

Factual errors are corrected and shown in red text.



Handheld controller

I've been using Airwire's battery-powered controllers for about six years now. As much as I like the technology that has gone into their on-board receivers, I've always thought their handheld transmitters a little behind the times in one way or the other. Their latest throttle, the T-5000, changes that. CVP has finally come out with a handheld throttle that's as full-featured as the motor controllers it's designed to operate, with the visual feedback users need to operate their locomotives.

The first thing that jumps out with this new throttle is its small size. It's not quite 5" tall x 2.5" wide, and about 1" thick (excluding the knob). There's no external

antenna, either. It's a definite departure from the company's earlier throttles, which were longer, thicker, and narrower. Neither form is necessarily advantageous over the other, but the lighter weight of this one sure makes it easier to carry around. An optional belt clip for the unit is also available.

The next thing you notice is the large LCD display screen. This screen shows the locomotive address, speed and direction of the locomotive, number of speed steps, battery strength, and the frequency (channel number) the transmitter is set to. There is a backlit version of this throttle for those who run at night or in dark environments. If you've used Airwire's previous throttles, this backlit screen is another improvement over the display on their earlier versions: an absolute pleasure, comparatively. I would like to see an additional display that shows the power at which you're transmitting, but that's a minor point (more on transmitter power later).

In addition to the large LCD display, there's a large knob for controlling speed and direction. This is a continuous-rotation type of knob. There's no "stop" and "full" position but the speed display on the LCD gives you the visual feedback of where your speed is set. Direction change is made by pressing the knob. I do wish

there was a dedicated "direction" button instead, or at least something printed on the throttle to the effect of "press knob to change direction" to make things a little more intuitive when new users handle the throttle.

The rest of the throttle is taken up by push buttons. Next to the screen are buttons to access the programming menu, a button to change to accessory control or stop (depending on how long you hold it), a key that gives you access to any of the eight locomotives stored in the throttle's memory (more on that in a bit), and a consist button that (on the backlit version) also turns the LCD backlight on and off (like the "stop" button, depending on how long you hold it). Below that is a 10-digit keypad for functions, along with "enter" and "escape" buttons for programming and for triggering functions 11-28.

Probably my favorite feature of this new throttle is the menu screen. From this screen, you can program the throttle and your decoder. There are two screens with four menu functions each. The second screen is reached by pressing the menu key twice. Each programming function is written out, making it easy to know what you're programming. For the transmitter itself, you can program which **of 16** available frequencies it uses, how many speed steps (14, 24, 128) you want to use, how long before it shuts itself off, and the transmitter power.

Of these, the transmitter-power adjustment is the newest addition. If you're the only one running, you probably won't care too much about this feature. But if you operate with others, it has its

There are 17 available frequencies

Vital statistics

Wireless, handheld throttle

CVP Products

PO Box 835772

Richardson TX 75083

Price: Standard throttle, \$159;
backlit-display version \$179

Website: www.cvpusa.com

T-5000 compact, handheld, wireless throttle for use with CVP's Airwire line of wireless R/C receivers; works also with NCE's "G-wire" receiver/QSI Titan combination

Pros and cons

Pros: Small, compact design fits easily in one hand; large LCD display shows speed, direction, and locomotive address among other aspects; variable power output allows for multiple users on the same frequency in close proximity to one another, or one operator with a fairly substantial range; allows control of up to 28 DCC functions.

Cons: Higher power setting uses batteries quickly; no immediate emergency-stop feature

Also compatible with Stanton receivers

advantages. On my railroad, I have all my Airwire receivers set to the same frequency and I use the decoder address to differentiate each locomotive. (The decoder address is the same as the locomotive number, so it's easy to remember.) As long as I'm the only one operating on my railroad, this isn't an issue. If someone else ran trains with me, it would be a different story. Both of us would have our transmitters programmed to the same frequency, so they would interfere with each other, and neither of our trains would respond to commands. I could always change the frequency of one of the receivers, but that would only be practical if I can get to the receiver.

With the T-5000, I can dial back the strength of the signal of the transmitters in use, essentially making them short-range transmitters ("short" being on the order of five to 10 feet). As long as both operators stay within that distance of their train, and farther than that from the other train, multiple transmitters can be used on the same railroad. (Note: This only works with multiple T-5000 throttles, as the range of their older throttles cannot be adjusted.)

In terms of the overall effective range, I found the lowest power setting gave me reliable reception no more than five to 10 feet away. At the maximum power, I found the range to typically be in excess of 50-80 feet. Reception varies due to receiver placement, antenna placement, and environmental factors (rocks, tunnels, etc.). The drawback is that, at full power, the transmitter quickly goes through batteries, with one set of AAA batteries lasting me only about five hours. When the batteries get low, the transmitter goes into "lock-out" mode, where it won't let you change any control parameters. If your train is running at the time, it will continue running until you switch out the batteries.

The throttle has a memory that will recall the eight most recent locomotives loaded into it. This feature keys off of the decoder address. One cool thing about this is that it links the broadcast frequency with the decoder address, so it will automatically switch frequencies as you switch from one locomotive to the next.

Unfortunately, it does not allow for multiple frequencies for the same decoder address, so, if you have your locomotives set up as my dad does, where all of his engines use the same decoder address (the default, 3) but have a different receiver frequencies, you're not going to be able to use this feature. Fortunately, switching frequencies is easy to do from the menu—only three or four keystrokes.

My only nit to pick with this throttle is the operation of the "stop" button. I'm glad to see Airwire finally incorporate a dedicated "stop" button into the user interface. The foundation of my grumble lies in how it works.

When you press the "stop" button, it sends a "speed step = 0" command to the decoder. This has the effect of stopping the locomotive, but it's subject to the rate of deceleration you have programmed into the decoder (CV4). If you don't have much momentum programmed in, then the locomotive will stop quickly when you hit the "stop" button. On the other hand, if you're like me, and run with a fair amount of momentum programmed in (for prototypically smooth starts and stops), when you hit the "stop" button, your locomotive will continue on its merry way until the speed finally winds its way down to 0.

While it might be prototypical for your train to plow off the tracks, across the sedum, and down the embankment, this is typically the outcome one is trying to avoid when frantically pressing the "Stop!" button. In fairness, this is identical to Airwire's previous throttle, but I considered that a weakness of that throttle as well and I was hoping for an improved response time with all the other refinements of this throttle.

Overall, though, the refinements Airwire made with this throttle, when compared to previous versions, make it a clear winner in terms of user-friendliness and functionality. It controls all generations of Airwire's receivers, from their first-generation board to their latest G3 and "Converter" receivers. It also controls QSI decoders via the "G-wire" plug-in receiver that pairs with that board. It's compact, convenient, and does what it's designed to do. —Kevin Strong