



TECHNICAL Practice

TELECOM SOLUTIONS FOR THE 21ST CENTURY

TBB-1B

**Talk Battery
Booster**

November 18, 2009

Boost Talk Battery and Loop Current to Line Powered Devices



The **TBB-1B** will boost talk battery voltage up to 48VDC, and current up to 26mA on single analog line extensions behind PABX's and electronic key systems. This is helpful for powering line powered devices such as touch tone dialers and emergency phones on low voltage and/or low loop current extensions.

When the **TBB-1B** is being used, the power LED lights extra bright to show activity. The **TBB-1B** is not compatible with Pulse/Rotary dialing.

Features

- Boost talk battery voltage up to 48VDC
- Boost talk battery loop current up to 26mA
- Power LED also displays activity
- Passes original ringing through to the device
- Passes caller ID data
- Passes hook switch flash
- Passes CPC signals
- Power adapter included
- Compatible with touch tone dialing

Note: Not compatible with pulse/rotary dialing.

info@vikingelectronics.com

<http://www.vikingelectronics.com>

Applications

- Run line powered devices such as handsfree phones, touch tone hot-line dialers, digital announcers, etc.
- Increase maximum loop length on analog PABX/KSU stations
- Use with wireless doorbox devices
- Increase phone line voltage / current for alarm panels

Phone...715.386.8861

Specifications

Power: 120VAC/12V DC 500mA, UL listed adapter provided

Dimensions: 76mm x 112mm x 36mm (3.0" x 4.4" x 1.4")

Shipping Weight: 0.68 kg (1.5 lbs)

Environmental: 0° C to 32° C (32° F to 90° F) with 5% to 95% non-condensing humidity

Loop Current to Device: 26mA (nominal)

Talk Battery Output: 48V DC (nominal)

Connections: (4) screw terminals

Warranty

IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT PLEASE CONTACT: VIKING TECHNICAL SUPPORT AT (715) 386-8666

Our Technical Support Department is available for assistance Monday 8am - 4pm and Tuesday to Friday 8am - 5pm central standard time. So that we can give you better service, before you call please:

1. Know the model number, the serial number and what software version you have (see serial label).
2. Have your Technical Practice in front of you.
3. It is best if you are on site.

RETURNING PRODUCT FOR REPAIR

The following procedure is for equipment that needs repair:

1. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (RA) number. The customer MUST have a complete description of the problem, with all pertinent information regarding the defect, such as options set, conditions, symptoms, methods to duplicate problem, frequency of failure, etc.
2. Packing: Return equipment in original box or in proper packing so that damage will not occur while in transit. Static sensitive equipment such as a circuit board should be in an anti-static bag, sandwiched between foam and individually boxed. All equipment should be wrapped to avoid packing material lodging in or sticking to the equipment. Include ALL parts of the equipment. C.O.D. or freight collect shipments cannot be accepted. Ship cartons prepaid to:
Viking Electronics, 1531 Industrial Street, Hudson, WI 54016
3. Return shipping address: Be sure to include your return shipping address inside the box. We cannot ship to a P.O. Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.

RETURNING PRODUCT FOR EXCHANGE

The following procedure is for equipment that has failed out-of-box (**within 10 days of purchase**):

1. Customer must contact Viking's Technical Support at 715-386-8666 to determine possible causes for the problem. The customer MUST be able to step through recommended tests for diagnosis.
2. If the Technical Support Product Specialist determines that the equipment is defective based on the customer's input and troubleshooting, a Return Authorization (R.A.) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.
3. After obtaining the R.A. number, return the approved equipment to your distributor, referencing the R.A. number. Your distributor will then replace the product over the counter at no charge. The distributor will then return the product to Viking using the same R.A. number.
4. **The distributor will NOT exchange this product without first obtaining the R.A. number from you. If you haven't followed the steps listed in 1, 2 and 3, be aware that you will have to pay a restocking charge.**

LIMITED WARRANTY

Viking warrants its products to be free from defects in the workmanship or materials, under normal use and service, for a period of one year from the date of purchase from any authorized Viking distributor or 18 months from the date manufactured, whichever is greater. If at any time during the warranty period, the product is deemed defective or malfunctions, return the product to Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI., 54016. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (R.A.) number.

This warranty does not cover any damage to the product due to lightning, over voltage, under voltage, accident, misuse, abuse, negligence or any damage caused by use of the product by the purchaser or others.

NO OTHER WARRANTIES. VIKING MAKES NO WARRANTIES RELATING TO ITS PRODUCTS OTHER THAN AS DESCRIBED ABOVE AND DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

EXCLUSION OF CONSEQUENTIAL DAMAGES. VIKING SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO PURCHASER, OR ANY OTHER PARTY, FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR EXEMPLARY DAMAGES ARISING OUT OF OR RELATED TO THE SALE OR USE OF THE PRODUCT SOLD HEREUNDER.

EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY. WHETHER IN AN ACTION BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR ANY OTHER LEGAL THEORY, ANY LIABILITY OF VIKING SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, OR AT VIKING'S OPTION, REFUND OF THE PURCHASE PRICE AS THE EXCLUSIVE REMEDY AND ANY LIABILITY OF VIKING SHALL BE SO LIMITED.

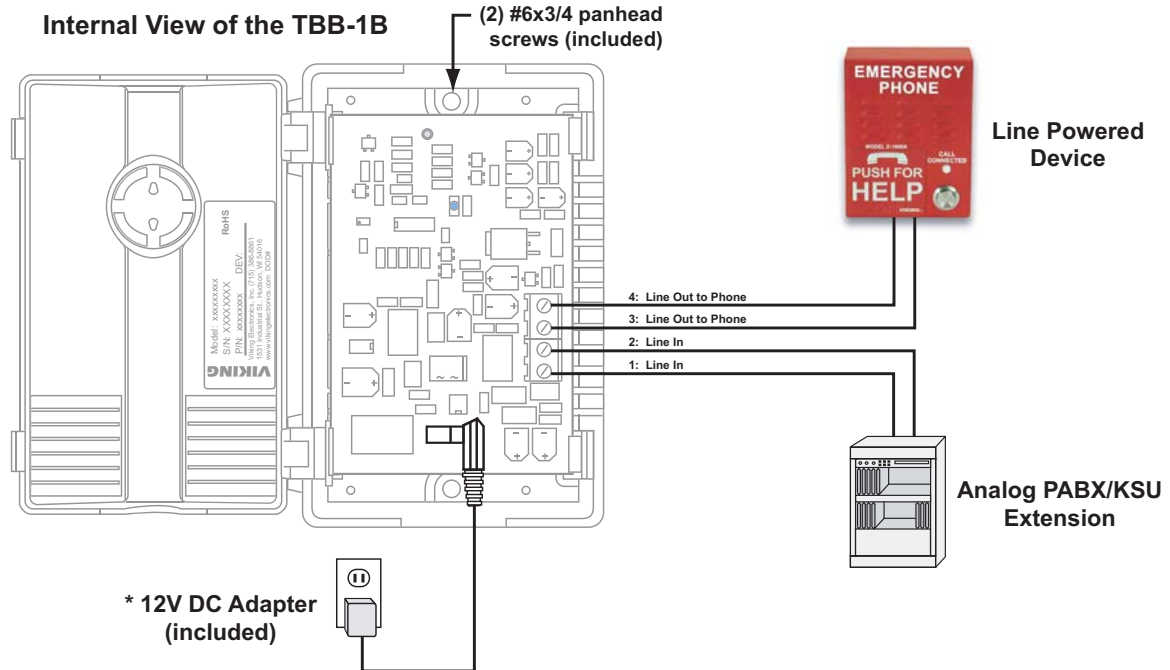
IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT EACH AND EVERY PROVISION OF THIS AGREEMENT WHICH PROVIDES FOR DISCLAIMER OF WARRANTIES, EXCLUSION OF CONSEQUENTIAL DAMAGES, AND EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY, ARE SEVERABLE FROM ANY OTHER PROVISION AND EACH PROVISION IS A SEPARABLE AND INDEPENDENT ELEMENT OF RISK ALLOCATION AND IS INTENDED TO BE ENFORCED AS SUCH.

Installation

Step 1.	Open the plastic cover.
Step 2.	Connect the analog extension to the LINE IN screw terminals.
Step 3.	Connect the line powered device to the PHONE screw terminals.
Step 4.	Connect the provided 12VDC adapter to the power jack.
Step 5.	Snap the cover back into place.



IMPORTANT: Electronic devices are susceptible to lightning and power station electrical surges from both the AC outlet and the telephone line. It is recommended that a surge protector be installed to protect against such surges. Contact Panamax at (800) 472-5555 or Electronic Specialists Inc. at (800) 225-4876.



* **IMPORTANT:** For emergency phone applications, use an uninterruptible power source.

Operation

The **TBB-1B** is designed to boost talk battery voltage and loop current of a single analog line. The **TBB-1B** achieves this by creating its own 48VDC talk battery supply that is set up as a 26mA current source. An analog phone line can be in three different states: the idle state, the ringing state, and the in-use state. The **TBB-1B** operated these three states like this:

Starting with the idle state; no matter what the incoming talk battery voltage is, the **TBB-1B** will supply 48VDC talk battery out to the on-hook phone. This is helpful for devices such as alarm panels that want to see high talk battery voltage as an indication the analog phone line is in good working condition.

In the ringing state, the **TBB-1B** provides a “copper-thru” path from input to output. This allows both the ringing signal and caller ID signals to simply pass through the unit.

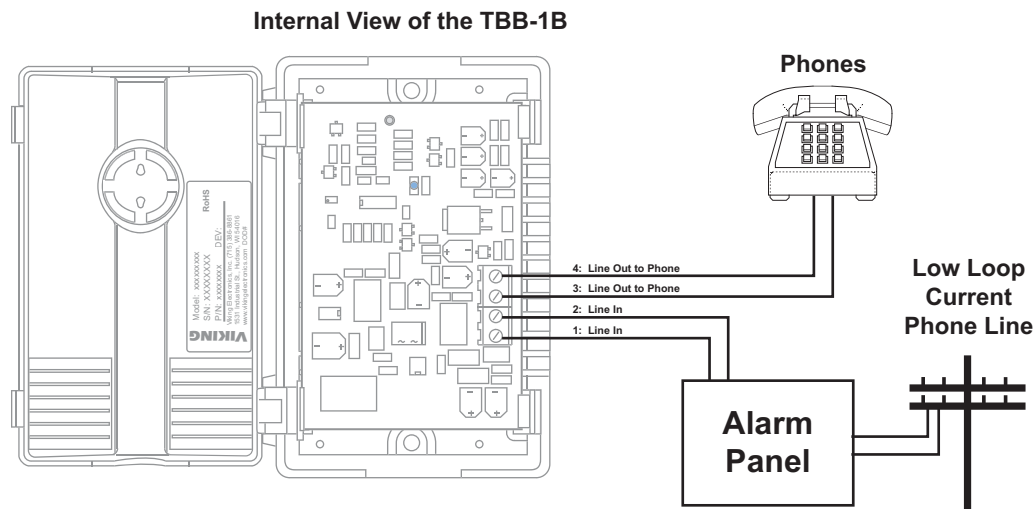
In the in-use state, the **TBB-1B** seizes the incoming analog line with a “gyrator” circuit, which provides a DC off hook state to the incoming analog line. At the same time, allowing the AC audio signal to freely pass through to the **TBB-1B**’s 26mA current source which is feeding the off hook phone device. So, no matter what the incoming loop current is, the **TBB-1B** will output 26mA of loop current to the off hook phone.

In the idle and ringing state, the **TBB-1B** power LED lights blue. When in the in-use state, the power LED lights extra bright.

Alarm Panel Applications

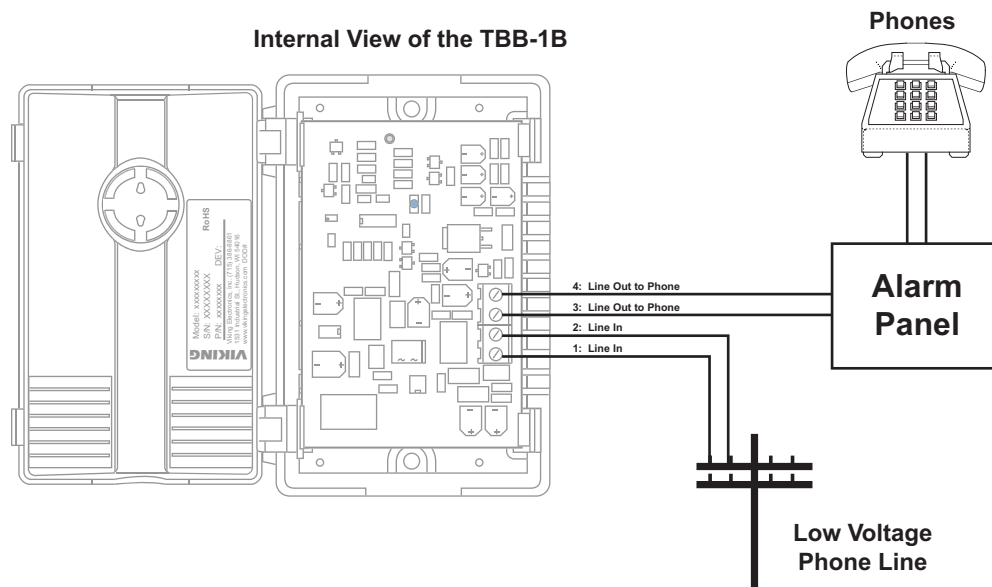
A. Low Loop Current

Low loop current from a VoIP ATA, cable company, or telco provided phone lines can cause some alarm panels to go into an alarm state due to very low levels at the phone when in-use. Solve this problem by wiring a **TBB-1B** as shown below. The **TBB-1B** increases the in-use voltage.



B. Low Idle Voltage

Low idle voltage from a VoIP ATA, cable company or telco provided phone lines can cause some alarm panels to go into an alarm state. Solve this problem by wiring a **TBB-1B** as shown below. A **TBB-1B** increases the idle voltage, converting 24 volt lines to 48 volt lines.



Due to the dynamic nature of the product design, the information contained in this document is subject to change without notice. Viking Electronics, and its affiliates and/or subsidiaries assume no responsibility for errors and omissions contained in this information. Revisions of this document or new editions of it may be issued to incorporate such changes.