

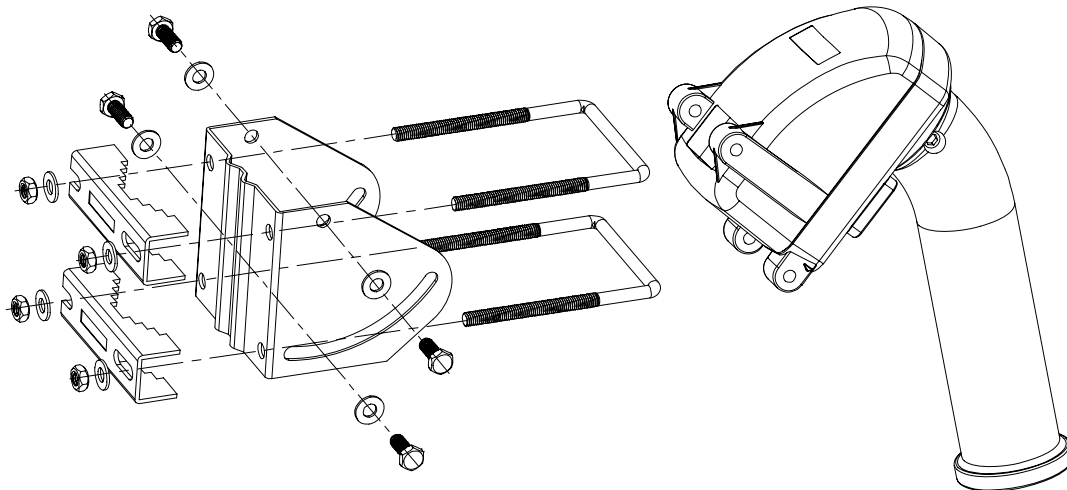


DisEqC MOTOR
50-120+



MOTOR ASSEMBLY

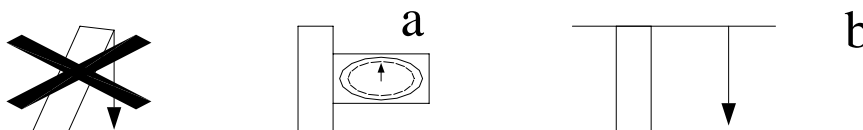
Assemble the H-H motor according to the diagram.



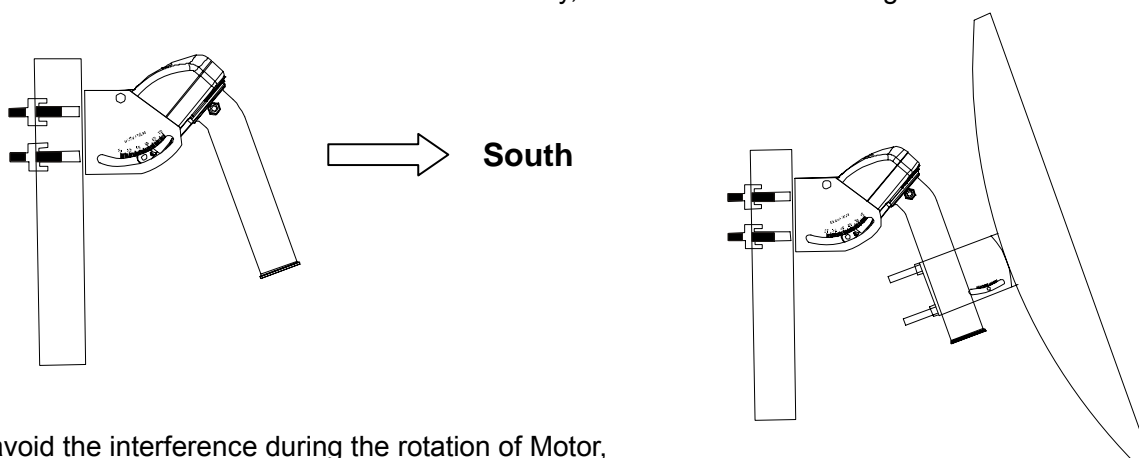
MOTOR INSTALLATION

A. Traditional Installation

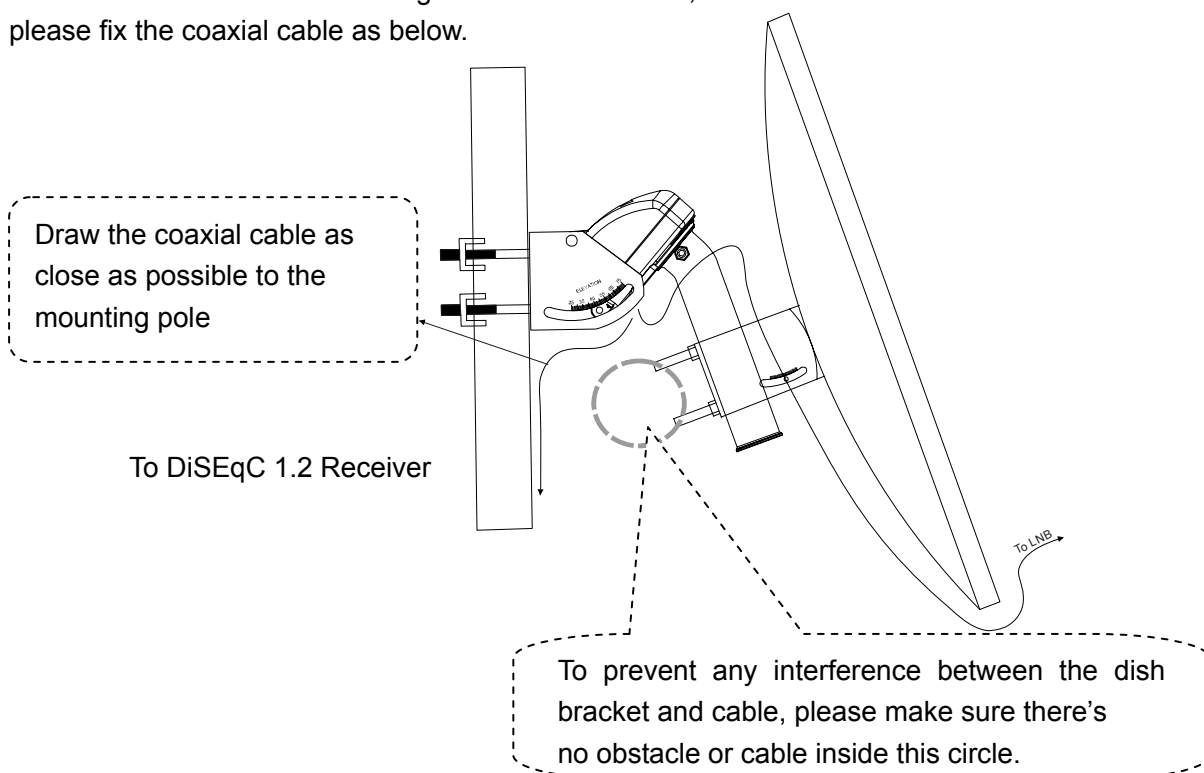
1. Make sure the mounting pole is exactly vertical before installation by using inclinometer (figure a) or plumb line (figure b) as below.



2. Fix the H-H Motor on the mounting pole and the dish onto the motor tube.
Make sure there is no obstacle in the southern sky, such as a tree or building.



3. To avoid the interference during the rotation of Motor, please fix the coaxial cable as below.



4. Aiming TRUE SOUTH. (or TRUE NORTH for the Southern Hemisphere)

Rotate the motor all together with the dish toward TRUE SOUTH by hand. You can find MAGNETIC SOUTH by a compass, then deduct the magnetic declination to get TRUE SOUTH.

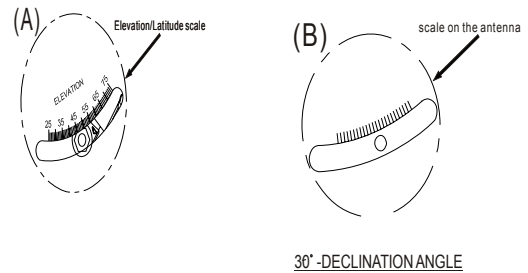
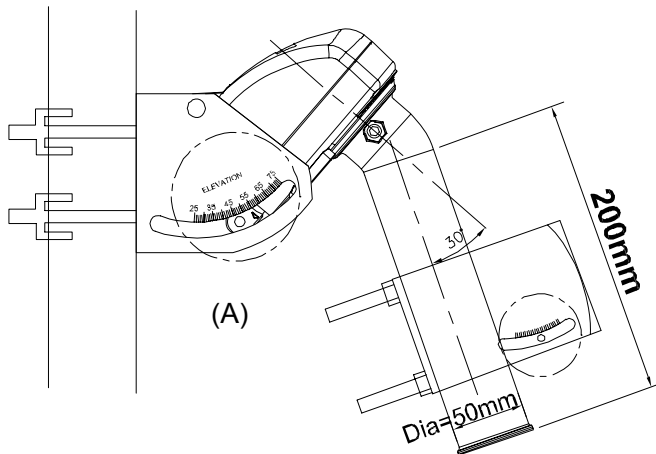
5. Setting Elevation Angle of the Motor.(A)

Adjust the motor elevation angle via the Inclinator or the Elevation/Latitude scale on both sides of the Motor according to the Latitude of your position.

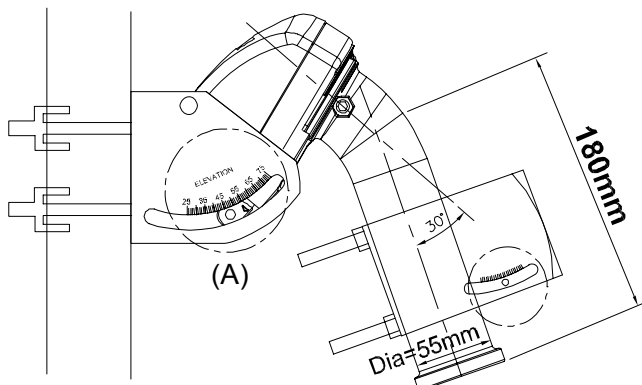
6. Setting Declination Angle on the Dish.(B)

- Attach the dish onto the motor. The center line on the tube of the motor can help to mount the Dish on the center. According to the latitude of your location, find the **Declination Angle** by the attached **ANGLE TABLE** in page7 .
- Set the Declination Angle by the scale on the antenna dish. The reading on the Dish scale should be: **30-minus DECLINATION ANGLE**

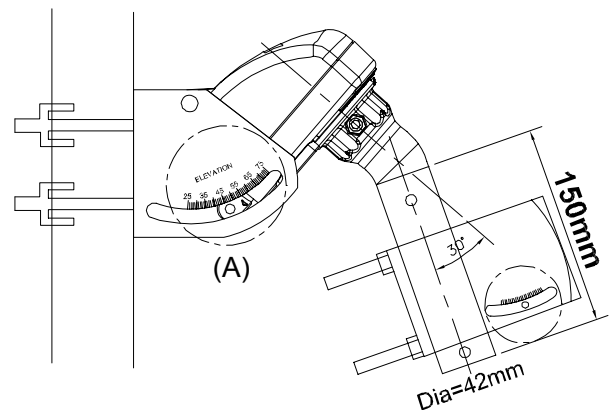
Type I (ϕ 50mm)



Type II (ϕ 55mm/Steel)



Type III (ϕ 42mm)



7. Move the antenna East and West using either the manual buttons on the bottom of the motor or the receiver controls verifying the reception arc is correct. If incorrect fine tune the TRUE SOUTH direction, elevation and declination angle for optimum signal strength.
 - a. For receiver operation, connect the coaxial cable between the Motor and the receiver to provide power to the motor.
 - b. There will be a green LED indicator when power is available.

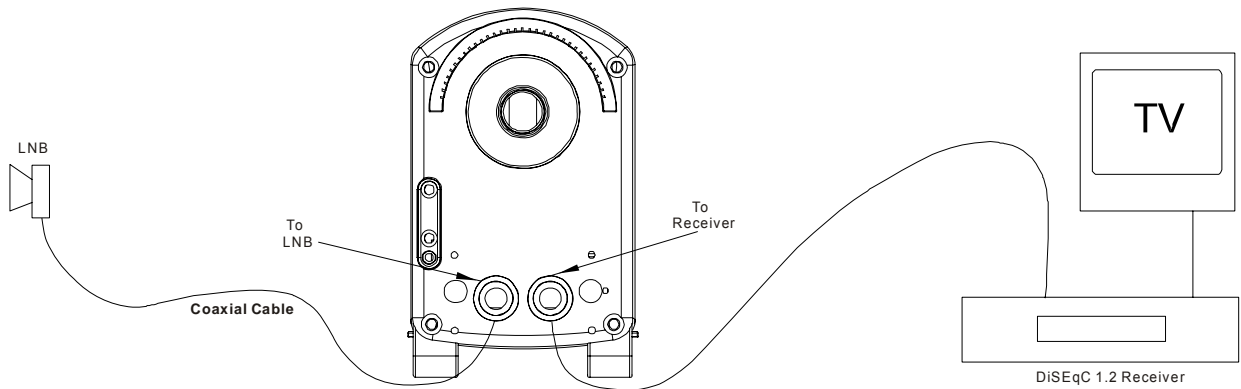
B. Quick Installation

We recommend you use a receiver with a Goto X Function.

1. Perform steps 1 thru 3 on page 2.
2. Set the Elevation angle
 - a. Set the elevation angle according to your Latitude location.
 - b. There is also a Latitude Scale on the motor.
3. Mount the Antenna Dish:
 - a. Mount the Antenna Dish onto the motor.
 - b. Use the center line on the tube for aligning the motor and the antenna dish.
 - c. Find the Declination Angle on the Angle table for your latitude on page 7.
 - d. Set the Declination Angle using the scale on the antenna dish.
 - e. The reading on the dish scale should read 30 degrees -(minus) Declination Angle.
4. Operate the motor for maximum signal strength with the goto X Function.
 - a. Enter the Longitude and Latitude of you location
 - b. Choose a satellite with good signal strength
 - c. The receiver will calculate and drive the motor to the correct position.
5. Positioning the antenna dish.
 - a. Rotate the motor assembly around the pole to find the strongest signal from the selected satellite.
 - b. Secure all the hardware and you are ready for normal operation.

CABLE CONNECTION.

Connect the RG-6/U Coaxial Cable between the receiver and the motor following the diagram below.



Caution: Protect the F connector from moisture using the waterproof rubber sleeve. Follow the instruction illustrated below.



MANUAL BUTTONS

Drive the Motor East/West via two Manual Buttons on the bottom of the Motor:

- A. East: Press and hold EAST button.
- B. West: Press and hold WEST button.
- C. East Fine-tune: Press EAST button and release immediately for one step east.
- D. West Fine-tune: Press WEST button and release immediately for one step west.

LED INDICATOR

The LED indicator on the bottom of the motor can show the following information:

Color	Status	Description
Green	On	Power On, Standby Mode
Orange	Blink	Receiving DiSEqC Commands/Reset Mode
Orange	On	Error Message: Over Current/Reach Hardware Limits

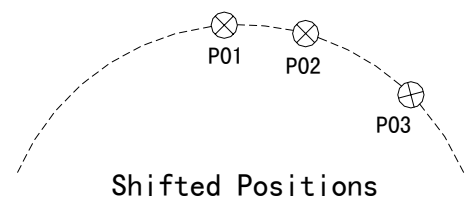
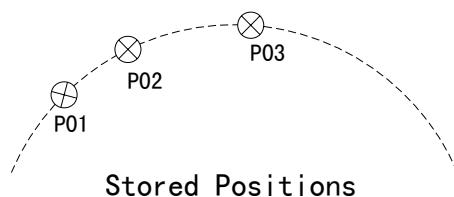
HARDWARE RESET

- A. Turn off the power to the motor.
- B. Press and hold both of the EAST/WEST buttons at the same time. Turn on the power to the motor. The LED will flash ORANGE. Continue to hold both buttons until the LED stops flashing, Memory is now erased and motor is now reset.
- C. Re-program for the desired satellites.

Operation with DiSEqC 1.2 Receiver

This antenna position device is designed to be used with the DiSEqC 1.2 Receiver. Refer to the manual for positioning commands if found different from what is listed below.

- A. **Go East / West: Rotate the dish to the East and then to the West.**
- B. **Fine Tune East/West position.**
- C. **Save and store the Satellite position## Example 45.**
- D. **Goto##: Move the antenna to the ## position.**
- E. **East/West Limits: Program the East and West limits.**
- F. **Limit Off: Disable the software limits.**
- G. **Goto “0”:** Drive the motor to the 0 degree position for reference.
- H. **Re-synchronize/shifting**
 - a. Drive the motor using the Goto command to a position.....example PO3
 - b. Drive the motor East/West for a more optimum position.
 - c. Re-synchronize the motor with new command.
 - d. The position PO3 will be shifted to the new position, and, all other programmed entries will also be shifted.
 - e. Omitting Step A will cause PO1 to be shifted to the new\ position.



1. Goto X Function:

- a. This function is only active with receivers that have this function built in.
- b. This function can drive the motor to the desired x.x degree required East or West relative to the “0” position of the motor.
 - i. Example 14.6 degrees East on the bottom of the motor.
- c. Input the Longitude and Latitude position, you will find that some receivers can drive the antenna to position itself on the correct satellite automatically.

ELEVATION AND DECLINATION ANGLE TABLE

(refer to page 3)

Your Site Latitude	Elevation Angle	Declination Angle	Dish bracket Angle
0	90	0.0	30.0
1	89	0.2	29.8
2	88	0.4	29.6
3	87	0.5	29.5
4	86	0.7	29.3
5	85	0.9	29.1
6	84	1.1	28.9
7	83	1.2	28.8
8	82	1.4	28.6
9	81	1.6	28.4
10	80	1.8	28.2
11	79	1.9	28.1
12	78	2.1	27.9
13	77	2.3	27.7
14	76	2.4	27.6
15	75	2.6	27.4
16	74	2.8	27.2
17	73	3.0	27.0
18	72	3.1	26.9
19	71	3.3	26.7
20	70	3.4	26.6
21	69	3.6	26.4
22	68	3.8	26.2
23	67	3.9	26.1
24	66	4.1	25.9
25	65	4.2	25.8
26	64	4.4	25.6
27	63	4.5	25.5
28	62	4.7	25.3
29	61	4.8	25.2
30	60	5.0	25.0
31	59	5.1	24.9
32	58	5.2	24.8
33	57	5.4	24.6

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	23.7
41	49	6.4	23.6
42	48	6.5	23.5
43	47	6.6	23.4
44	46	6.7	23.3
45	45	6.8	23.2
46	44	6.8	23.2
47	43	7.0	23.0
48	42	7.1	22.9
49	41	7.2	22.8
50	40	7.3	22.7
51	39	7.4	22.6
52	38	7.5	22.5
53	37	7.6	22.4
54	36	7.6	22.4
56	34	7.8	22.2
58	32	7.8	22.2
60	30	8.0	22.0
62	28	8.2	21.8
64	26	8.3	21.7
66	24	8.4	21.6
68	22	8.4	21.6
70	20	8.5	21.5
72	18	8.6	21.4
74	16	8.6	21.4
76	14	8.6	21.4
78	12	8.7	21.3
80	10	8.7	21.3

TROUBLESHOOTING

Symptoms	Check Points
The manual buttons don't work	<ol style="list-style-type: none"> 1. Make sure the power of the receiver is on and the LED light on the bottom of the motor is on. 2. Make sure there are no other devices in the coax line between the receiver and the motor.
Motor doesn't work	<ol style="list-style-type: none"> 1. Make sure all cables and connectors are clean and snug. 2. Make sure the motor is not blocked by the software limits setting in your receiver. 3. Try using the manual buttons on the motor. 4. Confirm that your receiver supports DiSEqC1.2 and that you have the DiSEqC 1.2 enabled in your receiver.
Motor stops at a certain position and can't move further.	<ol style="list-style-type: none"> 1. Disable the software limits and drive the motor again. 2. Make sure the motor or antenna has sufficient clearance and is not hitting another object.
Motor run intermittently	<ol style="list-style-type: none"> 1. Make sure the antenna is not too heavy or too large. Maximum size is 1.2 meter. 2. Check the quality of your coax cable. Try using a better grade of coax. 3. Check the output power of the receiver. It should be 350Ma or more.
Sometimes the motor runs fast and Sometimes it runs slow.	Output voltage of the receiver can effect the speed of the motor. Vertical is 13 volts and can cause the motor to run slower than Horizontal which is 18 volts.
All satellite positions are off a little	<ol style="list-style-type: none"> 1. Goto one satellite position using the receiver and wait until the motor has stopped. 2. Drive the antenna East or West until the reception of the Satellite is good. 3. Use " Re-calculate" Function to correct position of all satellites..
One or two satellite positions are not correct but the others are Okay.	Fine tune to the satellite and re-store the position.
Motor runs only one second and stops.	Check all coax fittings. They should be clean and snug. Make sure there are no other devices between the receiver and the motor.

SPECIFICATIONS

Protocol	DiSEqC 1.2
Compatible Receiver	DiSEqC 1.2 Receiver
Antenna Size	120 cm Max.
Speed	1. 9° /sec(at 13V);2.5°/sec(at 18V)
Azimuth Angle	75° ⁺⁵ East ~75° ⁺⁵ West (150°Max.) Adjustable
Elevation Angle	25°~75°
Tube for Antenna	Φ50x200L m/Φ55x180Lmm /Φ42x150Lmm
Diameter of Mounting pole	Φ35~65 mm
Input Voltage	13 / 18 V DC
Output Voltage	13 / 18 V DC (according to input)
Power Consumption	50 mA(Standby) / 200mA(Normal) / 350mA(Max.)
Satellite Position	100 positions
Goto 0 Position Function	Yes(Goto 0°)
Recalculation Function	Yes
Goto X Function	Yes
Manual Button	Two (East / West)
LED Indicator	Yes (2 Colors)
Limit Protection	1. Programmable Software Limit 2. Current Limit
Positioning Sensor	High Resolution Hall Effect Sensor
Weight(Gross)	3.5 kg / 3.9 kg/ 3.1 kg (Type 1/2/3)
Dimension	330x170x110mm3 (Gross)

The picture and the description maybe different from the practicality, please do on the basis of the practicality.

Subject to change without notice.



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