030 if the value is over 999.9.

Action	Operation
Start/Stop/Reset Timer	Tap Power button
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare button
Toggle Units g/oz	Press and hold Tare for 5 seconds
Switch Mode	Press and hold Power button

Mode 3 - Portafilter Mode



The Portafilter Mode is designed to simplify the workflow of weighing coffee grounds in a portafilter. The scale automatically detects a portafilter or other vessel and tares the weight of the vessel. Remove the portafilter to add coffee grounds, and place on the scale again to

measure the weight of the coffee grounds. Repeat as needed to adjust the weight. After the portafilter has been removed for 15 seconds, the scale will reset the mode to default for next workflow.

Action	Operation
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare
Toggle Units g/oz	Long press Tare for 5 seconds
Switch Mode	Press and hold Power button

Display

1. While measuring in grams, the display shows [0.0 ■] before a portafilter is placed on the scale.
2. While measuring in ounces, the display shows [0.000 ■] before a portafilter is placed on the scale.
3. The display shows [0.0] after a portafilter has been registered.

Mode Description

1. Place an empty portafilter on the scale, and the scale will register the weight of the portafilter.
2. Remove the portafilter after [■] disappears.

Note

If you do not operate the scale for 15 seconds or double tap the tare button, the Pearl Model S will automatically reset the mode to default for next auto tare operation.

Mode 4 - Espresso Mode



The Espresso Mode is designed to aid espresso extraction. The scale automatically detects a cup, shot glass, or other vessel and tares the weight of the vessel. The scale will then detect the start of the flow of espresso into the vessel and automatically

start the timer function; the timer stops when the flow of espresso into the vessel stops. When the vessel is removed from the scale, the display flashes the final beverage weight.

Display

1. The LED display shows [0:00 0.0] with the timer on the left and the weight on the right in gram units.
2. The LED display shows [0:00 0.00] with the timer on the left and the weight on the right in ounce units.
3. When the weight exceeds 999 grams, the LED display only shows the integer part (the decimal point will not be displayed). The LED display shows up to a maximum of 3000 grams. If the weight exceeds 3000 grams, the scale will display [Maximum].

Mode Description

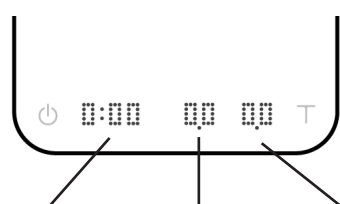
1. When placing more than two grams and a stable weight on the scale, the scale will perform the auto-tare operation.
2. After the scale detects the flow of espresso, the timer will start. The timer will stop when the espresso flow stops.
3. When the espresso is ready, removing the cup will flash between the beverage weight and the espresso shot.

Action	Operation
Start/Stop/Reset Timer	Tap Power button
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare
Toggle Units g/oz	Long press Tare for 5 seconds
Switch Mode	Press and hold Power button

Note

1. In Espresso Mode, the timer will stop when the espresso flow stops.
2. The auto-tare function is performed only when the weight exceeds two grams.
3. If you do not operate the scale for ten seconds, it will reset the timer and perform tare operation.
4. In Espresso Mode, the timer will also stop when a negative weight (i.e., removal of a cup) is detected.

Mode 5 - Flowrate Mode



Designed for pour over coffee brewing. The display includes timer, flowrate, and weight.

Time Weight Flowrate

1. When the scale is measuring in grams, the LED display shows [0:00 0.0 0.0].
2. When the scale is measuring in ounces, the LED display shows [0:00 0.00 0.00].
3. The maximum display time is 9 minutes and 59 seconds. The weight display in the middle displays 0.0 to 999.9 when the value is under 1000, and 1000 to 3030 if the value is over 999.9.
4. The flowrate unit is measured in grams per second (g/s) on the right hand side of the display.

Action	Operation
Start/Stop/Reset Timer	Tap Power button
Tare Weight	Tap Tare button
Reset Mode	Double tap Tare
Toggle Units g/oz	Long press Tare for 5 seconds
Switch Mode	Long press Power

Mode 6 - Flowrate Practice Mode



A real-time flowrate meter mode designed for practicing your infusion stability. The current flowrate is displayed on the left, and the stability of pouring is shown on the chart.

- The flowrate is measured in g/s and oz/s.
- In the chart, starting from the left each dot indicates 0.5 g/s, and the indicator bar provides a visualization of flowrate stability.

Action	Operation
Toggle Units g/oz	Long press Tare button for 5 seconds
Switch Mode	Long press Power

Chapter 5: Configuration

Enter settings

1. Press and hold Power button while the LED display shows [acaia] and then changes to [Settings].
2. Tap T button to enter Settings. The first setting is [Brightness].
3. Please refer to the following table for the key operations

Action	Operation
Next Setting	Tap Tare button
Previous Setting	Tap Power button
Enter Setting	Press and hold Tare button
Toggle Options	Tap Tare button
Save Option	Press and hold Tare button
Back to Menu without Saving	Tap Power button
Exit Settings and Return to Modes	Double tap Power

Settings Menu

Setting	Display	Options	Default
Brightness	Brightness	Low, Medium, High, Bright	Medium
Key Sound	Beep	On, Off	On
Default Weighing Unit	Unit	Gram, Ounce	Gram
Weighing Mode	Weighing Mode	On, Off	On
Dual Display Mode	Dual Display Mode	On, Off	On
Portafilter Mode	Portafilter Mode	On, Off	Off
Espresso Mode	Espresso Mode	On, Off	Off
Flowrate Mode	Flowrate Mode	On, Off	Off
Flowrate Practice Mode	Flowrate Practice Mode	On, Off	Off
Hello Message Setting	Hello Message	On, Off	Off
Bluetooth Setting	Bluetooth Setting	On, Off	On
Sleep Timer Setting	Sleep Timer	5 Min, 10 Min, 20 Min, 30 Min, 60 Min, Off	5
Battery Saving	Battery Saving	90 Sec, 180 Sec, Off	90 sec
Weighing Filter	Filter	Normal, High, Sensitive	Normal
Zero Tracking	Zero Tracking	1D, 2D, 3D, Off	1D
Weighing Resolution	Resolution	Default, High	Default
Timer Auto Reset	Timer Auto Reset	10 Sec, 30 Sec, 60 Sec, Off	10 sec
Reset Default	Reset Default	No, Yes	No

Brightness

1. You can adjust the brightness of the LED display.
2. Default brightness is set to Medium. Set to Bright when operating under strong light.

Key sound setting

1. Use this setting to turn the beeping sound on or off

Default weighing unit

1. The default weighing unit is set to be gram if [Gram] is selected and ounce if [Ounce] is selected.
2. Tap Tare Button to switch the default weighing unit between gram and ounce.

Weighing Mode setting

1. By default, the Weighing Mode setting is set to ON, which means this mode is enabled.
 - ON: The Weighing Mode is enabled.
 - OFF: The Weighing Mode is disabled.

Dual Display Mode setting

1. By default, the Dual Display Mode setting is set to ON, which means this mode is enabled.
 - ON: The Dual Display Mode is enabled.
 - OFF: The Dual Display Mode is disabled.

Portafilter Mode setting

1. By default, the Portafilter Mode setting is set to OFF, which means this mode is disabled.
 - ON: The Portafilter Mode is enabled.
 - OFF: The Portafilter Mode is disabled.

Espresso Mode setting

1. By default, the Espresso Mode setting is set to OFF, which means this mode is disabled.
 - ON: The Espresso Mode is enabled.
 - OFF: The Espresso Mode is disabled.

Flowrate Mode setting

1. By default, the Flowrate Mode setting is set to OFF, which means this mode is disabled.
 - ON: The Flowrate Mode is enabled.
 - OFF: The Flowrate Mode is disabled.

Flowrate Practice Mode setting

1. By default, the Flowrate Practice Mode setting is set to OFF, which means this mode is disabled.
 - ON: The Flowrate Practice Mode is enabled.
 - OFF: The Flowrate Practice Mode is disabled.

Hello message

1. By default, the Hello Message setting is set to OFF, which means the Hello Message will not show when the scale are turned on.
 - ON: The Hello Message will show when the scale is turned on.
 - OFF: The Hello Message will not show when the scale is turned on.

Bluetooth setting

1. By default, the Bluetooth Setting is set to ON, which means the Bluetooth is enabled.
 - ON: The Bluetooth is enabled. The scale allows Bluetooth connection. The user may connect the scale with Acaia apps.
 - OFF: The Bluetooth is disabled. The scale does not allow any Bluetooth connection.

Sleep timer setting

1. The number displayed indicates the amount of time before the scale will automatically power off. For example, when 10 is selected and the scale is disconnected from all mobile devices, the scale will power off after 10 minutes of idling.

Battery saving

1. The default Power Saving Mode is set to 90 seconds.
2. The Acaia Pearl Model S will wait for the selected number of seconds to enter Power Saving Mode. The LED display will dim to save power.

Weighing Filter setting

1. The Weight Filter Setting determines the speed for load receptor to response to weight and to determine the weighing value. The higher level, the more stable but slower the weighing result will be.

Zero tracking

1. Zero tracking is a function to help compensate the weight readout fluctuations at zero point to improve the usability of the scale. Acaia Pearl S is allowed to compensate the fluctuation by up to 2 d according to industrial weighing guidelines.
2. OFF: It is not recommended to turn off zero tracking as the zero indication would drift easily as the room temperature changes.
3. 0.5 d~3 d: For example, since each division is 0.1 g, 3 d = 0.3 g. When zero tracking is set to be 3 d, any initial weight between +/- 0.3 g on the weighing pan would be zeroed out.
4. 1 d is recommended in general for Acaia coffee scale

Weighing resolution

1. The default weighing resolution is set to [Default], the division is 0.1 g for weights under 1000 grams and 0.5 g for weights between 1000 and 2000 grams.
2. When the weighing resolution is set to [High], the division will be 0.1 g throughout the entire time from 0 to 2000 grams.

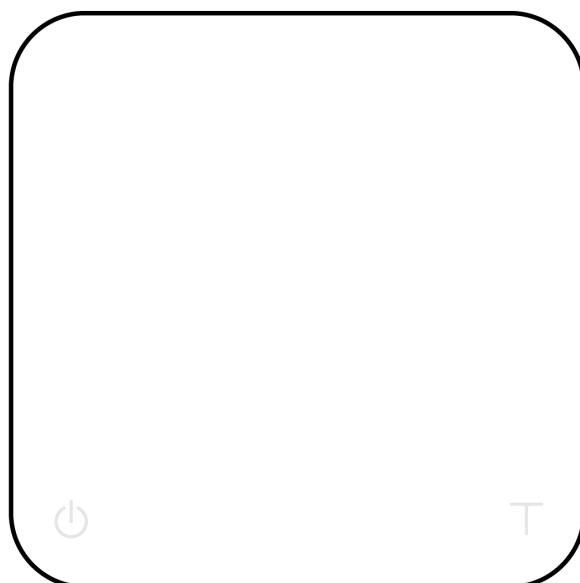
Timer auto reset

1. When the timer is paused, the scale will automatically reset the timer to zero after a defined length of time.
2. The default value for this setting is ten seconds.



Reset default

To reset the scale to its factory default settings, go to [Reset Default], then choose [Yes]. The scale will clear Hello Message and reset all settings including Brewguide data to factory default.

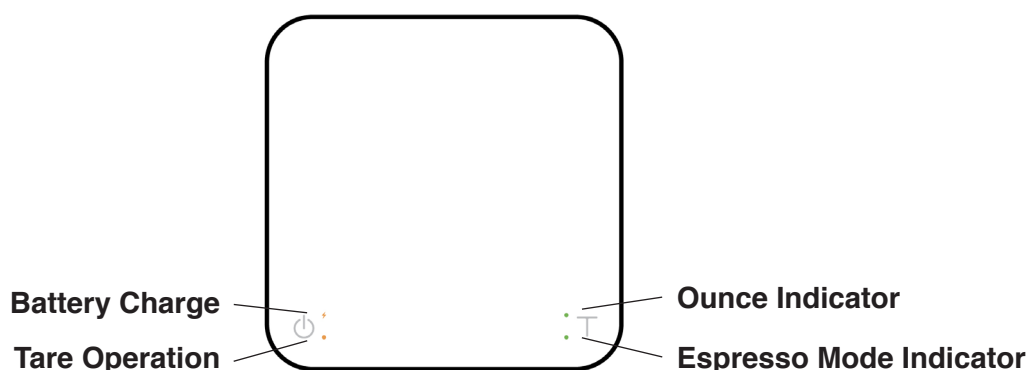
Appendix



Buttons

	Function	Example
Power Button 	Turn on	Press and hold for 0.5 seconds to turn on the scale.
	Turn off	Double-tap the power button to turn off the scale.
	Switch Mode	While the scale is turned on, press and hold for one second to switch modes.
	Start/Stop/Reset Timer	Tap to start/stop/reset timer.
	Back	While in Settings Menu, double tap to go back to Modes.
Tare Button 	Tare	Tap to perform tare operation.
	Toggle units	Long press for five seconds to change weighing unit between gram and ounce.
	Switch option	While in Settings, tap to advance through settings options. While in settings, tap to toggle options in sub menus.
	Reset	Double tap to reset a mode. This zeros the weight and sets the timer to 0:00.
	Confirm	While in Settings, press and hold for two seconds to confirm the option selected in a sub menu.
	Enter Brewguide Mode	Press and hold for one second to enter Brewguide Mode.
	Enter Calibration Mode	While in Weighing Mode, rapidly tap T button to enter Calibration Mode.

LED Indicators



Battery charge / Charge error

The orange indicator on the upper left turns on when the battery is charging and turns off when the battery is fully charged. The indicator starts flashing or does not appear when the USB cable is not working.

Tare operation

The orange indicator on the lower left turns on when the Tare button is pressed.

Ounce Indicator

The green indicator on the upper right turns on when the weighing unit is in ounces.

Espresso Mode indicator

The green indicator on the lower right turns on when in Espresso Mode.

Error Code

Error Code	Description
Error 100	Access Code Error, unrecognized access code.
Error 101	EEPROM error, unable to access memory. Please contact Acaia support.
Error 102	AD error, unable to access weighing signal. Please contact Acaia support.
Error 303	Unable to find acceptable starting Zero point, most likely due to the loadcell has been damaged by excessive force or drop. Please contact Acaia support.
maximum	Over load: the weight is over the maximum capacity.
underload	Under load: the weight is under the minimum capacity.
Error 304	Calibration error. Calibration cannot proceed when environmental noises are too strong. Please calibrate in a stable environment free of wind, vibration, etc.
Error 802	Unable to tare because the weight exceeds the acceptable tare range.
Error 803	Unable to tare because the weight is unstable.

Others

Display Code	Description
UPDATE	The scale is in update mode. During the update process, the orange LED will blink until it is completed. Note: If you want to leave update mode, please connect the scale's USB to a power source.

Specifications

Approx. Weight	606 g		
Capacity	3000 g / 105.81 oz		
Measuring Units	g, oz		
Weighing Range 1	Maximum capacity	1500.0 g	52.905 oz
	Minimum capacity	0.1 g	0.0035 oz
	Division	0.1 g	0.0035 oz
Weighing Range 2	Maximum capacity	3000.0 g	105.81 oz
	Minimum capacity	1500.0 g	52.905 oz
	Division	0.5 g	0.017 oz
Weighing Limit	3090 g / 108.984 oz		
Unit Dimensions	(L x W x H) 160 x 160 x 32 mm		
Electrical Requirements	5V / 500 mA		
Power and Battery	Lithium-ion rechargeable 3.7 V 2200 mA		
Display	LED dot matrix display, touch sensitive		
Bottom	Anti-slip Rubber		
Connectivity	Bluetooth 4.0		
Linearity	+/- 0.2 g		
Work Time	Up to 16 hours in normal brightness mode, and 40 hours in Low brightness mode		
Operating Temperature	15°C ~40°C		

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