

PHOENIX GOLD[®]

PHOENIX GOLD INTERNATIONAL, INC.

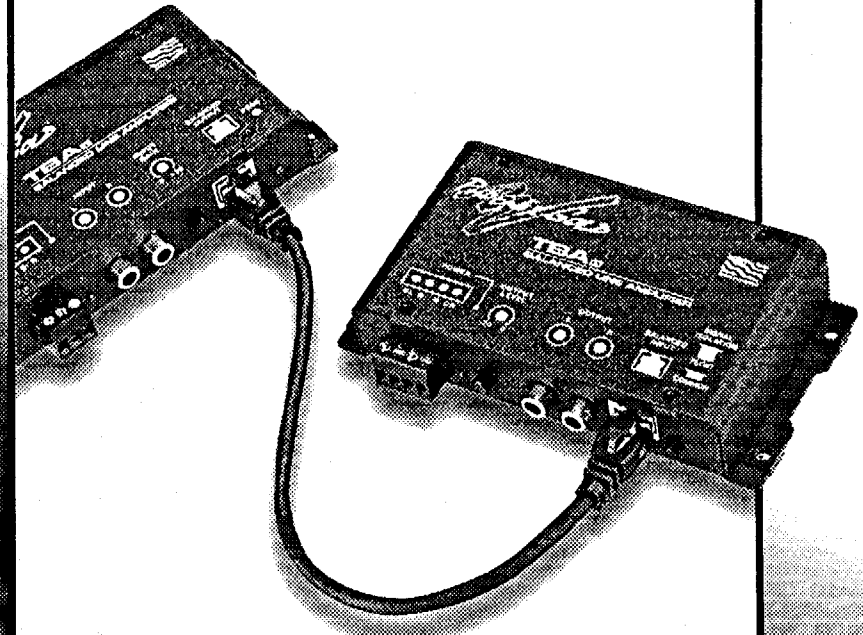
9300 North Decatur • Portland, OR 97203

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**OWNER'S
MANUAL**

TBAT

Balanced Line
Driver



PHOENIX GOLD
NO LIMITS!

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8100.0106 A

FEATURES

- Positive Locking Balanced Signal Connectors
- 24kt Gold Plated RCA Jacks
- Isolated Power Supply for Noise Free Performance
- +20 dB Input Gain Control
- Capable of 8 Volts RMS Output
- Power-On LED Indicator
- Quick Disconnect Power Plug
- 2 Layer Copper G10 Glass-Epoxy Printed Circuit Board
- Audiophile Grade 1% Metal Film Resistors

SPECIFICATIONS

Frequency Response	±1 dB, 10Hz to 30 kHz
S/N Ratio (20 Hz to 20 kHz, A-weighted).....	> 105 dB ref. to 8 VRMS
Total Harmonic Distortion plus Noise @ 1 kHz / 1 VRMS.....	< .02%
Input Impedance	5 kΩ
Output Impedance.....	50 Ω
Maximum Input Signal Level.....	8 VRMS
Input Gain.....	0 dB to +20 dB
Maximum Output Level.....	8 VRMS
DC Operating Range	10 volts to 15.5 volts
Typical DC Current Draw	0.2 amp
Internal DC Power Fuse.....	GMC 1 amp
Dimensions of Chassis	5.3"L x 3.0"W x 1.125"H
Dimensions with Flanges and Term. Blocks.....	6.0"L x 3.5"W x 1.125"H

Due to continuous development, features and specifications are subject to change without notice.



MOUNTING

The TBAT should be mounted near the headunit. There are only a few precautions that must be observed.

1. Never mount the TBAT where it can get wet. Water damage is not covered by the limited warranty.
2. Do not mount the TBAT where debris or cargo can physically damage it. Physical damage is not covered by the limited warranty.
3. Mount the TBAT to a flat surface with screws. Make sure the unit's base does not flex or distort.
4. The TBAT should not be mounted where they will be exposed to excessive amounts of heat from other components.

ELECTRICAL

All power connections are made with the removable power connector. Strip 1/4" of insulation from the end of the wire and "tin" the tip with solder as shown in figure 1.

figure 1
power wire
preparation

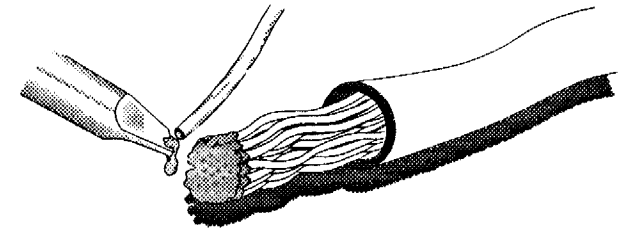
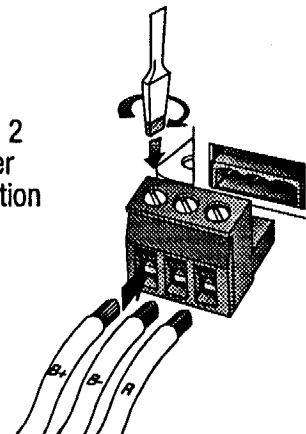
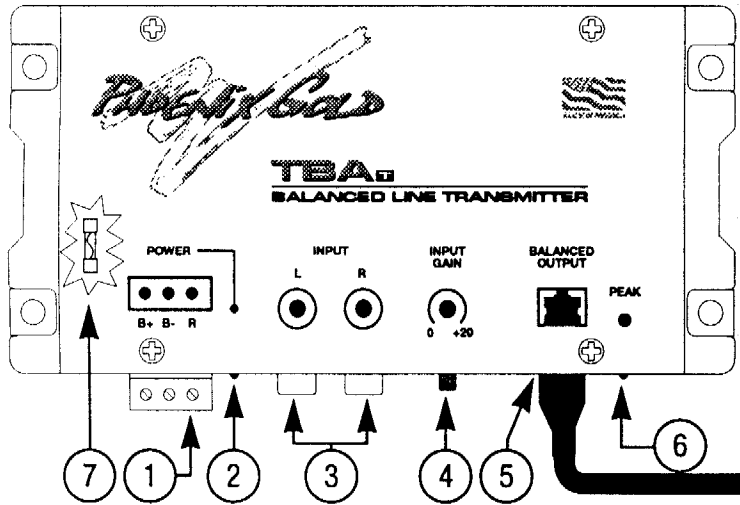


figure 2
power
connection



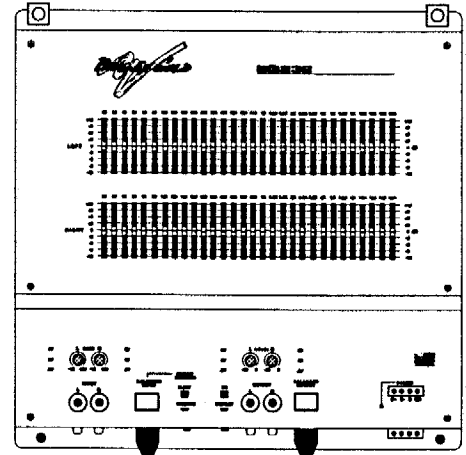
Insert each wire into the appropriate position in the power connector and tighten the set screw with a flat blade screwdriver as shown in figure 2.

Note: Use 16 gauge cable for the B+ and B- connection. Use 18 gauge cable for the Remote and Delayed Remote connections.

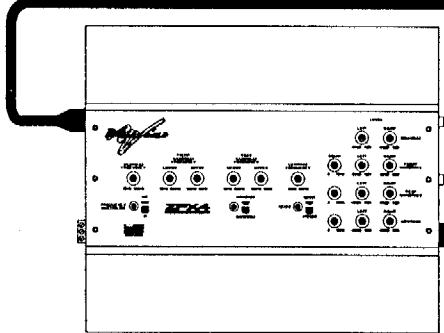


Phoenix Gold's exclusive XBC cables are available in 0.5, 1.0, 2.5, 5.0 and 6.0 meter lengths. These lengths should be adequate for most needs. If desired, custom made longer length cables may be ordered through an authorized Phoenix Gold dealer.

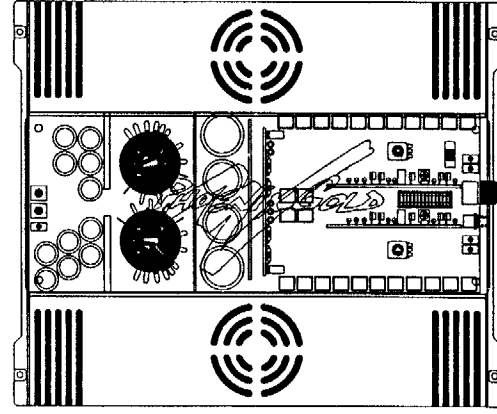
1. **Quick Disconnect Power Plug:** This connector is easily unplugged for servicing wiring connections and contains the following terminals:
B+ Terminal (Battery Positive): Connect to the stereo's power distribution system that is connected directly to the positive battery terminal.
B - Terminal (Chassis Ground): Connect to a clean, solid chassis ground of the vehicle. Keep the cable as short as possible.
R Terminal (Remote Turn-On): This connection allows the TBAT to be turned on and off remotely. Connect to a switched 12 volt source from the head unit.
2. **Power-On LED Indicator:** This LED turns on whenever the TBAT is grounded through the B - terminal and is receiving 12 volts at both the B + and Remote Turn-On terminals.
3. **Input Jacks:** These inputs are for standard RCA style cables from the head unit.
4. **Input Gain Control:** This control allows the input signal to be boosted as much as 20 decibels to the proper operating level of 8 Volts RMS.
5. **Balanced Output Jack:** This output is designed to accept an XBC balanced signal cable for connection to another ZEROpoint PRO component.
6. **Input Peak LED Indicator:** This LED will light when peaks in the input signal are approaching the 8 Volts RMS level.
7. **Internal Power Fuse:** This fuse is installed inside the TBAT to protect the power supply from reverse polarity or a short in the B + cable. It should never blow from normal operation. If replacement is necessary, use a fuse of the same size and type (GMC 1 amp). NEVER USE A FUSE WITH A HIGHER RATING.



EQ232 1/3 octave graphic equalizer with balanced input and output



ZPAX4 24 dB per octave crossover with balanced input and output



ZPA0.5 amplifier with balanced line input

INPUT GAIN AND OUTPUT LEVEL SETTING

1. Install the system's power fuses after all power wiring and signal cables are connected.
2. Set the TBAT's Input Gain Control to minimum (full counterclockwise).
3. Set all other signal processor input gain controls and output level controls to their minimum settings.
4. Set all amplifier input gain controls to their minimum settings.
5. Turn the headunit on with the volume set to minimum.
6. Visually check the TBAT's condition. The green Power-On LED should be on.
7. Visually check the power-on indicators (if equipped) of all other system components to verify that they are on.
8. Set the headunit's tone controls, balance and fader to the center (flat) position and turn off any loudness features or other processing effects.
9. Set the volume control of the headunit for maximum undistorted output (on most headunits this will be approximately 7/8 of maximum). Play a very clear and dynamic recording. Turn on the headunit's repeat track feature. **Note:** Do not be alarmed if you don't hear much sound coming from the speakers at this time.
10. It is possible to send as much as 8 volts RMS to the next component by turning up the Input Gain Control. The needs of the next component determine the settings for the Input Gain Control.
TBAT output going directly to a ZEROpoint amplifier: Turn up the TBAT's Input Gain Control until the Peak Indicator flickers on about once a second with the peaks in the music **OR** until the speakers connected to the amplifier begin to distort. If distortion is heard before the Peak Indicator flickers on once a second, turn the Input Gain Control back down just enough to eliminate the distortion. If the Peak Indicator flickers on about once a second before distortion is heard, leave the Input Gain Control at that point and turn the amplifier input gain

controls up individually until distortion is heard and then back it off just enough to eliminate the distortion. Go to step 11.

TBAT output going to another signal processor: Turn up the TBAT's Input Gain Control until the Peak Indicator flickers on about once a second with the peaks in the music. Turn up the Input Gain Control of the next signal processor until it is receiving the maximum amount of signal it can accept. Turn up the output level adjustment of the signal processor according to the input needs of the next signal processor. Repeat this procedure for each processor until the correct input gain of the last signal processor before the amplifier is set. Turn up the output level of the last processor until the speakers connected to the amplifier begin to distort. Turn the output level back down just enough to eliminate the distortion. If this adjustment cannot distort the speakers, then leave the output level at maximum and turn the amplifier input gain up until distortion is heard and back it off just enough to eliminate the distortion. Repeat this step for each amplifier in the system.

11. Once the maximum undistorted output for each amplified channel has been established it will be necessary to listen to the overall balance of the system and readjust the level controls for some channels. For example: If the right channel sounds louder than the left channel, the right channel's output should be lowered until it is equal to the left channel. Compare front to rear, subwoofer to midbass, midbass to midrange, etc. until the system is properly balanced.
12. When all input gains and output levels are set correctly, the system will reach maximum undistorted output at the volume level set in step 9. **Note:** The ultimate volume capabilities of the system will be determined by the weakest speaker and amplifier combination. If more overall volume is desired, it will be necessary to increase amplifier power or speaker capability or both.

