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> PERUN ETU++ Upgrade Kit for G&G ETU Systems (Tamiya Connector Specification) - Instruction Manual

## PERUN PERUN ETU++

# PERUN ETU++ Upgrade Kit for G&G ETU Systems

Instruction Manual

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## 1. INTRODUCTION

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The PERUN ETU++ is an advanced upgrade kit designed to enhance the performance and functionality of G&G Electronic Trigger Unit (ETU) systems in airsoft replicas. This kit introduces several programmable features, including precocking, burst fire modes, and an active brake, allowing for a more responsive and customizable shooting experience. This manual provides essential information for proper installation, configuration, and use of your PERUN ETU++ unit.

## 2. COMPATIBILITY

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The PERUN ETU++ upgrade kit is compatible with the following G&G ETU series airsoft replicas:

- G&G ETU CM16 Series
- G&G ETU GC16 Series
- G&G ETU MBR Series
- G&G ETU KAC SR/SBR8 Series
- G&G ETU F2000 Series
- G&G ETU M14 Series
- G&G ETU L85 Series

**Note:** Specific modifications may be required for certain models:

- For the **SR25E2**, modifications to the selector and selector plate are necessary.
- For the **SSG-1**, wiring extension modifications are required.

## 3. KEY FEATURES

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The PERUN ETU++ offers several advanced features to enhance your airsoft replica's performance:

- **Precocking:** Reduces trigger response time by pre-tensioning the piston.
- **Burst Fire Settings:** Allows programming of custom burst lengths (e.g., 3-round burst).
- **Active Brake (AB):** Stops the motor instantly after each shot, preventing overspin and improving piston position consistency.

## 4. SETUP AND INSTALLATION

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Installation of the PERUN ETU++ is designed to be straightforward, typically involving replacing the existing electronic trigger unit. However, basic technical knowledge of airsoft gearbox disassembly and reassembly is recommended. Always ensure your replica's battery is disconnected before beginning any installation.



*Image 1: The PERUN ETU++ wiring harness, featuring a Tamiya connector for battery connection. This unit replaces the stock G&G ETU board.*

1. **Disassembly:** Carefully disassemble your airsoft replica to access the gearbox and the existing G&G ETU board. Refer to your replica's specific disassembly guide if needed.
2. **Remove Original ETU:** Disconnect and remove the original G&G ETU board from the gearbox.
3. **Install PERUN ETU++:** Insert the PERUN ETU++ unit into the gearbox, ensuring all connections are secure and properly aligned. The unit is designed to fit directly into the G&G ETU slot.
4. **Wiring:** Connect the PERUN ETU++ wiring harness to your motor and battery connector. This version comes with a Tamiya connector. Ensure all wires are routed correctly to avoid pinching during reassembly.
5. **Reassembly:** Carefully reassemble your airsoft replica, ensuring no wires are pinched and all components are correctly seated.
6. **Initial Test:** Connect a compatible battery and perform a functional test. Listen for any unusual sounds and check for

proper trigger response.

For detailed visual instructions, it is recommended to search for installation guides or videos specific to your G&G replica and the PERUN ETU++ on online platforms.

## 5. OPERATING INSTRUCTIONS AND PROGRAMMING

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The PERUN ETU++ features intuitive programming via the selector switch and trigger. The unit provides audible feedback (beeps) to confirm settings. The programming process is generally performed by manipulating the selector switch and trigger in specific sequences.

### 5.1. Basic Operation

- **Power On:** Connect the battery. The unit will emit a series of beeps indicating it is ready.
- **Firing Modes:** Use your replica's selector switch to select between SAFE, SEMI-AUTO, and FULL-AUTO (or BURST, if programmed).

### 5.2. Programming Features

The PERUN ETU++ allows for on-the-fly programming of precocking, burst mode, and active brake settings. The exact sequence of selector and trigger presses will be detailed in the full manufacturer's manual, which is typically provided with the product or available on the PERUN JAPAN website. A common method involves holding the trigger while moving the selector to enter programming mode.

**Example Programming Principle (Refer to official manual for exact steps):**

1. **Enter Programming Mode:** Typically, switch to SEMI-AUTO, hold the trigger, then switch to FULL-AUTO. The unit will emit a specific beep pattern.
2. **Select Parameter:** Use the selector switch (e.g., SAFE for precocking, SEMI for burst, AUTO for active brake) to cycle through programmable features.
3. **Adjust Setting:** Pull the trigger to adjust the level or setting of the selected feature. The unit will beep to indicate changes.
4. **Save and Exit:** Switch the selector back to SAFE or hold the trigger for a few seconds to save settings and exit programming mode.

**Precocking Release:** Some PERUN units allow precocking to be disengaged by a long press of the trigger while in a specific mode. Consult your official manual for this specific function.

## 6. MAINTENANCE

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The PERUN ETU++ is a robust electronic component designed for durability. Minimal maintenance is required for the unit itself. However, proper care of your airsoft replica's gearbox and electrical system will ensure optimal performance and longevity of the ETU++.

- **Battery Care:** Always use high-quality batteries and ensure they are properly charged and stored. Disconnect the battery when the replica is not in use.
- **Wiring Inspection:** Periodically inspect all wiring for signs of wear, fraying, or damage. Ensure connectors are clean and secure.
- **Gearbox Maintenance:** Regular cleaning and lubrication of your gearbox components (gears, piston, cylinder) will prevent undue stress on the motor and electronics.
- **Environmental Protection:** Avoid exposing the unit to excessive moisture, dust, or extreme temperatures.

## 7. TROUBLESHOOTING

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If you encounter issues with your PERUN ETU++, refer to the following common troubleshooting steps. The unit often uses LED indicators and beep codes to signal specific conditions or errors.

- **No Response / No Firing:**
  - Check battery charge and connection.
  - Ensure all wiring connections are secure.
  - Verify the selector switch is not in SAFE mode.
- **Incorrect Firing Mode:**
  - Re-enter programming mode and verify your burst or semi-auto settings.
  - Ensure the selector plate is correctly installed and interacting with the ETU++.
- **Motor Overheating / Excessive Battery Drain (with Active Brake ON):**
  - Active Brake can cause increased heat and battery consumption, especially with high-speed setups. Consider adjusting the AB level or disabling it if not needed.
  - Ensure your motor and gears are properly shimmed and lubricated to reduce resistance.
- **Error Codes (LED/Beep Patterns):**

The PERUN ETU++ communicates errors through specific LED light patterns or beep sequences. Refer to the official PERUN JAPAN documentation or website for a comprehensive list of error codes and their corresponding solutions. This allows for easy diagnosis of issues such as short circuits, motor jams, or sensor malfunctions.

## 8. SPECIFICATIONS

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Feature	Detail
Brand	PERUN
Model	ETU++
Compatibility	G&G ETU Systems (CM16, GC16, MBR, KAC SR/SBR8, F2000, M14, L85 Series)
Connector Type	Tamiya Connector
Key Features	Precocking, Burst Fire, Active Brake
Product Weight	0.03 kg
ASIN	B07S5QBMDX

## 9. WARRANTY AND SUPPORT

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For any defects or issues pertaining specifically to the PERUN ETU++ unit, please contact PERUN JAPAN directly. The retail store (BURST-HEAD) is not authorized to handle warranty claims or technical support for this product. Contact information for PERUN JAPAN is typically provided within the product packaging or on their official website.



*Image 2: Example of a PERUN JAPAN serial number sticker, indicating a domestic genuine product. This sticker often contains important information for warranty purposes.*

It is recommended to retain your proof of purchase and the product's serial number for any warranty claims.

