

# NS WAV DESIGN VIOLIN INSTRUCTIONS

## SHOULDER REST

Bend the malleable aluminum top plate as desired with fingers and thumb. Firm foam is backed by a layer of malleable aluminum that can be bent with fingers and thumb to conform to the contours of your upper chest and shoulder. Once the shoulder rest is formed, the shape remains fixed, providing a secure structural platform.

The round connecting arm should extend from the shoulder rest up into the back of the violin as shown at the right. The connecting arm should slide up into the hole located on the back adjacent to the knob near the chin rest bar (loosen knob first). Slide the connecting arm in or out to set the height of the shoulder rest. The clamp on the shoulder rest adjusts the angle and location. When a comfortable position is achieved, tighten both knobs to prevent movement.



Bending the malleable aluminum base



Inserting the shoulder rest



The complete shoulder and chin rest assembly

To store the violin in its case, loosen both knobs and slide the entire shoulder rest assembly out of the instrument. Fold the connecting arm flat against the shoulder rest. The violin and rest are now ready to be placed in the case. **Do not leave the connecting arm in the violin when it is stored in its case.**

## ADJUSTMENT OF THE SHOULDER REST CLAMPS

If the two clamps associated with the shoulder rest assembly (one on the body of the instrument, one on the base of the shoulder rest) are not properly adjusted, slippage of the support arm or shoulder rest base can be expected. If that happens, first check whether the two members of the clamp touch each other at one end or the other. If they do, loosen the clamp and adjust the set screw (the one at the end opposite the thumb screw) so that, when tightened, the two halves are parallel. Once that has been checked or adjusted, another easy step is to apply a coating of powdered rosin to the support rod where it contacts the clamp. Then tighten the thumb screw firmly.

This photo shows the proper orientation of the two clamp members, and the arrow points to the set screw used to adjust the position. This screw can be turned by hand, but it can also be adjusted using a hex key. Always loosen the thumb screw before adjusting the set screw.



**WAV SERIES PASSIVE CONTROLS:** Use high impedance input (over 1 meg ohm) for best results, (no battery required).

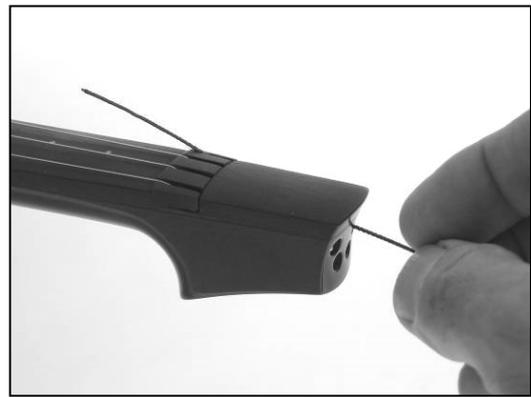
**Knob 1 - Volume. Knob 2 - Treble cut.**

### TUNING AND STRING CHANGE

We recommend NS Electric strings, but any solid and stranded core strings may be used. Tune strings with knobs located behind the bridge, like conventional fine tuners.

To remove strings, loosen knob all the way until the string pulls out of the tuner. If necessary, use a finger to push the tuning lever back and down to open the tuner jaws to free the string.

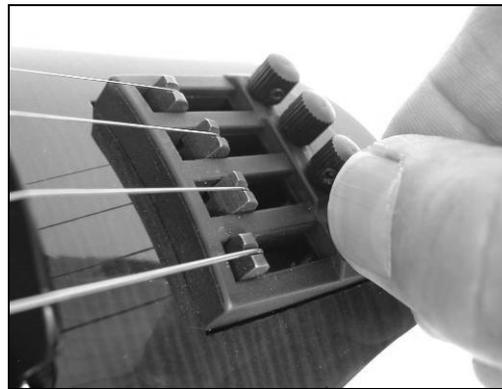
To install strings, thread the string through the hole in the end of the neck and pull it through the nut. Insert the free end of the string into the appropriate slot located just behind each tuning lever. (Be sure knob is rotated all the way in the counter-clockwise direction to open tuner fully so sting can enter easily.) Pull string through the tuner from the back, making sure the string is in the slot that rides up over the tuning lever, as shown above. Tune the string to pitch (the string will clamp automatically when tuned). Cut excess string.



**Threading the string through the neck**



**Inserting the string through the tuner**



**Clamping the string**

**Note:** We do not recommend Nylon, Perlon, or Gut Core strings, which have a great deal of stretch, and will not reach pitch unless they are pre-tensioned. The pitch of the pre-tensioned string must not be more than one fifth lower than the correct final pitch. If the string is not properly pre-tensioned, the string will not reach pitch.

**To pre-tension string:** After the string is inserted into the tuner, rotate the tuning knob clockwise until the string just begins to clamp (when the string can no longer be pulled out of the tuner). Pre-tension the string by pulling the string firmly through the tuner from the back. The string must be pulled strongly enough so that the resulting pitch of the pre-tuned string is less than a fifth below the correct pitch. For example, the D string must be pre-tensioned to A or higher. In this way the correct pitch can be achieved within the range of the tuning mechanism. This procedure should be repeated if the final pitch is not reached. The string ends may be wrapped around a pencil or similar object to grip the string so greater pulling force can be applied.



**Pre-Tension Perlon Strings**

### ACTION HEIGHT:

Adjust bridge height with the screws located under the bridge and accessible through the holes the back.

### BODY EXTENSION

The body extension provides the conventional position reference for the left hand. It is easily removable with the single screw located at the back of the neck.