OPERATING INSTRUCTIONS
PETERSON MODEL 100

The Model 100 is a precision instrument and will provide many years of trouble free service. In order to get maximum benefit from your tuner, please take time to read the following descriptive and operating information.

CAUTION

The instrument is designed to operate on 100-125 Volts, 50/60 Hz alternating current. (Export models require 220-240 Volts, 50/60 Hz.) Attempted operation from any other source of power will cause damage to the instrument. This damage will not be covered by the warranty.

READOUT DISPLAY

The readout of the Model 100 is a series of Light Emitting Diodes (LED). The LEDs will light up in groups when you begin to tune. If the guitar is sharp, the lighted groups will move from left to right across the display. The further out of tune the faster the groups will be moving. When the guitar is perfectly in tune the lighted groups will be stationary. If the guitar is flat, the groups will light from right to left. LEDs are semiconductors and for all practical purposes should never require replacement. A red filter is provided in front of the LED readout to reduce the effect from ambient light and greatly improve the clarity of the image.

The clearest readout will usually be obtained with the guitar pickup(s) and tone control(s) set in the mellowest position.

CONTROLS

All controls are located on the front panel. There are no user serviceable parts or controls inside the instrument.

ON-OFF SWITCH

Located on the lower right hand corner of the front panel. Sliding this switch to the right will turn on the power. The pilot light will light and the LEDs in the display may come on momentarily. Some guitars or guitar pickups have more sensitivity to hum. In this case, generally, the LEDs in the display will always be partially on.

NOTE SELECTOR

The Note Selector is located on the right side of the front panel. To set the instrument for tuning a particular pitch, rotate the Note Selector knob so the pointer lines up with the note name printed on the front panel.

VERNIER CONTROL

The Vernier Control is located directly to the left of the Note Selector. The purpose of this control is to enable you to raise or lower the reference pitch from the standard A-440 Hz. up to 35 Cents sharp or flat. (A Cent is 1/100th of a semitone or 1/100th of the distance between c and C#). Rotating this control clockwise raises the pitch (sharpens) and rotating it counterclockwise lowers (flattens) the pitch. When the knob on this control is pointing straight up in the "12 O'clock" position, the pitch of the tuner is based on A=440.

By using this control it is possible to raise (or lower) the pitch to match a keyboard instrument that is out of standard tune. To match the tuner to the keyboard, play a note on the keyboard corresponding to a note on a guitar such as an "E". As you strike the note on the keyboard, rotate the Vernier Control until the pattern appears to be stationary. The other instruments can now be tuned to the Guitar Tuner and they will match the keyboard.

It is not necessary to match all of the notes of the tuner to the keyboard since the others will automatically follow the first note adjusted. Moving the Vernier Control does not affect the temperament accuracy.

RANGE SWITCH

The Range Switch is located directly below the Vernier Control. This switch is incorporated in the instrument for easier tuning of bass guitars and for bridge adjustment. The "Normal" position should be used when tuning the open strings of standard guitars or adjusting the bridge of a bass guitar. The "Lo" position is used when tuning the open strings of a bass guitar and the "Hi" position is used when checking the bridge intonation of a standard guitar.

Using the Range Switch position as described above will generally give the best results with the most guitars. Guitars and pickups vary a great deal, however, and if your particular instrument gives a better indication on a Range setting other than as outlined, then use it instead. The Range setting will not affect the pitch. The only difference is you will have either twice as many or half as many LEDs lit in the pattern depending on whether the Range Switch is set higher or lower than the usual setting for any particular string.

The range of frequencies the Model 100 will tune in each position of the Range Switch are as follows:

LOW RANGE OCTAVE	NOTE		NORMAL RANGE OCTAVE	NOTE		HIGH RANGE OCTAVE	NOTE	
O	E	41.203 Hz	1	E	82.407 Hz	`2	E	164.814 Hz
O	A	55.000 Hz	1	A	110.000 Hz	2	A	220.000 Hz
1	D	73.416 Hz	2	D	146.832 Hz	3	D	293.665 Hz
1	G	97.999 Hz	2	G	195.998 Hz	3	G	391.995 Hz
1	B	123.471 Hz	2	B	246.942 Hz	3	B	493.883 Hz
2	E	164.814 Hz	3	E	329.628 Hz	4	E	659.255 Hz

These frequencies will be obtained with the Vernier Control in the A=440 position.

INSTRUMENT AND AMP INPUTS

The tuner has two standard 1/4" phone jacks of the monaural type. These are located in the lower left-hand corner of the front panel. The two jacks are wired in parallel permitting the guitar to be plugged into the tuner and a second cord from the tuner to the amplifier. Thus the tuner can be used while playing without moving cords around. The design of the preamp is such that the tuner will respond well to both high and low impedance sources.

BRIDGE ADJUSTMENT

If your guitar has a bridge that can be adjusted to change the length of the string, maximum capacity of fretted notes can be achieved by setting this bridge adjustment from time to time as required. This can be done by tuning the open strings and then playing the strings at the twelfth fret, usually indicated by two inlaid markers. When playing at this position, with normal finger pressure, the note should be exactly one octave higher in pitch. Set the tuner range switch to HIGH for checking the octave on regular guitars, and to the NORMAL position for checking the octave on bass guitars. If the fretted octave is not in tune, adjust the bridge to bring it in tune. (Refer to your guitar instructions for bridge adjustment if you do not know how to do this). Changing the bridge adjustment will affect the open string tuning. By alternating between the open string tuning and the fretted octave tuning, the two can be adjusted to be exactly in tune.

ACCURACY

The exceptional accuracy of the Model 100 is the result of a unique circuit which is a patented design. The pitches are derived from precision counting circuits employing integrated circuits which cannot drift or vary. The circuitry also compensates for temperature and line voltage variations. Calibration should not be necessary.

The Model 100 is all solid state and can be used immediately when turned on. For maximum accuracy it is best to let the instrument run for a few minutes. This is particularly important if it has been subjected to excess temperatures, either hot or cold.

Recalibration should not be attempted in the field if an accurate standard is not available. /tuning forks can vary greatly depending on quality, temperature and humidity. Do not rely on these except for relative measurements.

To obtain service, return the instrument, shipping prepaid, to the factory at 11601 S. Mayfield Ave, Alsip, IL 60803. Be sure to include your return address and a brief explanation of the problem you are experiencing.

WARRANTY

The instrument is guaranteed to be free of defects in materials or workmanship for a period of one year from the date of sale to the original purchaser, providing the warranty card is received at the manufacturer's office within 30 days from the date of sale. During this period we will, at our option, repair or replace any instrument free of charge. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. To obtain warranty service, follow the repair service instructions above. Your instrument will be returned to you prepaid.

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