

Installation Instructions - NR-2A Active Pickup For National Style Biscuit Bridge Instruments

Important Notes:

- 1) It is critical that the fit of the saddle into the biscuit of the instrument be rock solid. If there is any movement or play in the saddle, the pickup may not work properly. Should you need to replace the existing saddle to achieve a proper fit into the biscuit or need to shim and/or glue the saddle in, then it should be done prior to installing this pickup system. The saddle fit to the biscuit must be tight otherwise there can be quite noticeable variations in string to string volume. Address this as required.
- 2) The primary location for mounting the sensor is on the face of the saddle (as shown in fig.1). Depending upon the instrument, if the output of the pickup is found to be too trebly or harsh, then the sensor may be mounted to the surface of the biscuit itself.
- 3) Remove the strings, cover plate and the resonator cone from the instrument.
- 4) You have the option, depending upon the construction of your instrument, to mount the endpin jack preamp in one of two ways: either through the side wall of the instrument or through the end block to replace the existing end pin.
- 5) Preamp installation: On wood bodied instruments you generally have a choice as to where you may install the preamp - either through the end block of the instrument or through the side. On metal bodied instruments there is normally a neck stick running from the butt of the neck to the tail block which is usually held in position by the strap button mounting screw. On these instruments, installing the preamp through the side of the instrument is generally the only option. Before drilling any holes, make certain that the preamp will actually fit in the area you want to mount it.

For Wood Bodied Reso's

- 1) As shown in fig 3, drill a 3/32" diameter hole through the wall of the well approximately 1/2" below the top surface of the instrument.
- 2) Choose a spot where you want to locate the endpin jack preamp, making sure it will fit.
- 3) If you are installing the jack through the end block of the instrument, a 1/2" diameter hole is to be drilled to allow the jack body to pass through the block.
- 4) If you are installing the jack through the side of the instrument, a 3/8" diameter hole is to be drilled to allow only the smaller diameter end of the jack to pass through the body.

For Metal Bodied Reso's

- 1) As per fig 3, Drill a 1/4" diameter hole approximately 1/2" down from the top of the instrument through the wall of the well. Remove any burrs from the hole and insert grommet into the hole.
- 2) Choose a spot on the side of the instrument where you want to locate the endpin jack preamp.
- 3) Drill a 3/8" diameter hole to allow only the smaller diameter end of the jack to pass through the body.

Wiring

- 1) Feed the lead wire from the pickup sensor through the hole/grommet in the well wall.
- 2) The lead wire from the sensor is a shielded cable consisting of an outer wrap (ground) and an inner insulated wire (+).
- 3) Unscrew the black preamp cover. Feed the lead wire from the sensor through the cover.
- 4) Prepare the end of the sensor wire so that the outer (-) shield and the inner (+) wires can be soldered to the appropriate pads marked 'Input 1' as shown at right in fig 4.
- 5) The amount of gain for channel 1 is set on the opposite face of the circuit board with the trim pot marked as 'Gain Set Input 1' in fig 5.
- 6) Gain should normally be set at about 20% of maximum. The second channel, which is not being used, should have its trim pot rotated fully counter-clockwise to turn off that channel.
- 7) Re-install the preamp cover. The preamp may now be installed in the hole that has been drilled for it.
- 8) If you are installing a battery, locate a spot where you wish to place the battery and stick the provided velcro pad into place. Secure the battery wires with the supplied clips.



fig 1



Fig 2



fig 3

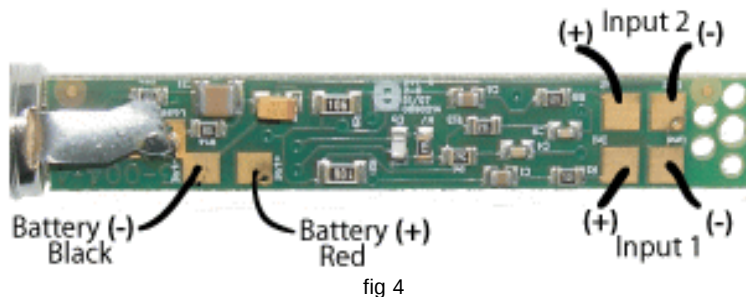


fig 4

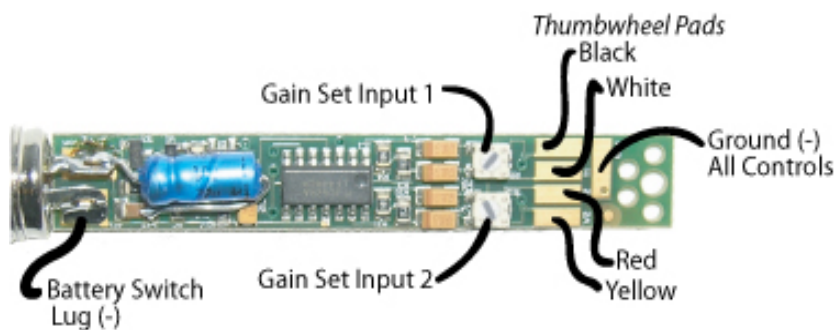


fig 5

Sensor Mounting

- 1) The sensor will mount with the supplied 3M VHB tape. Take a piece of the narrow VHB tape, cut it to the length of the sensor, remove the backing paper on one side of the tape and apply it to the non-labeled side of the sensor.
- 2) It is recommended that you first install the sensor on the saddle and then on the biscuit if necessary.
- 3) Mounting to the saddle: The sensor element is not to come into contact with the biscuit itself. Place a shim or spacer approximately 1/16" to 1/8" thick on top of the biscuit. The strings should not be able to come into contact with the sensor.
- 4) The element is to be centered along the length of the saddle so it spans approximately the distance from the 5th and 1st strings. Remove the backing paper on the VHB and firmly place the sensor into place on the saddle. Remove the shim/spacer keeping the sensor from contacting the biscuit.
- 5) It is suggested that you reinstall the cone and strings and check the pickup for output level and sound quality at this point.
- 6) If necessary, reinstall the sensor onto the biscuit with a new piece of VHB tape. Place the sensor so that it does not touch the saddle (fig 2.). Check the sound. Locate the pickup for best sound.
- 7) Any excess wire between the sensor and the well wall should be pushed through the hole in the well wall.
- 8) Remove the strings, and reinstall the cover plate and strings.

Preamp Specs:

2 Channels, gain settable from 0 to 20 db. on each channel via the small white trim pot on each channel.
Multiple power capability - The preamp may be run from a 9 volt battery onboard an instrument, or with phantom power (up to 48 volts d.c.) from a mixer or amplifier, or from an outboard battery pack (part RP-1). A special cable (part CAB-1) is required to run from either phantom power or battery pack.

Information For Use With Phantom or Outboard Power

CAB-1 Cable Specs: <i>Optional</i> Ten foot, 3 conductor cable, XLR male to TRS 1/4" stereo male.		RP-1 Battery Box Specs: <i>Optional</i> remote 18 volt battery box, XLR female jack to 1/4" mono female jack, holds 2 x 9 volt d.c. batteries. Requires CAB-1 cable from instrument to RP-1. A standard guitar cord is used to connect from the 1/4" mono jack to a guitar amp	
XLR Pin	1/4" Stereo		
Pin 1	= Ground =	Sleeve	
Pin 2	= Signal =	Tip	
Pin 3	= Power =	Ring	

Information For Adding Volume Controls

- 1) Volume controls may be wired to the circuit board, tone controls cannot.
- 2) For each channel that you wish to have a volume control, a trace must be cut on the circuit board. The trace cut is shown in fig 6.
- 3) Pots used should be 500k audio taper.
- 4) Fig 5 shows wire color assignments where the wires coming from volume pots are to be attached.
- 5) There are three lugs on a pot, labeled as 'T', 'W', and 'G' in fig 7.
- 6) On one pot, black lead from the circuit board goes to lug W, white lead goes to lug T, ground goes to lug G.
- 7) On a second pot, red lead goes to lug W, yellow lead goes to lug T, ground goes to lug G.

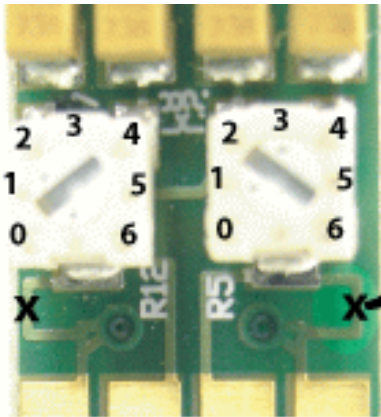


fig 6

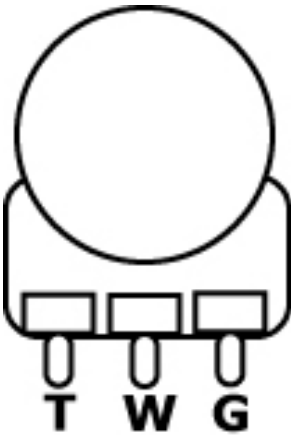


fig 7