

DIY optical cable turntable



AI Overview

You can build a low-cost, precise DIY turntable using a NEMA 17 stepper motor, Arduino control, and high-quality shielded cables for optical or audio connections.

Core Components

- Rotating Platform and Bearings** Use a sturdy base made from wood, acrylic, or 3D-printed material. The platform should sit on smooth bearings (standard skateboard bearings work well) to ensure minimal friction and stable rotation.
- Motor and Drive System** A NEMA 17 stepper motor is ideal for precise, low-speed rotation. Pair it with an A4988 stepper motor driver for micro-stepping control, which allows smooth and accurate rotation. Connect the motor to the platform using a belt or direct coupling depending on your design.
- Control Electronics** An Arduino can manage rotation speed, direction, and step increments. Optional features include pushbuttons, LCD displays, or even WiFi control for advanced setups.
- Optical or Audio Cables** For audio turntables, use low-capacitance, shielded cables like Mogami W2964 or Belden RG-59 for RCA connections. Ensure proper grounding between the turntable and preamp to avoid hum. For optical connections, standard TOSLINK cables can be used, ensuring minimal bending and secure connectors.
- Power Supply** A dedicated 12V adapter is recommended for consistent stepper motor performance. USB power may not provide sufficient current for smooth operation.
- Assembly Tips**
 - Platform Balance:** Ensure the rotating platform is level and balanced to prevent wobble. Counterweights can help stabilize uneven loads.
 - Cable Management:** Route cables carefully to avoid tangling or interference. For audio, keep signal cables separate from power lines to reduce noise.
 - Testing and Calibration:** Start with slow rotation and gradually increase speed. Check for smooth motion and adjust micro-stepping or belt tension as needed.
 - Optional Enhancements:** Add encoders for precise angular positioning, RTC modules for timed rotations, or battery power for portability.
- Cost Considerations** A basic DIY turntable with Arduino, stepper motor, and bearing...

Article Content

Turntable D.I.Y | Hacking Vinyl

I've seen a guitar tuner that works by flashing red and blue LEDs at the correct frequency on the string.

DIY Turntable : 6 Steps (with Pictures)

DIY Turntable: You always wanted to be a Disc-Jockey. You know nothing about beats, delays or mixing but, damn, scratching is like the coolest thing ever

How To Build Turntable | Audiolover

In this article, we will guide you through the step-by-step process of building your own turntable. From gathering the materials and tools to testing and adjusting the final product, we will

A guide to audio cables

Interconnects Interconnect cables are the most common cables encountered during your home listening journey. These types of cables take the signal from a source that produces music,

DIY optical cartridge preamp

The most affordable cartridge (the DS-E1) on its own is \$1250, according to AMG Giro Turntable, DS Audio E1 Optical Phono Cartridge System, Rogue Audio Cronus Magnum III

The Turntable Game-Changer: DS Audio's Optical Cartridge

The analog audio world hasn't seen many "game changers" in decades—until DS Audio's optical phono cartridge. Learn how it works for your Marietta, GA, turntable system.

Turntable cable DIY

Hello. I measured capacitance cables just to get me my turntable doubt its value. Result 180 pF. As my pickup is Audio Technica AT 440 MLa which requires a load of 100 pF (including

HOMEMADE OPTICAL FIBER FIBRE OPTIC LIGHTING CABLE DIY

This is an introduction to how to make your own optical fiber optic cable DIY for indoor lighting applications. I imagine it could be used for short data t...

Build Your Dream Deck With DIY Turntable Kits

Your definitive guide to building with DIY turntable kits. Learn to choose the right kit, assemble components, and calibrate for audiophile-grade

Thorens TD 403 DD OAK

Overview Place the record on, choose the speed in one motion, lower the tonearm: the 403 DD asks for nothing more. This direct-drive turntable revives an invention that Thorens patented at the end of the

DIY turntable cable

I'm considering making my own rca cable for a Thorens Jubilee (one of the connectors is starting to fail) and bought locally this "DAP mcd-24 twin symmetric cable"...

Beginner's Guide To Turntable Setups

Putting together a turntable setup is a simple process; however, there are several things you should know before purchasing your setup. This Guide To Turntable

DIY Turntable With Custom Control : 5 Steps

DIY Turntable With Custom Control: Hello, In this instruction, I will show you how I created a fully automated rotating platform from an IKEA Lazy Susan Kitchen Turntable. My goal was to build a

DIY Turntable

Instructions to build a DIY Hi-Fi Turntable using a DIY tonearm and existing turntable parts (Dual 701) which have been

How To Replace Audio Cable On Turntable

In this article, we will walk you through the step-by-step process of replacing an audio cable on your turntable. By following these instructions, you

"MagicQuartz" DIY turntable speedbox / motor controller

Hello everyone, I'd like to introduce you to a project that I've been working on since around 2011 - admittedly with longer breaks in between. It is a turntable speedbox (also called motor

How I make my own low impedance DIY phono cable.

Here is an example of the cable with 0.1" PCBA connectors instead of the 5 pin DIN connector. I have used these in some of my custom tables and tonearm Pods with excellent results.

(Sticky Me?) DIY Laser Turntable

Developing a DIY laser TT would be just like the first guys making their own tonearms at home. If I was suggesting you start from scratch, build this entire thing by hand using your own

What Is the Optical Audio Port, and When Should I Use It?

Be it analog or digital, the signal is sent as an electrical impulse over conductive wire. Every cable, from the speaker wire on your 1970s turntable to

DIY Turntable RCA Cable | Page 2 | diyAudio

I changed my turntable interconnects to Mogami 2965 (dual version of 2964) as it has low capacitance for my MM (57p/fm from Mogami specs). Previous cables were diy silver and a

Turntable D.I.Y | Hacking Vinyl

While mechanical to optical works, as in DS Audio, I hear that pure optical sampling does not work well on transparent, coloured or picture vinyls..

How to Connect Optical Cable to RCA Plug

Step by step tutorial showing you how to connect any optical cable to any RCA input plug. This way you will be able to link your TV to your amplifier receiver or home theatre system. ↓ ↓ Amazon ...

DIY Turntable RCA Cable

I make all my own cables, and I know generally what to look for cable wise but I've never done turntable stuff and want to make sure I build the right cable for a phono-out to pre-amp connection.

Turntable Lighting Ideas | Easy Guide (2026)

Readers will discover a plethora of turntable lighting ideas, ranging from simple, elegant solutions to more complex DIY projects. This guide covers installation techniques, offers practical

How To Build Turntable | Audiolover

Learn how to build a turntable from scratch and enjoy high-quality sound at home. Expert tips and step-by-step instructions.

The Best Cables for Your Turntable: A Clear Guide to Getting the

Your turntable is the heart of your vinyl setup, but the best cables for your turntable are what keep the music flowing cleanly from record to speakers. Whether you're just getting into vinyl or

How To Connect A CD Player To Active Speakers or An Amplifier

Learn how to connect a CD player to active speakers or an amplifier using RCA or digital optical cables. Get step-by-step

DIY Turntable build with motor and controller

That's when I decided to look into buying a new turntable. I liked the Rega and Fluance offering, but if I was going to upgrade, I

Contact Us

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