

Harpsichord & *fortepiano*

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PitchMan

Budget-priced electronic tuner for historical temperaments

Recently released is the PitchMan variable-temperament electronic tuner (VioLab, Buffalo, New York, USA). The moderately-priced unit provides seventeen historical tuning temperaments at sixteen pitches of A. Dave Gayman reviews the tuner.

BECAUSE it is programmable by its manufacturer, the PitchMan manages to avoid all but two of the classic objections to electronic tuners. Simply put, if there is any aspect of the device that strikes you as wrong, from the pitch of A to the choice or interpretation of temperaments, you can have VioLab customize your unit.

That leaves the two objections the PitchMan—and any electronic tuner—cannot meet. The first is that electronic tuners are too mechanistic. David Way wrote, 'The human ear and mind are the most remarkable electronic devices in existence, far more subtle and accurate in their response to the sound of vibrating strings than any man-made apparatus can be. A well-trained ear can tell when a tuning device has been used: nothing sounds quite in tune.' I can adduce only my experience here: after seven years of attempting to train my ear while tuning my harpsichord—a simple Zuckermann Italian virginal, with but one set of eight-foot strings—my ear has stubbornly remained disconnected from my tuning-hammer hand. If today a subtler ear than mine perceives wrongs in my instrument's temperament, that ear would have bled if exposed to my harpsichord two months ago.

It is true, of course, that electronic devices can only emit tones. They will not compensate for the inevitable harmonic and tonal shifts that are caused by thickness, imperfections, or inclusions of foreign material in the wire, micro- or macroscopic differences in the bridge or nut, uneven soundboard compliance, pin bending or differences in regulation. If you seek to set a temperament, say, for a recording, the most you can expect to accomplish with an electronic tuner is a medium tuning. Fine-tuning must be by ear.

The second objection to electronic tuning is that a keyboardist should not need an electronic tuner. Keyboard players should have the mechanical and aural skills to tune their own instruments with no outside agency, runs the argument. The PitchMan of course cannot meet this argument. But do the fine muscle skills and ear required for tuning in any way correlate with the fine muscle skills and ear required for musical performance? The best piano-tuner I know is a very bad pianist. Consider an analogy: if keyboard players are expected to eschew

use of an external device emitting a standard tone, should we not also expect wordsmiths to avoid use of the objective gauge of their spelling, the dictionary? If the one must learn to tune wires with no external agency, should the other learn to spell the words from scratch? I think that, were this scheme universal, we would see many different temperaments and many different spellings indeed.

However that may be, if those who object merely mean that with electronic devices, one cannot train one's ear properly, one can take heart that the PitchMan depends on the ear to tune each note. It has no feedback LEDs or meters to tell you how close your string is to the norm; it merely emits a tone and leaves it to you to tune the string. My experience is that my ear and hand have improved, and that I was never before so aware of the tiny differences between intonate and untonate.

Sixteen variants on *a'*, seventeen temperaments

The standard PitchMan comes with the following sixteen A tones (in Hertz or beats per second): 370, 381, 392, 396, 400, 405, 410, 415, 421, 425, 430, 435, 440, 450, 460, and 466. A moment ago, historically speaking, concert-pitch *a'* was 440, though many orchestras are now tuning to 441, 442, 445, and above. The *a'*-415 pitch, a semi-tone below *a'*-440, is a pitch commonly used as 'historic tuning' for Baroque ensembles.

The following seventeen temperaments are selectable:

Regular temperaments

Pythagorean (Pythagoras, c.540 BC)
Equal temperament (Hoe Tcheng-Tien, c.400)
Quarter-comma meantone (Salinas, 1530)
Fifth-comma meantone (Verheyen, 1600)
Sixth-comma meantone
Eighth-comma meantone (Silbermann, 1700s)
Two-sevenths meantone (Zarlino, 1558)
Third-comma meantone (Salinas, 1571)

Circular or 'well' temperaments

Young I (1800)
Valloti (1730)
Silbermann (as interpreted by Barbour)
Werckmeister III (1691)
Kellner's proposed Bach (1970s)