

# GBOX

## V2000

### USER MANUAL



- \* 3 in 1 model, DiSEqC1.2 Positioner & Standalone Positioner
- \* Compatible with all DiSEqC1.2 Receivers
- \* Auto Turn-off Function
- \* 99 Programmable Memories
- \* 22 Keys full Function IR Remote Control
- \* Easy Operation and Quick Installation
- \* Fine-tune Function for Better Reception
- \* Short Circuit and Overload Protection
- \* Anti-Noise Circuit to avoid miscounting
- \* Software Limits Protection
- \* Re-synchronize Function
- \* 180° H-H Mount Compatible



## Safety Precautions

### WARNING:

- TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT OPEN THE POSITIONER OR REMOVE THE TOP COVER.
- TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS POSITIONER TO RAIN OR MOISTURE.

1. The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains, etc.
2. No naked flame sources, such as lighted candles, should be placed on the apparatus.
3. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus

## Inclusions

1. GBOX Positioner
2. 99 Memories Remote Control
3. Two AA (SUM-3) batteries
4. This instruction manual



The DiSEqC<sup>TM</sup> is a trademark of EUTELSAT.

# Introduction

**GBOX** is a 3-in-1, full-function antenna positioner for motorized satellite antenna system application. It can work as a traditional positioner, DiSEqC1.2 positioner and DiSEqC1.0 positioner. Before installing the **GBOX** positioner, please check what kind of satellite receiver you are using.

## Standalone positioner

If the receiver is neither DiSEqC1.2 receiver, the **GBOX** will act as a standalone positioner. The commands of the positioner will be only from the IR Remote Control. No connection between **GBOX** and receiver is needed.

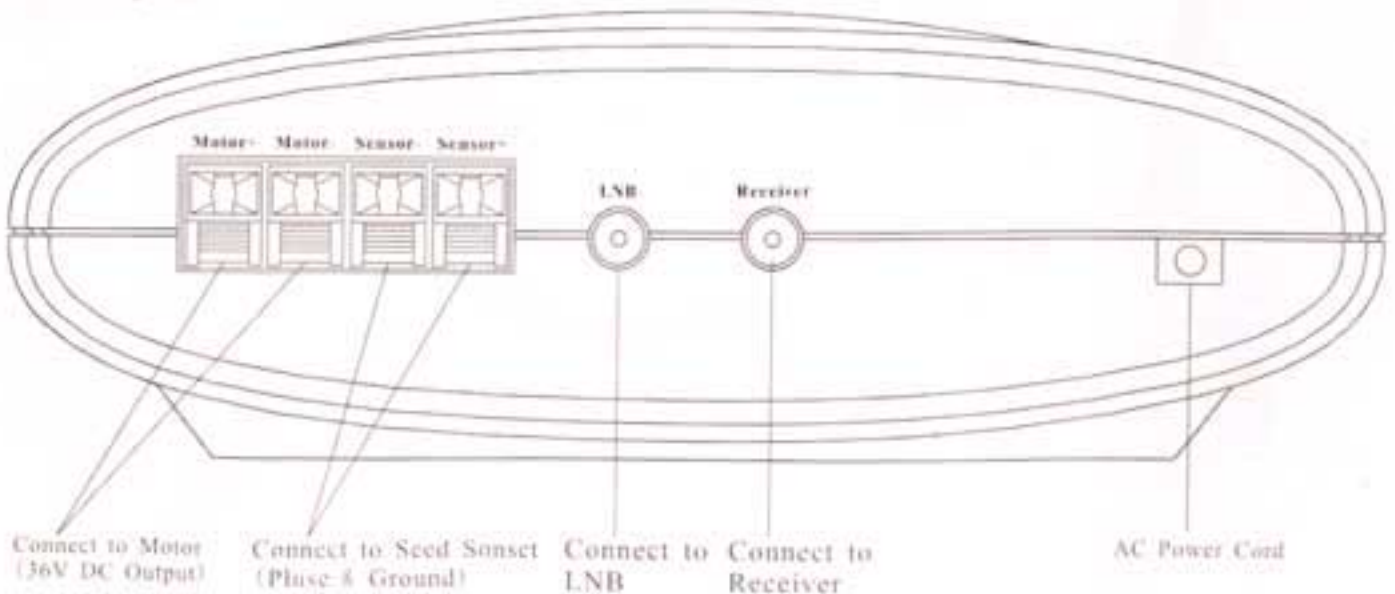
## DiSEqC 1.2 positioner

If the receiver is a DiSEqC1.2 receiver, the **GBOX** will act as a DiSEqC positioner that all the commands for positioner such as move, store, recall, set limit.... will come from the receiver through the coaxial cable, so two coaxial cable links between receiver and **GBOX** and between LNB and **GBOX** are needed. The IR remote control is not a must in this case although it can also control the operation of the positioner.

## Front Panel:



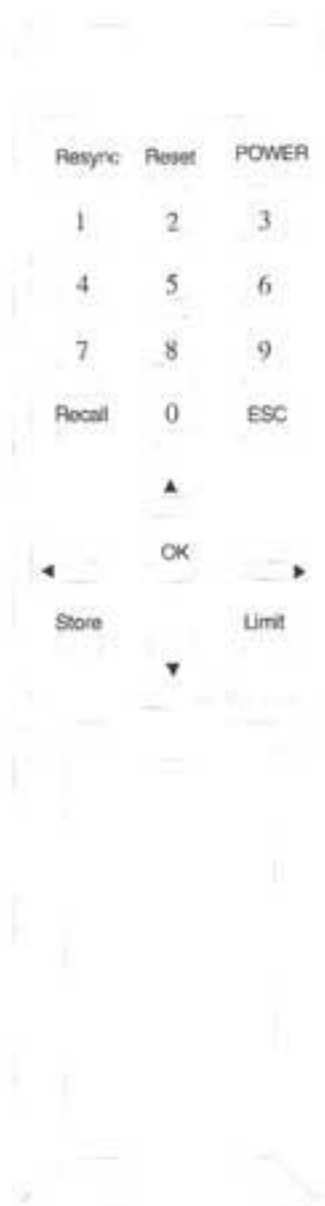
## Back View:



## Optional Remote Control

Receiver Type	Remote Control	Positions	Note
DisEqC 1.2	No	99	Fully controlled by receiver.
	Yes/Optional	99	Controlled by receiver or optional remote control.
Without DiSEqC	Yes/Necessary	99	Just like stand-alone positioner.

### • Remote Control



#### **POWER:**

Switch GBOX between stand-by or ready.

#### **0 - 9 numeric keys:**

Assign the satellite position to be operated. Such like moving, storing or re-synchronizing to a specific satellite position, or used to set designated antenna travel limits.

#### **ESC:**

Cancel current operation and programming mode. Stop antenna moving.

#### **◀ or ▶ Manual keys :**

Manually move the antenna.

#### **OK:**

Confirm the current operation. Such like recall, store, re-synchronize satellite antenna position or set antenna travel limits.

#### **Resync:**

Re-synchronize designated satellite positions.

#### **Store:**

Save current location as a designated satellite position.

#### **Limit:**

Program antenna travel limits.

#### **Recall:**

Recall saved satellite position.

## Cable Connection

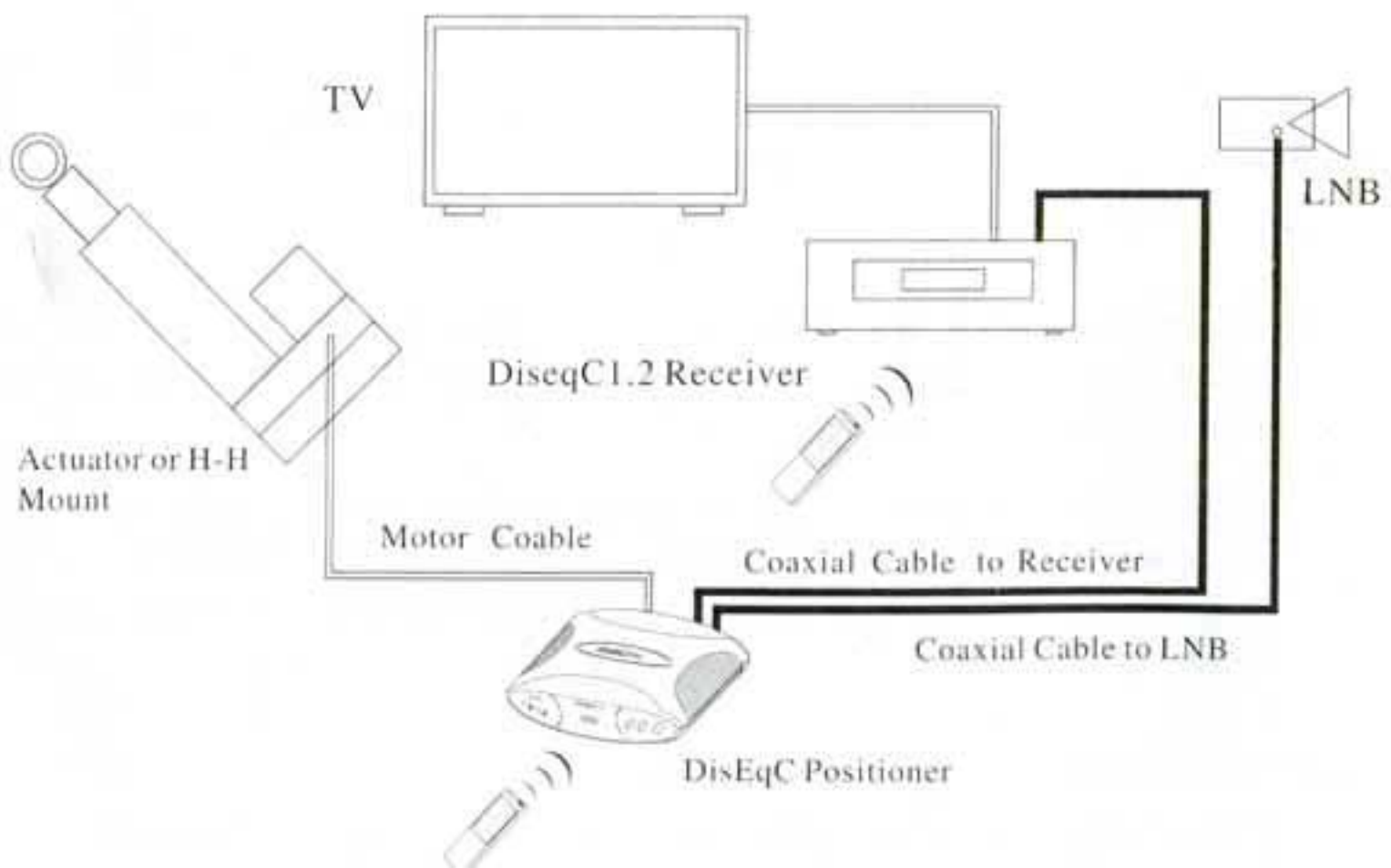
### First Time to use the positioner:

1. Connect the 4 wires cable between GBOX Positioner and Actuator. Connect the Motor to the terminals printed **Motor+** & **Motor-**, and connect the Reed Switch Sensor to the terminals printed **Sensor-** & **Sensor+**.

**PS: Any wrong connection might damage the Reed Switch Sensor on the Actuator, however, a smart design can protect the positioner itself.**

2. Connect one coaxial cable (RG-6/U is recommended) from the receiver to the F-Connector of the positioner printed **Receiver**. Connect another coaxial cable from the LNB to the F-connector printed **LNB**. Please refer to the "**Connection Diagram**".
3. Plug the AC Power Cord into the AC Outlet, the Display will show a dot on the right bottom.
4. The power of the Positioner will be turn on/off automatically while the power of receiver is turned on/off.

### Connection Diagram (DiSEqC1.2 positioner):



## Operation as DiSEqC 1.2 Positioner

**Notice:** All the commands are from the DiSEqC 1.2 receiver. Please refer to the manual of the Receiver. The denomination of some commands might be different, but similar.

### Set the Software High/Low Limits:

After sending the commands from the DiSEqC 1.2 receiver, the Display of the positioner will show **H.L.** or **L.L.**:



The image shows two examples of a 7-segment LED display. The first display shows the characters 'H.L.' and the second display shows the characters 'L.L.'.

	Low Limit	High Limit
North Hemisphere	East Limit	West Limit
South Hemisphere	West Limit	East Limit

### Cancel the Software High/Low Limits:

After sending the command from the DiSEqC1.2 receiver to clear the limit setting of the positioner, the Display of the positioner will show "l--l" on the LED. After 2 seconds it shows 000.

### Store the Satellite Positions:

1. Following the operation of the DiSEqC1.2 receiver to move and store the satellite positions.
2. The Display will show the stored position number automatically.

## Store the Satellite Positions:

1. Drive the Actuator or H-H mount by ◀ **MANUAL** ▶ buttons to the right position.
2. Keep pressing the **Store** key for 2 seconds then the LED will flash and show "C\_ \_"
3. Press number keys to choose the position you want to store (1-99) then press the OK key to confirm the store operation.



Press OK key  
Within 2 seconds.



4. Repeat Step 1 to 3 to set up all the satellite positions you want.

## Recall Saved Satellite Position:

You may move the dish to any stored position by the following procedures.

1. Press number keys on the remote control to choose the Satellite Positions.

OR

2. Press the ▲ or ▼ keys to choose the Satellite Positions, the display will show the number of the position you choose.
3. Press **OK** key to confirm, the actuator will move to the stored position and the display will show the number of the position you choose. (A,b,c and d will show if the selected positions are 96, 97, 98 or 99)

**PS:** Once you choose a Satellite and the Actuator is moving, you can press any key on the remote control to stop the Actuator immediately.

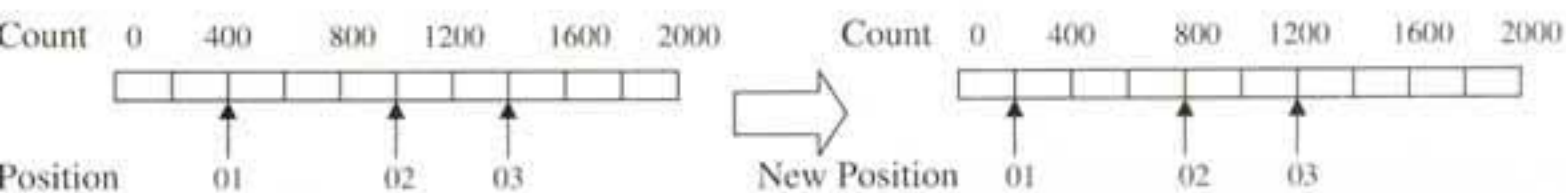
## Re-synchronize all the Satellite Positions:

In case the positions are not correct or the picture is not clear for all satellites, the shift (Re-synchronize) function can correct all the positions at one time.

1. Using "Recall" operation to move the actuator or H-H mount to a stored position (for example, "P03") as a reference position for "re-synchronize" operation.
2. Press the **Resync** key more than 5 seconds. The LED will flash show **S.F.**



3. Press **MANUAL** to fine-tune the actuator or H-H mount in order to have a better signal reception.
4. Press **OK** key to confirm the operation, the Display will show "PXX" again (for example "P03"). All the satellite positions in memory will then be fine-tuned as well. The following drawing shows the operation.



## Reset the system:

If you want to clear everything stored in the Positioner, includes High/Low Limits, and Satellite Positions, you can reset the system by the following procedures:

Keep pressing the **Reset** key on the remote control for 10 seconds. It will show 10, 9 ... 1, then positioner will be reset. After the RESET operation is conducted successfully, the Display will show "— — —". After 2 seconds, it shows 000.



Flash 2 times



## Operation as Standalone Positioner

### Set the Software High / Low Limits:

There are Hardware Limit Switches in the actuators or H-H mounts to prevent the mechanism from damaging by obstacle. However, we still recommend you to set the software Limits for double protection, although you can still use the positioner **without** setting the software High/Low Limits.

1. Drive the Actuator by pressing the **◀ MANUAL ▶** on the remote control to the positions where you intend to set as lower / higher (or East / West) limits.
2. If you are driving the dish to higher position by **◀** button, the **H.L.** should be set. If you are driving the dish to the lower position by **▶** button, the **L.L.** should be set.
3. Set the Low / High (or East / West limit), Keep pressing the **Limit** key for 3 seconds, the display will flash show **H.L.** Pressing the **Limit** button again can switch the Display to **L.L.**

H.L.                      L.L.

4. Pressing **OK** button after the right limit display (**H.L.** or **L.L.**) is showed. After setting up successfully, the Display will show "I---" (High Limit) or "---I" (Low Limit) to confirm the setting.

I---                      ---I

5. After the designated travel limits are programmed, when the actuator or the H-H mount moves to its higher limit or lower limit positions, it will stop moving and the display will show "I---" or "---I".

**PS: Wrong limit setting such as mistaking H.L. and L.L. may block the actuator or H-H mount. If this situation happens, you need to finish setting both limits, conduct the "Clear Limit" operation then re-set the correct limits again.**

### Clear the Software High/Low Limits:

Keep pressing the **Limit** key on the remote control for 10 seconds. The display will show 10, 9 ... 1, then the Limits Setting will be cleared. The Clear Limit operation can only be conducted when both limits are set.

## Recall a Satellite Position:

When changing the program from the receiver, the positioner will drive the actuator to the stored position automatically. However, if the position has not been stored yet from the receiver's operation, there will be no response from the positioner. Please refer to the manual of your receivers.

If the Channels and Satellites are well setup from the receiver, it will drive the actuator to the right position while user changes the Channels. After arriving the right position, the Display will show the Satellite no. as "01" ~ "99".

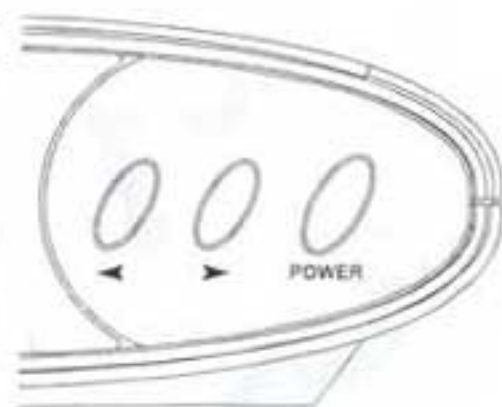
You can still operate the GBOX positioner by its IR Remote Control if necessary.

## Re-synchronize Satellite Positions:(Re-Calculate Function)

1. Not every DiSEqC1.2 receivers support this Re-Synchronized function. If the receiver has this function, the GBOX will conduct this command accordingly but the display won't show any message.
2. If necessary, you may still use the IR Remote Control of the GBOX to operate the "Re-Synchronize" function if you have also ordered the remote control.

## Operate via Push Button on the Front Panel

1. Drive the Actuator East/West via the ◀ and ▶ buttons to the required position. Keep pressing the Power button for 5 seconds, the Display will show "C\_\_".
2. Press the ◀ **MANUAL** ▶ buttons to scroll the position numbers on the display (1-99) and to choose the sat. Positions you want to store. (Only 96, 97, 98 and 99 will be effective for DiSEqC1. 2 receivers)



3. Press "**POWER**" button for confirmation within 3 seconds, the LED will show the number you choose.

## Troubleshooting

Symptoms	Check points
The Memorized Positions are not correct.	<ol style="list-style-type: none"><li>1. Try to use the "<b>Re-synchronize function</b>" to correct the position first.</li><li>2. If it happens again and again, please replace the Reed Sensor to check if the Sensor is stable.</li></ol>
The LED displays  --- or ---  and can't move more.	The symbols mean Electrical Limits, which have been set. If you want to cancel this setting, use the "Limit Off Function" from the receiver or keep pressing the Limit key more than 10 seconds. The LED will show "  - -  ", and will show "- - -" after successful clear.
Only the LED lights on and the Positioner doesn't work. (No response)	<ul style="list-style-type: none"><li>● Unplug the AC Power Cord from the AC outlet. Wait for more than 10 seconds then re-plug.</li><li>● This problem might be caused by the unstable AC power. In order to protect the stored data, the Positioner will lock itself under this situation. A voltage regulator might help.</li></ul>
The manual ◀ ▶ buttons can only drive for 1 count.	The manual buttons is designed for fine-tune function only for the receiver doesn't support this function.

## Specification

Input Voltage	: 180-240VAC 50Hz 13 / 18 VDC (F Type via Coaxial Cable)
Output Voltage	: 13 / 18 VDC (F Type / According to the Input) 36VDC (via Motor Cable)
Output Power	: 60 W (Rated / Motor Cable)
Maximum Current	: 3A
Power Consumption	: 5W (Standby) 90W (Maximum)
Position Memories	: 99
Protocol	: DiSEqC 1.2
Operating Temperature	: 5°C to 40°C (41°F to 104°F)
Storage Temperature	: -20°C to 60°C (-4°F to 140°F)
Dimensions (WxHxD)	: 230x65x165 mm <sup>3</sup> (Net)/260x70x210 mm <sup>3</sup> (Gross)
Weight	: 1.6 Kg (Net) / 1.8 Kg (Gross)