



Ballhead User's Guide



Models GV2 and Ultimate II

Important

*Please read all instructions
before installing your new ballhead.*

Contents

Parts of Your Ballhead	1	Using Your Ballhead	8
<i>Quick-Release Clamp</i>	1	<i>Attaching Your Camera</i>	8
Plate Compatibility	1	Clearance	9
Quick-Release Knob	1	<i>Using the Controls</i>	9
Quick-Release Clamp Removal	2	Locking the Ball	9
Detent Pin	2	Ball Tension	9
<i>Ball</i>	2	Panning	10
Construction	2	Panoramas	10
Ball Stem	3	Removing Your Camera	10
<i>Ball Clamp</i>	3	<i>GV2 Ballhead Gimbal Feature 11</i>	
Ball Ring	3	Advantages	11
Ball Lock Knob	3	Using the Gimbal Feature	11
Ball Tension Knob	4	<i>Important Tips</i>	12
GV2 Drop-Notch	4	Test Your Setup	12
Ultimate II Ball Clamp	4	Prevent Damage	12
<i>Panning Base</i>	4	<i>Caring for Your Ballhead</i>	12
Pan Knob	4	Cleaning	12
Panning Scale	5	Storage	12
<i>Tripod Mount</i>	5	Ball Maintenance	12
<i>Installing Your Ballhead</i>	6	Knobs	12
<i>Before Installing</i>	6	<i>Support</i>	13
Tripod Stud Thread	6	<i>Warranty</i>	13
Tripod Stud Height	6	<i>Customer Support</i>	13
<i>Installing</i>	7	<i>Repairs</i>	13
<i>After Installing</i>	7	<i>Specifications</i>	14
Check the Installation	7	<i>Contact Information</i>	15

Welcome

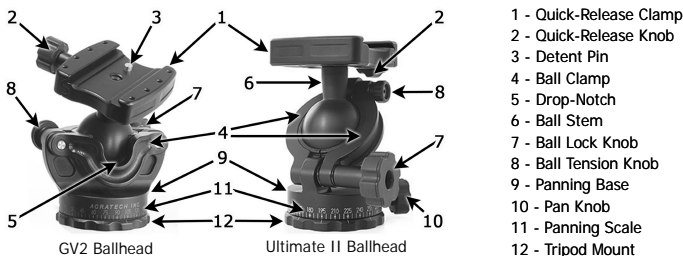
Thank you for choosing an
Acratech ballhead.

Acratech offers a full line of quality, precision machined camera supports and accessories to serious photographers like you.

We provide products, service, and innovation second to none. You can depend on us to help you get those perfect shots.

As fellow photographers, we value your input. We are always interested in improving our products and service.

Parts of Your Ballhead



Quick-Release Clamp

Plate Compatibility

- Your ballhead uses a standard Arca-Swiss type dovetail Quick-Release Clamp. This makes it compatible with camera and accessory quick-release plates from various manufacturers like Arca-Swiss, Foba, Giotto's, Kirk, Markins, Novoflex, Really Right Stuff, Wimberley, and others – as well as the many precision-made, lightweight plates and accessories available from Acratech.
- A quick-release plate is not supplied with the ballhead.

Quick-Release Knob

- This knob tightens the Quick-Release Clamp to hold your camera's quick-release plate.
- The rubber knob has a "Double-Speed" thread. The double-speed thread allows the clamp to go from fully opened to fully closed in only one full turn of the knob (twice as fast as a standard thread).

Quick-Release Clamp Removal

- The Quick-Release Clamp is permanently attached to the Ball Stem at the factory. We have found that using the proper torque on the screw that connects the clamp provides a much more rigid connection and minimizes flex. We also add a drop of Loctite to make sure they stay together.
- If you want to be able to remove the clamp, you may order the ballhead with a loose clamp.

Detent Pin

- The Detent Pin is a spring-loaded brass pin that keeps the plate (and whatever equipment is attached to it) from accidentally sliding out of the clamp when the Quick-Release Knob is partially loosened. This rarely ever really happens, but many people like the security of knowing it can't.
- The Detent Pin works with quick-release plates that have a groove, or pocket (hollow), on the underside, like those from Acratech, Kirk, Markins, Really Right Stuff, and others.

Ball

Construction

- The ball is precision machined from aircraft aluminum for light weight, and smooth, even operation.
- On the GV2 ballhead, the ball has a metal pin at the bottom to allow it to rotate more freely when the Gimbal Feature is used.
- There is no need to lubricate the ball. See "Caring for Your Ballhead," on page 12.

Ball Stem

- The Ball Stem has a 3/8-16 threaded hole through its center.
- A 3/8-16 threaded stud holds the Quick-Release Clamp to the Ball Stem.
- If you purchased your ballhead without a Quick-Release Clamp, a 3/8-16 threaded stud is included.
- The Ball Stem on the GV2 ballhead has a Delrin sleeve over it to help it rotate smoothly in the Drop-Notch, and prevent wear when using the Gimbal Feature.

Ball Clamp

Ball Ring

- Located around the inside of the Ball Clamp, the Ball Ring is the only part of the ballhead that touches the ball.
- The Ball Ring is precision machined from Delrin, a low-friction, moisture-resistant, self-lubricating, extremely durable material, especially well-suited to this purpose.

Ball Lock Knob

- This knob locks the position of the ball to hold the position of the camera when you take a shot.
- When loosened, you may tilt and turn the camera up, down, left, and right.

Ball Tension Knob

- The Ball Tension Knob is used to adjust the amount of tension or “drag” on the ball when the Ball Lock Knob is fully loosened.
- This knurled metal knob is sized and shaped differently than the other knobs so that you can easily identify it by touch.

GV2 Drop-Notch

- The Drop-Notch is only on the GV2 model.
- It allows you to quickly drop the camera 90° to one side.
- The Drop-Notch is also used for the Gimbal Feature.

Ultimate II Ball Clamp

- This innovative, unique slanted clamp is only on the Ultimate II and the original Ultimate models.
- The Ball Clamp is mounted at 45°, and provides full access to 25% of the ball at any one time.

Panning Base

Pan Knob

- When tightened, this knob locks the position of the panning base.
- When the knob is loosened, the ballhead can rotate horizontally.

Panning Scale

- On the side of the Panning Base, the laser-engraved, calibrated scale allows you to make measured adjustments for panoramic photography.
- This 360° scale has lines every 5°, and is numbered every 15°.
- The index marks for the scale are on the side of the ballhead's Tripod Mount.
- There is a section of 1° marks on the Tripod Mount for making fine adjustments.

Tripod Mount

- The Tripod Mount is on the bottom of the ballhead. It has a standard 3/8-16 threaded hole in its center.
- The Tripod Mount can attach to the top of any standard tripod that has a 3/8-16 or 1/4-20 threaded stud.
- For tripods with a 1/4-20 stud, a 3/8-16 to 1/4-20 adapter (brass reducer bushing) is included with your ballhead.
- The Tripod Mount's large knob-like shape makes it easier to grip the ballhead when tightening it onto the tripod.

Installing Your Ballhead

Before Installing

Tripod Stud Thread

- You can use your ballhead with a tripod that uses a standard 3/8-16 threaded stud, or the smaller 1/4-20 threaded stud.
- If the diameter of the tripod's stud is too small to fit the thread in the ballhead's mounting hole, see if you can invert the stud to provide a 3/8-16 thread.
- If the tripod only has the smaller 1/4-20 stud, you can use the reducer bushing provided with the ballhead. Use a thin coin to hand-tighten the bushing into the bottom of the ballhead's Tripod Mount.

Tripod Stud Height

- Measure how far your tripod's threaded mounting stud protrudes above the tripod platform.
- The stud should protrude **at least 1/4-inch (6mm)** to provide enough thread surface to hold the ballhead securely to the tripod.
- The stud must also protrude **no more than 3/8-inch (9.5mm)**, or it may contact the panning base and damage it, or restrict its movement.
- If it is too short or too long, you must adjust it, or replace it with a stud of the correct length.

Installing

1. Being careful not to cross-thread, slowly screw the ballhead onto the tripod stud. It should turn freely until the ballhead and tripod platform touch. If not, you may have cross-threaded it, so check the threads for damage before continuing. You can call or e-mail us if you need assistance. See page 15 for contact information.
2. Tighten the ballhead onto the tripod “firmly hand tight.” Ensure the ballhead is tight enough not to loosen during use.

After Installing

Check the Installation

- Ensure that your ballhead is not interfering with, or binding on any part of your tripod.
- If you have any problems, please call or e-mail us. See page 15 for contact information.

Using Your Ballhead

Attaching Your Camera

1. Attach an Arca-Swiss type quick-release plate to your camera or telephoto lens.
2. Use the Ball Lock Knob to lock the ball in a position so that the ballhead's Quick-Release Clamp is horizontal (Ball Stem pointing up). See Notes, below.
4. Loosen the Quick-Release Knob all the way.
5. Insert the camera or lens plate into the Quick-Release Clamp.
6. Tighten the Quick-Release Knob.
7. Before removing your hands from the camera, make sure its plate is securely attached to the Quick-Release Clamp.

Notes:

- If the plate will be oriented front-to-rear, position the Quick-Release Knob on the side opposite the Ball Lock Knob. This will prevent the two knobs from interfering with each other, and will help you tell them apart.
- On the GV2 ballhead, some plates, like our #2149 (Pentax 6X7) and #2150 (Mamiya RB, RZ, 645) require that you position the Quick-Release Knob on the same side as the Ball Lock Knob if you are going to be using the Drop-Notch.

Clearance

- Carefully check that there is no interference or binding on any part of the tripod, ballhead, camera, or accessories.
- Make sure that you can operate all camera, tripod, and ballhead controls without interference, and without pinching your hands or fingers.
- If any interference or binding occurs, call or e-mail us before continuing. See page 15 for contact information.

Using the Controls

Locking the Ball

- Use the Ball Lock Knob to lock the position of the ball after you have positioned the camera for a shot.
- Loosen the knob when you want to reposition the camera.
- Always have a firm grasp on your camera before loosening the Ball Lock Knob.

Ball Tension

- To adjust the ball tension, first loosen the Ball Lock Knob completely, then adjust the Ball Tension Knob to your personal preference.
- Always have at least a slight amount of tension on the ball.
- Many photographers adjust the Ball Tension Knob tightly enough to keep their camera from flopping over when they let go of it, but loose enough to allow them to position it for a shot.

Panning

- You can use the panning feature of your ballhead to change the horizontal orientation of the ballhead (rotate it left and right) without affecting the vertical orientation.
- Loosen the Pan Knob to pan, then tighten it once the camera is in the desired position.

Panoramas

- A tripod and a head with a calibrated Panning Scale are essential for serious panoramic photography. Several overlapping photos are taken on the same horizontal plane, then stitched together to form one wide image.
- You'll need to calculate the amount of horizontal rotation in degrees required by your particular camera and lens for each frame. For each shot, use the degree markings on the ballhead's calibrated Panning Scale to set the position, then tighten the Pan Knob.

Removing Your Camera

- To remove your camera from the ballhead, first grasp your camera firmly in one hand, then with the other hand loosen the Quick-Release Knob.
- Whenever using a Quick-Release Clamp with a Detent Pin, you must loosen the Quick-Release Knob all the way, then lift the plate up out of the clamp, rather than sliding it sideways to remove it.

GV2 Ballhead Gimbal Feature

Advantages

- Gimbal heads are desirable when shooting with telephoto lenses, especially when following moving objects. But, it is not always convenient to carry a bulky, dedicated gimbal head into the field, or when travelling.
- The GV2 ballhead provides the functionality of a gimbal head, while maintaining all the features, convenience, and reliability of a high-end ballhead, in one lightweight, compact package.

Using the Gimbal Feature

1. While firmly grasping your camera, fully loosen the Ball Lock Knob.
2. Rotate the Ball Stem into the Drop-Notch.
3. Adjust the Ball Tension Knob for the desired amount of tension (or “drag”).
4. Adjust the front-to-rear position of the quick-release plate to balance the camera and lens. The camera now rotates vertically, very freely.
5. Check the balance of the tripod, and make leg or counter-weight adjustments to ensure it won't fall over due to the weight of the camera and lens being shifted to the side.
6. If desired, loosen the Pan Knob to also allow horizontal rotation of the camera while shooting.
7. Check that the movement of the camera will not cause collisions with the tripod.

Important Tips

Test Your Setup

You should do this every time you put any camera on any tripod. Grasp the camera and move it left, right, up, down, and diagonally to ensure everything is tight and secure before removing your hands from the camera.

Prevent Damage

To prevent damage to your equipment, we recommend that you do not carry your tripod with your camera attached to it.

Caring for Your Ballhead

Cleaning

Keep your ballhead clean and free from debris. Use a cloth dampened with water or isopropyl alcohol. Call or e-mail us if you have an extreme cleaning problem.

Storage

When storing your ballhead for long periods, leave the Ball Lock and Ball Tension Knobs tight enough to keep the ball from moving around, and the other knobs loose.

Ball Maintenance

Do not use oil or WD-40 on the ball. Doing so may reduce the amount of weight the ballhead can reliably support at an angle without slipping, and will collect dust and debris.

Knobs

Do not try to remove the knobs or loosen them past the point where you feel resistance. The knobs have a safety stop to ensure they will not vibrate loose or fall off.

Support

Acratech prides itself in providing the best customer and product support in the industry.

Warranty

10-YEAR WARRANTY

Acratech fully guarantees its products for ten years to the original purchaser. This covers all manufacturing and material defects.

Customer Support

- Our website, acratechusa.com, has a Frequently Asked Questions (FAQ) area where you may find answers to your questions. If not, please contact us.
- If you have any comments, suggestions or complaints, we'd love to hear them.
- If you have a question about your equipment, or a pre-sales question, or just need some information or advice, don't hesitate to contact us by phone or e-mail.

Repairs

- If your ballhead or any other Acratech product ever needs service or repair, please call or e-mail us first, then send it directly to Acratech.
- Please do not return the product to your dealer. That would delay the repairs.

Specifications

Acratech Ballheads

Model	GV2	Ultimate II
Ball Diameter	1.50 in (38 mm)	
Base Diameter	2.38 in (61 mm)	
Height (with Quick-Release Clamp)	4.25 in (108 mm)	4.10 in (104 mm)
Weight (with Quick-Release Clamp)	0.99 lb (450 g)	
Rated Load Capacity	Over 25 lb (11.33 kg)	
Clamp Mount	3/8-16 thread, male or female (stud included)	
Accepts Third-Party Clamps	Yes (may be purchased without a clamp)	
Quick-Release Clamp	Arca-Swiss type, 3/8-16 threaded hole	
Safety Detent Pin	Yes	
Double-Speed Thread	Yes	
Separate Tension Control	Yes	
Separate Pan Lock Control	Yes	
Right-Side Controls	No	Yes
Rubber Knobs	Yes	
Gimbal Feature	Yes	No
Drop-Notch	Yes	No
Unique Angled Ball Clamp	No	Yes
Calibrated Panning Scale	360°, 5° lines, numbered every 15°, 1° marks on index, laser engraved	
Tripod Mount	3/8-16 thread, female (1/4-20 reducer bushing included)	
Base, Frame, Clamp, and Ball Material	CNC (Computer Numeric Control) machined 6061 T-6 aluminum	
Finish	Satin anodized	
Bearing Surfaces	Delrin	
Warranty	10 years	
Made In	USA	

Specifications are subject to change without notice.

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Parts

Installing

Using

Support

Specs

Contact

ACRATECH INC.
Quality Precision Products