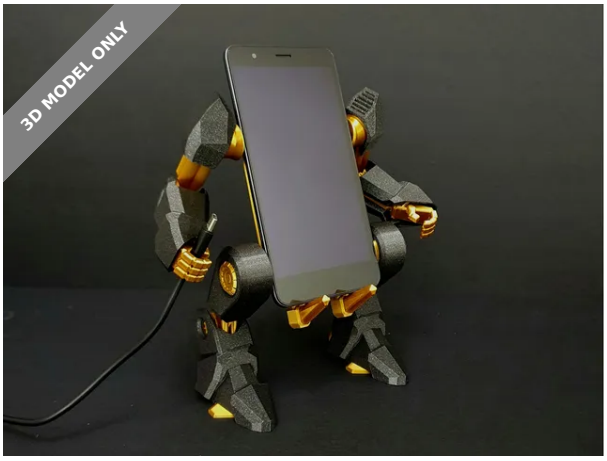
Printables by JOSEF PRUSA




# Mobile Exo-Suit

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VIEW IN BROWSER

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## Summary

Transform your phone with the Mobile Exo-Suit - finally, a worthy stand for your device.

Gadgets > Portable Devices

Tags: multicolor robot 3dprinting mechanical phonestand articulated printinplace phone pla mech petg smartphoneholder smartphonestand robotic mecha mobilephoneholder mobilephonestand phoneholder cellphoneholder iphonestand chargingstand iphoneholder exoskeleton cellphonestand nosupports supportfree mobilestand deskaccessory articulatedrobot phonedock smartphonedock exosuit bambulab ams desktopaccessory phonesupport deskphonestand a1mini phoneaccessory 3dprintedphonestand robotstand desktopphonestand robotphoneholder mobileexosuit mechanicalphonestand phonechargingdock androidphonestand phonechargingstand robotphonestand 3dprintablephonestand

Turn your phone into part of the machine.

The Mobile Exo-Suit is a print-in-place mechanical phone stand with an articulated body, interchangeable armor, and support for phones from approximately 70 to 95 mm wide.

Choose between a standard two-color setup or an optional AMS two-color main body.

**No supports required.**

## Printing Instructions

For the best and easiest printing experience, I recommend using one of the provided print profiles:

- **Standard Profile** – single-color Main Body
- **AMS Profile** – two-color Main Body

The AMS version is optimized to use multicolor printing only where it has the greatest visual impact, keeping the additional print time and material use relatively low.

## Plates

- **Plate 1 – Frame Parts / Color 1**
  Prints with standard settings. No supports required.
  A brim is not necessary under normal conditions, but you can add one if you need extra bed adhesion.
- **Plate 2 – Main Body / Single Color or AMS**
  Choose either the single-color or AMS version. You only need to print one.
  **Do not use a brim or supports on Plate 2.**
  The Main Body must print directly on the build plate so the print-in-place mechanism can work correctly.
- **Plate 3 – Armor / Color 2**
  Prints with standard settings. No supports required.
  A brim can be used if your printer or material needs additional bed adhesion.

## Slicer Settings

Standard slicer settings work well if you prefer to prepare the files yourself.

I recommend using the **Arachne Wall Generator**, which works particularly well with the geometry of this model.

Good filament calibration is important, especially for the print-in-place Main Body. Excessive or insufficient flow can affect the clearances between the moving parts.

## Materials & Colors

The Mobile Exo-Suit works well in **PLA, PETG, or other rigid printable materials**.

There is no requirement to use the same material for the entire model. You can mix materials between the Frame, Main Body, and Armor if you want.

Color choice has a major impact on the final appearance, so feel free to experiment with different combinations. The Frame and Armor are separate parts specifically so you can easily create your own color scheme.

## Assembly Video – Full Assembly in About 3 Minutes

https://www.youtube.com/watch?v=ZoqZkNgluig

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## Description

The **Mobile Exo-Suit** is a 3D printable mechanical phone stand designed to make the smartphone itself part of the model.

Instead of simply placing your phone on a conventional holder, the Exo-Suit surrounds it with an articulated frame, arms, legs, and interchangeable armor. Open the central mechanism, place the phone inside, and close the structure around it so the device becomes the visual center of the robot.

The result is a functional **3D printed smartphone stand**, a mechanical display piece, and a highly customizable desktop model in one design.

Originally created in 2023 as a CAD exercise, the Mobile Exo-Suit later won a Cults3D phone design contest and has since been printed in many different materials, colors, scales, and configurations.

## Designed Around the Phone

The geometry was created around real everyday use, not only appearance.

The phone sits at a comfortable angle for viewing and interacting with the touchscreen, while the wide stance keeps the model stable on a desk.

The elevated position also leaves space underneath the phone for a charging cable, helping avoid excessive bending near the connector.

The adjustable mechanism supports phones approximately **70 to 95 mm wide**, covering a wide range of modern smartphones.

The model can also be scaled. A **90% version has been successfully tested**, making it possible to adapt the design for smaller devices.

Users have even adapted the Exo-Suit for other rectangular devices and tools, including measurement equipment, proving that apparently anything vaguely phone-shaped is at risk of getting its own robotic armor.

## Print-in-Place Mechanical Main Body

The central body is the mechanical heart of the design.

It is printed as a **print-in-place articulated mechanism**, with multiple moving sections already connected when the print leaves the build plate.

No assembly of gears or internal mechanical parts is required.

Once properly freed after printing, the mechanism opens and closes around the phone and creates the distinctive movement that defines the Mobile Exo-Suit.

Good filament calibration is important for this part because the moving clearances depend on accurate extrusion.

**Do not use a brim or supports on the Main Body plate.**

## Functional Frame + Separate Armor

The Exo-Suit was designed in two visual layers.

The **Frame** contains the functional structure and already works as a complete mechanical phone stand by itself.

The **Armor** is installed separately and changes the appearance of the model without altering its basic function.

This makes the design especially flexible for color customization.

You can print:

- a clean mechanical frame with no armor;
- a simple two-color version;
- different Frame and Armor colors;
- a multicolor Main Body with AMS;
- or highly customized multi-color combinations.

Because the parts are separated, the same geometry can look completely different depending on your material and color choices.

## Standard and AMS Printing Options

Two Main Body configurations are available.

#### Single-Color Main Body

The standard option keeps the Main Body in one color and is ideal for a simple, efficient print.

#### AMS Two-Color Main Body

The optional AMS version uses multicolor printing specifically on the central body, where the color separation has the greatest visual effect.

Instead of adding color changes to every component, the profile focuses AMS usage where it contributes most to the final appearance while keeping additional print time and material consumption under control.

Only one Main Body version is required.

## Three-Plate Printing Layout

The model is organized into three logical printing groups:

- **Plate 1 – Frame Parts / Color 1**
  Contains the structural parts of the Exo-Suit.
- **Plate 2 – Main Body**
  Available as either a single-color or AMS two-color version.
- **Plate 3 – Armor / Color 2**
  Contains the removable external armor pieces.

This organization keeps the mechanically complex Main Body isolated from the other parts and also makes the project easier to print on smaller build plates.

The layout is compatible with compact printers such as the **Bambu Lab A1 mini**.

**No Supports Required**

The Mobile Exo-Suit was designed to print without supports.

Standard slicer settings work well for most parts, and the **Arachne Wall Generator** is recommended because it handles the geometry especially well.

A brim can be added to the Frame or Armor plates if additional bed adhesion is needed.

The Main Body must remain free of both brim and supports so the print-in-place mechanism can work correctly.

**PLA, PETG and Other Rigid Materials**

The model prints well in **PLA and PETG**, and other rigid printable materials can also be used.

There is no requirement to print every component in the same material.

For example, the Frame can be printed in one filament while the Armor uses another material, finish, or color.

Silk, matte, standard, metallic-look, and contrasting filaments can all create very different visual results.

The design is particularly suited to experimentation because material and color choices dramatically change its personality without requiring any modification to the files.

**Quick Assembly**

Once the parts are printed, assembly is straightforward.

The Frame, legs, arms, armor pieces, and shoulder spacers use simple mechanical connections.

A complete assembly guide is available to show:

- how to free the print-in-place Main Body;
- correct front and rear orientation;
- leg and armor installation;
- forearm armor positioning;
- shoulder spacer placement;

- arm assembly;
- and final phone installation.

The complete assembly takes only a few minutes once the printed parts are prepared.

**A Mechanical Phone Stand Made to Be Customized**

The Mobile Exo-Suit was designed to be functional, printable, and fun to personalize.

Use it as a desktop phone stand, charging stand, mechanical display model, or simply as an excuse to give your smartphone arms and legs.

Print it clean and minimal, build a custom color scheme, experiment with AMS, mix materials, or create your own themed version.

The mechanism stays the same.

The personality is entirely up to you.

## Model files

**Grouped Files** 4 files



**plate-1-frame-parts-color-1.3mf**



**plate-2a-main-body-single-color-1.3mf**



**plate-2b-main-body-ams-two-color.3mf**



**plate-3-armor-color-2.3mf**

## Bambu Studio Profiles

2 files



**mobileexosuit-noams-bambustudio.3mf**



**mobileexosuit-ams-bambustudio.3mf**

## Individual Files

17 files



**body.stl**



**phonesupportleft.stl**



**phonesupportright.stl**



**shouldeleft.stl**



**shoulderight.stl**



**armleft-v2.stl**



**armright-v2.stl**



**legleft-v2.stl**



**legright-v2.stl**



**shoulderarmorleft.stl**



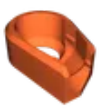
**shoulderarmorright.stl**



**armarmorleft.stl**



**armarmorright.stl**



**legarmorleft.stl**



**legarmorright.stl**



**footarmorleft.stl**



**footarmorright.stl**

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