



The Remote Audio BDS (Battery Distribution System) has been the standard power management system in ENG audio bags for over a decade. Once considered a luxury, the ability to power multiple pieces of audio equipment with a single rechargeable battery is now a necessity as equipment demands become more complex. The BDS system accommodates this need with a reliable, convenient, and robust design. The BDSv4 adds refinements such as a built-in "low-battery" indication with three user-selectable thresholds, and an easily accessible "switched/unswitched" toggle. All this functionality has been built into a package smaller than the BDSv3 it replaces.

Description

Remote Audio's BDS system consists of a reverse-polarity protected and overload protected distribution box with bi-color illuminated on/off switch, six outlets, power source (typically a rechargeable battery such as the NP-1), an input cable, and output cables for the devices being powered. The primary purpose of the BDS system is to simultaneously turn on and off multiple pieces of equipment being powered by a single source. For this basic function, the BDSv4 may be used exactly like the older BDS versions that it replaces. The input and output connections are the same, so all previous BDS input and output cables manufactured by Remote Audio are compatible with the BDSv4.

Connectors and Cables

The outlet connectors on the BDS box are a special switching type that requires a long-shaft mating plug with a 2.5mm hole. This connector set was chosen for its strength and so that unused (exposed) outlets on the box are not active until a cable with the proper mating connector is plugged into it, helping prevent accidental short circuits. Output cables by Remote Audio are manufactured specifically for use with the BDS, and come with unique low-profile right angle locking connectors. Therefore, it is recommended that only Remote Audio brand output cables be used with the BDS system. The polarity of the outlets is "center positive". "Y" cables are available for connecting more than six devices. Input cables, battery adapters and AC-DC adapters by Remote Audio are also available. The input connector on the BDS box is a common TA4M (miniature 4-pin male XLR) with the standard scheme of "pin-1 NEG, pin-4 POS". To improve reliability and reduce voltage drop, the contacts are doubled 1-2 and 3-4 at the circuit board. Therefore, if the user wires their own input cables, it is recommended to connect pins 1-2 and 3-4. The power indicator built into the BDS box switch can be used to confirm proper polarity of the input cable (if it illuminates, the polarity is correct).

Switched vs Unswitched Outlet

The indicated outlet can be either "switched" or "unswitched." "Switched" means that the outlet turns off and on when the main toggle switch is thrown. "Unswitched" means that the outlet is always on when power is present. The factory default for that outlet is "unswitched." This feature is often desired for the audio mixer. For example, in this configuration, when only the mixer and boom mic are needed, turning off the BDS box will turn everything off (receivers, etc.) except for the mixer. This can be a convenient way to turn off everything that is not needed, extending the life of the battery. The status of the outlet can be easily reversed to "switched" by sliding the nearby switch using a toothpick or jeweler's screwdriver. When using a metal tool to change the switch position, make sure the BDS is powered off to eliminate the possibility of short-circuits.

Low Battery Indicator

The illuminated toggle switch is a bi-color type that indicates when your power source (typically a battery) falls below a certain voltage level. This threshold voltage is selectable via a switch on the face of the BDSv4.



Three voltages are available for use with the most common battery chemistries:

13V - for Lithium-Ion
11.5V - for Nickel-Metal Hydride*
11V - for Lead Acid ("Gel Cells")

(* - Default Factory Setting)

When the battery voltage falls below the selected threshold, the illuminated toggle will switch from Green to Red. Battery voltage is influenced by the current draw of connected devices, so some experimentation may be needed to find the correct threshold for your setup.

Short Circuit and Overload Protection

The BDS box has auto-resetting protection against output short circuits and loads in excess of 5A @ 12V (60W), with each outlet capable of handling up to 3A. If the BDS fails to pass power, it could be due to an overload or short circuit. In the case of a short circuit of an individual output cable or piece of gear, only that outlet's breaker will trip, protecting the other connected gear from damage. If a piece of gear fails to power up, that output cable should be checked for continuity with a multimeter (shorted or open conductors), or replaced entirely. The BDS box will also protect itself when connected to loads of over 5A, and the on/off toggle switch will no longer be illuminated. However, it is very rare for field audio bags (the primary intended use for the BDS) to have current draws in excess of 5A.

Reverse Polarity Protection

As a protective feature for devices being powered, in the event that an input cable or battery adapter is miswired, the BDSv4 will not pass reverse polarity voltage to its outputs. Unlike some reverse polarity protection circuits, the BDS circuit does not cause a voltage drop during normal operation.

Noise and Shared Power Systems.

Thousands of satisfied field audio professionals are using the BDS system to power their equipment. However, it is possible to have unwanted audible noise induced into audio systems by a common (shared) power source. To optimize your system, it is recommended to use line level signals instead of mic level signals whenever practical. Also, turn phantom voltage off of all preamp inputs that are connected to non-microphone devices. If noise is still heard, to determine the cause, unplug one device at a time from the BDS box, noticing any change in noise associated with the removal of each device. If the noise goes away after unplugging a particular device, try powering that device with a separate battery. If using a separate battery causes the noise to go away, then the problem is a ground loop associated with the combination of a common power source and audio grounding schemes. Be aware that this noise will not be removed with "LC" filters found in some distribution boxes. To remove the noise, here are four options for interrupting the ground loop: 1) Use a separate battery for the offending device. 2) Try different grounding/floating schemes with the audio cables. 3) In devices that use a single 9V battery, use an isolating 9V battery eliminator such as those made by Lectrosonics. 4) Use a power isolator cable such as the Remote Audio Juicer cable.

Mounting Clip

The BDSv4 box comes with a stainless steel clip to aid in securing the box to a bag or strap. NOTE: Keep the original clip screws. Attaching the clip with screws longer than those originally supplied can damage the BDS box and void the warranty.

Specifications

Dimensions:	3.286" x 1.329" x 1.165" (83.5 x 33.8 x 29.6 mm)
Weight:	4.0 oz
Input Voltage:	6 - 20V
Output Current:	3A Max per output, 5A global max (60W)
Power Switch:	Recessed toggle, illum. Green when Power "ON" Red when voltage falls below selectable threshold.

Limited Warranty

For a period of 1 year (for the BDSv4 box), or 6 months (for BDS cables) from the time of sale, defects in parts and workmanship will be either repaired or replaced at the determination of Remote Audio. Dated proof of purchase required.