

MESA/BOOGIE®

CLEARLINK™ BUFFER / BALANCED LINE-DRIVER

Owner's Manual

SAFETY PRECAUTIONS:

- Read these instructions.
- Follow these instructions.
- Heed all notes and warnings.
- Do not use this device near water.
- Clean this device only with a dry cloth.
- Keep these instructions for future reference.
- Damage to this device by improperly connected and/or grounded equipment is not covered under warranty.
- This device contains no user-serviceable parts and includes components which are susceptible to damage by electrostatic discharge (ESD).
- Be sure to use only a properly rated "wall-wart" power adapter or universal pedalboard power supply, with extra attention paid to the correct polarity, voltage and current. Applying the wrong polarity, improper voltage or insufficient current to this device may cause poor and/or inconsistent tone, performance, and even damage! Refer to the CONTROLS & CONNECTIONS and SPECIFICATIONS sections for more information.
- Do not defeat an amplifier's safety ground - which is provided by the 3-prong AC power-cord plug! Doing so may not only be ILLEGAL, but it may also pose a SHOCK or ELECTROCUTION HAZARD.

Congratulations on your choice of MESA/Boogie® and welcome to the MESA® Family! The same passion for excellence, commitment to quality and dedication to customer satisfaction is present in each and every product we make in our one-and-only shop in Petaluma, California, U.S.A. Rest assured that the very same people that hand-build the finest amplifiers in the world, also built your CLEARLINK™ BUFFER/BALANCED LINE-DRIVER and you have access to the same resources for help that all our customers do. Call on us anytime and enjoy!

CLEARLINK™ BUFFER/BALANCED LINE-DRIVER

The CLEARLINK™ BUFFER/BALANCED LINE-DRIVER targets the inability that many pedals, and even some buffers have, which is to adequately drive a very long cable run to a back-line amplifier.

The integrated line-driver circuit is capable of driving up to a 330ft/100m balanced or shorter unbalanced cable run, via standard XLR microphone or shielded 1/4" TS instrument cables, respectively. A recessed and countersink protected side-panel pot allows intently adjusting the output signal level reaching the back-line amplifier, either directly (unbalanced) or balanced via a CLEARLINK™ CONVERTER/ISO TRANSFORMER.

Using the CLEARLINK™ BUFFER/BALANCED LINE-DRIVER in tandem with a STOWAWAY™ INPUT BUFFER resolves the deep-rooted signal loss and inconsistent tone issues faced by guitarists due to; capacitive loading, impedance loading and mismatching, and changes to a pickup's resonant frequency/peak, as a result of varying effect pedals and interconnecting cables. The two form an effects loop, which segregates the guitar and amplifier from the variables on a pedalboard, easily handles many pedals, interconnecting cables, and effortlessly drives a long cable run to the back-line amplifier, either balanced or unbalanced. They accomplish this by providing the

two constants in every guitar rig, the guitar and amplifier, with a resolute load and source, via the STOWAWAY™ and the CLEARLINK™, respectively. As a result, the only variations in sound and tone will be from the actual effect of the pedals on the pedalboard, and not from a guitar or amplifier related load-impedance mismatch issue.

CONTROLS & CONNECTIONS

It's always a good idea to make any audio connections with every piece of equipment in a guitar rig turned off, or at least the amplifier volume(s) turned down, to avoid loud bursts of sound from damaging speakers or other components.

The CLEARLINK™ BUFFER/BALANCED LINE-DRIVER should ideally be the last device connected to an amplifier's input, unless of course the BALANCED output is being used, and terminated with a CLEARLINK™ CONVERTER/ISO TRANSFORMER, which would then be the last device connected to the amplifier's input. And for optimal results in the preservation of a guitar's tone, allowing it to reach an amplifier with steadfast consistency, a STOWAWAY™ BUFFER should ideally be the first device the guitar is plugged into.

LED: When illuminated, this blue LED indicates the CLEARLINK™ BUFFER/BALANCED LINE-DRIVER is powered-up and ready to go!

LEVEL: Adjusts the output level of the integrated line-driver circuit, from Unity to +12dB. The pot is recessed and surrounded by an enclosure countersink for protection, ensuring any adjustments are made with intent, using either a guitar pick or small flat-head screwdriver.

IN: This 1/4" phono jack is the input and accepts the signal from the output of the last pedal on a pedalboard.

OUT: This 1/4" phono jack is the output and provides a buffered low-impedance signal from the integrated line-driver circuit. Connect this jack to the input of an amplifier using a shielded 1/4" TS instrument cable.

Note: When using shielded 1/4" TS (tip & sleeve) instrument cables, always aim for the best quality and shortest length possible.

WARNING: Do not use, or connect cables to, both the 1/4" OUT and XLR BALANCED jacks at the same time.

BALANCED: This 3-pin male XLR jack is another output and provides a buffered low-impedance signal from the integrated line-driver circuit that is balanced, for greater noise immunity and signal integrity. Connect this jack to the input of a CLEARLINK™ CONVERTER/ISO TRANSFORMER using a standard XLR microphone cable up to 330ft/100m long.

9VDC IN: This standard female DC receptacle is the external power supply jack and accepts a 2.1mm x 5.5mm male barrel connector from a standard 9Volt DC "wall-wart" power adapter or universal pedalboard power supply, with a NEGATIVE CENTER polarity plug. Refer to the SPECIFICATIONS section for additional information.

9VDC THRU: This standard female DC receptacle accepts a 2.1mm x 5.5mm male barrel connector and is meant to "pass" the power received at the 9VDC IN jack, onto a STOWAWAY™ INPUT BUFFER.

Note: An external DC "wall-wart" power adapter is not included.

WARNING: To avoid immediate damage to this device and voiding the warranty, do NOT connect an AC-Voltage, or ANY other DC-Voltage power supply to this jack, other than that specified above and in the SPECIFICATIONS section!

FAQ & HELPFUL HINTS

Can I use the CLEARLINK™ BUFFER/BALANCED LINE-DRIVER for my bass?

Yes you can!

I'm using a switched-mode power adapter/supply (SMPS) and hear a high pitch "whine", why is that?

Some of these SMPS adapters are noisier than others, especially those that aren't from a reputable or brand-name Mfg manufacturer. Another reason could be that you're trying to run to many devices from a single adapter. Though many of them have a high current output and tout being able to power many devices, doing so can result in the development and/or increase of noise, for some reason. If this is happening, we recommend either trying another adapter, or better yet - using a universal pedalboard power supply with enough isolated outputs to power every device on your pedalboard individually; better power = less noise = more tone!

FAQ & HELPFUL HINTS continued ►

What's the maximum length of cable that the CLEARLINK™ BUFFER/BALANCED LINE-DRIVER can drive?

It's capable of driving up to a 330ft/100m balanced cable run to a CLEARLINK™ CONVERTER/ISO TRANSFORMER with great noise immunity and signal integrity. A shielded instrument cable run that is unbalanced would need to be significantly shorter, with its maximum length determined by the construction quality of the cable and/or how "noisy" the venue is where the gear is being used. As mentioned elsewhere; "...when using shielded 1/4" TS instrument cables, always aim for the best quality and shortest length possible..."

Why wasn't a transformer isolated output provided, for splitting or ground loop elimination applications?

A transformer isolated output was not included in the design for several very good reasons; (i) fact is, the noise immunity and signal integrity provided by a specially designed and shielded audio isolation transformer at the end of a long cable run is far more superior than that provided by a transformer at the beginning, worst-case is it's just as good (ii) we know from previous buffer/splitter designs that not everyone makes use of a transformer isolated output; so instead of including a great, and very expensive transformer, and of course having to charge for it - we made it optional via our passive CLEARLINK™ CONVERTER/ISO TRANSFORMER (iii) the primary design goal of the CLEARLINK™ BUFFER/BALANCED LINE-DRIVER was to provide one of the two constants in every guitar rig, the amplifier, with a resolute source; simple, but very important (iv) pedalboard real estate - specially designed and shielded audio isolation transformers are not small, so you won't see (or hear them) in any sub-compact buffers (v) finally, experience has also taught us that a good number

of people who start off with signal splitting, soon wish or opt for devices that provide them with the ability to split AND switch each output on and off individually.

Can I plug my guitar directly into the CLEARLINK™ BUFFER/BALANCED LINE-DRIVER, using it as an input buffer at the start of my pedalboard?

Theoretically you could, but we have another device which is much better suited as a guitar input buffer, the STOWAWAY™ INPUT BUFFER. It is a 100% discrete Class-A circuit with an input impedance and other finely tuned characteristics which mimic that of a high quality tube amplifier, and it includes an RFI filter to minimize the possibility of radio-frequency interference and noise. It presents a dynamically ideal load to a guitar that remains steadfast, resulting in a tone that is consistent, while still allowing the guitar to breathe, live, and react - like plugging directly into the front of a tube amplifier. Alternatively, we also have a two-in-one device called the HIGH-WIRE™ DUAL BUFFER / OUTPUT BOOST which includes both circuits, plus a boost and tuner mute.

Using the CLEARLINK™ BUFFER/BALANCED LINE-DRIVER in tandem with a STOWAWAY™ INPUT BUFFER resolves the deep-rooted signal loss and inconsistent tone issues faced by guitarists due to; capacitive loading, impedance loading and mismatching, and changes to a pickup's resonant frequency/peak, as a result of varying effect pedals and interconnecting cables. They accomplish this by providing the two constants in every guitar rig, the guitar and amplifier, with a resolute load and source, via the STOWAWAY™ and the CLEARLINK™, respectively. The two form an effects loop, which segregates the guitar and amplifier from the variables on a pedalboard, easily handles many pedals, interconnecting cables, and effort-

lessly drives a long cable run to the back-line amplifier, either balanced or unbalanced. As a result, the only variations in sound and tone will be from the actual effect of the pedals on the pedalboard, and not from a guitar or amplifier related loading or impedance mismatch issue.

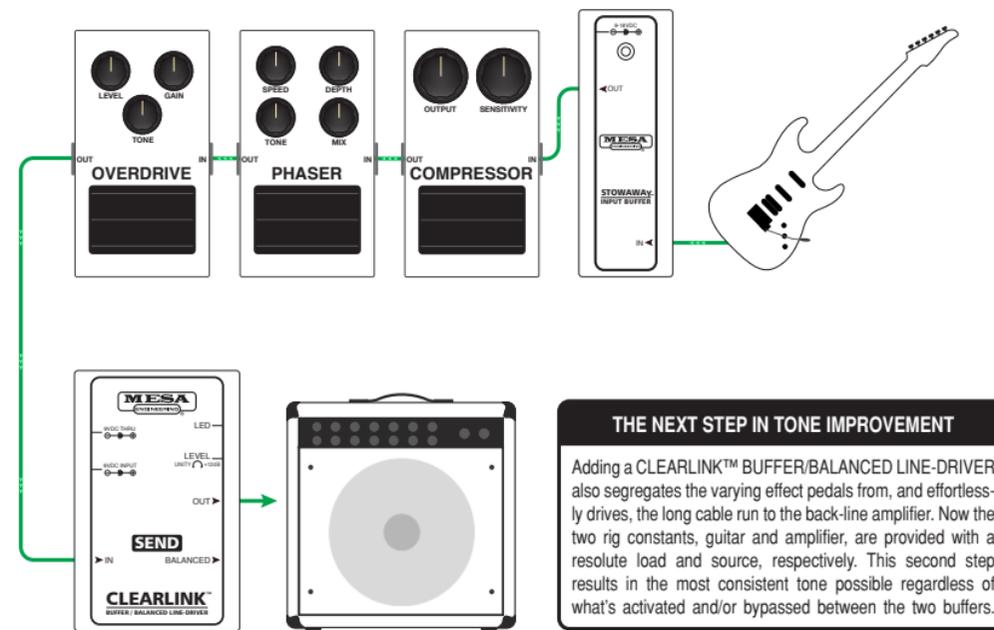
SPECIFICATIONS:

- Input Impedance: 1Mohm
- Buffer Design: High-Speed Low-Noise Op-Amp
- Output Impedance: 150ohm / 300ohm (Un / Balanced)
- Nominal Operating Voltage: 9VDC
- Maximum Operating Voltage: 12VDC
- Typical Current Draw: 10mA @ 9VDC
- DC Adapter (Optional): 2.1 x 5.5mm Barrel Plug, Negative Center
- Weight: 0.425 lbs (193 g)
- Dimensions (W x D x H): 3.86 x 2.48 x 1.71 inch (98 x 63 x 44 mm)

NOTE: Device specifications are subject to change without notice.

Application Diagrams are available at www.mesaboogie.com

CLEARLINK™ BUFFER/BALANCED LINE-DRIVER – SETUP #1



THE NEXT STEP IN TONE IMPROVEMENT

Adding a CLEARLINK™ BUFFER/BALANCED LINE-DRIVER also segregates the varying effect pedals from, and effortlessly drives, the long cable run to the back-line amplifier. Now the two rig constants, guitar and amplifier, are provided with a resolute load and source, respectively. This second step results in the most consistent tone possible regardless of what's activated and/or bypassed between the two buffers.

MESA/BOOGIE
The Spirit of Art in Technology™



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