

Orchestra Bells / Glockenspiel

German: glockenspiel

Italian: campanelli

French: jeu de timbres, carillon

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The **glockenspiel** was the predecessor of today's **orchestra bells**, and in German means "bell play". The original instrument was made up of small bells suspended in a rack and was played with mallets. A second development of the instrument was called the **keyboard glockenspiel**, followed later by the **bell lyre** and finally the instrument we know today as **orchestra bells**.

Bars, Cases, and Frames: The good news for music educators and percussionists is that, with reasonable care, a good set of orchestra bells can last a lifetime or even more. The quality of the metal used for the bars is the most important factor when it comes to tone or sound quality, and the construction of the frame/case has the most significant impact on the resonance and durability of the instrument. Entry level bells are generally made from aluminum bar stock, and are stamped out in a mass production method making them cheap to produce. These instruments are poor to average in sound quality and do not last very long. The best bars are made from hardened bar stock that is cut, drilled, ground, and tuned. Due to the hardness of the bar stock, bells manufactured this way are more expensive. However, these instruments will sound much better and last much longer than the alternative. Bell cases can be made of various materials ranging from composite materials (cheap) to fine hardwoods (expensive). Frames can be made composite materials, wood, or synthetic materials. When picking a case or frame, it is important to remember that one usually gets what one pays for. Also keep in mind that orchestra bells are heavy, an awkward shape, and difficult to move (especially for younger students). When transporting, make certain the case is latched, that the stand is securely assembled and locked in place, and that the individual moving the instrument can handle the weight. One drop can do serious damage to the frame and/or case.

Cleaning: Metal bars are quite durable, and a light cleaning with Windex or a mild household cleaner every 3 months is all that is usually needed. Do not spray cleaner directly on the bars, rather spray it sparingly onto a soft cloth and use the cloth to wipe the bars. It is important to avoid forcing cleaner and dirt into the holes that mount the bars as the moisture and dirt will lead to rust. Once a bar is wiped clean, turn the cloth to an unused section and wipe away any residue. For stubborn dirt, try using a non-abrasive kitchen scrub pad. It is also a good idea to occasionally blow out the case with compressed air (like you would do with a computer keyboard) or vacuum with a Shop-Vac. Once every year, check to make sure the screws that hold hinges, rails, handles, etc. are snug. Notice that I said snug... Do not over-tighten or else you will tear out the wood.

DW Percussion Tip: If wood screws in keyboard percussion frames become loose, do not over-tighten. A drop of wood glue in the hole will help to snug up the screw. Better yet, try a product called Chair-loc (or similar). This product causes the wood to expand (swell) and tighten around the screw. It is usually available at better hardware stores. As a last resort, try using a larger wood screw (the next size up). This option may not always be feasible, and is best left to a professional with experience.

Mallets: Use the correct mallets, please **always** use the correct mallets to avoid damaging any fine percussion instrument. I avoid brass mallets whenever possible unless brass mallets are specifically requested by the composer or conductor. Many band directors prefer brass mallets because they feel that brass mallets are louder than other mallets. Brass mallets produce a sharper attack that cuts through the band, but lack the full tone and sustain of other more suitable mallets (more on this in a minute). If brass mallets are used on an instrument, check the condition of the mallet head frequently so as to not damage the more expensive steel bars. Because brass is softer than steel, repeated heavy use creates a flat spot on the mallet head. This flat spot has a sharp edge that will nick the plating on the bars, thus allowing moisture and dirt to accumulate in the nick. This moisture can lead to rusting, which in turn loosens the plating. Re-plating and/or replacing bars are far more expensive than a pair of mallets.

Mass and weight produce a full sound on any keyboard percussion instrument, and a good relaxed stroke allows the mallet to "excite" the bar naturally. Harder mallets produce more attack, but not louder sounds. For orchestra bells, slightly heavier mallets with a weight inside the ball or a *slightly* larger head (1 1/8" – 1 1/4" max) will produce a fuller and more pleasing sound as opposed to

a sharp attack that lacks body. I cannot stress enough that proper technique, a relaxed fulcrum, and a correct stroke will always produce the best sound.

DW Percussion Tip: Always match the size of the mallet to the size of the instrument. It seems obvious, but many times I see students using a mallet that is too heavy, too light, too large, or too small for the instrument that they are playing.

Rubber Insulators: Depending on the instrument's exposure to heat and sunlight, the rubber insulators on the pins or screws holding the bars in place may dry out and start to fall apart after some time. Replacing these insulators looks easy, but can be surprisingly difficult and very time consuming. If you just need to replace a few, go for it. Usually, however; if one is dried out, they all are. This repair is best left to a professional.

Felt and String: As one can see, orchestra bells do not need a great deal of care. But you may have noticed over time that your bells do not sound as good as they used to. You're right, they don't! The most common cause for this is that the string or cord that is crossed/twisted between the bars and felt has compressed, thereby allowing the bars to be dampened by the felt. Why is the felt there to begin with, you ask? The felt greatly reduces case noise or "clunk" if the bars are hit too hard or with down strokes. The best way to improve the sound of your older orchestra bells is to replace this string. Some companies use braided or twisted nylon cord, some a small monofilament line, and others a rubber cord. Each has a slightly different effect on sound or durability, but it is generally a good idea to stick with what the manufacturer used. This installation is not difficult, but is time consuming, and best left to someone who has done it before.

Tuning: If your bells are beyond cleaning or in need of retuning, below is a list of reputable tuners for your reference. I do recommend a satin finish on the bars, as it is easier to keep clean and does not reflect stage lights into performers' eyes like high gloss finishes do.

Tuners that I have used, and feel do a good job:

Demorrow Instruments: <http://demorrowinstruments.com> (Arkadelphia, AR)

Century Mallet Instrument Service <http://www.centurymallet.com> (Chicago, IL)

Fall Creek Marimbas <http://www.marimbas.com> (Canandaigua, NY)

Salazar Fine Tuning <http://www.salazarfinetuning.com/index.php> (Arcata, CA)

Musicians Repair Service <http://www.mrsakronohio.com> (Akron, OH)

Vanderplas Percussion <http://www.vanderplasbaileo.com> (The Netherlands)

Other companies do various types of tuning and restoration. Some only service their own instruments, and others will work with any instrument.

★ Now that you know a little more about "Orchestra Bells / Glockenspiel", please check back soon for the next article in our series "What's Going on Back There?".



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