ROCK THE BIKE™

PEDAL POWER UTILITY BOX™

USER MANUAL

FIND ROCK THE BIKE ON

YouTube

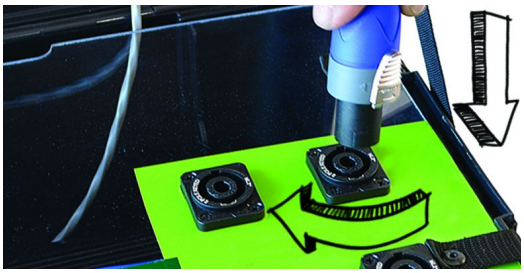
Troubeshooting and Event Support
Call (510) 883-3725 or email
TechSupport@RockTheBike.com

GETTING TO KNOW YOUR UTILITY BOX

Please also refer to the graphic on Page 2

SETUP

Connect one or more bike generators to the Utility Box using its Light Green input jacks. The round plugs are Neutrik Connectors, a standard in the pedal power world. When connecting them, use a push-and-twist motion to secure the electrical connection. The below graphic, and the following video, detail this technique: http://youtu.be/tZH213hxD3E?t=48s



CONNECTING THE NEUTRIK:

Insert the round Neutrik Connector into the round Neutrik socket with a clockwise push-and-twist motion.

NEUTRIK NL-2MP SOCKET

NEUTRIK NL-2FX CONNECTOR

DISCONNECTING THE NEUTRIK:

1. Slide the thumb tab back toward the cable.
2. Twist the connector 1/8 of a turn counter-clockwise, then pull.

⚠ Don't unscrew the strain relief.

Position the Utility Box on a table, so pedalers can see its Pedalometer – the LED panel inside the Utility Box lid.

USE

With all connections made, and the Pedalometer unlit, instruct the pedaler to begin! **Pedaling will feel difficult at first, as the Utility Box charges up.** Once voltage is in the target range, it will feel more like pedaling a bike around town.

Soon you will see a blinking red light on the Pedalometer. This means *Voltage is too low: Keep pedaling*. When the blinking Red light changes to a steady Red light, power is almost ready to use. **When a Green light comes on, you can use AC power.** Turn on the AC Inverter by flipping its switch, located on the left side of the Utility Box.

To keep power flowing to your devices, **adjust your effort level to keep the lights in the Green**. Ease off pedaling if the lights turn White, this means you are pedaling too hard. The combined maximum power output to devices is 1000 Watts.

GETTING TO KNOW YOUR UTILITY BOX

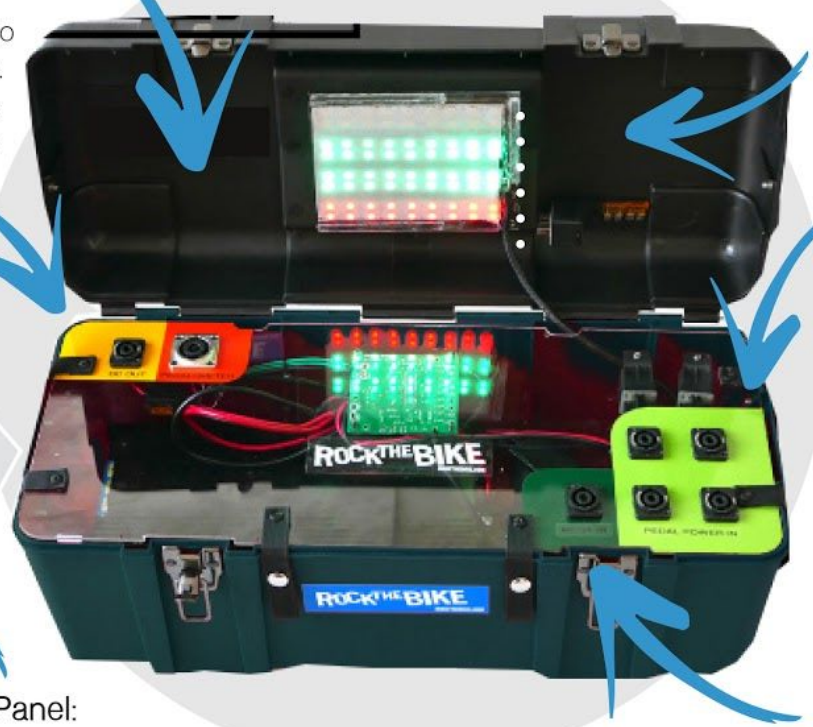
Dark Orange Jack (1): External Pedalometer

Connection for the 4-foot tall, floor standing Pedalometer (sold separately).

Light Orange Jack (1): DC Output

A direct connection to the stored DC power – 0 to 30VDC, depending on state of charge. Max 15A. Connect approved 24V devices from Rock The Bike or use a two way Neutrik Speakon plug to connect other devices, at your own risk.

Side Panel: AC Power Outlet



White, Green and Red LED Panel: Pedalometer

The red, green and white lights indicate the amount of stored energy and if the system is adequately charged for use. **Red:** pedal harder! **Green:** doing great! **White:** slow down!

Light Green Jacks (4): Pedal Power Inputs

Connect one power generating bike to each of these four inputs using the cables that come with Rock The Bike generators.

Dark Green Jack (1): Mega Input / Nutrik Input

Plug in more pedalers. Use the Mega Input to handle the higher wattage of a Pedal Power Junction Box, which can add 6 pedalers, bringing the total for your box to 10. You can also use it for a single pedaler.

Pedalometer Indicator Lights:

All lights blinking: Protection Circuit is not functioning properly. Stop pedaling, as voltage can climb dangerously high. Replace the relay, then test the system.

Blinking White: Voltage is approaching the cutoff point. Stop pedaling to avoid triggering the Protection Circuit.

Solid White: Voltage is above the ideal range. Ease off pedaling.

Green lights (2nd row+): Voltage is in the ideal range, plus there is reserve power. Cruise.

Green light (1st row): Voltage is in the ideal range. Keep pedaling.

Solid Red: Voltage is low. Pedal harder.

Blinking red: Voltage is low, power will soon run out. Pedal harder.

FEATURES AND PERIPHERALS

GEARING

Please skip this section if using a Generator Pro or Electric Fender Blender Pro, as they have one gear only.

Set the gear of the bicycle so that pedaling feels like climbing a small hill. If pedaling feels too easy, switch to a higher gear, just like you would on a bike. Pedaling can feel difficult at first if the Utility Box has been in storage. It pedaling is too difficult, try shifting the bike to a lower gear.

As the system's voltage rises, pedaling becomes easier. **When the voltage reaches its ideal Green range, change up to a higher gear,** and try to maintain that level of resistance.

PEDALOMETER (left)

The optional 4-foot tall Pedalometer is an amazing help at Pedal Powered Stage events. This precisely calibrated system uses color-coded LED lights to display pedaling effort. Different colored sections correspond to *Too Low* (Red), *Too High* (White), and *Sweet Spot* (Green) voltages. Your sound engineer and audience will know it's time to kick up the pedaling when the LEDs blink Red, or to cruise when lit White.

Attach the Pedalometer Tube's large Neutrik Connector with the same clockwise push-and-twist action as the smaller version.

KILL A WATT (right)

Accurately measure the power consumption of any device you plan to pedal power. Connect Kill A Watt to the wall, then plug your device into it, and check the wattage readout.

Some products have printed wattage ratings, however those figures are approximate, and vary depending on the device's setting. For example, a loudspeaker will use far less power than its printed rating when set to moderate volume levels.

Please note that on the classic Kill A Watt shown, you have to press the middle button to read Wattage. Every energy meter comes with its own instructions. Read up to get the most out of yours.

SOUND SYSTEMS (below)

Sound Systems. Let us help you craft a low-wattage, high impact sound system so that you can get people dancing with Pedal Power.

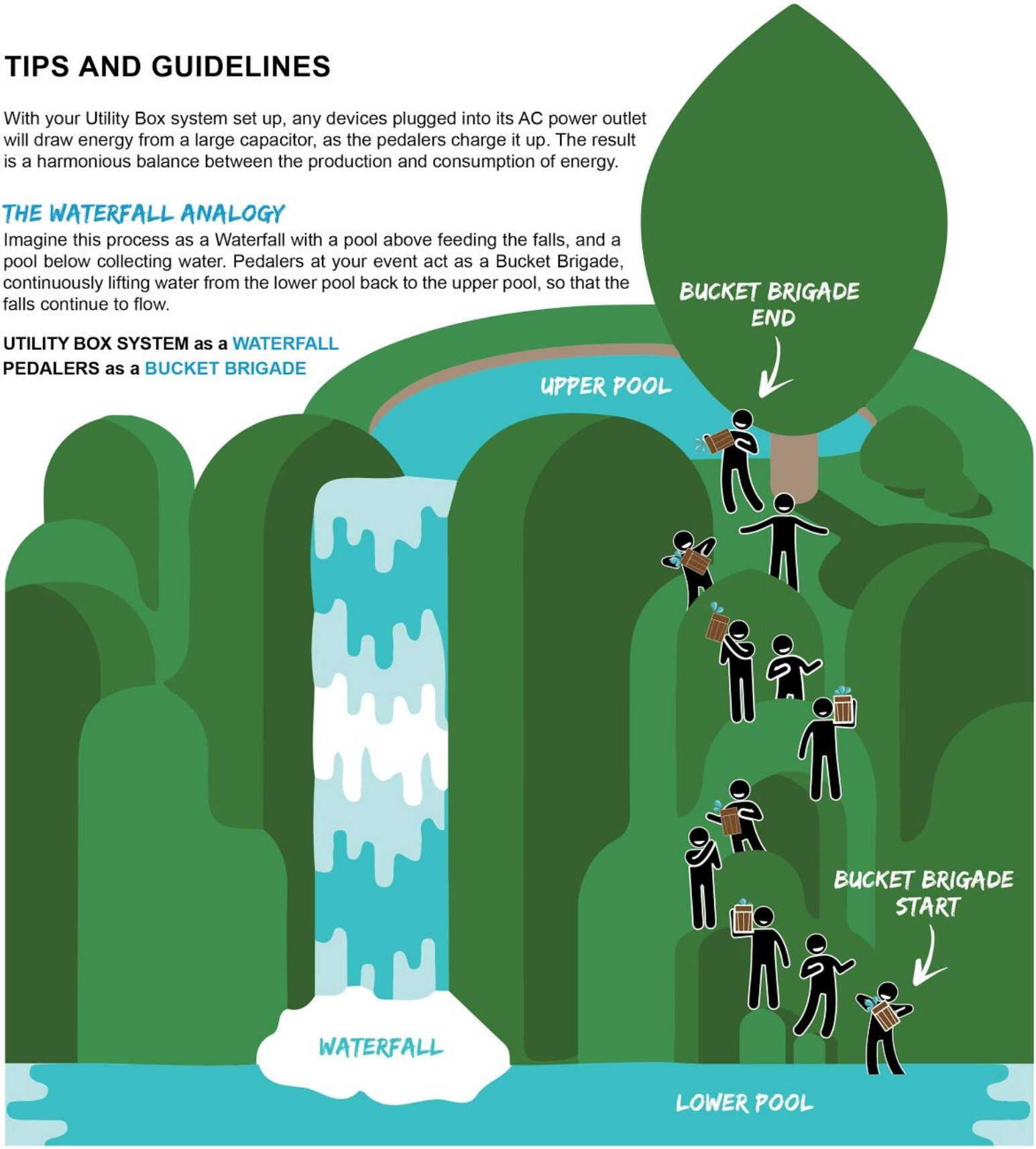
TIPS AND GUIDELINES

With your Utility Box system set up, any devices plugged into its AC power outlet will draw energy from a large capacitor, as the pedalers charge it up. The result is a harmonious balance between the production and consumption of energy.

THE WATERFALL ANALOGY

Imagine this process as a Waterfall with a pool above feeding the falls, and a pool below collecting water. Pedalers at your event act as a Bucket Brigade, continuously lifting water from the lower pool back to the upper pool, so that the falls continue to flow.

UTILITY BOX SYSTEM as a WATERFALL
PEDALERS as a BUCKET BRIGADE



As the Activity Coordinator, you choose the devices to plug in, which is like designing the Waterfall itself. Through these selections, the falls can remain small, but the larger they are, the harder pedalers will need to work to maintain the flow. This could lead to some burned out cyclists, or perhaps even more fun than usual – a big, beautiful Waterfall may inspire a heroic pedal power effort!

Each pedaler determines their effort level, which you can encourage in a variety of ways. To keep your Bucket Brigade engaged throughout the event, use a fun coaching style, foster a sense of teamwork, and set up exciting results – a memorable Waterfall – for your participants' hard work.

TIPS AND GUIDELINES

EVENT PREPARATION

Prior to your event, plug the Kill A Watt peripheral into a wall socket to measure the wattage of your intended device. Next, determine the approximate ages of the event patrons you expect to pedal. Use this table to gauge what wattage output to expect from different patrons.

Type of Pedaler	Average sustained wattage per person
Competitive cyclists	150 Watts
Athletic college students	100 Watts
General public (adults only)	60 Watts
High school students	50 Watts
General public (mixed ages including kids)	**40** Watts
3rd graders and younger	0-20 Watts

Then divide your device's wattage by the anticipated wattage per person, to establish how many individual bikes will be needed to pedal power your device. [Device Wattage / Per Person Wattage = Number of Bikes)

Example: Sound system with music playing measures 140 Watts, and you expect high school students at the event. So divide the 140 device wattage by 50 Watts per person to get nearly 3 – the number of bikes needed for this to be a successful activity.

EVENT OPERATION

During your event, use the Kill A Watt to monitor how much you're asking of the pedalers. Check in with pedalers (and get on the bikes yourself) to know whether it's too hard or too easy. Have your coaches constantly keep an eye on the Pedalometer. If it's often in the red, there's a chance you're asking too much of the pedalers. That, or you're not asking enough! These focal points will encourage Pedalers to work hard for you:

- **Adjust the bike for each pedaler** – Look for a slight bend in the leg at the bottom of a rider's pedal stroke. This means the bike seat is at the right height for efficient pedaling.
- **Explain the Rules** – Each pedaler should be shown the basics of the Pedalometer as they get onto a bike.
- **Quality Coaching** – Have your coaches cheer on the pedalers often. Use upbeat messages such as: "*Keep it in the green*," "*Let's bring it back*," "*Work as a team!*"
- **Positive Reinforcement** – The activity pedalers are doing is funny, educational, inspiring, musical, beautiful, needed, practical, great. Remind them of all that!

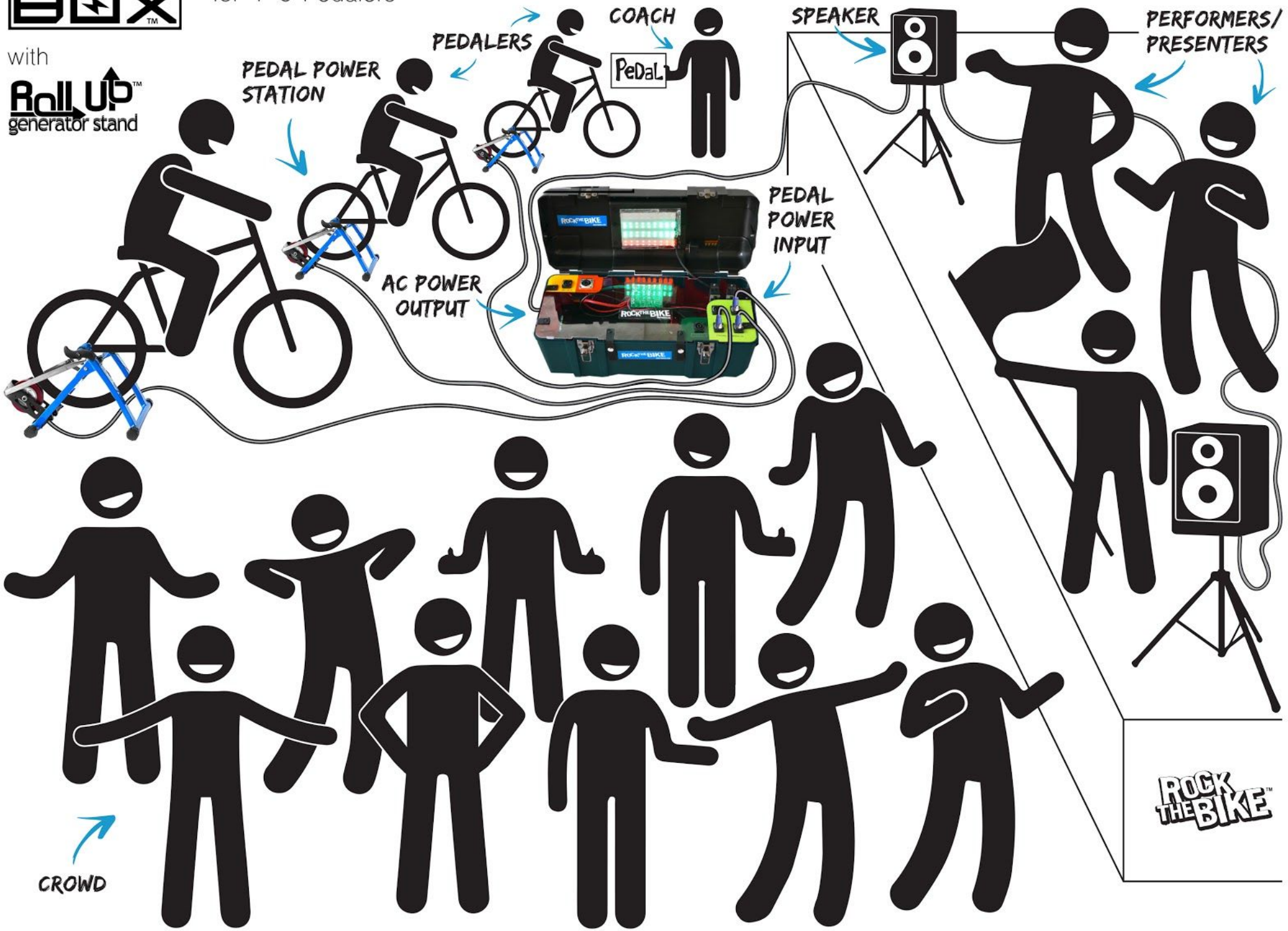
ACTIVITY TIP – Make large signs that say "*PEDAL*" to help your coaches save their voices.

PEDAL POWER UTILITY BOX™

with Roll Up™ generator stand

Typical Event Setup for 1–5 Pedalers

For 6–10 Pedalers, contact us about the *Pedal Power Junction Box* or *'J Box'*



TIPS AND GUIDELINES

CHANGING PEDALERS

Adjust the seat height for each pedaler, establishing a comfortable and efficient pedaling position. When the pedal is at the bottom of its rotation, the pedaler's leg should be slightly bent.

To prevent outages, **ask pedalers to raise the voltage to double-Green before they finish.** This will give you time to raise or lower the seat for the next pedaler, and get them started.

AC POWER AND AC INVERTER

Utility Box contains a 1000 Watt Pure Sine AC Inverter to create power (top right), and an Ultracapacitor to store that power. As you use more devices or higher-wattage devices, it will be more difficult to keep the voltage in the Green. **If the pedal power going into the system is less than the AC power going out, the Pedalometer lights will fall until they blink Red.**

The AC Inverter will sound a warning beep, and AC power will eventually turn off. After shutting off, there is a 20–30 second delay on the AC Inverter before power can flow again. To most quickly restore AC power, pedal the lights up to Green, then cycle the power switch on the AC Inverter.

The AC Inverter can also be upgraded from the Standard 1000 Watt version to an Advanced 3000 Watt version (bottom right), which especially benefits music-driven events. While concert speakers connected to the Standard Inverter may turn off when played at increased volumes, the Advanced Inverter caters to multiple speakers at louder levels.

Check any device's wattage rating, whether printed or via Kill A Watt, before plugging it into Utility Box. **Unless you have upgraded to our 3000 Watt AC Inverter, do not plug in devices rated higher than 1000 Watts.** *Examples:* electric kettle, microwave, space heater. Kill A Watt can also be used to show pedalers, in real time, how much energy they are producing.

TROUBLESHOOTING

Pedalometer is in the Green, but AC power is not flowing: Something may be wrong with your AC Inverter, check the status lights on the left side of the Utility Box. Also check your output devices to see if they total more than 1000 Watts. If so, unplug at least one of them, then try again. Contact Rock The Bike if the issue persists.

Power remains in the Red or blinking Red, but people are pedaling: Encourage pedalers to go faster, or use a higher gear. Pedalers may have changed to a lower, easier gear, so it helps to continuously check what gear the bikes are in. *Note:* When using our Roll Up Generator product with the Utility Box, use a geared bike for best results.

Pedaling feels too easy, there's no resistance: A fuse may have blown, check the internal fuses. If a fuse did blow, inspect the wires between the Utility Box and the bikes. A wire may have gotten kinked, which can cause a short circuit and lead to blown fuses. The 3-way black Anderson connector near the wheel of the Generator Pro can unplug if someone steps near it. Use included velcro to prevent disconnection and trip hazards.

TIPS AND GUIDELINES

CUSTOMER SUPPORT

For any issues, call Tech Support at 1-888-354-2453 (10am–5pm PST M–F).
If the warning pattern (all lights blinking fast) displays during an event, call us for instruction on replacing the Relay.

TEAR–DOWN

Use up all AC power, until the Pedalometer lights blink Red. Then unplug the AC outlet, and the Neutrik Connectors from the input jacks. **Please see *Setup* on page 1 for detailed instruction**.

GENERAL INFORMATION

SAFETY

Use the Utility Box, and any connected generator bikes, on a level surface.

Do not use this product in the rain, snow, or other wet conditions that could cause damage to you or your Rock the Bike product.

Children should be supervised when using this product.

Never operate the Utility Box if the input / output jacks, or LED panel appear damaged. Call Tech Support at 1-888-354-2453 for assistance.

SPECS

Dimensions : 24” wide, 10” tall, 10” deep
Weight: 16 lbs
Maximum Wattage: 1000W
Use: Household, Educational or Commercial
Manufacturer: Rock the Bike – Oakland, CA USA

WARRANTY

Rock the Bike products come with a 2-year warranty against manufacturing defects. This warranty does not cover damage due to wear and tear, loss, overloading, misuse, abuse, incorrect assembly, incorrect use, or anything else beyond Rock the Bike’s direct control.

The warranty is valid for the original owner, for purchases from an approved distributor or dealer.

The use of an unauthorized attachments may cause injury or damage and will void the warranty.