

PERCUSSION - SOMETHING FOR EVERYONE!

Percussion is the world's oldest and most widespread family of instruments. Examples are found in almost every culture from Africa to the Americas, Egypt to Asia, Europe, India, Siberia, Australia - just about everywhere!

Some instruments, like drums, make a sound or tone when they are struck. A stick or mallet may be used to play the instrument, or a player (called a percussionist) may use his or her fingers and hands to make the sounds. Tambourines and maracas make a sound when they are shaken, while cymbals and castinets are played by crashing or clicking a pair together. Some instruments are "tuned" to create a specific note, (such as a tympani or xylophone), while others rely on the player's skill to create a variety of sounds.

With the vast array of percussion instruments available today, players can choose from a truly unique set of instruments that will allow them to find their own musical "voices."

SOME HISTORY ON DRUMMING...

Throughout history, drums have been the most widely used of all the musical instruments. Early drums were used as a means of communication and also played an important part in ancient religious ceremonies and rituals. It is not known exactly when the first drums were created - they were probably made of wood and skin, so they did not survive until today. In fact, the very first drums may have been just a section of hollow tree trunk that was struck with a stick or rock to make a sound!

Records of early drum use, from ancient paintings and carvings, show pictures of people playing them as far back as the Neolithic Age (from 8000 - 4000 B.C.) These drums were made from hollow wooden objects with one or both ends left open, and a piece of animal or fish skin which was stretched tightly over the opening(s). Later, drums would be made of wood, clay or even metal.

In addition to their use for communication and ritual, drums also were used by the military - the rhythmic beat of the drum was used to coordinate marching, rowing and fighting. The snare drum is an example of one type of drum used by the military starting around the 14th century.



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Drum Sets

Drum sets were put together around the late 1800s when the invention

of the bass drum pedal made it possible for one person to play several percussion instruments at one time. Before that, separate drummers played the bass drum, snare drum, cymbals, etc. In the 1920s and 1930s more instruments were added to the "set" including tom-toms and high-hat cymbal.



Five-piece Drum Set

Drum Set Configuration

Most modern drum sets (also called drum kits) are sold as five-piece outfits, referring to the numbers of drums included in a set. A drum set may be sold with hardware, cymbals and other items, but only the drums themselves are counted as "pieces." A typical five-piece drum set includes a bass drum (sometimes called kick drum), a snare drum, two mounted toms (also called rack toms), and a floor tom.

Popular drum sets of the 1950s and 1960s were four-piece kits, having only one tom mounted on the bass drum. In the 1970s and 1980s, larger configurations - nine pieces or more - became popular. These would often include two bass drums, two floor toms, and up to six mounted toms.

Larger "custom" configurations are fairly common. Most are created especially for the player's unique taste or style by adding component drums to an existing five-piece drum set. Four-piece drum sets are still available, and are most popular with combo jazz drummers. Today, you'll find drum set configurations called **standard**, **rock** or **power**, **jazz** and **fusion**.

A standard setup includes 8"x 12" and 9"x 13" toms, a 16"x 16" floor tom, a 16"x 22" bass drum and a 5"x 14" snare drum.

A power or rock set may have the same size bass drum and floor tom as the standard configuration, but includes deeper, 10"x 12" and 11"x 13" "power" toms, and also a snare drum that is 6"x 14".

A modern jazz setup will usually include either a 16"x 20" bass drum or a 14"x 20" bass drum. The toms will be smaller, consisting of 7"x 10" and 8"x 12" mounted toms, and a 14"x 14" floor tom. The 14" snare drum will be somewhere between 4" and 5".



Today's popular fusion set is used to play many styles of music. Like the jazz set, the toms are 10", 12", and 14". In the fusion set, the 10" and 12" toms are usually deeper, and the 14" is a mounted tom that hangs from the ride cymbal stand instead of having its own set of legs. These toms are either mid-depth - 8"x 10", 9"x 12", and 12"x 14", - or "power" toms - 9"x 10" or 10"x 12" - with a 12"x 14" or a 14"x 14" floor tom. The snare drum is usually 5"x14".

Although standard, rock, jazz and fusion refer to four different styles of music, this does not mean that these are the only drum sets you can use to successfully play that particular style. These names are very general, and which set of drums is used to play a specific style of music depends on the individual taste of the player. A drummer may have a "power" kit because s/he needs depth and projection - or maybe the impressive look of larger drums is an important factor for certain situations. Or, a drummer may use smaller sized drums because s/he likes the more "focused" sound they produce.

A smaller drum may be a good choice for a child or smaller person as the size would be more comfortable to play. There are also "junior" drum sets available from several manufacturers that range from drums that are little more than toys, up to very high quality starter drum sets. These are often popular with pros as a portable travel set. The specifics vary, but generally any "junior" kit made by a major drum manufacturer is a viable option.

Drum Shell Construction

Many drums today, from basic student models to high-end pro kits are made from plies (or layers) of mahogany. Some mahogany and other hardwoods come from Asia, while the mahogany for more expensive drum sets comes from Africa. Mahogany produces a tone that emphasizes the lower frequencies with a fair amount of mid-range and few higher overtones. This creates a tone that is very warm, but may lack "punch" or "attack." The tone can also be somewhat "muddy." Any of these factors can be emphasized or down-played depending on drumhead choice and tuning.

Birch is also a popular wood for drum shells. Birch is known for having a very controlled sound that is ideal for recording. It produces a sound with more "punch" than mahogany and also emphasizes higher frequencies with a good mid-range and a little less low end. The result is a clean, clear, natural drum sound.

The most popular wood for professional quality drum sets is maple. Maple tends to be more balanced with equal emphasis on high, mid, and low frequencies. Maple drums have an open, resonant quality that is ideal for all types of music. An outer ply of maple is often used on less expensive drum sets that have a transparent lacquer finish. The look of the maple wood grain provides a deep finish that is truly unparalleled.



Custom Drum Set



6-ply Beech Wood



6-ply Birch Wood



6-ply Maple Wood

All of these woods can be mixed to make good sounding, less expensive drums, or to gain the sound benefits of using more than one type of wood. Some mid-line drums will incorporate shells that have plies of maple, mahogany, basswood, or beech. These woods can interact to create very nice sounding drum shells without the high price of an all maple shell.

Shell Plies

The number of plies of wood in a shell has a great impact on the overall sound. Thinner drum shells, usually four plies, transmit vibrations from the head to the shell quickly and easily. This creates a very warm sound that is particularly effective in smaller rooms and recording environments. A six or seven-ply shell will be a little less warm or "sweet" sounding, and will not have the same response, but does provide extra projection and volume. Thicker eight, nine, or ten-ply shells are ideal for situations where volume and projection is the primary concern. The energy produced by the player is transmitted very efficiently from the head to the shell, projecting maximum sound pressure levels to the audience.

Shell Depths

The depth of the drum shell is another factor that influences the sound character of the drum. Shallow drums have a quick and sensitive response, requiring less energy from the player in order to transmit vibrations to the bottom head of the drum. This makes shallower drums ideal for situations where low volume is necessary, when medium to high tuning is desired, or when a sound with a quick, punchy attack is needed. Deeper "power" sizes can be tuned lower, but need more energy from the drummer to move the bottom heads. This means that deeper drums aren't as good an option where sensitivity and response at lower volume is required.

Colors and Finishes

Today drum sets are available in a variety of colors and finishes. On less expensive models, you'll find solid color finishes in black, white, and red, as well as blue, silver, or green. This is called a **covered** or **wrap** finish. The color you see on the outside of the drum is actually a ply (or layer) of plastic that has been applied on top of the outer layer of wood. Solid colors and metallics are usually the most common finishes, but lately there has been a renewed interest in some of the elaborate, covered finishes of the 1950s and 1960s. Intermediate and professional drum sets may also have a pearl, swirl, satin flame, or sparkle finish.



Brass Shell



Steel Shell



Sparkle Finish



Satin Finish

Most intermediate and pro-model drum sets offer customers the option of choosing a lacquer finish. This type of finish is made of many layers of clear resin or varnish applied directly to the outer ply of wood. The lacquer protects the drum's wood shell and creates a very glossy look.

Satin finishes are also available on some drum sets. A satin finish is not as glossy as a lacquer finish and is created using a variety of techniques including hand-rubbed stains and oils. The grain of the wood is visible through this type of colored finish creating a "transparent" look.

A lacquer or satin finish produces a more "open" sounding drum allowing the shell to resonate more freely than is possible with a plastic wrapped finish. However, a wrapped finish can be more durable as well as less expensive, and some finishes can be created with plastics that would be very difficult to achieve with lacquer or stain.



Drum Set Hardware

All drums have housings on their shells called **Lug Casings**. Lug casings contain nuts that the tension rods thread into, allowing the player to tighten or loosen the tension on the head and tune the drum to a desired pitch. A "low mass" lug casing is a smaller housing that allows the drum shell to vibrate more freely, creating a fuller sound. "Full length" lug casings run down the entire length of the drum, placing more hardware on the shell to promote tuning stability. The number of lugs (per side) on a drum can be a good indicator of quality. The larger the gaps between lug casings, the more difficult it can be to achieve even tuning, and therefore a quality sound. Any drum larger than 10" that has five or fewer lugs is definitely part of an entry-level drum set and most likely will not be capable of even tuning. Even six lugs may be insufficient on a snare drum or floor tom. A bass drum of good quality will have eight or ten lugs.

Most drum sets are sold with a **hardware package** that includes a snare drum stand, hi-hat stand, bass drum pedal, straight cymbal stand, and mounting apparatus for the toms. Additional hardware may also include a boom cymbal stand and/or drum throne. Any one of these items can be purchased separately, making it easy to customize and upgrade a setup. Additional clamp mounted boom attachments for splash cymbals, accessory arms, posts for cowbells, and many other accessories may also be added.



Most drum set **stands** are tripods, often classified as "double-braced" or "single braced." Bracing refers to the pieces of metal used to form each leg on the stand. A double braced stand can be very durable, however, a buyer must also consider the quality of the hardware itself. Take a moment to compare: if the stands in question are made by the same manufacturer and have similar design and features, the double-braced stands will support more weight and be more durable. Single-braced stands are sometimes preferred for their lighter weight, and because they take up less space. In any event, the quality of a stand should be judged by the quality of the fittings, and overall construction. A good stand will feature high quality, replaceable, fittings and bushings, as well as good wing nuts and bolts. A lesser stand may have parts cast from "pot metal" and "white metal" and have a sloppier feel than one of better construction.



Note: it is important that fittings on drum set hardware not be over tightened - most wing nuts and wing bolts simply need to be snug. Going beyond a snug fit can result in damage to the hardware.

Drum Heads

Modern drumheads are usually made of mylar film mounted on a metal hoop. The thinnest single-ply heads are primarily used for bottom heads - also called resonant heads. Bottom heads for snare drums are particularly thin, and designed specifically for this use. Even the lightest stick contact can break the bottom head on a snare drum. Other thin one-ply drumheads are used as top heads or batter heads in light duty sets when a wide open tone with maximum overtones and a higher pitch is needed. More often, thicker one-ply or two-ply heads are used as batter heads where the extra material, especially with two-ply heads, provides durability. The sounds produced are "drier" and more "focused" with fewer overtones. They also have the added benefit of allowing the drummer to tune them to a lower pitch.



Some drumheads feature a coating to give the head a textured surface. This was initially done to make it easier to play with brushes. A brush is a type of drumstick made of a fan of thin wires at the end of a handle. Brushes are commonly used to play Jazz or "swing" music and produce a light, airy sound. Smooth mylar heads did not provide the proper "swish" when played with brushes that earlier calfskin heads had provided. The coating creates the needed texture, but also tends to produce a slightly "drier" sound. Coated heads are a widely accepted standard on snare drums and are also used on toms and bass drums.

Other specialty drumheads include heads with a built-in muffling or dampening effect. This is especially popular for bass drum heads where the need for extra pillows or blankets inside can sometimes be completely eliminated. Other heads imitate the traditional sound, feel, and even look of calfskin heads, but with more stable synthetic material. There are even heads made of woven Kevlar or Aramid fiber (also used for canoes and bulletproof vests!) that are heavy and durable enough to withstand the extreme tension of the contemporary marching snare drum.

Snare Drums

The snare drum is often viewed as the most important drum in a drum set. It is the centerpiece for the unique sound of many musical styles, and certainly is played more than any other drum in the set. Snare drums range from 10" to 15" in diameter, and 3" to 8" in depth. The snare itself is made of a set of wires that run across the bottom head of the drum and create a buzz or rattle when the drum is played. This gives the snare drum its signature crisp, sharp sound. In order for the snare's sound to stay crisp and sensitive at all volume levels, the bottom head must be very thin allowing it to respond easily to vibrations whenever the top head is struck.

Snare drums sometimes have metal shells and often, on a less expensive set, the shells will be chrome and steel. Good snare drums can also be made from copper, brass, aluminum, and many types of wood. More expensive drum sets may have a matching snare drum made of wood. A wood snare drum will produce the "warmest" sound.

Inexpensive snare drums may have only six lugs per side; more expensive snares will have eight, or even ten. The quality of the strainer or throw-off that engages and disengages the snare can also vary greatly

Cymbals – Seemingly Simple, Yet a Whole World of Possibilities.

Cymbals are thin, round concave plates usually made from a copper-tin alloy. They are played singly by striking with a stick, or together, as in an orchestra, by dashing two together. Although they were used as musical instruments before the Middle Ages, cymbals did not become part of bands or orchestras until the late 1700s.

When it comes to picking out cymbals, there are more options available than with any other drum set component - with a seemingly infinite array of sizes and models, the possibilities may seem endless!



The quality and price of a cymbal is determined by several factors - the alloy the cymbal is made from and the processes used to form and shape the metal.

Cymbal Construction

Inexpensive cymbals are made from brass alloys and are either machine stamped or spun into shape. These cymbals may not be as durable and have a fairly narrow spectrum of overtones with a short sustain.

Better student cymbals are made of CuSn8 often called B8 bronze. This is an alloy consisting of 92% copper, and 8% tin. Student cymbals made from B8 bronze are usually stamped into shape by machines.. Machine processes can also add additional hammering (dimples, or indentations) or lathing (grooves around the cymbal.) Hammering and lathing refine the sound of a cymbal by changing the overtone structure it produces.

Many professional cymbals are made from CuSn20. This mixture of 80% copper and 20% tin has been used in cymbal making for hundreds of years. Some professional model cymbals are also made from B8 bronze. There are also proprietary cymbal alloys in use for various professional lines.

Professional cymbals are typically cast into their basic shape and then hand worked into a more complex and refined instrument. The more labor intensive the manufacturing of a cymbal is - including hand hammering, and hand lathing - the higher the cost of the instrument. A cymbal that combines machine processes with hand work will have more complex overtones than one that is all machine made.

Basic Cymbal Setup

A basic cymbal setup contains a ride cymbal, a crash cymbal, and a pair of hi-hats. The ride cymbal is usually the largest at around 20" and is set up in the area over the floor tom. A ride cymbal has a fairly bright sound with a pronounced stick attack and less sustain than the other cymbals. When drummers are playing a "beat," the ride cymbal is struck almost continuously with the right hand stick. This style of playing is called a "ride pattern," - that's where the name "ride" cymbal comes from.

A "ride pattern" may also be played on the cymbals called hi-hats. The hi hats are usually relatively small - 13" or 14"- and are always used as a pair. The bottom cymbal is inverted and placed on the hi-hat stand with the second cymbal on top. Applying the pedal brings the edges of the two cymbals together to produce the characteristic "chick" sound. Different sounds can be created with the hi-hats by



Cymbal Set



Hand Hammered Cymbal



Drum Set with Basic Cymbal Set

striking them in the closed or open position and by manipulating the stick sound through the use of a foot pedal.

A crash cymbal is a medium sized cymbal that is played by hitting it with a stick. It is not usually used to create a continuous beat, but more for isolated punctuation of the music. It produces a sound that is more of a "shimmering wash" of overtones rather than the brighter sounds of the ride cymbal or hi-hats.

Effect cymbals may be added to a basic drum set to give each drummer a more personal sound. There are many types and sizes available - for example, "china" cymbals have a brash and abrasive attack, short sustain and overall "trashy" character. "Splash" cymbals are 6" to 12" and are typically used for smaller, quick and sometimes delicate accents.

Find Your Own Voice With Hand Percussion!

Many of the instruments in the percussion family fall into a very broad category called "hand percussion." Most of these instruments are played with the hands, but some are also struck with a stick or mallet. Examples of hand percussion instruments include: cymbals, triangles, gongs, maracas, tambourines, claves, cabasas, bells, blocks, bongos, congas, scratchers, castinets, and a large variety of frame drums to name just a few!

With the variety of percussion instruments available today, players can choose from a truly unique set of instruments that will allow them to find their own musical "voices."

Expand With Percussion Accessories!

There are many accessories that can enhance and expand the standard drum set including sticks and mallets, internal and external muffling devices, pedals, stands, thrones, cases, covers, practice pads, and even electronic sampling devices.

Drumsticks

Drumsticks are available in a wide range of weights, sizes, shapes and colors. They can be made from a variety of woods including oak, hickory or maple, and metal or synthetic materials like nylon, plastic, aluminum and graphite. With so many different types of drumsticks available today, players should be able to find the perfect stick to suit any application!

The most popular drumsticks are traditional 5A, 5B and 7A sizes made of hickory or oak with either nylon or wood tips.



Drum Sticks

Weight, size, taper, neck, tip shape and materials are all factors that affect the sound and feel of a stick. A big, heavy stick produces a big, full sound and stands up better to heavy playing. Thinner, lighter sticks produce a smaller, more focused sound.

The taper at the neck of a stick plays a large part in determining the feel and rebound of a particular model. A short taper has a stiff feel, while a longer taper will have a more giving, "bouncier" feel.

Tip shape and materials define the attack characteristics of a drumstick. This is particularly pronounced when playing the "ride" cymbal. A small, round tip produces a consistent, focused, warm attack. Traditional, elongated acorn or elliptical tip shapes create a brighter, fuller sound with a wider spread of overtones. There are many tip shapes available, so it may take some experimenting to determine your preferences. The material used for the tip also makes a difference. - wooden tips are typically warm and natural sounding, while a nylon tip creates a brighter, more penetrating sound. Although nylon tips are somewhat "thinner" sounding, they are usually more durable than wood.



Mallets



Practice Drum Pad

Other Accessories

Double bass drum pedals make it possible to play two bass drum patterns on a single drum.

Mesh drumheads and portable practice pads help make practicing silent and convenient. Portable practice pads make it easy to study drumming techniques anywhere - without making a lot of noise!

Acoustic drum triggers produce sampled electronic sounds from traditional acoustic drums.

Travel cases and covers are available to protect your percussion instruments.

Thrones give you an adjustable, comfortable place to sit.

Stands hold large drums, like congas or steel drums and also allow you to attach a variety of accessories - bells, blocks, triangles, etc. - to your drum set.

Electronic percussion sets - virtual drums - allow almost unlimited sound creation with the response and feel similar to "real" drums!



Snare Drum and Case



Drum Throne