

UNIVERSAL INSTALLATION AND OPERATION

The following universal installation instructions are for any 2-way radio (CB, amateur, etc.).

- 1) **Plan your installation! Read all instructions before beginning! If unclear about any part of these instructions it is recommended that the TRB-1™ be professionally installed.**
- 2) Disconnect the radio from all antenna and power connections. Remove the radio cabinets. Tighten all main circuit board-to-chassis screws, and microphone and antenna jack screws.
- 3) Locate an area inside the radio where the TRB-1™ can be mounted, keeping in mind wire lead lengths and the desired location of the control potentiometer (pot). Make sure that the TRB-1™ will not interfere with the radio speaker and cabinets and that no components inside the radio will be touching the TRB-1™. Mount the TRB-1™ as far from the transmitter final stage as possible.
- 4) Once a good location has been found for the TRB-1™ board and control pot, carefully drill the necessary holes. Drill two 1/8" holes for the TRB-1™ board and one 5/16" hole for the control pot. It may also be necessary to drill the control pot hole in the cabinet. Some radios come equipped with an echo board or have provisions for an internal echo board. It may not be necessary to drill any holes when installing the TRB-1™ in these radios. See upgrade instructions.
- 5) Remove the wires and connector from J12 on the TRB-1™. This connector and 3 wires are only used in an upgrade installation (see below).
- 6) Unsolder the audio line from the radio microphone jack. See list below for mic jack pin info.
- 7) Solder the TRB-1™ audio input lead (wire 3 from J2) to the mic jack audio pin and the audio output lead (wire 1 from J1) to the audio wire removed from the radio microphone jack in step 6.
- 8) Solder both TRB-1™ audio ground leads (wires 2 from J1 and 2 from J2) to the ground pin on the radio microphone jack.
- 9) Solder the positive TRB-1™ power lead (wire 1 from J4) to the positive (+) 13.8 volt DC source switched at the On/Off Volume control of the radio. Note : Most new style radios switch +13.8 volts DC at the On/Off Volume control. However, some older base radios switch 117 volts AC at the On/Off Volume control. Voltage measurements must be made prior to wiring the TRB-1™ into any radio! If the TRB-1™ is connected to 117 volts AC it may destroy both the TRB-1™ and radio!
- 10) Solder the negative TRB-1™ power lead (wire 2 from J4) to ground pin on the microphone jack.
- 11) Solder the PTT leads (wires 1 from J2 and 3 from J1) to the PTT pin on the radio microphone jack.
- 12) Mount the TRB-1™ into the radio using the holes drilled in step 4. Check to make sure that the TRB-1™ is not touching any of the radio components and double check all solder connections.
- 13) Connect the radio to an antenna or dummy load and power to test the TRB-1™.
- 14) Before testing the TRB-1™ it may be necessary to make some adjustments for optimum performance. To set the TRB-1™ for optimum performance, connect the speaker to the radio. Turn the radio microphone gain to maximum and temporarily short wire 2 from J2 to wire 3 from J2. Turn the Output Gain control (VR1) fully clockwise. Turn the Echo Level control fully clockwise and the Echo Delay control fully counter-clockwise. While keying the radio slowly adjust the Echo Volume Trimmer (VR2) until only a slight feedback effect is heard (VR2 will be approx. at mid point). Once this is done the TRB-1™ will be set for optimum performance.
- 15) To operate, turn the radio and TRB-1™ on. Adjust the Echo Delay and Echo Level to the desired level and transmit as normal. The Echo Delay control can be adjusted while transmitting for Whammy™ sound effects. All types of sound effects, including Endless Echo™, can be achieved by adjusting VR2 along with the Echo Level and Echo Delay control pots.

UPGRADE INSTALLATION

The following installation instructions are for upgrading a stock echo board, found in many export and 10 meter radios, to a TRB-1™.

- 1) **Plan your installation! Read all instructions before beginning! If unclear about any part of these instructions it is recommended that the TRB-1™ be professionally installed.**
- 2) Disconnect the radio from all antenna and power connections. Remove the radio cabinets. Tighten all main circuit board to chassis screws, and microphone and antenna jack screws.
- 3) Unplug the connectors from J1, J2 and J12 on the TRB-1™.
- 4) Locate the old echo board. Unscrew the board from its brackets, unplug the J1, J2 and J12 connectors and plug them into the same J locations on the TRB-1™.
- 5) Locate and remove the old echo control from the front panel of the radio. If there is a wire connecting the old echo control to the main part of the radio, cut the wire at the old echo control and tape it so it does not short out.

UNIVERSAL INSTALLATION AND OPERATION

The following universal installation instructions are for any 2-way radio (CB, amateur, etc.).

- 1) **Plan your installation! Read all instructions before beginning! If unclear about any part of these instructions it is recommended that the TRB-1™ be professionally installed.**
- 2) Disconnect the radio from all antenna and power connections. Remove the radio cabinets. Tighten all main circuit board-to-chassis screws, and microphone and antenna jack screws.
- 3) Locate an area inside the radio where the TRB-1™ can be mounted, keeping in mind wire lead lengths and the desired location of the control potentiometer (pot). Make sure that the TRB-1™ will not interfere with the radio speaker and cabinets and that no components inside the radio will be touching the TRB-1™. Mount the TRB-1™ as far from the transmitter final stage as possible.
- 4) Once a good location has been found for the TRB-1™ board and control pot, carefully drill the necessary holes. Drill two 1/8" holes for the TRB-1™ board and one 5/16" hole for the control pot. It may also be necessary to drill the control pot hole in the cabinet. Some radios come equipped with an echo board or have provisions for an internal echo board. It may not be necessary to drill any holes when installing the TRB-1™ in these radios. See upgrade instructions.
- 5) Remove the wires and connector from J12 on the TRB-1™. This connector and 3 wires are only used in an upgrade installation (see below).
- 6) Unsolder the audio line from the radio microphone jack. See list below for mic jack pin info.
- 7) Solder the TRB-1™ audio input lead (wire 3 from J2) to the mic jack audio pin and the audio output lead (wire 1 from J1) to the audio wire removed from the radio microphone jack in step 6.
- 8) Solder both TRB-1™ audio ground leads (wires 2 from J1 and 2 from J2) to the ground pin on the radio microphone jack.
- 9) Solder the positive TRB-1™ power lead (wire 1 from J4) to the positive (+) 13.8 volt DC source switched at the On/Off Volume control of the radio. Note : Most new style radios switch +13.8 volts DC at the On/Off Volume control. However, some older base radios switch 117 volts AC at the On/Off Volume control. Voltage measurements must be made prior to wiring the TRB-1™ into any radio! If the TRB-1™ is connected to 117 volts AC it may destroy both the TRB-1™ and radio!
- 10) Solder the negative TRB-1™ power lead (wire 2 from J4) to ground pin on the microphone jack.
- 11) Solder the PTT leads (wires 1 from J2 and 3 from J1) to the PTT pin on the radio microphone jack.
- 12) Mount the TRB-1™ into the radio using the holes drilled in step 4. Check to make sure that the TRB-1™ is not touching any of the radio components and double check all solder connections.
- 13) Connect the radio to an antenna or dummy load and power to test the TRB-1™.
- 14) Before testing the TRB-1™ it may be necessary to make some adjustments for optimum performance. To set the TRB-1™ for optimum performance, connect the speaker to the radio. Turn the radio microphone gain to maximum and temporarily short wire 2 from J2 to wire 3 from J2. Turn the Output Gain control (VR1) fully clockwise. Turn the Echo Level control fully clockwise and the Echo Delay control fully counter-clockwise. While keying the radio slowly adjust the Echo Volume Trimmer (VR2) until only a slight feedback effect is heard (VR2 will be approx. at mid point). Once this is done the TRB-1™ will be set for optimum performance.
- 15) To operate, turn the radio and TRB-1™ on. Adjust the Echo Delay and Echo Level to the desired level and transmit as normal. The Echo Delay control can be adjusted while transmitting for Whammy™ sound effects. All types of sound effects, including Endless Echo™, can be achieved by adjusting VR2 along with the Echo Level and Echo Delay control pots.

UPGRADE INSTALLATION

The following installation instructions are for upgrading a stock echo board, found in many export and 10 meter radios, to a TRB-1™.

- 1) **Plan your installation! Read all instructions before beginning! If unclear about any part of these instructions it is recommended that the TRB-1™ be professionally installed.**
- 2) Disconnect the radio from all antenna and power connections. Remove the radio cabinets. Tighten all main circuit board to chassis screws, and microphone and antenna jack screws.
- 3) Unplug the connectors from J1, J2 and J12 on the TRB-1™.
- 4) Locate the old echo board. Unscrew the board from its brackets, unplug the J1, J2 and J12 connectors and plug them into the same J locations on the TRB-1™.
- 5) Locate and remove the old echo control from the front panel of the radio. If there is a wire connecting the old echo control to the main part of the radio, cut the wire at the old echo control and tape it so it does not short out.

- Mount the control pot supplied with the TRB-1™ to the front panel. Note : The TRB-1™ control pot must be used to get the full sound range of the board.
- If there is a talk back wire soldered to one side of the J5 connector on the old echo board, unsolder it. Then locate wire 1 from J5 on the TRB-1™ and solder the talk back wire to the bottom side of the TRB-1™ circuit board at the wire 1, J5 location (this is a switched +5 volt DC source).
- Solder the positive TRB-1™ power lead (wire 1 from J4) to the positive (+) 13.8 volt DC source switched at the On/Off Volume control of the radio. Note : Most new style radios switch +13.8 volts DC at the On/Off Volume control. However, some older base radios switch 117 volts AC at the On/Off Volume control. Voltage measurements must be made prior to wiring the TRB-1™ into any radio! If the TRB-1™ is connected to 117 volts AC it may destroy both the TRB-1™ and radio!
- Solder the negative TRB-1™ power lead (wire 2 from J4) to ground pin on the microphone jack.
- Before testing the TRB-1™ it may be necessary to make some adjustments for optimum performance. To set the TRB-1™ for optimum performance, connect the speaker to the radio. Turn the radio microphone gain to maximum and temporarily short wire 2 from J2 to wire 3 from J2. Turn the Output Gain control (VR1) fully clockwise. Turn the Echo Level control fully clockwise and the Echo Delay control fully counter-clockwise. While keying the radio slowly adjust the Echo Volume Trimmer (VR2) until only a slight feedback effect is heard (VR2 will be approx. at mid point). Once this is done the TRB-1™ will be set for optimum performance.
- To operate, turn the radio and TRB-1™ on. Adjust the Echo Delay and Echo Level to the desired sound and transmit as normal. The Echo Delay control can be adjusted while transmitting for Whammy™ sound effects. All types of sound effects, including Endless Echo™, can be achieved by adjusting VR2 along with the Echo Level and Echo Delay control pots.
- On some stock echo boards R36 is removed and a wire is soldered into one of the R36 empty circuit board holes. Unsolder this wire from the stock echo board. Then, remove R20 from the TRB-1™ and solder the wire to the junction of C30 & R20 on the TRB-1™.

- Mount the control pot supplied with the TRB-1™ to the front panel. Note : The TRB-1™ control pot must be used to get the full sound range of the board.
- If there is a talk back wire soldered to one side of the J5 connector on the old echo board, unsolder it. Then locate wire 1 from J5 on the TRB-1™ and solder the talk back wire to the bottom side of the TRB-1™ circuit board at the wire 1, J5 location (this is a switched +5 volt DC source).
- Solder the positive TRB-1™ power lead (wire 1 from J4) to the positive (+) 13.8 volt DC source switched at the On/Off Volume control of the radio. Note : Most new style radios switch +13.8 volts DC at the On/Off Volume control. However, some older base radios switch 117 volts AC at the On/Off Volume control. Voltage measurements must be made prior to wiring the TRB-1™ into any radio! If the TRB-1™ is connected to 117 volts AC it may destroy both the TRB-1™ and radio!
- Solder the negative TRB-1™ power lead (wire 2 from J4) to ground pin on the microphone jack.
- Before testing the TRB-1™ it may be necessary to make some adjustments for optimum performance. To set the TRB-1™ for optimum performance, connect the speaker to the radio. Turn the radio microphone gain to maximum and temporarily short wire 2 from J2 to wire 3 from J2. Turn the Output Gain control (VR1) fully clockwise. Turn the Echo Level control fully clockwise and the Echo Delay control fully counter-clockwise. While keying the radio slowly adjust the Echo Volume Trimmer (VR2) until only a slight feedback effect is heard (VR2 will be approx. at mid point). Once this is done the TRB-1™ will be set for optimum performance.
- To operate, turn the radio and TRB-1™ on. Adjust the Echo Delay and Echo Level to the desired sound and transmit as normal. The Echo Delay control can be adjusted while transmitting for Whammy™ sound effects. All types of sound effects, including Endless Echo™, can be achieved by adjusting VR2 along with the Echo Level and Echo Delay control pots.
- On some stock echo boards R36 is removed and a wire is soldered into one of the R36 empty circuit board holes. Unsolder this wire from the stock echo board. Then, remove R20 from the TRB-1™ and solder the wire to the junction of C30 & R20 on the TRB-1™.

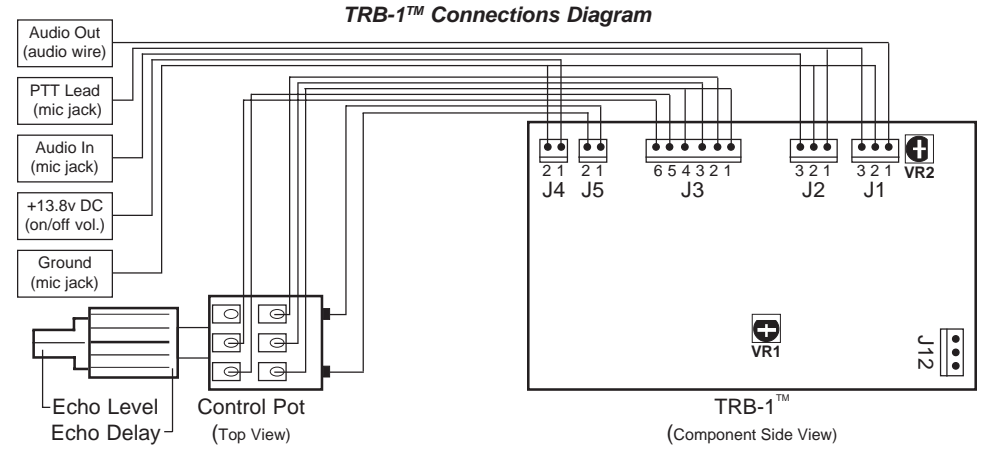
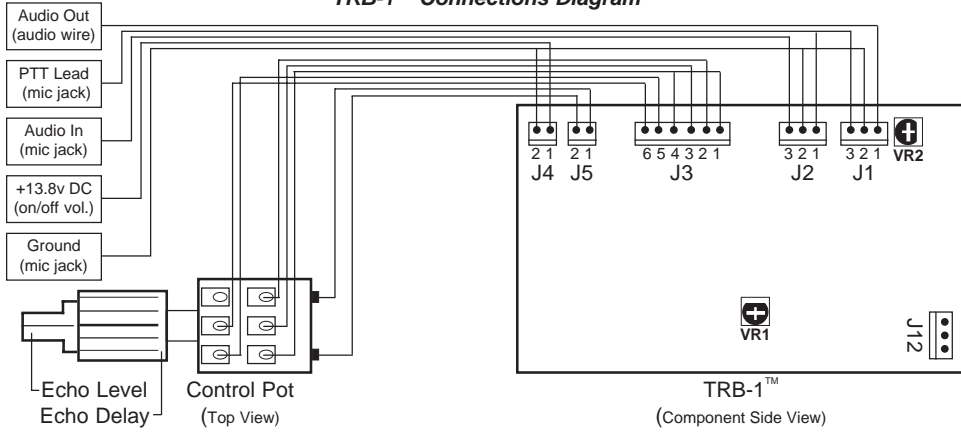
Radio Microphone Jack Pin Information

Radio Type	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
Cobra, Uniden (4pin)	Ground	Audio	PTT	Receive	n/a	n/a
Cobra, Uniden (5pin)	Audio	Ground	Receive	Ground	PTT	n/a
HR2510, Lincoln, Emperor (5pin)	Audio	Ground	PTT	Up	Down	n/a
RCI2950, 2970, 2990, Eagle (6pin)	Ground	Audio	PTT	Receive	Up	Down
Midland, AR3300, AR3500 (4pin)	Audio	Ground	Receive	PTT	n/a	n/a

Radio Microphone Jack Pin Information

Radio Type	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
Cobra, Uniden (4pin)	Ground	Audio	PTT	Receive	n/a	n/a
Cobra, Uniden (5pin)	Audio	Ground	Receive	Ground	PTT	n/a
HR2510, Lincoln, Emperor (5pin)	Audio	Ground	PTT	Up	Down	n/a
RCI2950, 2970, 2990, Eagle (6pin)	Ground	Audio	PTT	Receive	Up	Down
Midland, AR3300, AR3500 (4pin)	Audio	Ground	Receive	PTT	n/a	n/a

TRB-1™ Connections Diagram



TRB-1™ Warranty Information

Your TRB-1™ is warranted against manufacturing defects for 1 year from the date of purchase. All returns must be accompanied by the original receipt for warranty to be valid. Warranty status will be determined by RF Limited. RF Limited reserves the right to void the warranty if the product has been tampered with or misused.

TRB-1™ Warranty Information

Your TRB-1™ is warranted against manufacturing defects for 1 year from the date of purchase. All returns must be accompanied by the original receipt for warranty to be valid. Warranty status will be determined by RF Limited. RF Limited reserves the right to void the warranty if the product has been tampered with or misused.

To receive information on this and other RF Limited and Magnum products, call, fax or e-mail.

Mailing Address
Magnum International
PO Box 445
Issaquah, WA 98027

Shipping Address
Magnum International
1145 12th Avenue NW, C7
Issaquah, WA 98027

TEL: (425) 295-0390 FAX: (425) 295-0394
E-Mail: info@MagnumRadio.com
Web: www.RFLimited.com & www.MagnumRadio.com

To receive information on this and other RF Limited and Magnum products, call, fax or e-mail.

Mailing Address
Magnum International
PO Box 445
Issaquah, WA 98027

Shipping Address
Magnum International
1145 12th Avenue NW, C7
Issaquah, WA 98027

TEL: (425) 295-0390 FAX: (425) 295-0394
E-Mail: info@MagnumRadio.com
Web: www.RFLimited.com & www.MagnumRadio.com