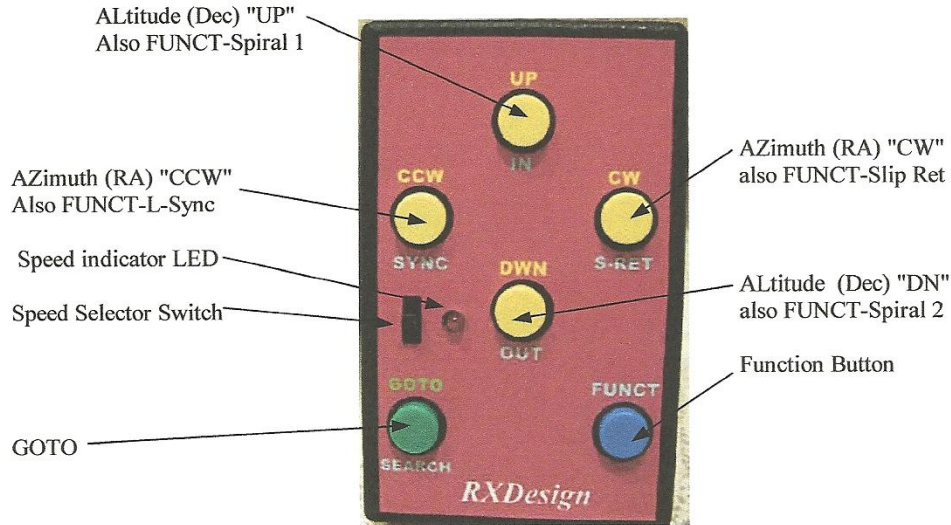


## 4 Handpad Usage

This section describes in detail the operation of the handpad.

### 4.1 RXDesign HP8 Handpad



#### *Speed Selection:*

The speed slide switch selects between the programmed SLEW, JOG, and GUIDE rates using the speed set indicated by the front panel mounted "Speed" switch (1 or 2). This switch all the way up will select "SLEW" speed (highest), middle position selects "JOG", and the bottom position selects "GUIDE". This switch is not an "ON/OFF" switch!

#### *Speed Selection LED:*

When SLEW is selected the LED is the brightest, when in JOG the LED intensity is reduced. In GUIDE the LED is off.

#### *Additional Handpad functionality:*

- BSTOP:** By pressing more than 2 buttons (any) both motors will decelerate rapidly to a STOP. They will remain there for 3 seconds after which a push of a motion button (yellow buttons) will restore motion. The green slew light will be off.
- GOTO:** When depressed the ServoCAT Interface will query the DSC for the offset to the currently displayed DSC object. Then it will move to this object at a speed equal to the SLEW speed if the SPEED SELECT switch is set to the top (SLEW position) or the bottom (GUIDE) position. If the speed selection switch is set to the middle (JOG) position the GOTO speed will be 2/3 of the programmed SLEW rate.
- GOTO moves two (or three) times to the object - getting a new position after the first (and second) move to finalize the position (to eliminate errors). Also see FUNCT GOTO Disable below to disable the GOTO button.

In order to use the dual button function press and hold the FUNCTION button just before pressing the second button (per the function requirement). Release both buttons simultaneously. [The exception is the GOTO DISABLE]

LOCAL AREA SYNC: TOGGLE ACTION = FUNCTION + CCW

This function will allow an offset to be added to the currently reported DSC position allowing much greater accuracy in an area ~5-10 degrees on a side depending on alignment. For example – do a GOTO to an object in the center of Virgo, sometimes, due to mount inaccuracies, 2 star alignment inaccuracies and similar errors the object might not be in the eyepiece view. If not do a Spiral Search (see below) and stop and center the object when visible. Now do a Local Sync (note Yellow "Sync" LED comes on). From here on until you cancel the Local Sync any object that you select in the DSC Database will include this offset. This function is a toggle function indicated by the YELLOW LED. This function is also handy just to “remember” where you are! If you want to retain a position – do a Local sync. Now as long as the currently displayed SC object is there (the object itself not being relevant – only that it does not change) you will GOTO this point by hitting the GOTO button. A nice means for locking in on a star or similar object without having to find out what it is your locking on!

SLIP RETURN: FUNCTION + CW

Keeps track of the current position... if the unit "slips" this function button will allow a return to the position it had 16 seconds prior. For those public viewing parties when the scope is accidentally moved and you want to readily return the view.

SPIRAL SEARCH: FUNCTION + 1 (UP) or FUNCTION + 2 (DWN)

When trying to locate an object that is not in the field of view do a Spiral Search – this will spiral out at a constant linear velocity and a constant track width (a spiral – not a box, so it is easy to follow with the eye). By selecting the F + 1 button set the spiral is at 19 arcmins width and 10 arcmins/sec. By selecting the F + 2 button set the spiral is 30 arcmins width and 16 arcmins/sec rate. Also very handy to just “tool” around a busy area of many objects or large structures. To “stop” when an object is found simply tap any of the 4 motion buttons (yellow). If not stopped the spiral goes until it has completed 3¼ rotations (almost 1200 degrees) and covers an area up to 12 degr<sup>2</sup>. It does compensate for backlash in the system however the more backlash there is the more difficult the task of doing a true spiral is. Also note the spiral will be odd shaped in some cases due to the issues of RA/DEC vs. ALT/AZ. This is particularly noticeable at or near the zenith where the function performs more of an ellipse. In addition when using the Speed 1/2 switch set to Speed 2 you will have 2 more spiral search speed/widths to select from - these are for higher magnification and thus smaller fields.

GOTO BUTTON DISABLE: FUNCT + GOTO PUSHED SIMULTANEOUSLY and held for 1 second. Green "slew" LED blinks. This disables the GOTO button. Push both again to re-enable it.

GOTO BUTTON AS "ENTER" with Argo Navis

While using version 2.0.0 of the Argo Navis and higher the ServoCAT handpad GOTO button will be seen by the AN as an "ENTER" function during alignment. This allows one to center the alignment star and hit "ENTER" from the handpad.