MIT Multipole Technology Explained

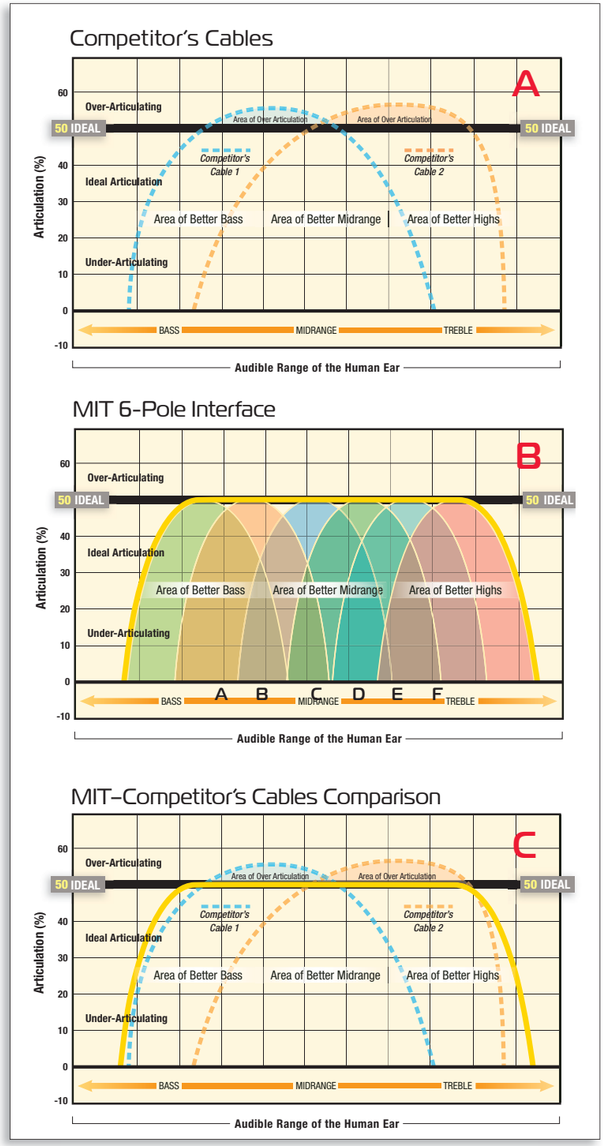
The *Vero HCA•29* and *HCA•50ex* Headphone Amplifiers are the world's first high current, battery powered Class A/B headphone amps housed with MIT's Multipole™ Technology.

Until now, MIT's Multipole Technology has only been housed within the little "boxes" found on all of MIT Cables' award-winning products. For the first time ever, MIT is integrating this technology inside an amplifier.

MIT Cables' core audio cable technology is our exclusive *Poles of Articulation (Multipole)*, named after the fact that every audio cable has a single point where it is most efficient at storing and transporting energy. At this point in the audio frequency spectrum, the cable will articulate best, and represents the cables' particular Articulation Pole.

About the Graphs: The graphs at right are conceptual illustrations representing the bandwidth of the audible range of the human ear. We use these graphs to illustrate how well a cable articulates across this bandwidth. The 50% line serves as our baseline for ideal articulation response. If a cable is over-articulating (above the 50% line), it's sound might be described as "harsh", or "brittle." If a cable is under-articulating, it will be perceived as lacking "detail", or "garbled".

Graph A: shows the bandwidth of two Competitor's audio cables as tested in the MIT laboratory. *Cable 1* has its Articulation Pole tuned to a lower frequency, and would be described by audiophiles as "muddy" or "veiled." *Cable 2* has its Articulation Pole tuned to a high frequency, and would be described by audiophiles as "bright" or "fast." Additionally, both cables have areas of "over-articulation" as shown in their respective shaded areas.



Graph B: This graph illustrates one of MIT's popular interfaces with 6 Poles of Articulation. MIT's interfaces are engineered to have multiple Articulation Poles optimized for the lows, mids, and highs. Our Poles of Articulation synergistically work together to transport the audio signal with a more even response than just a single cable, as if multiple cables are being used together. Poles A & B provide an area of better bass, Poles C & D provide an area of better midrange, and Poles E & F provide an area of better highs.

Graph C: This plot directly compares MIT's 6-pole interface (yellow line) to the Competitor's Cables from Graph A. MIT's interface provides a linear articulation response, resulting in a more controlled bass, and smoother, more extended highs along with a lower noise floor –"like multiple cables in one!"

When choosing an interface, look for the Multipole Technology logo with the performance rating indicating the number of Poles of Articulation in each product. This simple feature will help you select the correct performance level for any system, with complete confidence and accuracy.

Vero™ Truth in Audio.™

by MIT® Music Interface Technologies™

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Vero™ Truth in Audio.™

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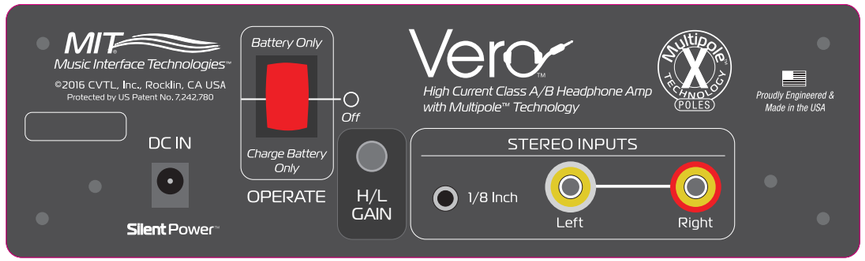


Vero 50ex Operation Manual

Proudly Engineered and Made in the USA

Silent Power™

by MIT® Music Interface Technologies™

Operating Instructions for your Vero™ Series Headphone Amplifier

High Current, Class A/B Headphone Amps *with* Multipole™ Technology

Please follow these steps to "initialize" the charging circuit prior to operating your new Vero Series Headphone Amplifier.

Before any use, please begin by turning the volume control knob full left counter clockwise to protect your ears, and disconnect the headphones. This procedure will protect you from unexpectedly high volume levels at start up. From there, please proceed:

1. Plug the charger into a convenient wall outlet from 100V AC to 230V AC. The LED on the charger will glow green indicating it is now powered (Fig. B). Insert the DC barrel connector to the "DC in" port, on the rear panel (Fig. C).

2. Rock the switch on the rear panel to the bottom or "Charge Battery Only" position (Fig. C)- The LED on the charger will now glow red if the battery is not 100% charged (Fig. A). (Upon reaching full charge it turns from Red to Green. Red means it is charging. Green means it has reached full charge.)

3. Rock the switch one click further to the center position, marked "OFF" (Fig. D). This is "STANDBY" position and the Green LED on the front panel should glow brightly (Fig. DD).

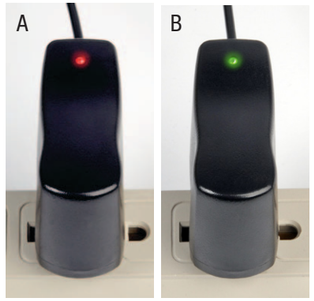
4. Rock the switch to the next position at the top (Fig. E). This is "On" and the Blue LED on the front panel should glow brightly. (Fig. EE)

5. Now that the initializing process is complete, set the rocker switch back to the starting "Charge Battery Only" position (Fig. C). If the LED on the charger is Red, you may elect to leave it there until it reaches 100% and glows Green.

6. Unplug the charger, connect your input source (1/8" or stereo RCA), check the volume control and switch the amp to the *Battery Only* position (Fig. E). The Blue LED will glow and the amplifier is in full operation mode (Fig. EE).

NOTE: You may need to repeat this process should the Vero amp not be used for extended periods of time. When the charging circuit sees an extended period without operation, a protection circuit is enabled, and the unit may appear to be non-responsive. This feature is designed to prevent the unnecessary discharge of the Lithium Ion batteries to zero. For battery details and specifications, please refer to the Samsung Data Sheet included. (No. ICR18650-26F)

Quick Start—Your Vero Series Headphone Amplifier



Charger Lights–

- *Red light* indicates unit is being charged.
- *Green light* indicates unit is fully charged and can operate in battery mode. Charging cable can now be safely disconnected from unit.

Charging Mode–

To recharge unit, connect charging cable into "DC In" and depress switch into "Charge Battery Only" position. Lights on the charger will indicate status. (Figs A & B)

Low Battery Indicator–

Light marked "Low Batt" will light up, indicating unit needs recharging (Fig. CC). Reconnect charging cable until green light appears indicating the unit is charged. (Fig B)

Standby Operation–

Position the red switch in the center "Off" position when the unit is not in use (Fig. D). The front panel green "Standby" indicator light will be lit (Fig. DD).

Battery Operation–

When Charger indicates a full charge by displaying a green light (Fig. B), charging cord may be disconnected and red switch (Fig. C) placed into up position labeled "Battery Only" (Fig. E) for normal operation. The front panel blue light indicating the unit is "On" will be lit (Fig. EE).

Plunger switch to cut gain (and noise floor) by 50%

The High/Low gain switch is for use with low impedance high sensitivity headphones to reduce circuit noise. Engineers agree that the way to optimize the listener experience and expectation is to install a plunger switch on the back of the unit to select Low, or High Gain. This feature cuts the power in half, and therefore cuts circuit noise in half. Most importantly, this noise is detectable only when music is not playing and does not negatively alter or diminish the musical experience.