

How to Make Your Own Integrated Power Supply



Article Overview

You can build an integrated power supply by either designing a simple transformer-based circuit or converting an old ATX PSU into a versatile bench power supply with multiple voltage outputs.

Basic Components and Design Principles

A standard power supply converts AC mains voltage into regulated DC voltage suitable for electronics. The core components include:

- Transformer: Steps down mains voltage (e.g., 220V or 120V) to a lower AC voltage suitable for your circuit .
- Rectifier (Diodes): Converts AC to DC. Configurations include half-wave, full-wave, or bridge rectifiers depending on the desired output smoothness .
- Filter Capacitor: Smooths the rectified DC to reduce ripple .
- Voltage Regulator ICs: Devices like LM317 (adjustable, up to 1.5A) or LM338 (up to 5A) provide stable and adjustable DC output. Fixed voltage regulators like the 78XX series can supply standard voltages such as 5V, 12V, or 15V . For beginners, a simple design using a transformer, diode, and capacitor can provide a basic DC supply. More advanced designs may include multiple regulators, current limiting, and protection circuits.

Converting an ATX PSU into a Bench Power Supply...

Article Content

How to Build a DC Linear Power Supply

A DC linear power supply is an electric circuit that converts AC voltage to a stable regulated DC voltage – without any

Create a DC Power Supply : 3 Steps

Create a DC Power Supply: How to make a DC power supply using the AC wall voltage!

Designing Simple Power Supply Circuits

Here I will explain you how we can design and build a super simple power supply circuit. We'll start from the very

Make a Simple 12 Volt Power Supply : 6 Steps

Make a Simple 12 Volt Power Supply: Have you ever needed a 12 volt power supply that can supply maximum 1 amp? But trying to

Make your own DIY power supply: yay or nay?

In this blog post, I will explain how a power supply work, what are the good criterias to choose one from an

Building a DC Power Supply at Home: A Comprehensive Guide

Remember to follow proper safety protocols and test your power supply thoroughly to ensure that it's functioning as

Make Your Own Arduino With Power Supply and Bootloader

Make Your Own Arduino With Power Supply and Bootloader: Presented here is a low cost idea for making arduino at home. In this

Dive into the World of DIY Power Supply Schematics: A Step-by-Step

Find a DIY power supply schematic for your electronic projects. Learn how to build and customize your own power supply with step

Build a Variable Lab Bench Power Supply | Elektor

Build a Variable Lab Bench Power Supply Build your own DIY Lab Bench Power Supply

Build a Simple Power Supply

Today I'll show you how to convert an old notebook computer power adapter into a useful

12 Volt 50 Amp Bench Integrated Power Supply

12 Volt 50 Amp Bench Integrated Power Supply: A lot of the power supplies that you see on the internet that can only supply 12 volts

Misc > The Ultimate Power Supply : DIY Fever – Building my own

The Ultimate Power Supply Over the course of years I made and bought a bunch of different power supply for my effects or

DIY your own power supply

DIY your own power supply There are different types of power supplies present in the market. Depending upon the

Build a DIY bench power supply from an ATX computer PSU

But here's a secret: that old computer power supply sitting in your closet is already a highly regulated, multi-voltage

How to Build a Multi-Voltage Power Supply for Your Electronics

Instead of buying multiple power supplies or a commercial bench power supply, I decided to repurpose an old PC

Make the Simplest Adjustable Power Supply in 10-15

Make the Simplest Adjustable Power Supply in 10-15 Minutes!: For about \$5-\$10 you can have your own

Upcycled ATX: Build Your Own Lab Bench Power Supply

This Instructable will guide you through the entire process of creating your own lab bench power supply

Make Your Own Uninterruptible Power Supply

Make Your Own Uninterruptible Power Supply In today's fast-paced digital world, a reliable power supply is essential for both

How to Build a DC Power Supply

How to Build a DC Power Supply In this project, we will show how to build a simple DC power supply, which can be used to supply

How-To: Variable DC Power Supply

Hobbyist electronics projects need robust, reliable power supplies for prototyping and testing. I learned how to build

How to Build Your Own Uninterruptible Power Supply

In the event of extended blackout, you may have critical systems (such as computer or

Make your own digital power supply with Arduino

If you want a DC power supply that works well, there are a number of places to buy such a device. If, however, you

Simple Bench Power Supply that Anyone Can Build!

Build a safe and simple Bench Power Supply with a fixed and variable output, digital display, and memory! A perfect

How To Make A Bench Power Supply From A PSU

Learn how to easily and cost-effectively transform a regular computer power supply into a versatile bench power

Contact Us

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