

## Tilta Power Handle Kit

# Tilta Nucleus Nano II Power Handle Kit - Wireless Lens Control System

Official Instruction Manual

## 1. PRODUCT OVERVIEW

The Tilta Nucleus Nano II Power Handle Kit is a compact and versatile wireless lens control system designed for filmmakers and videographers. It provides precise control over lens functions such as focus, zoom, and aperture, enhancing operational efficiency on set. The kit includes a hand wheel controller, power handle, and two motors, offering comprehensive control capabilities.



Figure 1.1: The core components of the Tilta Nucleus Nano II Power Handle Kit, including the power handle, hand wheel controller, and two lens control motors.

## 2. SETUP GUIDE

### 2.1 Attaching Motors to Lens

To begin, attach the two lens control motors to your camera lens. One motor should be positioned for focus control, and the other for zoom control. Ensure they are securely mounted to the lens gears.

# TOUCH CONTROL

Intuitive interaction at your finger tips.



Figure 2.1: Two lens control motors mounted on a camera lens, ready for calibration.

## 2.2 Calibrating Motors and Pairing Hand Wheel

1. **Calibrate Motors:** Hold the function button on each motor to initiate calibration. The motors will cycle through their range of motion to detect the lens limits.
2. **Pair Zoom Motor (Channel 1):**
  - On the hand wheel controller, swipe on the main screen to access the menu.
  - Select "Connect" then "2.4G Channels".
  - Ensure "Manual Search Mode" is active.
  - Select "CH1" and press "Search".
  - Double-tap the function button on your zoom motor.
  - Confirm the connection on the hand wheel. The zoom motor should now be controlled by the hand wheel.
3. **Pair Focus Motor (Channel 2):**
  - Go back into the "Connect" menu on the hand wheel.

- Select "CH2" and press "Search".
- Double-tap the function button on your focus motor.
- Confirm the connection. The focus motor should now be controlled by the hand wheel.

## HIGH COMPATIBILITY

Fully compatible with Tilta wireless lens control systems and the DJI Ronin lens control motor.



Compatible with  
**NUCLEUS-N**  
Lens Control Motor

Figure 2.2: The hand wheel controller's touchscreen interface, used for pairing and settings adjustments.

### 2.3 Setting up the Power Handle

The power handle can be used to control the zoom motor. Ensure the power handle is set to the correct mode and channel to communicate with the zoom motor (Channel 1). This allows for a dedicated operator to control zoom while another handles focus via the hand wheel, or for a single operator to manage both.

## 3. OPERATING INSTRUCTIONS: DOLLY ZOOM EFFECT

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The dolly zoom effect, also known as a Zolly or Vertigo effect, involves simultaneously changing the camera's position and the lens's focal length to keep the subject the same size in the frame while the background appears to zoom in or out.

### 3.1 Achieving the Dolly Zoom

1. **Preparation:** Ensure your camera is mounted on a slider or dolly that allows for smooth forward and backward movement. The Tilta Nucleus Nano II motors should be calibrated and paired as described in the setup section, with one motor controlling zoom and the other controlling focus.
2. **Movement and Zoom Synchronization:**
  - To achieve the effect, you will either push the camera in while simultaneously zooming out, or pull the camera back while simultaneously zooming in.
  - The goal is to keep your subject in approximately the same frame size while the background's perspective changes dramatically.
  - Practice is key to synchronizing the camera movement and the zoom adjustment for a smooth and effective dolly zoom.

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Video 3.1: Demonstration of achieving the Dolly Zoom effect using the Tilta Nucleus Nano II system. This video illustrates the synchronized camera movement and lens zoom required for the effect.

## 4. MAINTENANCE

- **Cleaning:** Regularly wipe down the surfaces of the hand wheel, power handle, and motors with a soft, dry cloth. Avoid using harsh chemicals or abrasive materials.
- **Storage:** Store the kit in its provided carrying case in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** For optimal battery life, avoid fully discharging the internal batteries frequently. Recharge them regularly, especially before extended storage.
- **Firmware Updates:** Check the official Tilta website periodically for firmware updates. Keeping your device's firmware up-to-date ensures optimal performance and access to new features.

## 5. TROUBLESHOOTING

Problem	Possible Cause	Solution
Motors not responding.	Incorrect pairing or low battery.	Re-pair the motors with the hand wheel (refer to Section 2.2). Ensure all components are fully charged.
Inaccurate focus/zoom control.	Motors not properly calibrated.	Re-calibrate the motors by holding their function buttons until they cycle through their range.
Interference or dropped connection.	Environmental interference or distance.	Reduce distance between components. Avoid areas with strong wireless interference. Check for firmware updates.
Power Handle not powering on.	Battery not inserted correctly or discharged.	Ensure the F970 battery is correctly inserted and fully charged. Check the On/Off switch.

## 6. SPECIFICATIONS

- **Product Dimensions:** 9 x 7 x 4 inches
- **Item Weight:** 4.95 pounds
- **Model Number:** Power Handle Kit
- **Batteries:** 1 Lithium Ion battery required (included)



- **Manufacturer:** Tilta
- **Connectivity:** Wireless (2.4G), USB-C
- **Control:** Wireless Zoom, Focus, Aperture Control
- **Display:** Touch Screen
- **Compatibility:** Nucleus M, Nano, DJI Focus Motors, DJ Ronin S Series Gimbals, Canon, Sony, Blackmagic Design Cameras (selected models)



Figure 6.1: The Tilta Nucleus Nano II system is designed for broad compatibility with professional camera equipment.

## 7. WHAT'S IN THE BOX

The Tilta Nucleus Nano II Power Handle Kit includes the following components:

- Nucleus Nano II Hand Wheel Controller (1)
- Nucleus Nano II Power Handle (1)
- Nucleus Nano II Motor Kit (2)

- Photographic Lens Follow Focus Gear Ring (2)
- USB-C Power Cable (30cm) (2)
- P-Tap to USB-C Power Cable (50cm) (1)
- Aluminum Rod 15x150mm (2)
- 15mm Rod Holder to Dual 1/4"-20 Adapter (1)
- Allen Key (2)
- Advanced Soft Carrying Case for Nucleus Nano II (1)
- Tilta Rubber Rod Support (1)
- Tilta Accessory Mounting Bracket (1/4"-20 with Locating Pins) (1)
- Tilta F970 Battery Plate V2 (1)
- Instruction Manual (1)



Figure 7.1: A complete view of all items included in the Tilta Nucleus Nano II Power Handle Kit.





Figure 7.2: The included advanced soft carrying case provides organized storage for all kit components.

## 8. WARRANTY AND SUPPORT

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For warranty information, technical support, or service inquiries, please refer to the official Tilta website or contact their customer service directly. Keep your proof of purchase for warranty claims.

For additional resources and product information, visit the [Tilta Store on Amazon](#).



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