



# WARRANTY INFORMATION

We sincerely thank you for your purchase and wish you years of pleasure using it!

## Tele Vue Warranty Summary

Eyepieces, Barlows, Powermates, & Paracorr have a "Lifetime Limited" warranty, telescopes & accessories are warranted for 5 years. Electronic parts are warranted for 1 year. Warranty is against defects in material or workmanship. No other warranty is expressed or implied. No returns without prior authorization. Please keep your receipts in case you need warranty service.

Lifetime Limited Warranty details online: <http://bit.ly/TVOPTLIFE>

5-Year/1-Year Warranty details online: <http://bit.ly/TVOPTLIMITED>

### Keep For Your Records

Dealer: \_\_\_\_\_ City/State/Country: \_\_\_\_\_

Date (day/month/year): \_\_\_\_/\_\_\_\_/\_\_\_\_ Item Code / Description \_\_\_\_\_

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# ENCODER INSTALLATION INSTRUCTIONS

## PARTS LIST

Altitude Encoder Assembly includes:

- (1) Altitude encoder
- (1) Delrin encoder housing

Azimuth Encoder

Delrin Azimuth encoder housing/scope stop

Main Wiring Harness (2 to 1 connector)

Pigtail Harness

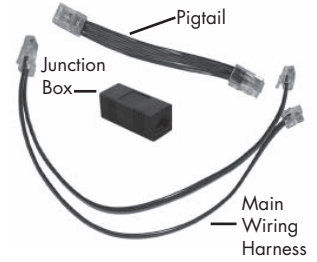
Harness Junction Box with Velcro (unattached)

Parts Bag includes:

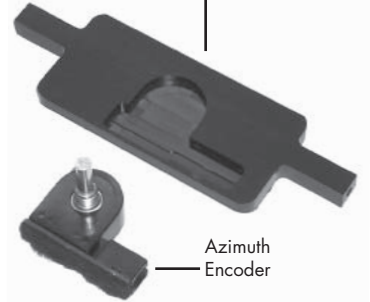
- (2) #10-32x3/8 button head screws, (1) #10-32x1-1/2" button head screw, (1) #8-32x3/8" setscrew, (1) #8-32x3/4" setscrew, (1) 5/64 Allen Key, (1) 1/8 Allen Key.



Parts not shown to scale



Delrin Azimuth encoder housing/scope stop (underside showing cutout for azimuth encoder)



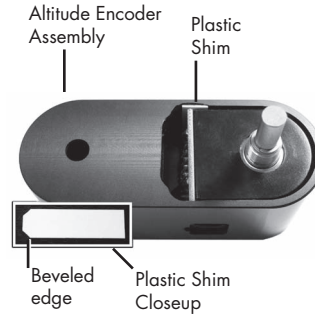
## INTRODUCTION

Thank you for purchasing the encoder kit which will allow you to connect Digital Setting Circles or a computer (DSC / Computer) to your Tele Vue mount. An additional Spacer Kit, product code STS-5002, is required for installation of the azimuth encoder onto a Gibraltar5/HD5 mount. Otherwise the kit is identical for all mounts and attaches in the same manner. The ability to add digital setting circles to these mounts adds a new level of versatility and convenience while allowing you to further your astronomical repertoire.

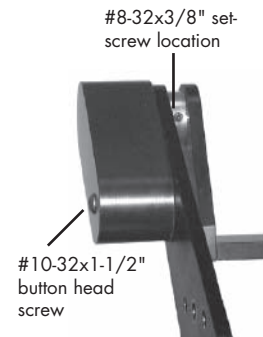
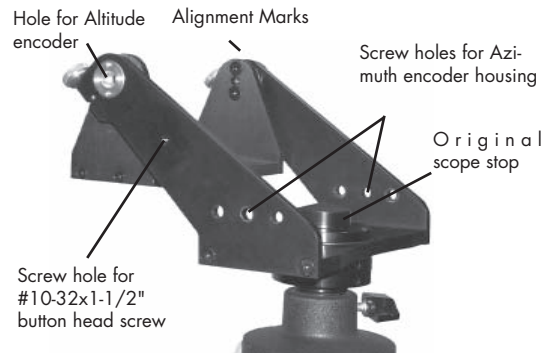
## ENCODER SET-UP

### Altitude Encoder Assembly

There should be a yellow or pink plastic shim between the edge of the altitude encoder circuit board and the inside of the encoder cover. It is needed to prevent mechanical "play" of the encoder within the cover, which would reduce the encoder's accuracy. Friction should hold it in position (shown in the photograph, right) during shipping, but if it has fallen out, reinsert it lengthwise, beveled-corners-end first.



- 1) Note alignment mark on top of left yoke arm (as seen standing behind the mount head) Leave this altitude bearing alone
- 2) Using a utility knife blade, pry the name plate off the right side altitude bearing cover (as seen standing behind the mount head). This is the opposite bearing from where the alignment marks are.
- 3) This will reveal 2 Allen key screws. Remove the screws and bearing cap with the 5/64 Allen key.
- 4) Check the threaded hole in the right-side brass altitude bearing for a set-screw. If no set-screw is found, use the #8-32x3/8" provided in the parts bag.
- 5) Make sure the plastic shim is still in place, then slip the shaft of the Altitude Encoder Assembly fully into the hole in the center of the altitude bearing.
- 6) Using the 5/64 Allen key, tighten the set-screw against the encoder shaft.
- 7) Swing the Altitude Encoder Housing so the hole aligns with the threaded hole in the Yoke Arm.
- 8) Thread the #10-32x1-1/2" button head screw into the hole to lock the Altitude Encoder Assembly in place and snug up with the 1/8 Allen key. (No need to over tighten.)



## Azimuth Encoder Assembly

9) On the Yoke, unscrew both the original Delrin Scope Stop and Azimuth Tension Knob from the center of the azimuth bearing.

10) Check the upper threaded hole in the lower azimuth bearing base for a set-screw. If no set-screw is found, use the #8-32x3/4" provided in the parts bag.

11) Connect the azimuth lead of the Main Wiring Harness to the Azimuth Encoder.

12) Press the Azimuth Encoder shaft down into the hole in the center of the azimuth bearing.

13) With the 5/64 Allen key, lock the set-screw against the az. encoder shaft.

14) Rotate the encoder so the wiring harness terminal faces the Altitude Encoder and route the remaining terminals out the back of the Yoke, under the cradle. (See photo, right.)

15) Slide the Azimuth Encoder Cover down between the Yoke Arms so that the screw holes line up with the middle of the three clearance holes in the Yoke Arms. The Azimuth Encoder Cover will fit only one way over the Azimuth Encoder: make sure the encoder is aligned properly with the recess in the cover before pressing it on. Do not force the cover onto the encoder; the encoder will have a snug fit into the cover cut-out.

If it is too difficult to achieve this alignment, remove the encoder (see the section on Removing and Reinstalling encoders), insert the encoder body into the recess in the cover and attempt to install the encoder and cover as a unit. Again, do not force the encoder. Retighten the set screw.

If Azimuth Encoder Cover is loose between the Yoke Arms, cover the face of the screw threads on each side of the Encoder Cover with clear tape and test fit it. Add more layers, evenly, to each end, if necessary. When the fit is snug, trim the excess tape and poke a hole in the tape to allow the screws to pass through.

16a) Gibraltar5/HD5 mounts: place the spacers from the STS-5002 kit between the ends of the Delrin azimuth bar and the insides of the yoke arms. Thread the 10-32x1 1/4" button head screws provided in the kit into each side to hold the Azimuth Encoder. Continue with step 16c.

16b) All other mounts: thread a 10-32x3/8 button head screw into each side to hold the Azimuth Encoder Cover in place. Continue with step 16c.

16c) Tighten button head screws with the 1/8 Allen key while pressing down on the cover.

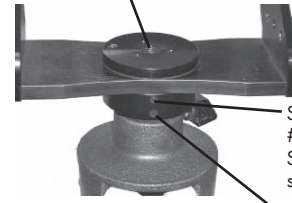
Hook a finger under one arm of the azimuth cover and pull it up (away from the base plate) while tightening its round head screw. Repeat with the other arm.

17) Connect the altitude lead of the Main Wiring Harness to the Altitude Encoder.

## REMOVING and REINSTALLING ENCODERS

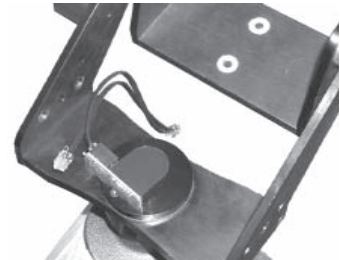
**IMPORTANT:** Once the encoders are pushed into place, they cannot be pulled out. Do NOT attempt to pull up or pry them out. They will break. Instead, they need to be tapped out from the end of the 1/4" diameter encoder shaft. Spread a towel or some other thick fabric over the work surface and any part of the head that an encoder may hit once it has been pushed free. Use an Allen key or small screwdriver as a "drift" (spacer) to tap against.

Original scope stop removed, reveals hole for Azimuth Encoder

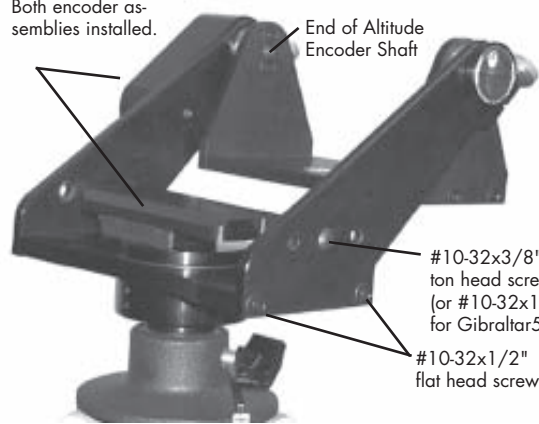


Screw hole for #8-32x3/4" set screw. Screw drops in, threads start deep within the hole.  
Screw hole for Panoramic attachment post

Azimuth encoder in position. Note how Main Wiring Harness is draped through the Yoke and Cradle



Both encoder assemblies installed.



End of Altitude Encoder Shaft

#10-32x3/8" button head screw (or #10-32x1 1/4" for Gibraltar5)  
#10-32x1/2" flat head screws

1) Remove the button head screw(s) holding the respective encoder cover in place.

2) Loosen the respective encoder shaft set-screw.

3a) Altitude Encoder - Place the drift against the end of the encoder shaft, as seen in the bottom photo on the prior page. Tap lightly with a hammer to dislodge the encoder

3b) Azimuth Encoder - The head must be removed to stick drift into the 3/8" hole in the middle of the underside of the Azimuth bearing. Follow removal instructions below.

Tele Pod mount: the Quick Release Base must be removed by loosening both the lower set screw in the bottom disc of the azimuth bearing and the small set screw in the underside of the Quick Release Base's flange, and unscrewing the base.

Panoramic mount: the attachment post must be removed by loosening the set screw and unscrewing the post until it comes off.

Gibraltar or Gibraltar5/HD5 mount: the mounting stud must be removed by loosening the lower set screw in the bottom disc of the azimuth bearing and unscrewing the stud.