



Panoramic, cubic & spherical VR photography: It's time to broaden your horizons!

Since the inception of photography over 150 years ago, photographers have continuously sought better ways to bring realism and a sense of intimacy to their viewers. While panoramic photography has been with us for almost 80 years, recent imaging technologies and software have taken the panorama to yet another level, allowing capture of complete 360° x 360° cubic and spherical views of the scenes we photograph, along with the ability to display them in powerfully immerse environments. Cubic and spherical panoramas expand upon the traditional flat or cylindrical panorama. They allow for documentation of the complete environment around you and provide a way to virtually immerse your audience into your vision. They even offer a new means of artistic expression. Natural spaces and architectural projects can be accurately and interactively visualized by audiences who may never actually visit these locations in person. Virtual reality (VR) panoramas and object movies provide superior means to entertain, educate and inform, as well as to market and sell commercial products. Manfrotto's new 303SPH head allows photography of multi-row cubic, spherical and cylindrical panoramas, along with VR object movie sequences. It is the latest addition to Manfrotto's celebrated family of pan heads, tripods and camera supports that will change the way you photograph your world.



OBJECT PANORAMA

Use the 300N base as a turntable to spin a 3D object through sequential constant angle movements in front of your camera until a 360° cycle has been completed. Superimpose the images in the correct order using your chosen software to allow viewers to see the object from all angles.



SPHERICAL PANORAMA

Use the 303, 303PLUS or 303SPH head plus a 185° fisheye lens. Take two photos at 180° to each other, then stitch them together to create a 360° x 360° spherical panorama.



CYLINDRICAL PANORAMA

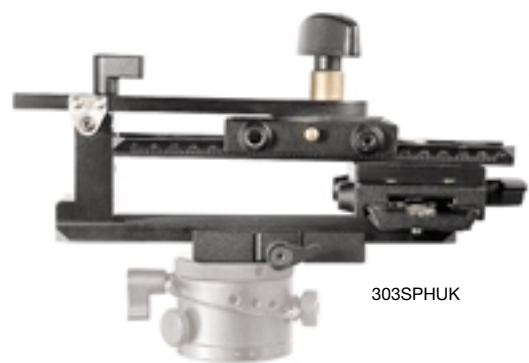
Use the 303, 303PLUS or 303SPH head to spin your camera around its nodal point through a longitudinal sequence of constant angle shots on the same level which can be stitched together (basically... placed edge to edge) using your chosen software to create a single row "cylindrical" panorama.



MULTI-ROW / CUBIC PANORAMA

Use the 303SPH to spin your camera around its nodal point through both latitudinal and longitudinal sequences of constant angle shots which can then be stitched together and composite to create a multi-row "cubic" 360° x 360° panorama.

VR Heads



MULTI ROW PAN HEAD 303SPH



The 303SPH is a multi-row panoramic photography head. It has sliding plates to locate the camera over the panoramic axis of rotation, plus a sliding plate which rotates around the front/back tilt axis. This allows the camera to be rotated on both horizontal and vertical axes around the camera/lens nodal point, so multi-row panoramic photo sequences (cubic VR photos) can be taken accurately and easily. Using the 303SPH ensures that software used for photo stitching produces a precisely composed VR environment with minimum post-production intervention or software correction. All plates and rotation index guides on the 303SPH have clear markings to allow easy repositioning of the camera once nodal point position has been identified and noted down. The 303SPH's vertical bracket can be unlocked and rotated through 90° (then re-locked) so that the head takes up less space in transport, and so that the sliding plate mechanisms are protected against knocks and bumps. The 303SPH comes complete with an extra set of sliding plates for use with cameras of different sizes.

303SPH Features:

- Three sliding plates for precise nodal point positioning on all planes/axes.
- Short plates included for more convenient use with compact cameras.
- Long plates included for use with larger SLR or medium format cameras.
- Camera attachment via 1/4" and 3/8" male screw.
- 3/8" female tripod fitting.
- Dual graduated scale to set the angle of rotation to any of the following: 90°, 60°, 45°, 36°, 30°, 24°, 20°, 15°, 10°, 5° (respectively equivalent to 4, 6, 8, 10, 12, 15, 18, 24, 36 or 72 photos to achieve a full 360° rotation) on upper part of 300N rotation unit.
- Graduated scale from 0° to 360° on lower part of 300N rotation unit.
- By removing vertical brackets, the 303SPH can also be used as an object turntable.
- Vertical bracket folds down and removes for compact size during transport.

APPLICATION

"Multi-Row" cubic Panorama



UPGRADE KIT: CONVERTS 302 INTO 303SPH HEAD 303SPHUK

The 303SPHUK upgrade kit is essentially a 303SPH head without the 300N PAN ROTATION UNIT or the plate attachment that locks onto the 300N; by using these components from the old model 302 head, photographers can use their existing pan head as a basis to build a 303SPH-like product. Remember however that the 300N rotation unit has been improved compared to that supplied with the original 302 family.



PRECISION PAN HEAD 303PLUS



31.3cm



2.2kg



5kg

The 303PLUS advanced panoramic photography head is built around the 300N pan rotation unit, with sliding plates for nodal point positioning and an elbow bracket to allow the camera to be mounted in either portrait or landscape orientation. It incorporates precise geared movements of the two sliding plates used to locate the camera over the panoramic axis of rotation, adding greater accuracy to nodal point positioning. The micro-positioning plates provide extremely precise fingertip adjustment via a gear drive system; a release button disengages the gear drive to facilitate rapid movement of the plates when required. The plates are also longer than those of the 303 head, which helps to make this head suitable for use with larger traditional or digital SLR cameras equipped with standard or wide angle lenses, or for medium format cameras.

303PLUS Features:

- Double micro positioning sliding plates - 180mm long with 120mm of adjustment for precise nodal point positioning.
- Convenient quick release elbow bracket with 1/4" and 3/8" male screw for camera attachment.
- 3/8" female tripod fitting.
- Dual graduated scale to set the angle of rotation to any of the following: 90°, 60°, 45°, 36°, 30°, 24°, 20°, 15°, 10°, 5° (respectively equivalent to 4, 6, 8, 10, 12, 15, 18, 24, 36 or 72 photos to achieve a full 360° rotation) on upper part of 300N rotation unit.
- Graduated scale from 0° to 360° on lower part of 300N rotation unit.
- By removing vertical brackets, the 303PLUS can also be used as an object turntable.

APPLICATION

Precision cylindric Panorama



VR Heads



PAN HEAD 303



31.3cm



1.65kg



5kg

The 303 pan head permits the photographer to take sequential constant-angle shots around a single axis with his or her camera either in portrait or landscape position, and with the nodal point of the camera/lens in line with the centre of panoramic rotation to ensure that parallax effects do not cause problems during image stitching. It is built around (and includes) the 300N panoramic unit, adding a system of sliding horizontal and vertical plates for accurate positioning of the camera nodal point. The plates have engraved index rules to make subsequent repositioning easier. The included quick release elbow bracket lets the photographer use the portrait orientation of the camera gaining vertical field.

The system is suitable for most 35mm SLR still and digital stills cameras using wide-angle or standard lenses.

303 Features:

- Double sliding plate with 80mm of adjustment for precise nodal point positioning.
- Convenient quick release elbow bracket with 1/4" and 3/8" male screw for camera attachment.
- 3/8" female tripod fitting.
- Dual graduated scale to set the angle of rotation to any of the following: 90°, 60°, 45°, 36°, 30°, 24°, 20°, 15°, 10°, 5° (respectively equivalent to 4, 6, 8, 10, 12, 15, 18, 24, 36 or 72 photos to achieve a full 360° rotation) on upper part of 300N rotation unit.
- Graduated scale from 0° to 360° on lower part of 300N rotation unit.
- By removing vertical brackets, the 303 can also be used as an object turntable.

APPLICATION

Cylindric Panorama





PAN ROTATION UNIT 300N



6.3cm



0.52kg



14kg

The 300N panoramic rotation unit allows the photographer to take sequential constant-angle shots around a single axis, an essential part of achieving accurate and easy-to-stitch panoramic compositions. The set positions of the 300N give ample choice of rotation angle and so of number of photos needed to complete a 360° pan and cover the most common requests of panoramic photographers depending on the camera/lens equipment used.

To make angle selection easier, a “click-stop” selector screw is included and attached to a safety cable to prevent it from being separated from the head and getting lost. The 300N also comes complete with a secondary locking screw which stops unwanted or accidental rotation of the head when heavy or off-centre equipment makes it less balanced or when the head is used for non-horizontal rotation.

The 300N can also be used as a turntable base for object panoramas, or as a means of reading the angle of rotation of camera pan movements in a range of photography. A camera can be mounted on the panoramic unit by adding one of a range of quick release, sliding or fixed plates or a conventional geared, ball or 3-way head.

300N Features:

- Upper dual graduated scale to set the angle of rotation to any of the following: 90°, 60°, 45°, 36°, 30°, 24°, 20°, 15°, 10°, 5° (respectively equivalent to 4, 6, 8, 10, 12, 15, 18, 24, 36 or 72 photos to achieve a full 360° rotation based on 35mm film frames or 24x36mm CCD).
- Lower graduated scale from 0° to 360°.
- 3/8" female tripod fitting; 3/8" male screw head or plate fitting.



LEVELLING BASE 338



4cm



0.53kg



15kg

The 338 is fitted between tripod and head and is used in combination with tripods that don't have built-in levelling mechanisms. Its three adjustment dials enable the operator to make fine, finger tip adjustments up to +/- 5 degrees to ensure the camera is perfectly level. The dials also have locking rings to ensure stability once the right position is reached. A spirit level is built in for reference. The base has a 3/8" female tripod fitting and a 3/8" male head fitting.



BASIC PANORAMIC HEAD ADAPTER 627

Basic panoramic adapter that can be mounted on top of a head, monopod, or tripod. The adapter camera platform has a graduated scale in millimeters to set the camera position during different shooting sequences and a dual 1/4" and 3/8" camera fixing screw. This accessory can be connected to a head, monopod, or tripod by a 3/8" female attachment.

APPLICATION

Quick Panorama



APPLICATION

Object Panorama base



BALL CAMERA LEVeller 438



5cm



0.65kg



15kg

The 438 is fitted between tripod and head and provides easy, fast levelling for tripods without built-in levelling mechanisms. Its range of movement is 10°.



HOT SHOE TWO AXIS BUBBLE LEVEL 337

The 337 is a double axis spirit level that mounts to the hot shoe of any standard 35mm SLR camera to help you achieve a finer degree of accuracy and consistency in panoramic photo sequences.