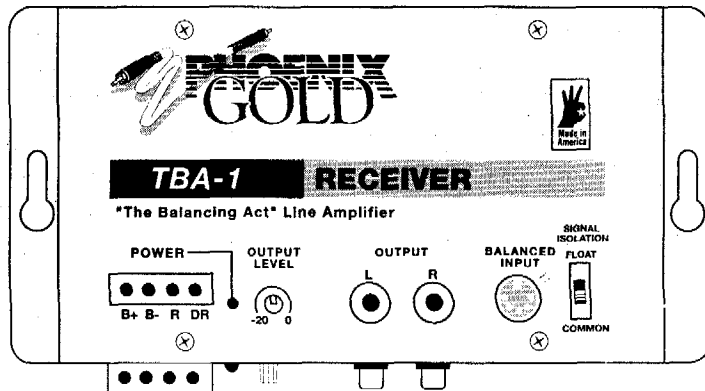


## FEATURES AND SPECIFICATIONS

### FEATURES

- Variable Input Gain
- Variable Output Level
- Peak Level LED Indicator
- Switchable Common/Floating Ground
- Gold Plated RCA Connectors
- Pulse Width Modulated Power Supply
- Delayed Remote Turn-On Output
- Quick Connect/Removable Power Connector
- Extensive QC Testing For Ultimate Reliability
- Made in the good ol' U.S.A.

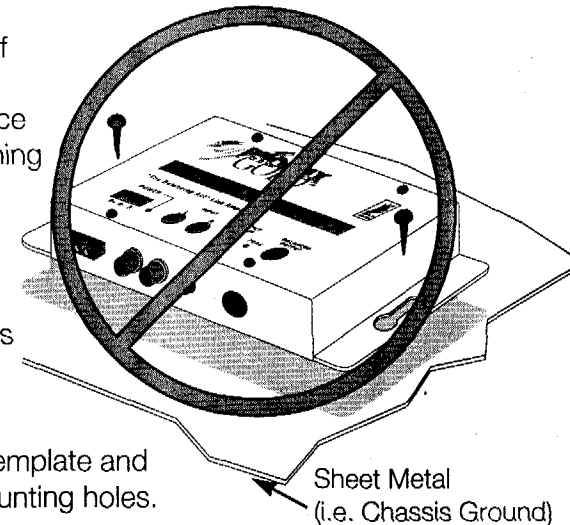


### SPECIFICATIONS

|                           |                              |
|---------------------------|------------------------------|
| Frequency Response        | .....15Hz to 20KHz +/-1dB    |
| S/N ratio (A weighted):   | .....110dB                   |
| THD at 1KHz:              | .....0.002%                  |
| IMD at 1KHz:              | .....0.02%                   |
| Input impedance:          | .....10K Ohms                |
| Output impedance:         | .....30 Ohms                 |
| Max Output voltage level: | .....Volts RMS               |
| Power source              | .....10.5 to 15 volts DC     |
| Input current:            | .....200ma                   |
| Dimensions:               | .....5.2" L x 3" W x 1.25" H |

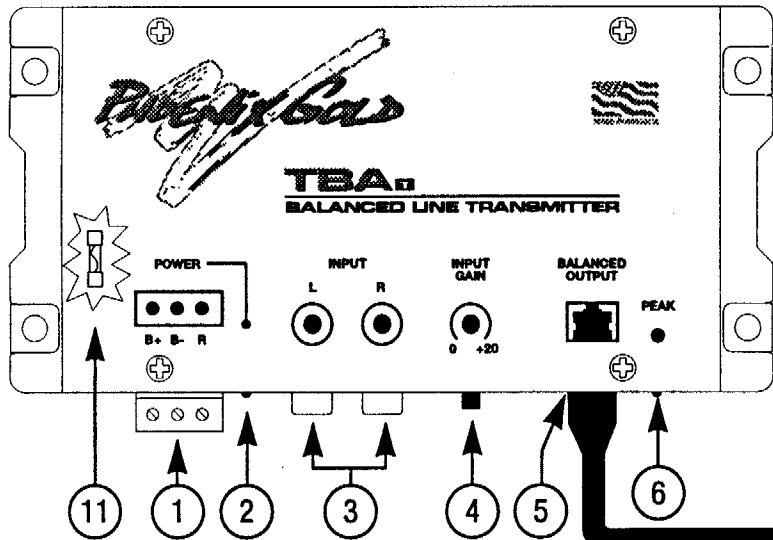
## MOUNTING / LOCATION

1. Do not mount the TBA-1(s) directly to metal. The case of the TBA-1 is "referenced" to chassis ground to help reduce spurious RFI from the switching power supply. If the TBA-1 chassis touches vehicle, it could cause a ground loop. Be extremely careful. If necessary, use rubber grommets for complete electrical isolation.

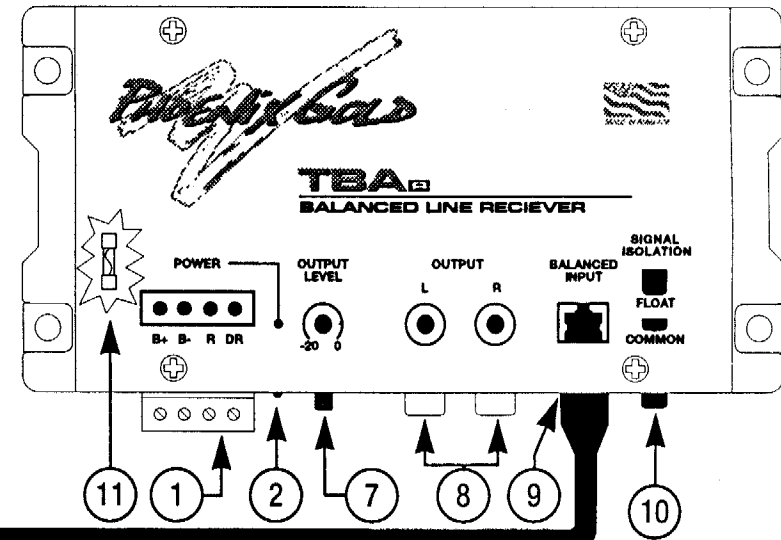


2. Use the TBA module as a template and mark the location to drill mounting holes.
3. Drill two (2) 1/8 inch pilot holes for the mounting screws.
4. Pre-mount the TBA module using the 1/2 x #6 pan head phillips sheet metal screws supplied. **Do Not** mount permanently yet !
5. For safety, disconnect battery ground cable during installation.
6. Make wiring connection from one component to the next, making sure that you plug outputs into inputs and not inputs into outputs.
7. It is best **not** to route wires along with the existing electrical wires in the vehicle. This may call for removal of kick panels, door sills, etc.
8. Make sure that the balanced cable does not short to the chassis of the vehicle. If the insulation (the outer plastic coating) of the cable is cut and shield touches chassis, then shield does not exist. This could cause "radiated" noise to get into the signal path- therefore a pretty serious noise problem.

**DO NOT ROUTE AUDIO CABLES AND POWER CABLES TOGETHER!  
THIS CAN CAUSE ENGINE NOISE IN YOUR AUDIO SYSTEM.**



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 units to be turned on and off remotely. Connect to a switched 12 volt source from the head unit.  
**DR Terminal (TBAR Delayed Remote Turn-On Output):** This output is used to delay the turn-on of amplifiers if they reproduce noises (turn-on pop) generated by preamp components as the system is first powered up.
2. **Power-On LED Indicator:** This LED turns on whenever the unit 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 Controls:** 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 the TBAR.
6. **Input Peak LED Indicator:** This LED will light when peaks in the input signal are approaching the 8 Volts RMS level.

7. **Output Level Control:** This control allows the output level to be cut as much as 20 decibels. With this control set to maximum, the TBAR can pass 8 Volts RMS to the next component in the system.
8. **Output Jacks:** These outputs are for standard RCA style signal cables that connect to another signal processor or to an amplifier.
9. **Balanced Input Jack:** This input is designed to accept an XBC balanced signal cable from the TBAT.
10. **Ground Isolation Switch:** This switch determines how balanced signal ground is referenced inside the TBAR. Set this switch to (COMMON) for most installations. This setting provides the best noise rejection for the majority of installations. Setting this switch to the (FLOAT) position disconnects signal ground and the overall shield of the XBC cable from the audio ground path of the internal circuitry. There is no absolute best setting for all installations. Use the setting that results in the lowest amount of system noise.
11. **Internal Power Fuse:** These fuses are installed inside both units to protect the power supplies from improper connection (reverse polarity) or a short in the B + cable. They 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.



## 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 and the TBAR's Output Level Control to minimum (full counterclockwise).
3. Set the TBAR's Signal Isolation Switch to (COMMON).
4. Set all other signal processor input gain controls and output level controls to their minimum settings.
5. Set all amplifier input gain controls to their minimum settings.
6. Turn the headunit on with the volume set to minimum.
7. Visually check the TBAT's and the TBAR's condition. The green Power-On LEDs should be on.
8. Visually check the power-on indicators (if equipped) of all other system components to verify that they are on.
9. Set the headunit's tone controls, balance and fader to the center (flat) position and turn off any loudness features or other processing effects.
10. 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.
11. Turn up the TBAT's Input Gain Control until the Peak Indicator flickers on about once a second with the peaks in the music.
12. At this point approximately 800 millivolts RMS is being passed through the TBAR's Output Level Control to the next component in the system. It is possible to send as much as 8 volts RMS to the next component by turning up the Output Level Control. The needs of the next component determine the settings for the Output Level Control.  
TBAR output going directly to an amplifier: Turn up the Output Level Control 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 then back it off just enough to eliminate the distortion. Go to step 13.

TBAR output going to another signal processor: Turn up the Output Level Control until the next signal processor is receiving the maximum amount of signal it can accept (consult the manufacturer's directions). 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.

13. 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 output 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.
14. When all input gains and output levels are set correctly, the system will reach maximum undistorted output at the volume level set in step 10. **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.

