

**POCKET**  
**PANO**

**REAR TILT 'N' SHIFT FRAME**

**&**

**TS-E PANORAMA HEAD**

**LENS ADAPTER AND PANORAMIC HEAD FOR PERFECT SHIFT PANORAMAS  
WITH CANON TS-E 17MM F/4L AND TS-E 24MM F/3.5L II**

**OPERATION MANUAL**



*left: Rear Tilt 'n' Shift Frame with Canon TS-E 17mm f/4L*



*right: Rear Tilt 'n' Shift Frame with Canon TS-E 17mm f/4L, mounted on the **TS-E Panorama Head***

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# About this guide

We would like to thank you for purchasing this product and hope you enjoy it!

In the following, we would like to give you some hints on the use of the **Rear Tilt 'n' Shift Frame** and the **TS-E Panorama Head** and show you which types of panoramas are feasible. In some places we give general tips and hints for stitching the pictures and what you have to consider for panoramas with shifted pictures. Our software recommendation: PTGui (for all types of panoramas) or Lightroom / Photoshop (for panoramas without combination of shift *and* rotation).

Should it ever come to a complaint, do not hesitate to contact us. We will do our best to solve the problem to your satisfaction. The contact details can be found at the end of this manual.

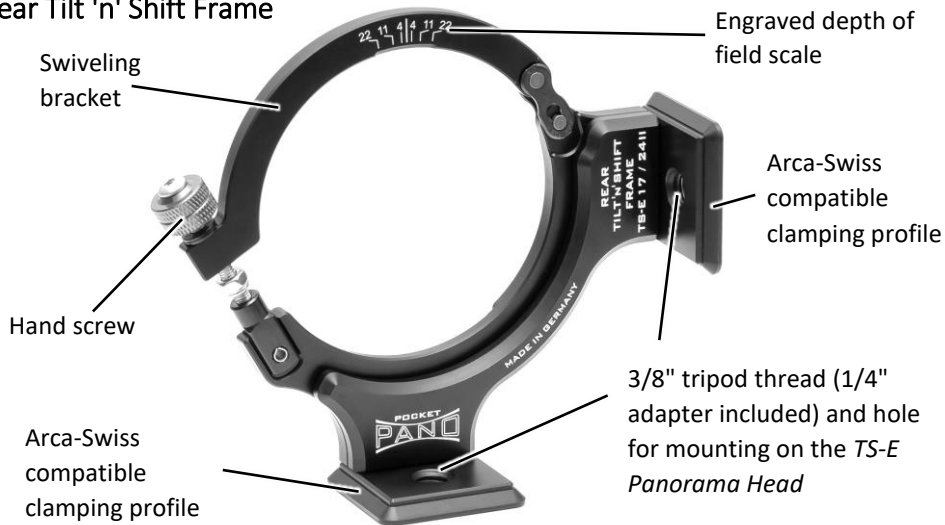
# Attention - safety instructions!

This product is only suitable for use with the intended lenses in their original condition. It is optimized for these lenses, and attempting to attach other lenses may damage the lens and/or camera, as well as the *Rear Tilt 'n' Shift Frame* and the *TS-E Panorama Head*.

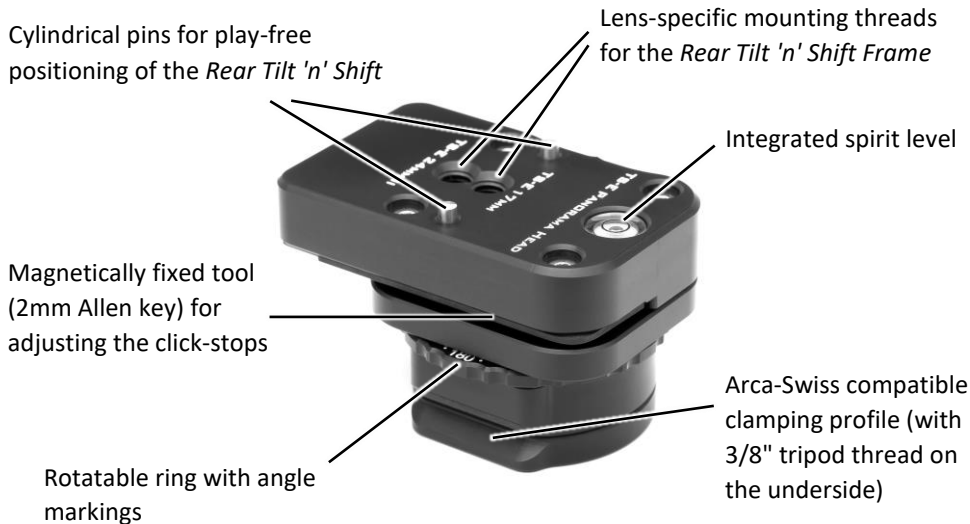
**Attention: No tools** may be used to attach the *Rear Tilt 'n' Shift Frame* to the lens. The resulting forces can be so great that the lens and/or the *Rear Tilt 'n' Shift Frame* can be damaged.

# The most important components & functions

## Rear Tilt 'n' Shift Frame



## TS-E Panorama Head



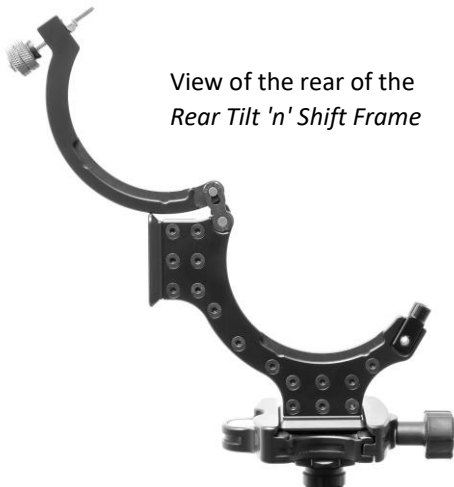
# Mounting the *Rear Tilt 'n' Shift Frame*

1. Attach the *Rear Tilt 'n' Shift Frame* to your tripod

First, you should attach the *Rear Tilt 'n' Shift Frame* to your tripod. Use either the integrated clamping profile, the 3/8" thread or the supplied reducing adapter (1/4").

Be sure to attach the *Rear Tilt 'n' Shift Frame* as shown in the illustration on the right. Only in this position the lens can be put into it.

Open the bracket as shown.



View of the rear of the  
*Rear Tilt 'n' Shift Frame*



2. Put your lens in the *Rear Tilt 'n' Shift Frame*

Place your lens in the *Rear Tilt 'n' Shift Frame* as shown. The lens adapter sits directly behind the focus ring. The lens must be aligned so that the adjustment screw for the tilt adjustment is up.



### 3. Close the *Rear Tilt 'n' Shift Frame*

Close the bracket of the Rear Tilt 'n' Shift Frame and lightly tighten the red mounting screw. Pay attention to a central seat of the lens. You can align the engraved depth of field scale on the scale of the lens.



#### 4. Tighten the hand screw

Before tightening the hand screw, make sure the lens is centered. The Rear Tilt 'n' Shift Frame is made so that it has some play in the longitudinal direction. Slide the lens a little forward, so that the focus ring does not touch the rear tilt 'n' shift frame and has a distance of about 0.5mm to it. Then you can tighten the screw **by hand** (do not use a tool!).



# Mounting the *TS-E Panorama Head*

1. Attach the *TS-E Panorama Head* to the tripod

First attach the *TS-E Panorama Head* to your tripod. Use either the integrated clamping profile, the 3/8" thread or the supplied reducing adapter (1/4").

2. Attach the *Rear Tilt 'n' Shift Frame* to the *TS-E Panorama Head*

Place the *Rear Tilt 'n' Shift Frame* on the *TS-E Panorama Head*. **No lens may be mounted!**



Use the appropriately labeled position for the TS-E 17mm f/4L and the TS-E 24mm f/3.5L II.

Tighten the *Rear Tilt 'n' Shift Frame* with the enclosed pan head screw (M6x12mm). Use the enclosed 4mm Allen key.

Then you can insert your lens in the *Rear Tilt 'n' Shift Frame* as described above.



# Adjustment of the click-stop (locking angle)

The pocketPANO *TS-E Panorama Head* has built-in and adjustable click-stops that make it easy to capture panoramas. To set a certain locking angle, certain locking elements must be "activated". This "activation" is done by turning submerged screw elements, which are marked with a white circle and the number of degrees. To **activate** a locking element, it must be turned **counterclockwise** until a stop is felt. Use the enclosed 2mm Allen key and insert the **long** leg into the opening of the corresponding locking element. To **deactivate** a locking element, turn it **clockwise** until a stop is felt.

**Never use too much force** and stop when you feel a resistance.



**Basic rule:** To set a particular locking angle, **all** click-stop elements must be **activated** which have the desired angle label. **All other** locking elements must be **deactivated**.

**example:** If you want to set a locking angle of 20° on the rotator, activate all click-stop elements (screw to the left) which have the marking "20°" (3 pieces). All other click-stop elements must be deactivated (screw to the right).

The angle between the individual images should be adjusted so that an overlap of identical image areas of approx. 30% - 50% results. The following table gives an overview of meaningful locking angles:

	<b>Camera in portrait mode</b>	<b>Camera in landscape mode</b>
<b>TS-E 17mm f/4L</b>	<b>3x15° OR 2x20°</b>	<b>60°</b>
<b>TS-E 24mm f/3.5L II</b>	<b>30°</b>	<b>3x15° OR 2x20°</b>

**Note:** "3x15°" means that the rotator is set to 15° locking angle and a picture is taken every **3rd** click (resulting in 45° angle).

# Vertical & horizontal Shift-Panoramas

The pocketPANO *Rear Tilt 'n' Shift Frame* can be used to easily create shift panoramas. With "shift panoramas" panoramas are meant that arise from images of differently shifted positions of the camera and in which the lens was not additionally rotated around the nodal point. The pocketPANO *TS-E Panorama Head* is not necessary.

When creating shift panoramas with the *Rear Tilt 'n' Shift Frame*, the lens and its image circle remain fixed in place. The camera is moved by the shift adjustment of the lens to different positions of the image circle, where then a photo is created. These photos simply show different sections of one and the same picture (picture circle), which can easily be combined to form a large picture (panorama) on the PC. Since the individual photos are only parts of a fixed image, there is no parallax error. The merging of the shifted images succeeds in a simple way, e.g. with the integrated panorama function of Lightroom or Photoshop. When using professional panorama



software (eg PTGui), make sure that the software is informed that these are images of a shift lens and therefore the shift of the image circle center is different for each image (in PTGui under "Lens Settings" → option "Use individual Parameters for:" → checkmark for "Shift" for each image).

When shooting shift panoramas, the direction of the shift and the orientation of the camera can be adjusted to the subject. All combinations of vertical and horizontal shifting as well as portrait and landscape orientation can be realized.

**Tip:** If you shift along the long side of the image (for example, moving sideways and the camera in landscape orientation), 2 images are usually sufficient for one panorama (one on the far left, one on the far right). If the shift occurs along the short side of the image (for example, moving sideways and the camera in portrait orientation), 3 photos are required (left, center, right).

# Panoramas with Shift & Rotation

With the help of the pocketPANO *TS-E Panorama Head* it is possible to create panoramas by turning the lens around the nodal point. The mounting points for the *Rear Tilt 'n' Shift Frame* are exactly matched to the supported lenses and therefore nothing has to be set (except the desired locking angle). By turning around the nodal point, panoramas can be taken with an arbitrarily large horizontal angle of view.

## **With rotation and without shifting the lens:**

When creating panorama with rotation around the nodal point and lens in the *middle* position (no shift), the individual shots can be combined "normally" with any panorama software. Simple panorama functions such as those provided by Lightroom or Photoshop are also suitable for this purpose. Our recommendation is still PTGui with manual adjustment options for difficult subjects.

### **With rotation and with shifting the lens:**

In order to exploit the full potential of the TS-E lenses, in addition to rotation using the *TS-E Panorama Head*, the displacement of the lens can also be used simultaneously. Only the shift in the vertical direction makes sense (up or down).

Also possible are panoramas with several "rows", i.e. several images with different angles of rotation while the lens is shifted in one direction; then a second row with the same angles of rotation but different shift.

**Note:** The composition of these rotated **and** shifted images requires a professional panorama software (for example PTGui). This must be able to work with differently shifted single pictures. (in PTGui under "Lens Settings" → option "Use individual Parameters for:" → checkmark for "Shift" for each image)

# Cleaning & Care

The pocketPANO *Rear Tilt 'n' Shift Frame* and the *TS-E Panorama Head* need no maintenance.

If you want to clean the *Rear Tilt 'n' Shift Frame* or the *TS-E Panorama Head*, we recommend a damp (not wet) cloth. Please do not use solvents for cleaning; this can damage the lacquer of the engraving.

If you like, you can treat the *Rear Tilt 'n' Shift Frame* and the *TS-E Panorama Head* with normal plastic or cockpit care. This gives the adapters a strong black color.

When using it, make sure that the *TS-E Panorama Head* is not exposed to moisture for a long time. Although almost all metallic parts of the adapter are made of stainless steel or rust-resistant material, this is not possible with all components (e.g., the needle bearings). After use in humid weather, you should thoroughly dry the nodal point adapter.

If you ever have a problem with your pocketPANO product, there is nothing to worry about: Almost all parts are standard parts, thus permanently available and easily replaceable. If necessary, just contact us, we can help you!

Should it ever come to a complaint or other clarification needs, do not hesitate to contact us. We will do our best to solve the problem to your satisfaction! The contact details can be found at the end of this manual or at [www.pocketpano.de/about/](http://www.pocketpano.de/about/) .

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Space for your own notes



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