



Technomate TM-2300

Antenna Motor in Long-term Test

The TM-2300 from Technomate makes it easy to convert the monofeed satellite system of a single user into a system that can receive all receivable satellites at a particular location. Technomate's antenna motor model that has proven itself for many years has been reintroduced to us with improved precision; something that we have to look into in much greater detail. An antenna motor is the perfect solution to receive the ever-increasing number of satellites in the sky. Technomate's TM-2300 operates like all other H-H motors on a polar mount in which the motor's turning axis is aligned with the North Star and thus parallel to the Earth's axis. In this way switching from one satellite to another no longer involves an azimuth and elevation adjustment; a simple motor turn is all that's needed. But even this one-dimensional adjustment takes place automatically with the TM-2300.

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Today's modern receivers with integrated DiSEqC 1.2 make it all happen. Control signals are carried to the motor via the same coax cable that is used to connect to the LNB. DiSEqC 1.2 can also transmit satellite position data. Receivers that carry the DiSEqC 1.3 or USALS logo also come with a mathematical routine that takes the receiver's location (longitude and latitude) and the geo-central satellite position and calculates the necessary motor angle needed for a particular satellite. With an antenna motor such as the TM-2300 that can understand the complete DiSEqC protocol, you can have a completely automatic system that can drive your antenna to any desired satellite.

Its Simple Operation Tells It All

With the TM-2300 from Technomate and a DiSEqC 1.3 receiver, the conversion of a monofeed system to a multifeed system is made very easy. The job can be completed in less than an hour and all existing components can still be used. It might not be a bad idea to get a larger dish so that weaker satellites or transponders can also be



■ A normal fixed offset dish for reception of only one satellite

received. Also check to make sure that the mast to be used is perfectly vertical. Only then can the motor move the dish perfectly from one horizon to the other.

We put together a step-by-step outline to help simplify the conversion. A nearly identical previous model has been in operation here with us for the past ten years and has been running perfectly since its installation.

Receiver Preparation

1. Identify your local position (longitude and latitude) using a map, Google or GPS.
2. Turn on the receiver while it's still in monofeed operation.
3. Select a satellite and also select DiSEqC 1.3 (USALS) operational mode (Figure 1)
4. Enter the coordinates of the satellite in the receiver menu.
5. Confirm the entry and then turn off the receiver.

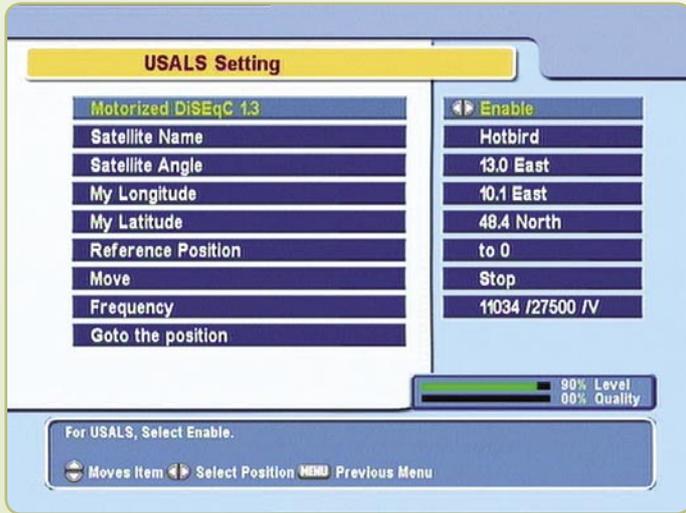
The Assembly

1. Screw together the TM-2300, adjust for your local latitude and tighten the screws (Figure 2).
2. Remove the dish.
3. Adjust the antenna's declination angle based on the table in the manual (Figure 3).

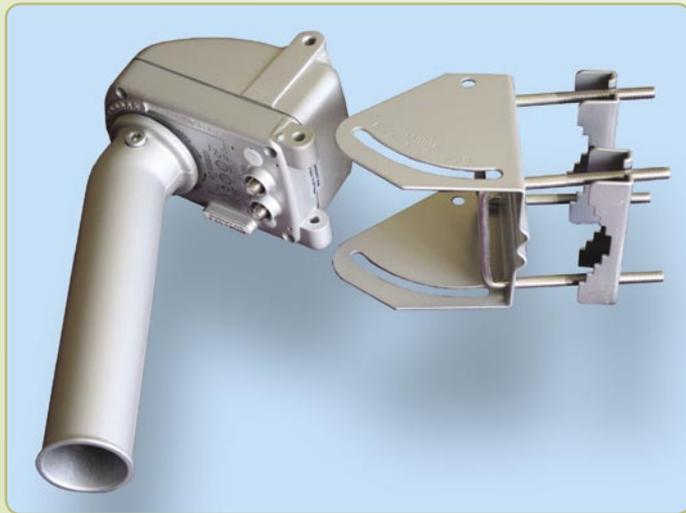


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TECHNOMATE TM-2300
Reliable antenna motor designed for use with single antenna systems



■ (Figure 1) DiSEqC 1.3/USALS Menu of a Receiver



■ (Figure 2) TM-2300 Assembly

Your Site Latitude	Elevation Angle	Declination Angle	Dish Bracket Angle
34	56	5.5	24.5
35	55	5.6	24.4
36	54	5.8	24.2
37	53	5.9	24.1
38	52	6.0	24.0
39	51	6.1	23.9
40	50	6.3	23.6
41	49	6.4	23.6
42	48	6.5	23.5



■ (Figure 3) Table Excerpt and Antenna Declination Scale

4. Adjust the mast using a level until it is perfectly vertical.

5. Mount the TM-2300 on the antenna mast.

6. Align the TM-2300 with north/south and tighten the screws.

7. Mount the dish on the TM-2300's rotor

8. Position the dish to the rotor's marker line and tighten the screws.

9. Connect the receiver to the TM-2300 and then connect the TM-2300 to the LNB.

4. For elevation corrections gently adjust the declination angle of the dish.

Fine-tuning Tips

1. When turning on the receiver, there should be reception. If not, check for a perfectly vertical mast and for proper southerly alignment.

2. Only minor turning adjustments on the mast are typically needed. Sometimes it's good enough to just loosen the two left and two right mounting screws together and retightening them.

3. It's possible that the declination scale on the dish could be off by as much as two degrees. In this case you'd have to try adjusting the declination angle by one or two degrees.

Fine-tuning

1. Turn on the receiver and observe the receiver's signal bar graphs.

2. Try flexing the dish to the east/west and up/down.

3. Gently turn the dish on the mast for east/west adjustments.

4. A "Satellite Finder" can be used if the receiver is too far away from the antenna. It is inserted at the antenna inline between the motor and the LNB.

Expert Opinion

The Technomate TM-2300 is a redesign of their very reliable and capable H-H motor. It is ideally suited for those who want to convert their monofeed satellite system into a multifeed reception system.



+
Very quiet, highly precise movements, corrosion resistant

-
User manual only in English
Maximum 60 degree east/west motor movement



■ (Figure 4) Sideways Dish Adjustment