



## Preface

Thank you for your purchase of a Polar Fine Adjustment Unit DX (hereafter called the PFA Unit DX).

This manual describes the functions and uses of the PFA Unit DX with the POLARIE U star tracker mainly by way of example. Use this instruction manual in conjunction with your tripod manuals and the manuals of your equipment to be attached to it.

## Contents

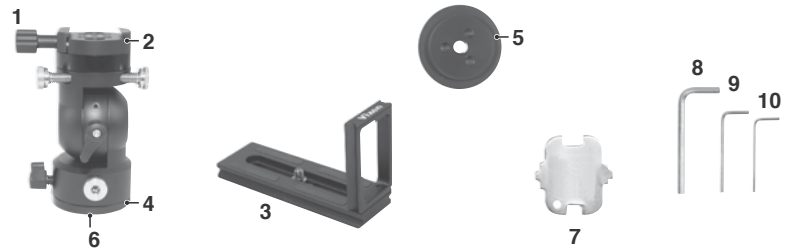
This product contains the parts listed below. Check if all the items are included.

- |  |                                 |
|--|---------------------------------|
| 1. Polar Fine Adjustment Unit DX                           | 8. 5mm Allen Wrench             |
| 2. Plate holder (Built into the mount head.)               | 9. 3mm Allen Wrench             |
| 3. Quick Release Angle Plate                               | 10. 2.5mm Allen Wrench          |
| 4. Camera Tripod Adapter (Built into the bottom.)          | 11. User's Guide (This Manual!) |
| 5. Disc Tripod Adapter for astronomical telescope's tripod |                                 |
| 6. 3/8" to 1/4" Convert Screw Adapter (Pre-installed)      |                                 |
| 7. MS Screwdriver for the Convert Screw Adapter            |                                 |

## Safety Precaution

Please be sure to read this manual carefully before using the PFA Unit DX.

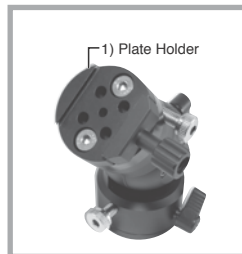
This manual will assist you in the proper use of the product to prevent possible injuries to yourself and others, as well as damage to the equipment. Keep it nearby to find quick answers to questions.



## Identification of Each Part

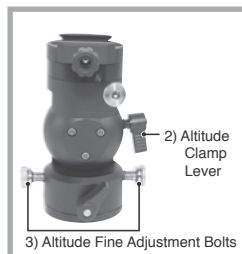
### 1) Plate Holder

The plate holder is compatible with attachment plates of the standard thin type. It fits the bottom of a POLARIE U and a Quick release angle plate also.



### 2) Altitude Clamp Lever

The mount head can be tilted freely between the elevation of 0 degree to 90 degrees by loosening the altitude clamp. It is possible to move the mount head to the opposite side by 35 degrees over 90 degrees.



### 3) Altitude Fine Adjustment Bolts

It allows you to finely move the mount head in the altitude direction by turning the altitude fine adjustment bolts.

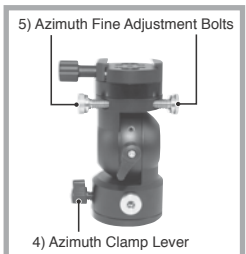
Turning one side of the fine adjustment bolts will push the mount head while loosening the other side of the fine adjustment bolt. The fine adjustment range is about +/- 7.5 degrees.

### 4) Azimuth Clamp Lever

The mount head can be turned freely 360 degrees in the azimuth direction by loosening the azimuth clamp.

### 5) Azimuth Fine Adjustment Bolts

Use the azimuth fine adjustment bolts to move the mount head in the azimuth direction. Turning one side of the fine adjustment bolt, push the pan mount head while loosening the other side of the fine adjustment bolt. The fine adjustable range is about +/- 7.5 degrees.



### 6) Camera Screw Socket

The PFA Unit DX comes equipped with the 3/8" to 1/4" thread convert adapter and is therefore attached to commercially available camera tripods with a 1/4" or 3/8" camera thread screw. Remove the covert screw adapter with the supplied MS screwdriver if you use a camera tripod with the 3/8" thread screw.

The camera tripod adapter on the bottom of the PFA Unit DX can be exchanged for the supplied disc tripod adapter that is compatible with Vixen's tripods for astronomical telescopes such as the APP-TL130, ASG-CB90, and SXG-HAL130.



### 7) Altitude Clamp Presser Adjustment Screw

The torque of the altitude clamp lever is adjusted with the supplied 2.5mm Allen wrench. Adjust the pressure of the altitude clamp according to the size or weight of the equipment installed on it.



# How to Use the Polar Fine Adjustment Unit DX

## Setting Up

The POLARIE U star tracker is shown here by way of example.

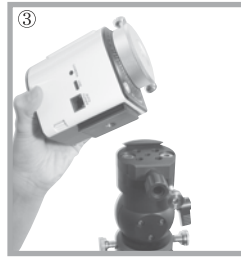
1) Attach the PFA Unit DX onto the head of your tripod as shown in the figure. Make sure that the PFA Unit DX is fixed securely.



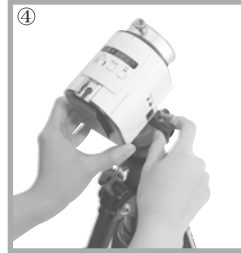
2) Loosen the lock screw on the side of the plate holder.



3) Bring the POLARIE U star tracker over the plate holder and attach it to the plate holder.



4) Make sure that the attachment base of the POLARIE U and the plate holder fits snugly. Then, tighten the lock screw securely.



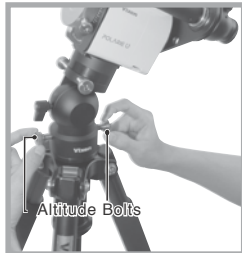
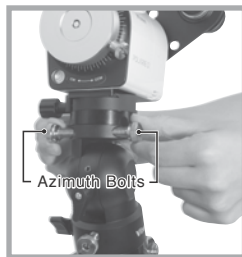
## Moving the Altitude and Azimuth Bolts Manually for Fine Adjustments

The fine adjustment bolts are used for polar alignment in your setup of the POLARIE U.

A pair of the altitude fine adjustment bolts is to adjust the elevation of the polar axis to be parallel to the Earth's axis.

A pair of the azimuth fine adjustment bolts is to adjust the direction of the polar axis to be angled to the Earth's axis.

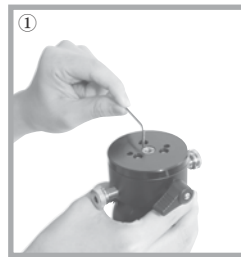
Loosening one side of the adjustment bolt will allow you to tighten the adjustment bolt on the other side to move the mount head for fine adjustments.



## Attaching the Polar Fine Adjustment Unit DX to a Vixen's tripod

### How to exchange the camera tripod adapter for the disc tripod adapter.

1) Unfasten three socket head cap screws of the camera tripod adapter on the bottom of the PFA Unit DX with the supplied 2.5mm Allen wrench.

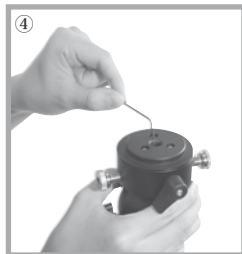


2) Take off the three socket head cap screws and remove the camera tripod adapter from the PFA Unit DX.

3) Replace with the disc tripod adapter for the astronomical telescope's tripod.



4) Fasten the disc tripod adapter securely with the three socket head cap screws that were taken off in step 2)

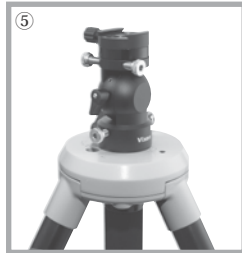


### Using an optionally available Dovetail-plate Mounting Block

Unfasten the two socket head cap screws on the plate holder of the PFA Unit DX with the supplied 5mm Allen wrench to remove the plate holder. The two socket head cap screws are M8 screws placed at an interval of 35mm. This allows for attaching the Dovetail-plate Mounting Block sold separately. With the use of it, you will be able to install a short optical tube such as the FL55SS telescope on the PFA Unit DX.



5) Now the PFA Unit DX becomes attachable to tripods for Vixen's astronomical telescopes. The APP-TL130 tripod shown by way of example.



## Specifications

Name	Polar Fine Adjustment Unit DX
Mount Head	Quick Release Plate Holder (Applicable to attachment plates of the standard thin type.)
Altitude Adjustments	0 degree to 90 degrees (Inclined by 35 degrees to the oppositeside.) Coarse adjustments range: About 110 degrees Fine adjustments range: +/- 7.5 degrees Tangent screws, about 2 degrees per rotation
Azimuth Adjustments	0 degree to 360 degrees Coarse adjustment range: 360 degrees Fine adjustment range: +/- 7.5 degrees Tangent screws, about 2 degrees per rotation
Maximum Loading Weight	About 8kg / 17.6 lbs.
Usable Tripod	Camera tripods with 1/4" or 3/8" thread screw
Applicable to	POLARIE U star tracker
Product Materials	Aluminum alloy, Stainless steel
Dimensions	59mm x 126mm x 59mm
Weight	795 g (1.75 lbs.)