



# PROAIM Jr. Pan-Tilt Head with 12V Joystick Control User Manual

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# PROAIM

Jr. Pan-Tilt Head  
with 12V Joystick Control (PT-JR)  
Assembly Manual



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## What's In The Box

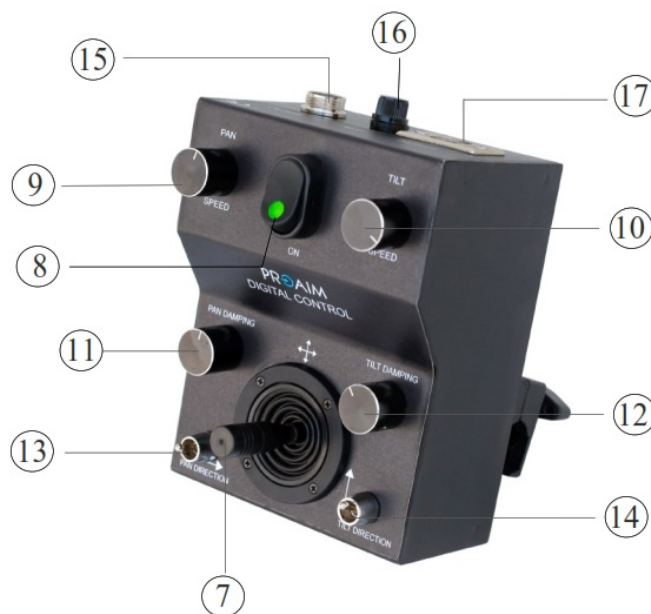
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## Parts of Pan-Tilt Head



1. Gear for Tilting Movement
2. Gear for Panning Movement
3. 12V Motor for Panning Movement
4. 12V Motor for Tilting Movement
5. Adjustable Camera Platform
6. Base Platform for Tripod/Jib Mounting
7. Joystick for Pan/Tilt Movement
8. On/Off Switch
9. Pan Speed
10. Tilt Speed
11. Pan Damping
12. Tilt Damping
13. Pan Direction
14. Tilt Direction
15. 4-Pin Power out to Head
16. Fuse Holder
17. 12/24V DC Input – 4 Pin XLR

## Pan Tilt Head Setup

- Attach Jr. Pan Tilt Head with jib Mounting Plate. Align screw holes and tighten precisely to secure the head.



## Attaching Joystick Controller

The Pan Tilt Head circuitry is built entirely into the Joystick Controller. The only requirement is AC adapter (Included) or Battery Power (Not included). The AC adapter can handle 100-240 volts. Users will need the appropriate plug adapter for local use.



- Install 12 volt AC adapter (4 pin XLR) in the socket of Joystick Box.

**NOTE:** Any 12-volt battery may operate this Pan Tilt Head as long as the Connector and the #1 Negative pin & #4 Positive pin of Cable meet together.

**CAUTION:** Do not use an unregulated power supply! If using a regulated power supply, it must produce less than 12 volts. More than 24 volts may cause permanent damage.



- Attach 4-pin Power Cable with Joystick Controller. Then attach other cables of the motors with a long cable.
- Attach the 4-pin male connector of Cable to the 4-pin female connector of Head for Panning & Tilting.  
**NOTE:** If the Joystick Control is opposite, undo the connectors of motors, rotate 180° and re-install.
- Attach & secure your camera on the camera platform of Head with the help of provided chucknut.



## Functioning of Joystick Controller

The Joystick is a 2-Axis Variable Speed Servo Controller. The further you move in one direction, the faster the output to that motor. This will be a little tricky at first, but little practice will improve your success. The joystick may be operated in a handheld position or from a flat surface such as a tabletop, or attached to the boom arm of Jib.

**NOTE:** After plugging the power cord into a proper outlet, press 'Power On'. The LED light on the control box should illuminate and the head may jump slightly on start-up or shut down. This is normal. This can be controlled by Dead Spot. Adjust the Joystick to ensure correct movement of the head. It may be necessary to reconnect to the motors if required.

### Speed

This is the power control knob. Turning to the right will be full power and back to the left will decrease the available power to both pan and tilt operation. The advantage of power control is to be able to limit power when only slow accurate movements are needed. With the power control at half power (approx. 8 volts max. output) the full range of motion on the joystick will be between 0 and 8 volts making finer adjustments possible. The power control will be usable between approximately 4 volts to 12 volts.

## **Linear or Logarithmic Taper Joystick Control**

All joysticks are linear, meaning that each degree of movement of the stick correlates to the output. On the 12 volt Pan Tilt Head, half deflection of joystick means approximately 6 volts is sent to the motors. But with the advent of Digital, we can now control the taper of joystick, making in Logarithmic as well. Logarithmic taper means that the first joystick movement only sends a small amount of power to motors and the last of the deflection will send more power per degree of deflection. On Logarithmic taper, 1/3 of joystick deflection might yield 2 volts output, the next 1/3 will yield 4 volts output and the last 1/3 yields 6 volts for a maximum again of 12 volts. This mode gives the operator fine slow movements yet retain the ability to go to maximum speed, if necessary.

## **Tilt Direction Switch**

When the Pan-Tilt Head is used on a Tripod or Jib.

When the head is shifted from Jib to Tripod, it needs reversal of direction as the location of head will be inverted. By switching "on" the tilt direction switch, we can immediately reverse the direction. So, when the joystick is moved to the right, it gives right rotation as it gives while mounted on the tripod directly.

## **Pan Direction Switch**

When the Pan-Tilt Head is used on a Tripod or Jib.

When the head is shifted from Jib to Tripod, it needs reversal of direction as the location of head will be inverted. By switching "on" the pan direction switch, we can immediately reverse the direction. So, when the joystick is moved to the right, it gives right rotation as it gives while mounted on the tripod directly.

## **Damping Knob**

Damping is the ability to control the "damping" effect of joystick interface with pan/tilt action of the head being controlled. It does not matter what head you are using; the damping effect is a characteristic of joystick output.

## **Balancing**

Balancing the camera on head is critical for smooth operation.

- Find the horizontal balance point of your camera by using two fingers of one hand while holding the handle with other hand.
- Mark this point on the side of camera with chalk or tape.
- Turn the unit on and move tilt control until the camera plate is vertical.
- Loosen the two screws holding tilt motor (Do Not Remove).
- Grasp the motor and turn slightly to disengage gears.
- Mount the camera onto camera plate with the screw provided.
- Tighten by threading the nut up to the bottom of camera plate securely.
- Make sure your balance point previously marked with chalk or tape is in the middle of plate.
- Loosen the knob below camera plate and slide the camera and plate up or down until the center line of your camera is about in the middle of large gear. Now tighten the knob.
- If the camera is perfectly balanced it will stay in any position while motor gear is still unattached.
- Grasp the motor and turn it back until the gears mesh.
- Gently tighten motor screws.
- Secure the camera.

**NOTE:** All reduction boxes have a small amount of backlash. The balancing of the camera will reduce the backlash to a minimum making it felt at the top of the tilt arc.

## **Operation**

- With the camera set up, as previously described above, switch ON the power on Joystick Controller.
- For inverted use, disconnect the leads to the motors, rotate the control box 180° and re-install.

**NOTE:** Always watch the cables for binding.



YOUR PROAIM JR. PAN-TILT HEAD ALL DRESSED UP AND READY TO GO!




(SHOWN WITH OPTIONAL ACCESSORIES)

**Warranty:** We offer one year warranty for our products from date of purchase. Within this period of time, we will repair it without charge for labor or parts. Warranty doesn't cover transportation costs nor does it cover a product subjected to misuse or accidental damage. Warranty repairs are subjected to inspection and evaluation by us.

**Liability:** We are not liable for damage caused by products that we do not supply or from mishandling in transit, accident, misuse, neglect, lack of care of the product, or service by anyone other than our company.

**Contact Us:** In case of any kind of dissatisfaction, please Contact us immediately and we promise our utmost support and care until you use our product.

## Documents / Resources

	<p><a href="#">PROAIM Jr. Pan-Tilt Head with 12V Joystick Control</a> [pdf] User Manual Jr. Pan-Tilt Head with 12V Joystick Control, PT-JR</p>
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