



# Mac Pro 2019 RAM Module Replacement

Open up your Mac Pro to replace or add additional RAM modules.

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## INTRODUCTION

This guide shows how to open up your Mac Pro to replace or install additional RAM modules. You can complete this procedure without using any tools.

**Before you begin, be sure to purchase the correct RAM modules.** The Mac Pro supports registered (R-DIMM) and Load-Reduced (LR-DIMM) RAM—but you *cannot* mix R-DIMMs and LR-DIMMs in a single computer. Apple installs R-DIMMs in Mac Pros configured with 192GB of RAM or less; setups with more than 192GB will have LR-DIMMs instead.

In addition, 8-core Mac Pros will come with 2666MHz (PC4-21300) RAM installed, while other models will have 2933 MHz (PC4-23400) RAM. You *can* install RAM modules with different clock ratings into the same Mac Pro. [Click here for Apple's RAM specifications.](#)

**Note:** The Mac Pro only accepts RAM modules installed in specific amounts and configurations. [For more details, check out Apple's official guide.](#)



### PARTS:

- [PC4-21300 16 GB ECC Registered RAM Chip](#) (1)
  - [PC4-21300 32 GB ECC Registered RAM Chip](#) (1)
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## Step 1 — Unplug the cables



- Shut down your Mac Pro.
- Touch the metal housing with a bare hand to discharge any static electricity.
- Unplug all cables from the Mac Pro, including the power cable.

## Step 2 — Unlock the housing



- Lift the top latch up from its recess.
- Twist the latch counter-clockwise until it won't turn anymore—about a quarter-turn.
- Slowly lift the housing up by the latch.

### Step 3 — Remove the housing



- Remove the housing.

### Step 4 — RAM Module



- The Mac Pro contains two RAM banks, each covered with a plastic cover.
- Use your finger to slide the RAM cover latch to the left to unlock the cover.
- ★ When you reinstall the RAM cover, make sure that it securely clicks back in place.



## Step 5 — Remove the RAM cover



- Swing the released edge back towards the computer slightly, then pull the cover straight out and away from the Mac Pro.

## Step 6 — Unlock the RAM module



**i** Each RAM module is locked in place by two lock tabs.

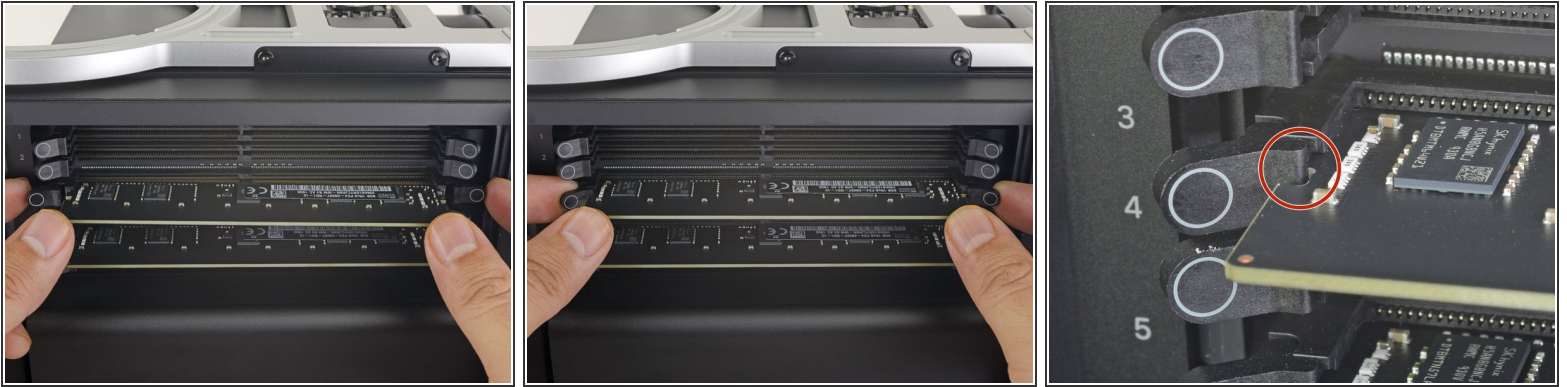
- Use your fingers to push and spread the two lock tabs outwards, in order to unlock and eject the RAM module.

## Step 7 — Remove the RAM module



- Grasp the RAM module by the edges and pull it straight out of the slot.
  - ⚠ Be careful not to twist the module as you pull it out.
- ⓘ Always handle the RAM module by the edges. Do not touch the gold contacts, as finger oils and ESD can damage the module.

## Step 8 — Install a RAM module



To install a RAM module:

- Gently slide the module into the slot.
- Visually confirm that the notch between the module's gold contacts [aligns with the receiving slot](#).
- Firmly push both edges of the module to seat the RAM module into the slot.
  - ⚠ As you push, do not bend or twist the RAM module.
  - ℹ As the module slides into position, the lock tabs along each edge should click back in place.
- Make sure that both locking tabs rest securely in the RAM module's indents.

To reassemble your Mac Pro, follow these instructions in reverse order.

If your Mac Pro won't boot up after installing new RAM, [check the status indicator light](#) to help determine the problem.

Check out our [Mac Pro Answers community](#) for troubleshooting help.

Take your e-waste to an [R2 or e-Stewards certified recycler](#).