

HM Review

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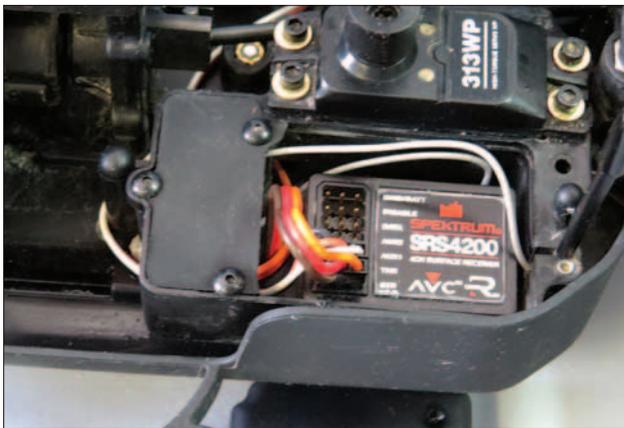
Losi TEN-Rally X

Stabilized steering has now come of age.

The buzz in radio control aviation today, regardless if it is a quad, helicopter, or aircraft, is stabilization. Just like the full-scale F-117 Stealth Fighter, gyros and accelerometers have tamed many an R/C aircraft. Last fall, when the E-Flite Apprentice S. with SAFE (Sensor Assisted Flight Envelope) was first released several of us had a chance to fly one with Horizon's Team Pilot, Dave Wigely.

There was a crowd of experienced pilots present, and we tried our best to defeat the SAFE technology. The flight envelope limits were very impressive, and as long as there was altitude and airspeed, SAFE corrected our mistakes even as intentional as they were, and the Apprentice S. Trainer never came close to crashing.

It was a natural step to see if the same technology could be used on the ground. Horizon Hobby pulled its Losi team together and did some tweaking, thereby creating the surface version, which Losi is calling AVC (Active Vehicle Control). In Losi's press releases it basi-



The heart of the system is the Spektrum SRS4200 receiver with AVC technology built in.

ally states AVC technology uses a combination of sensors and software to adjust steering and throttle at a faster rate than humanly possible, making for a more manageable driving experience.

AVC is not an all on or all off feature. The stability provided by AVC can be adjusted to suit each individual driver's preference until the vehicle he's driving feels completely natural. This should really help with a vehicle that's been set up with zero or even a little negative toe-in for all out speed but is being operated on tracks with long straights sections.

Now that we have all read the hype the question is does it really work? Yes, it's true, it works and it works



well, making some nearly uncontrollable vehicles really cool to operate and a lot of fun to drive.

Instead of the usual still pictures first, there was a break in the weather so I took the Losi TEN-Rally X straight to the local torture track/flying field to test it (validating the dust in the pictures). Usually I call a friend or two for help, but nobody was available, so there I am transmitter in one hand and camera in other. I set the TEN-Rally X in the middle of the runway and pulled the trigger. The shutter was held down while the Rally X literally flew (for a car) down the middle of the runway. There were some rocks and sand, plus the never ending supply of clam shells deposited by our resident Sea Gulls (I live close to the Atlantic Ocean) to drive over, but amazingly not a single steering adjustment had to be made. Travelling at least 250 feet through this debris at full throttle with no steering corrections, I would say AVC works and works well, but before I get ahead of myself, let's take a close look at the Losi TEN-Rally X.

The TEN-Rally X is a 1/10 scale four-wheel-drive rally style car. For a 1/10 scale car, the body seems large but that's good for visibility. The included DX2E 2-channel 2.4GHz Spektrum transmitter is a pistol grip unit that includes an adjustment for control correction and sensitivity, and it is specific to the TEN-Rally X.



The vehicle is equipped with adjustable aluminum shocks which keep the tires firmly planted.

Moving on to the chassis, steering is controlled by an independent 70 inch/oz water-proof servo. Once again due to the AVC feature, the receiver and fan cooled 130amp ESC are specific to the vehicle. The Fuze 540 3900kV brushless motor is equipped with metal

gears and uses a shaft drive to propel the vehicle at some pretty impressive speeds. Also contained within the box is a complete tool kit. The tool kit includes a multi-wrench for wheel nuts, allen keys, suspension adjustment wrenches, additional body clips, servo spline inserts and screws.

For testing purposes the TEN-Rally X used a 5200mAh 2S Dynamite SpeedPack LiPo and a Dynamite Prophet 2S/3S 35 watt AC (120V) charger. The Prophet charger is an exceptionally easy to use, single button charger. To set the proper charge current the button is pressed until the appropriate LED indicates the charger is set to the desired the current. Connect a battery to the proper 2S or 3S balance jack, and press and hold the same button until a start tone sounds. When finished with the charge cycle, an LED glows green and it's time to go racing. Not only does the Dynamite Prophet Charger work well, it looks good too. The attractive packaging is bright and eye catching when properly displayed.



The ultimate test of any off-road vehicle is how high does it fly and the Rally X does a great job.



All of the testing was done using a Dynamite 5200mAh 2S lithium battery pack for juice.

As always, and it can never be repeated enough, while the battery was charging the entire instruction manual was read. It was quickly learned the heart of the stabilization system is the Spektrum SRS4200 4-channel receiver with AVC. As with any gyro stabilized system for the AVC system to work well the model needs zero play in the linkage or oscillations will occur. To this end the TEN-Rally X linkage uses plenty of ball links and it is very well done and tight.

By default the AVC system is always enabled. To properly activate the AVC there is an additional step that quad and heli pilots are use to, but may not be too familiar with the surface crowd. After turning on the transmitter the vehicle must be placed on a level surface. Plug in the chassis battery and turn on the ESC/receiver, but don't touch the car or the controls until the AVC has finished stabilizing. Once initialized the steering will give a little twitch to let everyone know the car is ready.

To test the AVC, pick up the Rally X and swing it left and right. If working correctly the wheels steer in the opposite direction the chassis is moved. And in addition to the corrected steering, the throttle is also managed. As far as the Rally X is concerned, Losi has coupled AVC technology to the previously mentioned 4WD chassis which includes three differentials, and water-proof

electronics, producing quite a consumer package.

Returning to the driving, additional tests were performed to include high-speed cornering and drifting. The 4WD, low profile tires and shocks of the Rally X handled these with ease. After the flats it was time for some bumps just to see how straight a line could be maintained at high speed. Again the correction kept it well within the boundaries created. Next on the list was a gravel hill to see if the Rally X flies. In this test area once at speed a person is luckily if two of the four wheels are on the ground at any one time. For the driving as described, the AVC was set to 50 percent, and I was quite surprised at how well the vehicle tracks. Two words aptly describe the Losi TEN-Rally X: simply amazing.

I must admit that when I first heard of Losi's AVC I was thinking, "Now what? All the drivers' skill is being taken away and replaced by technology." After running the TEN-Rally X, my thinking has been adjusted and am now convinced that there can be a happy medium for both. I had a blast running the car and seeing how far it could be pushed, but no matter how hard it's been driven, I've not had a failure with the vehicle or the AVC yet.



You can never say more than enough, but a Fuze 3900kV brushless motor provides plenty of power.

Dealers that are really wanting to sell the TEN-Rally X should have it on display with a charged battery installed and be prepared to demonstrate AVC steering correction using the previously described swing test. The results are simple to correlate, just watch your sales grow in direct proportion to your customers' eyes.

Like all Losi products, the TEN-Rally X is available exclusively through Horizon Hobby. **HM**