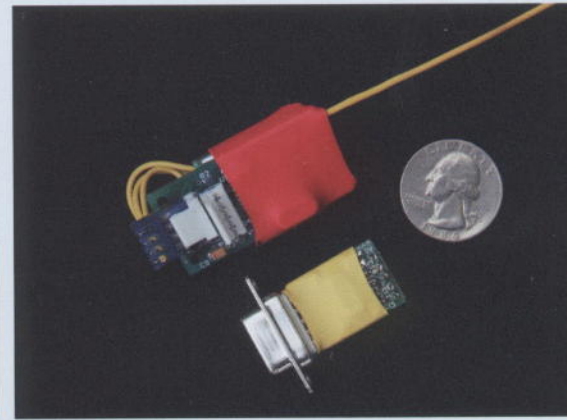


# Review of BigRedBee's Beeline

By Fred Azinger

**Pros:** Selectable frequency, low cost, uses general purpose receivers, rechargeable battery with long life, long reach.

**Cons:** Requires an amateur radio license.



Flying rockets is great fun. Spending hours walking through the sagebrush at our Oregon launch site looking for a lost rocket is not.

As my flights started to go higher, my search times were getting longer. All this time wasted searching for a rocket just eats into time to prep and fly the next flight. Something had to be done....enter the BeeLine Tracking Transmitter from BigRedBee ([www.bigred-bee.com](http://www.bigred-bee.com)).

The Beeline is a great little unit specifically designed for tracking rockets. The unit has some features that make it an easy winner in my mind over the competitive units.

First let me describe the unit and then I'll explain its advantages.

The BeeLine is a small unit. It will easily fit in a 29mm tube. It transmits a beacon in the 70cm (440Mhz) amateur radio band. You use this beacon with a directional antenna and use radio direction finding (RDF) techniques to search out your rocket.

The Beeline is small enough and light enough to fit in almost any high power rocket. I usually install mine either wrapped in bubble pack and stuffed in the nosecone, or placed inside a 35mm film container and wire-tied to the recovery harness. Finding a place to tuck in a BeeLine is almost never an issue and the low 1 ounce weight is usually insignificant.

Beyond the obvious advantages of its small size and low weight, the BeeLines have some other features that make it superior to other units on the market:

**First** – I really like the low system cost and the fact that I don't need to buy an expensive, dedicated receiver. Some might think having to have a Ham license to use a Beeline would be a detriment, but I don't. Getting a ham license is pretty easy – just pay \$14 for life and take a test that is about as hard to pass as the L2 written test. Hardest part is usually finding a place to take the test. After passing my test, I purchased the highly recommended Yaesu VX-5R and a small Yagi. This unit and antenna and a couple of accessories set me back about \$300 which is in the same ballpark as the competitor's dedicated units, but much more versatile. I use the VX-5R on the road to talk to other rocketeers on the way to and from the launch site as cell coverage is spotty around the site. Also I use it to talk to the LCO or others out assisting with the search. Our launch site is large enough that FRS radios do not have sufficient range to reach back to camp, so I feel much safer with a radio that can. I now leave my FRS radios home so that is one less thing to carry.

**Second** - It has a shrink-wrapped rechargeable LiPoly battery that weighs almost nothing yet provides well over 24 hours of power for those extended searches. The LiPoly is lighter than any primary cell, yet provides plenty of run time. No more searching for batteries at the launch site. If they are dead, you can quickly charge them

from your car battery with enough power for a flight – or charge them up completely and they will run for the entire weekend. I really like this as once I have one bundled up in a film can, I usually let it run all weekend and never shut it off.

**Third**, and most important, I can leave the unit on all weekend because I can program the frequencies so that I'm not interfering with other flyers' trackers. With other competitive units, the frequency is set at the factory from a short list of options. If you have many people using the same system at a launch, the odds of a collision are high. I once did a drag race with a fellow member and we were both using a popular alternative unit. Unfortunately, we both had the same frequency. We needed to find my rocket first, break it open and disable the beacon before the search for the second rocket could commence. The quick disassembly in the field to disable the transmitter was a royal pain – something I'll never have to do again with a BeeLine.

**Fourth** – Price – I can afford to own more than one. I own several units. I charge them all before heading out to the launch site. Once there, they are turned on and installed in rockets during prep and often don't get turned off until I'm home cleaning and putting things away. The LiPoly runs them all weekend. They are all tuned to a unique frequency, so all I need to do is note the proper frequency for each rocket and never worry about tracking again.

**Fifth** - Their power output is sufficient to be successfully tracked over 100 miles in the air – plenty for just about anyone. Once on the ground – nestled down between the sage at our Oregon launch site as rockets always seem to do, your distance is greatly reduced, but is still on the order of 1/2 to 1 mile. With a sensitive receiver and a good antenna you can detect them much further than that. At our last launch, I had a rocket go over the ridge of a hill about a mile out from the pad. My Yaesu lost the rocket as it descended over the horizon. However, my RF-guru buddy with a big mobile rig in his truck could still hear the beacon loud and clear giving us confidence that the rocket would be easy to find once I got over the ridge and could sniff it out with my Yagi.

In summary, Beelines are great units. They have lower system cost by using off the shelf receivers that are more versatile than the dedicated units of competitive trackers. They fit in almost any rocket. They have plenty of power in both areas that count - enough RF for adequate reach as well as battery power to last all weekend for that extended search. The standard receiver yields better communication back to base camp for added security as well as reducing the number of items I carry into the sage. Plus the cost of the transmitter is low enough that I can afford several – their frequency agility and long power life allow me to be lazy and leave them on all weekend. I tune them to my frequency of choice with little worry about collision with other units on the field – in my rockets or the rockets of my fellow fliers.

Two thumbs up for BeeLines! RM