

# Music Driven Laser Pointer Lightshow

by [babblin5](#) on October 12, 2007

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## Intro: Music Driven Laser Pointer Lightshow

Unlike the mirror on the subwoofer trick, this DIY shows you how to create a very cheap, music driven lightshow that actually visualizes the sound!



### Step 1: Making the Visualizer Body

I used a plastic coffee can for the sounding tube by removing the lid and cutting a large hole in the bottom. The vacuum form of the can's bottom gives a perfect template for cutting a nice, large round hole while leaving a lip around the bottom edge.



## Step 2: Visualizer Reflector Membrane

Cut a latex glove into a section large enough to cover the top of the can. Secure the membrane to the top of the can with a rubber band. Pull the edges of the membrane until the membrane surface is taut and even. Trim away the excess if you want to be neat... =)



## Step 3: Membrane Reflector

A fancy way of saying, "Paste a mirror in the center of the membrane". I used an old CD and scissors to cut the size I needed (yes, I am cheap!).



#### Step 4: Continuing the Excellence of Cheapness!

Use a coat hanger and pliers to bend the wire into a holder for your Laser Pointer. You want it to reflect down onto the mirror at a sharp angle for reflection off the ceiling.



#### Step 5: The Visualizer Driver Element!

Otherwise known as a cheap auxiliary speaker like you can buy at Radio Shack or find at a garage sale that has a mono jack. Remove the top cover of the speaker, then superglue the bottom lip of the coffee can assembly to the speaker edge.



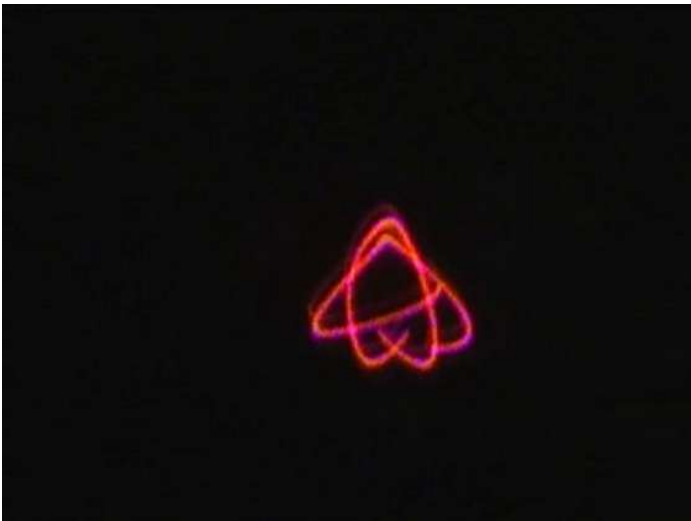
#### Step 6: Final Check!

Make adjustments in the coat hanger holder until the pointer beam lines up nicely with the mirror. Placing the speaker on top of the wire base works wonders. Now plug the mono jack into your PC output, cue up your favorite tunes, and get ready for the show!



### Step 7: What You'll See

It's really fascinating as you can see the shapes made by solo instruments, and how they grow or shrink as the note is changed. You'll also get some nice linear and circular revolving patterns depending upon the music and instruments. The coolest thing about this is that you can project this onto a house, billboard, gymnasium ceiling, or just about anything you can think of. Theoretically, even a low lying cloud base (I'm looking forward to a day when I can try that!). See the video for a great example of the lightshow functioning. Have fun, and suggestions or questions are welcome!



## Related Instructables



**New and Cool Uses for Old Laser Pointers**  
by soapdude



**Moire LASER effect with a handmade laser**  
by LaserCo



**Light Up Top Lightshow** by babblin5



**Laser Doodle** by Blake Tacklind



**Control your Computer... with a LASER!** by icinnamon



**Transform your laser pointer to a "spot-flash light" :)** by zholy

## Comments

50 comments

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**zuljoule** says:  
can someone explain this in scientific explanation????  
i depend on you all

Mar 14, 2011. 2:08 AM [REPLY](#)



**applesaucemodifier** says:  
great idea, does that distort the music?

Nov 29, 2009. 6:53 PM [REPLY](#)



**M4industries** says:  
It does sound a bit muffled, but a stereo splitter cable to another speaker helps.

Dec 31, 2010. 4:57 PM [REPLY](#)



**vinhxx** says:  
goog idie !

Oct 30, 2009. 8:15 PM [REPLY](#)



**alexrom17** says:  
What type of laser is that? btw very cool

Oct 18, 2009. 8:24 PM [REPLY](#)



**mspearin** says:  
you can also use a hard drive platter if you have one around it works better!!

Jul 27, 2009. 9:51 AM [REPLY](#)



**ronmaggi** says:  
I was thinking the same thing!

Aug 24, 2009. 5:35 PM [REPLY](#)



**yungblood** says:  
Great idea! :) I'm thinking of making 2. 1 red, 1 green. And hook them up to the left & right channels of my sound system. :)

Aug 15, 2009. 6:22 PM [REPLY](#)



**simplebeep** says:  
This is one of the best instructables I've seen on this site. Wonderful work!

Jul 31, 2009. 12:33 PM [REPLY](#)



















**colin353** says:  
that's awesome!

Jul 31, 2009. 11:01 AM [REPLY](#)



**lukeman3000** says:  
The music at the end was made with the MTV music studio thing was it not?

Jul 29, 2009. 6:58 AM [REPLY](#)

- 
-  **james.mcglashan** says: Jun 20, 2009. 5:35 PM [REPLY](#)  
i could just put the cd cut out peice on a peice of ballon and got a big sub to push a beta effect lol
- 
-  **TheEvilRobot** says: Jun 20, 2009. 10:08 AM [REPLY](#)  
This is really simple, and it gives really great quality. Who would have known? 5/5
- 
-  **GeekFans** says: Jun 6, 2009. 1:50 AM [REPLY](#)  
<http://www.geekfans.com>  
good
- 
-  **thisdude** says: Apr 24, 2009. 4:43 PM [REPLY](#)  
need to test this idea use a metal can and put bright leds inside then poke small random holes in the membrane(which would have to be opaque)
- 
-  **agent** says: Feb 24, 2009. 1:59 PM [REPLY](#)  
I'm gonna make one that has 3 different colors that are arduino controlled! Yay for epicness!
- 
-  **Spectrace** says: Oct 13, 2007. 1:27 PM [REPLY](#)  
i have that same exact laser pointer flashlight. Yay for walmart and 1.99 checkout items
- 
-  **kneecaps** says: Feb 16, 2009. 11:14 AM [REPLY](#)  
i have the exact same laptop XD
- 
-  **Future filmmaker** says: Dec 14, 2008. 2:28 PM [REPLY](#)  
thats where i got my laser pointer
- 
-  **babblin5** says: Oct 13, 2007. 5:16 PM [REPLY](#)  
I LOVE the cheap stuff! =D
- 
-  **Spectrace** says: Oct 13, 2007. 7:19 PM [REPLY](#)  
yeah, its fun until it breaks. on mine, the LED light part, the head came off from the flexible part. but it still works. i have it taped on, because first i had hot glue but it didnt work too well.
- 
-  **babblin5** says: Oct 13, 2007. 9:32 PM [REPLY](#)  
I just cut that part off after a while and used the LEd for something else... =)
- 
-  **Future filmmaker** says: Dec 14, 2008. 2:28 PM [REPLY](#)  
that would be cool to put up like 50 of these at once! VEGAS HERE I COME XD
- 
-  **mangokitty** says: Nov 23, 2008. 5:29 PM [REPLY](#)  
This is a great idea. It works well, and is very easy to make.
- 
-  **John\_234** says: Nov 20, 2008. 10:28 PM [REPLY](#)  
Thats frickin brilliant! I might try it, with a green and red laser, to add a dual color light show will a magnifying lens or something increase the size of the observed laser show?
- 
-  **saxophones** says: Nov 20, 2008. 8:31 PM [REPLY](#)  
This is amazing!!!!!! my dad and I are going to do it, thanks for the idea
- 
-  **timmy1234s** says: Nov 13, 2008. 4:50 PM [REPLY](#)  
5 stars!
-



**Painkilla05** says:

Nov 13, 2008. 1:36 PM [REPLY](#)

now another thing to do would be to attach a second different colored laser at a slightly different angle to make more awesome effects.



**slimguy379** says:

Jun 15, 2008. 8:58 PM [REPLY](#)

here is my end product. I built this like 1 hour prior to this video so I wasn't to sure what to play. I ended up playing Bob Marley's "Three Little Birdies" because its one of the few songs I have that have a true BASE (I hate rap sorry about yank'n your chain about playing another song. I wasn't ready to find "Bus Stop" by the Hollies (my favorite song) so I didn't end up showing that song. also in the video the laser itself doesn't look that bright, especially when the laser get very broad loop like, but it is a lot better in real life. (well you know what I mean) hope you enjoy the video as much as I enjoyed building it!!! thanks!!



DSCN4630.MOV51 MB



**slimguy379** says:

Jun 13, 2008. 6:53 PM [REPLY](#)

wow pretty cool for a bounce of house hold items (well my house) keep up the great jobs + I love people that use videos!!!!!! THANKS AGAIN



**cowscankill** says:

Nov 6, 2007. 5:14 PM [REPLY](#)

sweet...btdoes the musicneed to be loud?



**animal0307** says:

May 3, 2008. 10:00 PM [REPLY](#)

No it doesn't. But the way this works is by the movement of air in side the can. And the louder it is the more the speaker moves and thus the more the mirror moves making a larger picture



**orksecurity** says:

Apr 21, 2008. 8:39 AM [REPLY](#)

Edmund Scientific used to refer to this as "MusicVision". They had developed a number of variants involving mirrors mounted directly, or on short pedestals to hold them off the membrane (allowing some additional resonance), or hung from strings (for wilder bounces -- you may need a broader light source for that, of course, since the mirror moves around too much for a laser to stay well focused). They also recommended first-surface mirrors, which will produce a sharper reflection. If you do use a broader-beam light source, that lets you mount multiple mirrors on a single membrane, for multiple patterns pulsing in time with each other as well as the music. It's sorta amusing to see people rediscovering homebrew "psychedelic light show" effects now, some 30 years after their origin. Back then it was \_all\_ homebrew; commercial effects projectors were mostly not available and even those which were tended to be treated only as a starting point.



**tacomamactech** says:

Apr 21, 2008. 4:28 PM [REPLY](#)

Edmund's used to have a really neat Audio Visual show in Barrington, NJ. I loved to watch it. They demo'd all of their products. Alas they no longer have it or the retail store. They were bought out. I still have a set of those first surface mirrors! They'll also work if glued to a speaker with a piece of wood or plastic smaller than the mirror. It allows it to wobble...



**cotton** says:

Mar 26, 2008. 12:59 PM [REPLY](#)

wow



**explosivemaker** says:

Feb 25, 2008. 10:45 AM [REPLY](#)

nice.....very cool



**psycho banana man** says:

Feb 15, 2008. 8:09 AM [REPLY](#)

Very cool men! It's far greatest if you use several lasers with different colours!



**ericlobdell** says:

Dec 6, 2007. 3:50 PM [REPLY](#)

Great Instuctable! I made this as a project for school, but used high quality materials. For the speaker and laser mount, I used MDF wood to create a sealed speaker box, and a fully adjustable laser mount. I used a cardboard tube the diameter of my speaker for the tube, which probably focuses more sound to the mirror membrane. More pictures to come!



**Twevie** says:

Nov 24, 2007. 6:19 AM [REPLY](#)

Very cool idea and the perfect addition to my beloved audio set-up. Plus any excuse to buy a few laser pointers is great.



**DannyboyINXS** says:

Nov 18, 2007. 2:00 AM [REPLY](#)

that is a really smart idea mate





**Kataze** says:

Excellent. Being the arse that I am, normally I'd complain about something, but you have a really solid instructable here. Good work, you'd better keep it up...or else! :P

Oct 19, 2007. 12:51 PM [REPLY](#)



**babblin5** says:

I will do my best! =)

Oct 21, 2007. 2:58 PM [REPLY](#)



**redstarsrbija** says:

the second i saw it i knew id love it. so i made it and its just phenomenal with my green laser. the patterns are very interesting. pink floyd music works well with it. too bad i didnt film these vids in the dark....

<http://www.youtube.com/watch?v=5gEHtwpEEk>  
<http://www.youtube.com/watch?v=Kzm0xjWfVTM>  
<http://www.youtube.com/watch?v=Nt70yJFh9eo>

Oct 21, 2007. 2:47 PM [REPLY](#)



**babblin5** says:

Wow! You all are REAAAALLLY making me want to get a green laser! Those are really, really good vids man. I bet that looks crazy in the dark. Pink Floyd + that and I'd never leave my room...lol =)

Oct 21, 2007. 2:58 PM [REPLY](#)



**qualia** says:

OMG genius. im thinking of expanding on your idea by placing a convex mirror actually attached to the thingamajig in the middle of the speaker.. then placing three green <5mw laserlights (methinks <50mw, whilst they let you see the actual beam really well, may actually burn holes in the speaker.) at consecutive intervals around the speaker, so that you get three duplicate images. the convex mirror is to widen the distance the beam will differ in direction. and because you cant see the beam so well with the conventional cheapo red laser pointers and they arent very vivid, (neither are the green ones i plan on using) i will be replacing the low cloud idea with a different two words.. DRY ICE also plan on putting a basic green LED Watt meter circuit and placing the LEDs in a circle around the speaker for the left and right, one half of speaker each for LEDs. both going consecutively on in an anti-clockwise direction. this is going to be an uber project and im a perfectionist. i wont have the money for all the lasers till next year coz right now im kinda broke :P.. but until then ill use the shitty red type. now.. where to find a suitable convex mirror? anyways.. your idea is uber leet yet so simple. thx.

Oct 19, 2007. 1:55 AM [REPLY](#)



**uguy** says:

Excellent, well done ible, with great pix and video. Thanks for sharing.

Oct 15, 2007. 7:51 AM [REPLY](#)



**babblin5** says:

Thank you! I'll try and keep up the quality in future ones.

Oct 15, 2007. 10:48 PM [REPLY](#)



**royalestel** says:

I might not point it at a low lying cloud cover. They're getting kind of nutty about lasers pointed anywhere even close to flying planes. Maybe that's not a problem for ya. Anyhoo, spiffy!

Oct 15, 2007. 5:56 PM [REPLY](#)



**babblin5** says:

Ack! Yep, I guess I wasn't thinking about that... Maybe a blizzard then... =><br/>

Oct 15, 2007. 10:47 PM [REPLY](#)



**jayhawker08** says:

I tried this out and it works great! I added my own touch with a GREEN laser! check it out: [http://www.youtube.com/watch?v=Z6\\_ifOoEQ98](http://www.youtube.com/watch?v=Z6_ifOoEQ98) Great instructable, thanks alot!

Oct 14, 2007. 12:29 PM [REPLY](#)

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