



Titanium Satellite's ASC1 dish mover, polarity controller can be used as a stand-alone big-dish driver or interface with an FTA receiver. Heavy construction with many connections and easy to read display are among its attributes. (Photo courtesy of the author).

Titanium Satellite's Big Dish Mover

By Ken Reitz KS4ZR

Home satellite television reception began in the U.S. in the late 1970s as an outgrowth of amateur radio operators who were interested in receiving signals from newly launched and operational C-band domestic broadcast satellites. This was nearly twenty years before the advent of the small-dish satellite TV systems that today account for more than 34 million paid subscribers. Broadcast satellites in North and South America still predominately use C-band frequencies to deliver programming to cable-TV head-ends and terrestrial-TV broadcast stations.

Reception in the early days required the use of a 10-foot diameter satellite dish, the installation of which at the time required FCC approval, even though the dish was for reception only. By the mid-1980s FCC approval was done away with and these dishes, which came to be known lovingly by their users and derisively by their detractors as Big Ugly Dishes (BUDs), were being installed across the country at the rate of 90,000 per month. The 10-foot dish was required in part because the transponders on the C-band broadcast satellites of the time were very low power. By the time Direct-to-Home (DTH) broadcasting began, transponders on those satellites were up to 200 watts allowing the much smaller dishes.

As the popularity of the more aesthetically pleasing 18-inch dish took over, the big-dish market began to shrink, reverting back to the technology hobbyists who were more interested in video back-hauls and audio subcarriers than in watching cable-TV fare. With the

rise of Free-to-Air (FTA) satellite TV programming, utilizing Ku-band satellites, the hobby took off again as viewers realized the vast array of esoteric programming available through inexpensive FTA receivers that could be hooked into an existing C-Band system.

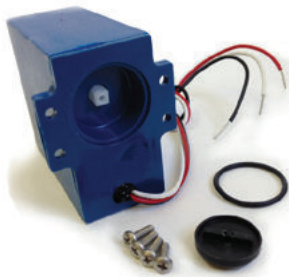
The problem with most FTA receivers is that they lack the ability to drive a 10-foot dish, a task requiring a receiver with a heavy-duty power supply capable of delivering up to 36 volts, drawing as much as 5 amps, and sending it to the dish mover (the actuator motor). It takes very little power to move the small, two or three-foot diameter Ku-band dishes, and most FTA receivers are capable of doing it, but they have no chance at moving a big dish.

To utilize an FTA receiver with a BUD meant that satellite-TV hobbyists were left to baby their vintage satellite receivers that had been doing the job for years. But, old receivers wear out and the last BUD receiver, Motorola's 4DTV, has long been out of production. The only other option was to scrounge around junk shops, flea markets or satellite-TV shops that might have used or old, new-stock receivers capable of moving a big dish.

There has been a need in the satellite-TV hobby for a capable, stand-alone dish driver and now one is available from Titanium Satellite.

Titanium Satellite's BUD Solution

With more than 30 years in the satellite equipment industry, folks behind Titanium Satellite, a new *TSM*



Polarizer servomotor replacements (left) and DiSeqC switch, two staples of FTA satellite systems, available from Titanium Satellite (Courtesy: Titanium Satellite)

Twin output C-band feedhorn (left) and single output LNBF. (Courtesy: Titanium Satellite)

advertiser, have been paying attention to the needs of big-dish hobbyists. Their ASC1 dish mover is a good case in point. The ASC1 is a stand-alone dish controller with a couple of important features for BUD owners whose dishes have been inoperable because of a lack of a powerful enough controller.

If all you need is a box to control your big dish, the ASC1 will do the job. But, it's also designed to be controlled by the software in most FTA receivers. To do this, go into the menu of your FTA receiver and follow directions for programming a dish drive with your FTA receiver. This usually involves a DiSeqC switch which also lets you switch from a driven C-band satellite dish, for example, to as many fixed Ku-band dishes as you have ports for on your DiSeqC switch. This really improves the versatility of a big dish system by linking it with smaller fixed dishes. The FTA receiver does all of the switching, the ASC1 provides the muscle to drive the big dish..

The ASC1 can also be set for any LNB configuration, including horizontal or vertical polarity (used on LNBs with a small polarity motor) or fixed (used on LNBFs, that electronically switch polarity). The ASC1 also allows skew adjustment on polarity motors, which is particularly helpful when the LNB isn't perfectly aligned.

The ASC1 utilizes a four-line LCD display and front panel buttons, that perform all controlling functions. But, it also comes with a remote control that's most useful after you gotten all of your satellites programmed into the driver. It also comes with an RS-232 cord that lets you download updates to the device. And, it has built-in "F" connectors for the LNB or LNBF loop-through to the receiver.

The ASC1 is extremely well built. Weighing at an impressive 11.7 pounds, this dish drive is built to last. It reminds me of the early days of the satellite-TV

hobby. I put my first big dish system in the ground thirty years ago, in 1984. In those days the power supplies that were used to drive dishes were heavy, separate boxes with controlling cables that attached to the receiver. Uniden made one that's very similar to the concept with this dish mover, except that this modern version can be used as a stand-alone mover for an older system or in conjunction with a new FTA satellite system.

Now you don't have to worry what you'll do when your 4DTV receiver finally dies (and it will eventually). The ASC1 carries a one-year limited warranty.

Getting Your Hands on a Big Dish

Are you interested in getting started in the FTA satellite hobby? There was a time not too long ago when satellite-TV dealers everywhere in North America had dozens of complete, newly taken out of service, 10-foot dishes stacked up behind their stores. Their previous owners had cashed them in for DirecTV or DISH Network service and the dealers couldn't give them away. Most of those perfectly good dishes found their way to the scrap yard for easy money for those who went around looking for them.

Today, a new, in-the-box 10-foot dish is a rarity. But, there are still perfectly good, though disused, 10-footers still standing today. Take a drive out into the countryside and you'll see them. If you have a way of transporting one, the owner will likely let you take it away for the asking. Just ask. At most they might like \$100 to get rid of it.

Up until now, finding a way to move the dish from satellite to satellite without the use of a vintage receiver was nearly as impossible as finding a new dish. But, with the ASC1, your found dish can be up and running once more. The ASC1 is available to TSM readers at a special price for a limited time.

Titanium Satellite's Other Products

And, while you're at it, check out Titanium's C-band phase lock loop (PLL) low noise, block down converters (LNBs) with a 15-degree noise figure and selling at just \$45 (plus shipping). They also sell replacement polarity servomotors, a conical scalar, for improving signals on .5 and .8 offset dishes and helps prevent ingress of near-band signals from terrestrial sources. They have a number of other interesting satellite-TV products on their website as well. Check them out at: <http://www.titaniumsattelite.com>

FTA Satellite Resources

A list of current Free-to-Air satellite programming for domestic North America C and Ku-band satellites, including those over the Pacific and Atlantic that may be viewed in most areas of North America (showing satellite parameters including frequency, FEC, and symbol rate) may be found at

<http://www.global-cm.net/mpeg2central.html>



Manhattan RS-1933 FTA receiver capable of tuning in standard definition as well as high-definition Free-to-Air satellite programming, sits atop the ASC1. With these two devices you can control a 10-foot satellite dish. And, with a C/Ku-band feed horn it's all you need to explore the interesting world of FTA-TV. (Photo courtesy of the author)

TSM



Introducing the Titanium Satellite ASC1 dish postioner and polarity controller. Manual or automatic control with any satellite receiver using standard DiSEqC 1.2 motor control protocol. Update your BUD to the latest technology and ease of operation!

Return complete postioner and polarity control to your satellite system. No more multiple remotes or notes taped to the TV to remember how to watch a channel. Simply change channels or scan for new channels. The dish will automatically move to the programmed satellite and select the correct polarity and skew offset. Manual control / fine-tuning by front panel buttons and ir remote control.

Terminal block connections support 12 gauge wires for motor, sensor and servo control. Dual tap transformer and switchable 115/230Vac input permits worldwide operation with 36Vdc @ 5 amps continuous operation for lifting the heaviest dishes. Independent f-fitting power is menu selected for fixed 18Vdc LNB operation or automatic 18/13Vdc LNB polarity and switch control. The rugged aluminum case and quality components will provide years of reliable performance.



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