



The fully programmable shifter allows riders to fine-tune the function to their liking.

ARCHER COMPONENTS D1x TRAIL ELECTRONIC SHIFTER

What's in that little black box?

Archer Components is a small technology company in Scotts Valley, California, a town that's sandwiched between the high-tech hub of Silicon Valley and some of the absolute best trail riding in the world near Santa Cruz. It's no wonder they borrowed technology from the former to improve performance in the latter. And while their new D1x Trail shifting system may look small, the power it gives riders made us eager to bolt one to our drivetrain to see if upgrading to electronic shifting could benefit us.

Tech features: The D1x Trail shift system works with the existing derailleur on your bike and replaces the mechanical shifter that's on your handlebar with a servo motor mounted to your frame. That motor is controlled with a handlebar-mounted remote that is connected via Bluetooth to tell the servo when to pull the short length of the cable to move the derailleur. The D1x is a fully programmable system that allows the rider to fine-tune each and every shift point by using the

Archer app on any smartphone or tablet. The D1x system comes with everything you need to replace your mechanical shifter and all but a tiny length of shift cable and housing with the electric unit. Our system, with batteries installed and all mounting hardware, tipped the scales at 249 grams (49 grams for the three batteries), replacing our SRAM X01 setup that weighed 186 grams. Archer claims the system holds a charge for up to 80 hours of ride time or up to 150 hours in the low-power mode. The system sells for \$389 and can be purchased directly from Archer at www.archercomponents.com or through any local bike shop.

Setup: Installation of the D1x system begins simply enough with removing parts like the mechanical shifter, cable and housing. Our Canyon Strive test bike has well-executed internal routing, but having a wireless setup means there is less clutter and no need to spend time hopelessly fishing for the cable from the inside of the frame. The D1x uses a very

short bit of cable to connect the shifter unit to the derailleur, which proved easy to measure and attach. The shifter unit is then strapped to the frame using specially molded straps that bolt to the shifter. The setup is easy to use and tucked neatly under the chainstay of our test bike without any clearance issues from the frame or wheel. The remote is even easier to install and mated seamlessly with our SRAM Matchmaker shifter mount.

Once on the bike, the real work begins. The D1x is a fully programmable setup, which means two things: First, it means it will pull exactly how much cable you program it to for each and every cog on the cassette, no matter which cassette or derailleur you are using. It also means you must go through each of those cogs using the Archer app and set those shift points. Thankfully, Archer makes this process relatively easy with a step-by-step setup wizard. After about 10 minutes of fumbling on our own, we followed the steps found on Archer's YouTube channel,

which made sense of all the settings and adjustments quickly. After about an hour of work, we were ready to hit the trails. For a competent home mechanic, this setup would be relatively simple.

On the trail: The Archer system shifts the drivetrain with ease when it's set up properly. Under load, it feels every bit as responsive as a cable-driven system with no delay. Our first ride out, a few of our gears made noise, which necessitated some fine-tuning. Since there are no fine-tuning buttons on the shifter or remote, even small adjustments must be made with the app. On the trail, this means stopping and connecting via the Bluetooth system. It's not quite as easy as turning a barrel adjuster, but still makes mid-ride adjustments relatively quick. Once we dialed in the shift points so things were running smoothly, we experimented with the "over-shift" function, which tells the system to pull or release the cable slightly more than necessary to make a crisp shift and then return to the set running position. This improved shifting and eliminated even slight hesitations between gears. Our only suggestion would be to include some type of adjustment that can be used without connecting a smartphone, but that may come with future generations of the product. During our test, we also inverted the shift buttons just to try it. The remote is comfortable to use for both up and down shifts, although one of the buttons is always going to be slightly more difficult to reach. We set ours up to shift down with the closer button for technical climbs, but changing this is as easy as

toggling a switch in the app. The batteries last longer than we expected, even with the nearly 600 shifts we averaged per ride (the app has a nifty odometer that stores this info). We found ourselves remembering to remove the batteries to charge them every few rides, although you could certainly go longer. Push it too long between charges and you may find yourself without any juice, though. Archer has thought of this and includes a get-me-home gear setting in the app, which allows you to put the chain anywhere in the cassette—a nice feature for anybody who doesn't want to grind his way home in the tallest gear because of a dead battery.

The Archer D1x Trail works well. It doesn't come with a sizable weight penalty, and it's easy enough to install for a home mechanic. It took us a couple rides to program it to suit our preferences, but the precise shifting, clean cockpit setup and freedom from internal cable routing proved worth the trouble. It's arguably the most versatile shifter we've ever tested, because it will do basically anything you tell it to do. When the adjustability is harnessed and dialed in with the app, the Archer D1x Trail makes shifting as easy as pressing a button—literally.

The Archer D1x electronics are all internally sealed and claimed to be waterproof, although there is a large hole in the shifter that obviously can allow some water to penetrate the system during stream crossings or bike washing. We experienced issues with the system shutting off on two separate occasions, both after washing our bike with a hose.

After removing the batteries, which were wet to the touch, we were able to manually dry the system with a hair dryer to restore its function. We can't say for sure that the water damaged the electronics or not, as they returned to normal function once dried. We will say that this system likely isn't designed for riders who like to get super muddy, nor for those neat freaks who insist on pressure washing their bike every ride. □

Hits

- Works with any shifter/derailleur/cassette combo
- Shifting is precise and quick, even under load
- Not a sizable weight penalty
- Unit tucks neatly out of the way

Misses

- Tuning each individual gear takes more time than setting up a cable derailleur the first time
- No on-the-bike fine-tuning adjustment. All must be done through connected app

Star Rating



Price: \$389
Contact: Archercomponents.com