WILDLIFE
A C O U S T I C S
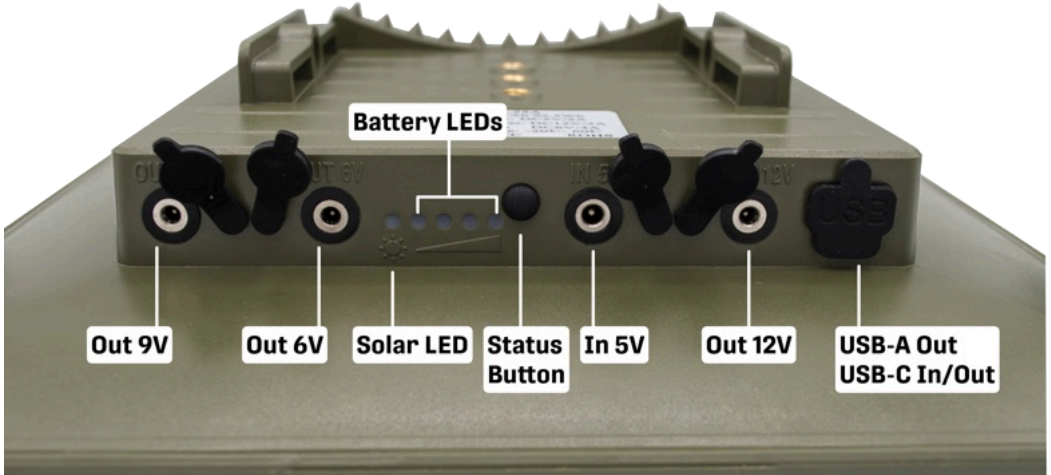
Power Kit
User Guide

Overview

The Wildlife Acoustics Power Kit is a combined solar panel and rechargeable, lithium-ion battery designed to power the Song Meter SM3 and SM4 families of recorders.

Controls and Connections

Included Accessories

Accessory	Use
• 3511 barrel to 5-pin cable (2 m)	Connect the Power Kit's **Out 6V** port to a Song Meter's **Ext Power** port.
• Ferrite collar • Cable tie	Required for use of the 3511 barrel to 5-pin cable.
• USB-A to USB-C cable	Connect a USB-A power supply to the Power Kit's USB-C port to charge the Power Kit's internal battery.
• Screw-in mounting arm • Plastic anchor plug (10 mm × 50 mm) • Gimbal head	Mount the Power Kit to a wooden structure with the ability to pivot on the end of the mounting arm.
• Mounting strap (1.5 m)	Feed the strap through the back of the power kit and around a tree or post to fasten the Power Kit in place.
• 3511 barrel to 4017 barrel cable	Connect multiple Power Kits together to combine their solar generation and battery capacity.

First-Time Use

The Power Kit may arrive to you discharged to 25% charge or less in order to comply with air shipping regulations. Before you use it for the first time, you should check the state of the Power Kit's battery and pre-charge it if needed. Initial charging may take up to twelve hours, depending on your USB power source.

Pre-Charging

You can charge the Power Kit's internal battery using USB power and solar. We recommend fully pre-charging the battery via USB before starting a Song Meter deployment. Starting a deployment with a full battery allows an attached Song Meter to stay powered through cloudy weather until the solar panel can recharge the Power Kit's battery.

Pre-Charge the Power Kit via USB

The Power Kit's USB-C port functions as both an input and output. You can use it to pre-charge the Power Kit's internal battery.

Use a USB cable to connect a USB power supply to the Power Kit's USB-C port.

- You can use the included USB-A to USB-C cable to connect a 5 V / 2 A USB-A power supply to charge the Power Kit in approximately 12 hours or less.
- You can use a USB-C to USB-C cable (not included) to connect a USB-C power supply with 20 W output or greater to charge the Power Kit in approximately 6 hours or less.

During charging, one of the four **Battery LEDs** will flash red. When the Power Kit is fully charged, all four **Battery LEDs** will display solid red.

Check Battery Status

Press the **black, rubber button** next to the **Battery LEDs**.

The four **Battery LEDs** will indicate the approximate charge state of the battery.

Solar LED ——— **Battery LEDs** ———
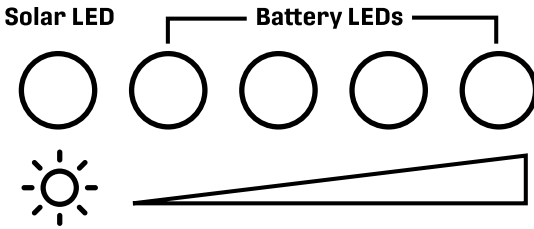
Number of Lit LEDs	Meaning
0	Power Kit is fully drained. Charge before use.
1-2	Power Kit may not be able to power a Song Meter. Charge before use.
3	Power Kit is partially charged. Charging before use is recommended.
4	Power Kit is more than 75% charged.

Using the Power Kit's Solar Panel

Solar charging speed depends greatly on weather, the angle of the sun over the horizon, and the orientation of the Power Kit. In perfect conditions and with no connected devices drawing power, charging from empty to full capacity can take 9 hours of direct, uninterrupted sun exposure. **Solar charging may take significantly longer depending on conditions.**

For best results, place the Power Kit in full, direct sunlight. The **Solar LED** will light up red or green to indicate charging. The color of the LED can vary depending on multiple factors, including the charge state of the battery and how much power is being drawn from the Power Kit.

Solar Panel Tips

- Mount the Power Kit in direct sunlight with the panel facing the direction of the greatest sun exposure.
- Free online tools can suggest the optimal compass direction and tilt for a solar panel based on your location and time of year.
- The more sun exposure the Power Kit has each day, the better it will be able to recharge after cloudy weather.
- Dust, pollen, or sea salt can inhibit the solar panel, even when not visible on the surface. Regularly wipe the solar panel with a clean, damp cloth.

Install the Cable Ferrite

The Power Kit includes a snap-on ferrite that must be installed on the 3511 barrel to 5-pin cable in order to meet standards limiting electromagnetic emissions and to protect a connected Song Meter against electrostatic discharge.

1. Create a loop in the 3511 barrel to 5-pin cable as close to the 5-pin connector as possible.
2. Snap the ferrite shut over the doubled portion of the loop.
3. Fasten the included cable tie tightly around the ferrite and the exposed segment of looped cable.
4. Trim the excess length from the cable tie.

Connect the Power Kit to a Song Meter

The Power Kit ships with a 3511 barrel to 5-pin cable that is compatible with Song Meters in the SM3 and SM4 families.

1. Remove all D batteries from the Song Meter.
   D batteries cannot be used simultaneously with the Power Kit.
2. Using the 3511 barrel to 5-pin cable, connect the **Out 6V** port on the Power Kit to the **EXT POWER** port on your Song Meter.
   The SM4 and SM3 families of recorders run more efficiently on 6 V power than 9 V or 12 V.
3. Use a cable tie to attach the power cable to one of the mounting loops on the back of the Power Kit.
   This will help prevent the cable from being pulled away from the Power Kit.
4. Set the Song Meter's power switch to **EXT**.
5. If the Song Meter's screen does not turn on, press **STOP** to wake the Song Meter from sleep.

Mounting

The Power Kit ships with two mounting options: a mounting strap and a mounting arm. The Power Kit also supports many camera mounts via the ¼ in.-20 threaded inserts its back.

Using the Mounting Strap

1. Thread the strap through two of the rectangular openings on the back of the Power Kit. Make sure that when the two ends of the strap meet, the lever on the metal buckle will face outwards.
2. Wrap the strap around an object like a tree or post.
3. Press the lever on the metal buckle to open a gap in the buckle and feed the free end of the strap through this gap.
4. Pull the free end with just enough force to secure the Power Kit, then release the buckle lever.
   Using excess force can damage the Power Kit.

Using the Mounting Arm

1. Drill a pilot hole into the structure you will use for mounting:
   - To use the conical anchor, drill a hole 10 mm in diameter and 50 mm deep. Press the anchor into the pilot hole.
   - To screw the mounting arm directly into the structure, drill a hole 6 mm in diameter and 23 mm deep.
2. Screw the pointed end of the mounting arm into the pilot hole or conical anchor to secure it.
3. Screw the base of the gimbal head onto the exposed, threaded end of the Mounting Arm.
4. Loosen the wing bolt on the side of the gimbal head to allow the gimbal pivot to rotate freely.
5. Screw the camera mount bolt into one of the threaded inserts on the back of the Power Kit, then tighten the wing bolt to secure the gimbal pivot in place.

Chain Multiple Power Kits Together

You can connect multiple Power Kits in series to increase the total amount of available solar power generation and battery capacity.

1. Using the 3511 barrel to 4017 barrel cable, connect the **Out 6V** port of the first Power Kit to the **In 5V** port of the second Power Kit.
2. Using the 3511 barrel to 5-pin cable, connect the **Out 6V** port of the second Power Kit to the **EXT POWER** port of a Song Meter.
3. Connect more Power Kits in the same manner.
   Each Power Kit's **Out 6V** port should only connect to one other Power Kit's **In 5V** port or one Song Meter's **EXT POWER** port.

Safety

⚠️ **Warning:** Failure to follow these safety instructions may result in fire, electric shock, equipment damage, or injury.

- Do not drop, disassemble or puncture the Power Kit.
- Do not submerge the Power Kit in water or allow it to heat up to 140 °F (60 °C)
- If you notice the Power Kit bulging, melting, or heating up during charging or use, stop using it immediately.

Travel and Shipping

Airlines and couriers have strict rules regarding devices that contain lithium-ion batteries. The information below will help you determine the rules and restrictions that apply when traveling with or shipping the Power Kit.

- The Power Kit contains a lithium-ion battery comprised of ten individual lithium-ion cells.
- The total energy capacity of the lithium-ion battery is 92.5 watt-hours (Wh), and the energy capacity of each individual lithium-ion cell is 9.25 Wh.
- The Power Kit falls into the category of devices commonly called "portable chargers," "power banks," or "battery banks." If in doubt, refer to airline, courier, or governmental regulations for strict and up-to-date definitions.

Disposal

The Power Kit contains lithium-ion batteries and other materials that can harm the environment if they are disposed of with household trash.

If your Power Kit is non-functional or damaged, dispose of it at a recycling center that can process photovoltaic (solar) panels and lithium-ion batteries.

Specifications

Battery Capacity	92.5 Wh
Battery Type	Lithium-ion
Maximum Solar Power Generation	10 W
Output Voltage × Current	12 V × 2 A 9 V × 2.6 A 6 V × 4 A
Solar Panel Material	Monocrystalline silicon
Operating Temperature	-4 °F to 140 °F -20 °C to 60 °C
Weather Protection	IP66-rated, weatherproof
Time to Full Charge	USB-C input, 5 V / 2 A: ~12 hours USB-C input, 20 W USB-C power supply: ~6 hours
Dimensions	10.24 in. × 10.63 in. × 1.97 in. 27 cm × 26 cm × 5.2 cm
Weight	3 lb. 1.4 kg
Input Barrel Cable	4017 center-positive
Output Barrel Cable	3511 center-positive

Declarations of Compliance

Electromagnetic Emissions and Immunity

The Power Kit conforms to the following standards:

- ANSI C63.4:2014
- 47 CFR FCC Part 15 Subpart B (Class B)
- EN 55032:2015 + AC:2016 + A1:2020 + A11:2020
- EN 55035:2017+A11:2020
- EN IEC 61000-3-2:2019/EN 61000-3-3:2013 + A1:2019

Hazardous Substances

The Power Kit conforms to the following standards in compliance with ROHS Directives 2011/65/EU and 2015/863/EU:

- IEC 62321-1:2013
- IEC 62321-3:2013
- IEC 62321-4:2017
- IEC 62321-5:2013
- IEC 62321-6:2015
- IEC 62321-7-1:2015
- IEC 62321-7-2:2017
- IEC 62321-8:2017

Warranty

The Power Kit is covered under warranty by Wildlife Acoustics for 1 year from date of purchase. See full details at https://www.wildlifeacoustics.com/legal-documentation/warranties.

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