

Appendix-Command List

As it explained in the manual: “RCI-USB:EN.PDF”, the RCI-USB Board adds a COM port to the computer every time it’s plugged. Via this COM Port the communication with the board it’s possible. You can use a HyperTerminal (or any similar program) for communicate with the board and you can send and get commands.

RCI-USB COMMAND LIST

CMD	Meaning
C	Return Azimuth Angle
C2	Return Elevation Angle
CB	Return Azimuth and Elevation ADC Values (0-1023)
R	Activate RIGHT Relay (Clockwise rotation)
L	Activate LEFT Relay (Counter Clockwise rotation)
U	Activate UP Relay (Up Direction rotation)
D	Activate DOWN Relay (Down Direction rotation)
S	Stop all rotation (Azimuth & Elevation relays)
A	Stop Azimuth rotation
E	Stop Elevation rotation
Mxxx	Antenna Direction Setting (xxx = Azimuth angle). Example: M025
Nyyy	Antenna Direction Setting (yyy = Elevation angle). Example: N025
Wxxx yyy	Antenna Direction Setting (xxx = Azim. Angle; yyy = Elev. Angle). Example: W350 163
X	Trace ON/OFF. Enable/Disable trace messages
FW	Write or Save calibration parameters to EEPROM
FR	Read parameters from EEPROM
FS	Show calibration parameters
FBxx	Set the Brake delay to xx (1/10 seconds) Example: FB12 (Delay to 1.2 seconds)
FAS	Set azimuth START Limit
FAE	Set azimuth END Limit
FAOxxx	Azimuth OFFSET Setting (xxx = Azimuth Offset). Example: FAO000
FAAxxx	Azimuth ROTATION ANGLE Setting (xxx = Rotation Setting). Example: FAA450
FARxxx	Azimuth RESOLUTION Setting (xxx = Resolution Setting). Example: FAR005
FATxxx	Azimuth RETRY Setting (xxx = Retry Setting). Example: FAT010
FES	Set elevation START Limit
FEE	Set elevation END Limit
FEOyyy	Elevation OFFSET Setting (yyy = Elevation Offset). Example: FEO000
FEAyyy	Elevation ROTATION ANGLE Setting (yyy = Rotation Setting). Example: FEA180
FERyyy	Elevation RESOLUTION Setting (yyy = Resolution Setting). Example: FER010
FETyyy	Elevation RETRY Setting (yyy = Retry Setting). Example: FET005

- **Control and Requesting** Commands
- **Appointment** Commands
- **Calibration** Commands

Example: Azimuth calibration

- Power off the RCI-USB unit.
- Power On in ABSOLUTE MODE (see manual RCI-USB_EN.pdf chapter 3.3B). You get this special mode, pressing F2 button and power On the RCI-USB unit
- Now turn manually the rotator to the CW (clockwise) or Right limit.
- Run Hyperterminal (or a similar program) and connect it to the RCI-USB port.
- Send the command: **CB<Enter>** So you get the ADC Value of the rotator
- This command gets the ADC value (0-1022) for Azimuth and Elevation.
Example: +ADC-B: 1012 980 (where Azimuth ADC = 1012 and Elevation ADC = 980)
- If the Azimuth value is < 1000, adjust POT1 trimmer (Azimuth Gain) in CW direction till you get that ADC value as close as possible to 1020-1021. Repeat the CB command as many times as you need for adjust POT1 to that range.
- If the Azimuth value is > 1021, adjust POT1 trimmer in CCW direction till you get the ADC value as close as possible to 1020-1021.
- Once you have done the adjustment for this CW limit, you must indicate this position value to the interface, so send the command: **FAE** In this way, the RCI-USB will know this ADC value for the CW limit.
- Now you must do the same for the other limit. So turn manually the antenna to the CCW or Left limit.
- When the rotator is at this limit, send the command: **FAS**. In this way, the interface will know that this ADC value is the CCW/Left limit.
- Now you can indicate which the left limit is. If your rotator turns from 0-360 (most Yaesu rotors work so) this left limit is 0. HAMIV or T2X use to work from 180-180 (360° rotation from south to south). In this case, the CCW/Left limit is 180.
- Example: **FA0000** (left limit = 0°) or **FA0180** (left limit = 180°)
- Finally, you must supply the total rotation angle. Most rotors use 360°, some rotors as Yaesu can turn 450°.
- Example: **FAA360** (rotation = 360°) or **FAA450** (rotation = 450°).

Note

All those parameters are stored in RAM, so if the RCI-USB is rebooted, all changed are lost. You must save any modified parameter with the command: **FW**

The **RESOLUTION** parameter is used for indicating the interface which is the range valid for an appointing. If this parameter is as low as 0 or 1, it will provide a fine appointing, however the interface will overload the motor. So for middle-high load antenna systems, a reasonable value could be 5. For small load antenna systems, you could use 1-2. Only when you need a very high precision on the appointing (i.e. EME), you can select = 0.

The **RETRY** is the maximum number of change in the directions the RCI-USB can use for an appointing. When you set this value to **X**, the RCI-USE can use as maximum **X** changes of direction. A high value (>3) will overload the motor too much.