

# aural training

## *Technology, the Ear, Mapping Progress*

### **THE USE OF TECHNOLOGY**

There are many highly sophisticated electronic tuners commercially available and it is strongly recommended that such a device is at hand when practising the exercises in this book. Some tuners, which tend to be the most expensive, show numerical deviations in cents from any particular temperament (which can be selected from a range of user-programmable possibilities or pre-programmed). Older style tuners have a needle which generally deviates plus or minus 50 cents from equal tempered pitches: this style of tuner is perfectly acceptable for most purposes although, in terms of 19-divisions, a few initial calculations are necessary (we have made these for you, for details see the section on 19-div).

A good alternative, or a useful addition, to a tuner is a synthesizer or sampler (hardware or software) which allows microtuning. There are numerous models commercially available which offer either pre-set tuning or user programmable tuning. On a 5 octave MIDI keyboard, it is possible to programme the leftmost key to produce the lowest pitch of the trumpet and, in this way, the complete range of pitches are available under the fingers (as far as  $c'''$  for a trumpet in C in a 24-division set-up – 'high C' for trumpeters, C5 for those who think in MIDI terminology). Of course this means that the keys won't produce the 'expected' pitches but with the help of a simple transcribing tool one becomes accustomed to this quickly – such a device might be a strip of cardboard placed on top of the keyboard, aligned to the keys, with the microtonal pitches written on them (as pictured below).



The keyboard will be useful for checking pitches and intervals (particularly if it has a sustain pedal, so a pitch may be sustained on the keyboard while another is played on the trumpet).

For users of Macintosh computers the tuning software *Little Miss Scale Oven* provides a quick, accurate and effective way to retune hardware and software synthesizers to almost any conceivable tuning system. This programme is potentially of infinite use for players interested in tuning (even those not interested in microtonality!) and is available from: [www.microtonalprojects.co.uk](http://www.microtonalprojects.co.uk).

### **PROGRESSION, LISTENING AND AURAL TRAINING**

It should not be understated that a player wishing to embark on a careful and thorough exploration of microtonal playing will have to, in many ways, 'go back to the beginning' in terms of reading, intonation and technique. It is important not to expect immediate results and composers will have to be sympathetic.

Although we sincerely hope that the materials presented on this website will be a valuable guide to developing skills in microtonal playing, the player is ultimately responsible for devising and developing their own practice methods and techniques. The player's creativity is thus encouraged in the formation of those smaller steps of progress and these will be different for every individual. The rate of progress should not be rushed: quality, confidence and accuracy are much more important than trying to progress quickly.

By listening to each study on the CD, the player is immediately made aware of the expectations. Its purpose is, therefore, to initiate the ear into the world of structured microtonal music as well as to provide a benchmark for interpretation and delivery (although it should not be seen as definitive in that regard, it is one of many possible interpretations).

Players are encouraged to devise their own aural training exercises based upon the microtonal practice routines developed for the trumpet.