YAMAHA

Empowering Worship

Choosing a Drum Set for Worship

We hope this guide will help you find the right drum set and drum hardware that fits your playing style and needs. Whether it is an affordable starter set or a sophisticated, arena-worthy acoustic or electronic kit, this guide will help you identify the right combination of gear to match your budget and percussion skills. You will learn about the elements that go into making drums and cymbals, and what to consider when shopping for drums.

Before choosing a drum set, you need to be familiar with the components that go into it, these include: The Snare Drum, the Bass Drum, one or more Mounted Toms and a Floor Tom. The two other essential components that complete a full drum set, Cymbals and Hardware.

We have also included a section on how to reduce acoustic drum volume, a microphone alternative, and a section on electronic drums. If you are unfamiliar with any of the terms used here, please see the Glossary of Terms at the end of this document.

Enjoy!

Parts of the Drum Set

Anatomy of a Drum

Top (batter) head: The most basic component of a drum, the head is a round membrane made of a synthetic material usually mylar, that is stretched across the shell, with varying degrees of tension.

Hoop: The drum hoop is usually made of either cast or stamped metal, although some drummers prefer wood hoops. Hoops are constructed with a flange shaped to hold the head on the shell for tensioning.

Tension rod: These mount through holes in the hoop and thread into the lug to maintain the desired tension.

Lug: Lugs are normally made of metal and mount on the shell to receive the tension rods. Lug designs can vary from simple to complex, and often contain alignment springs and other features.

Shell: The shell has the most significant impact on the drum's tone. Most shells are made of wood, but fiberglass, acrylic, and more exotic shells can be found.

Vent: A vent is simply a hole that allows air pressure to be released when the drumhead is struck, not all drums have vents.

Bottom (resonant) head: A drum's resonant head plays an important role in defining both the attack and the tone. Most resonant heads are thinner than the top (batter) head.

BOTTOM HOOP: The bottom hoop holds the bottom drumhead on the shell. On snare drums, the bottom hoop includes slots to accommodate the snares.

Choosing a Drum Set

If you are looking for a large kit, consider a five-piece, six-piece or even larger set, which adds additional toms for a wider tonal range. These larger kits are well suited for heavy rock, fusion, contemporary and metal styles, and large church worship bands. However, with current drum microphone technology, it is no longer necessary to have a drum set that "plays" loudly, volume and tonal quality can be achieved through the sound desk.

Many drum sets come in two different configurations

- **STANDARD**
- **FUSION**

Drum diameters distinguish each configuration.

FUSION: drum sets that typically feature 10" and 12" mounted toms, a 14" floor tom (suspended or standing) and usually a 22" bass drum. The benefit of the smaller diameters of the Fusion set is their punchy tone and articulate sound.

STANDARD: kits that feature 12" and 13" mounted toms, a 16" floor tom, and 22" bass drum. The benefit of the Standard size set is that the larger toms produce more volume and a bigger tone.

Choosing the best set is a subjective process, and there are benefits to each configuration.

Yamaha Tour Custom – A typical 5-Piece Kit

In most cases, drum sets do not contain all the hardware you need, these are commonly referred to as Shell Packs, if you already have the hardware, buying a shell pack can save you money. A shell pack most often includes only a bass drum and toms. The snare drum, cymbals, cymbal stands, and pedals must be purchased separately. Shell packs are popular because most drummers will have specific preferences for snare drums, pedals, cymbals and other hardware they may use.

If you already have a drum set but want to expand it, an add-on pack can be a good way to go as the cost is often less than buying add-on drums one at a time. However, if you are looking for a complete kit, then you will need to know and understand all the hardware possibilities that can go with the drum set that will fit your needs.

You will need to choose how many Toms you may want or need. The bass drum and the snare drum are the primary components of a drum kit, toms are most often used for "fills", rhythmic phrases that provide a transition from one part of a song to the next. The number of toms used is largely a matter of personal preference, but a basic kit should include at least one small tom that is usually mounted on the bass drum, and one large tom often called a floor tom.

If you are a beginning drummer, a starter drum set can make a lot of sense. These affordable kits usually include all the drums, cymbals, stands and hardware needed to start playing right out of the box.

While there are drum sets that work for a variety of styles, in general it is a good idea to choose a kit that fits your style of playing. Drum kits with fewer and smaller drums are good for jazz, traditional blues and worship, while drum sets with larger drums are better for rock, metal and other more amplified styles.

Components of a Drum Kit

There are dozens of different drum set configurations, but most begin with these components:

KICK DRUM (BASS DRUM): The lowest-pitched drum in the kit. Generally used to provide the rhythmic foundation of a piece of music.

SNARE DRUM: The distinctly snappy counterpoint to the kick drum. The snare drum assists in outlining the rhythmic framework and serves to highlight accents in the music.

TOM(S): Ranging in pitch from high to low, toms provide tonal color and are often used to play "fills" that bridge two sections of a song. Drum kits may contain one, two, three or more toms.

CYMBALS: The metallic "soprano" voices of the drum kit. A basic set includes a ride, crash and hi-hat.

HARDWARE: The essential gear that makes a drum kit playable. Includes a kick (bass) pedal, snare stand, cymbal stands (including a hi-hat stand), tom holders and legs, and other items as needed.

Drum Woods

An important element to consider is the kind of wood used in the making of drums. Many types of woods are used for drum building, and all have unique sound qualities.

The ideal drum shell wood is determined by three (3) factors:

TONE: it must produce a nice sound.

ABUNDANCE: it should not be too rare or too expensive.

WORKABILITY: it should be relatively easy to mold into a shell, and stable enough to hold its shape over a long period of time.

The following woods are the most common used in the construction of drum shells.

MAPLE: the most popular wood used for drum making, it has a warm and balanced tone.

FALKATA: sometimes substituted for Maple, as it costs less yet has Maple's sound qualities and takes finishes well.

BIRCH: very dense and tough, with a harder and brighter sound than Maple or Mahogany. Its loud, bright tone makes Birch excellent for recording, as it easily cuts through the mix with its clarity. Birch features enhanced highs and lows with a reduced midrange.

MAHOGANY: has an enhanced low end and midrange with reduced highs. The sound is slightly warmer than Maple and is said to have a "vintage" character.

POPLAR: a low-cost alternative to Maple or Birch with a similar, bright sound.

BASSWOOD: plentiful and is a good, less expensive alternative to Maple or Birch. Basswood has a nice grain that takes lacquer finishes beautifully.

LAUAN WOOD: often referred to as "select hardwood," it can be thought of as a budget version of Birch.

OAK: a similar sound to Maple, with a more porous composition and a powerful, bright sound.

Shell Construction

Drum shells are made of several layers of wood, referred to as “Plies”. Drums with more plies have a brighter sound and higher fundamental note. Drums with fewer plies usually have fatter and warmer lower fundamental note.

The angle at which a drum shell's bearing edge is cut also makes a difference in the sound quality. A sharper bearing edge angle gives a brighter sound with more cut, while a more rounded bearing edge gives a softer, mellower sound.

You can also find synthetic shells (usually for bass drums and toms), made of acrylic, fiberglass or carbon fiber. Metal shells are available, but these are almost exclusively for snares. They can be constructed of steel, aluminum, copper or bronze.

Once the wood is chosen, the next step is shaping the shell, and the quality of the results is ultimately determined by three (3) main factors:

- SHAPING TECHNIQUE
- THICKNESS
- BEARING EDGE

The basic shell shape is created using 1 of 5 possible methods:

- PLYWOOD
- STAVE
- SEGMENTED
- STEAM BENT
- SOLID

PLYWOOD: this is done by gluing several thin flexible wooden sheets together within a circular mold, this is the most popular method.

Pros: cheap to produce, well-suited for mass production.

Cons: less sturdy, high volume of glue may have a negative impact on tone.

STAVE: a process of gluing a several vertical wood strips together into a shell shape, much like a barrel. Among custom drum builders, it is the most popular of all designs.

Pros: holds shape well because there is no stress on the wood.

Cons: more costly than ply shells, ineffective with thinner shells.

SEGMENTED: done by gluing small strips of wood together in a pattern mimicking floorboard tile.

Pros: Similar to the stave shell process.

Cons: more difficult than stave shells as it requires more pieces, and therefore less popular.

STEAM-BENT: done by softening a single piece of wood with steam, then rolling it into a shell.

Pros: uses little glue, and according to most drummers, has a better acoustic sound than the previous three methods.

Cons: difficult to maintain roundness, difficult to make too thin or too thick, quite rare to find.

SOLID: done by carving a single piece of wood directly from a tree trunk. Before the days of modern manufacturing, all drums were made using some variation of this simple, yet labor-intensive method.

Pros: considered to have the best sound of all, as there are no joints and no glue. Since the wood is in its natural state, there is no stress on the shape.

Cons: expensive to carve, not practical for thinner shells, not many suitable woods, and the least common of all methods.

Along with shell shaping, "thickness" is also important to consider. While the process of carving out a thickness may be quite complicated, the results of the work are simple:

- Thicker Shells have a brighter tone with a higher fundamental note.
- Thinner Shells have a warmer tone with a lower fundamental note.

Shell Sizes

For most players, the following two (2) options usually fulfill most needs:

STANDARD SIZED KITS: these have larger shells and are better suited for heavy playing styles.

FUSION SIZED KITS: these are smaller and better suited for lighter playing styles.

Compared to fusion kits, standard kits have lower fundamental pitches, looser heads with a slower stick response, more volume and typically feature the following sizes for each drum:

- Kick: 22" x 14"
- Rack Toms: 12" x 8" and 13" x 9"
- Floor Tom: 16" x 16"
- Snare: 14" x 6"

Finishes

Drums come with a variety of finishes. “Covered” finishes are an inexpensive treatment consisting of vinyl wraps with a great variety of patterns and looks to choose from. Covered finishes provide great durability and resist scratches and nicks better than a natural finish. Transparent lacquer finishes enhance the woodgrain for a beautiful natural look.

An outer coating is added in 1 of 3 ways:

STAINING: can be as a simple as rubbing tung oil on the wood.

LACQUER: a more complex process that may include layering and buffing.

WRAPPING: done by covering the shell in a thin vinyl sheet. Compared to the other two methods, wraps offer three advantages:

1. They are cheaper and easier to produce as they allow for the greatest variety of design patterns.
2. They offer the greatest durability.
3. They are resistant to scratching.

The common concern with wraps, however, is they could potentially have a negative effect on tone, this may be true with wraps on cheaper or older drums, which tend to be much thicker. Today’s modern technology allows for ultra-thin wraps, that most sources agree, have a negligible effect on sound. When looking at newer high-end shell packs, there is no need to worry.

Snare Drums

ANATOMY OF A SNARE

SNARES: a series of coiled wires stretched across the bottom head, giving the snare drum its characteristic sound.

SNARE STRAINER: A lever and thread device that allows the drummer to adjust the snare tension and disengage the snares entirely from the head for more of a tom sound.

SNARE HOOP: A specialized hoop that contains slots in its sides to allow the cords or straps holding the snares to pass through.

The snare drum's crisp voice cuts through any mix, adding accents, and interacting with the soloists. The drum's distinctive sound comes from metal wire springs, or snares, that are held in place against the thin bottom head of the drum with a device called a strainer mounted on the shell. The snares can be released for a high tom or timbale like sound.

Snare drums are traditionally made of either metal or wood. Metal snare drums, made of steel, brass, aluminum, and other alloys, offer an exceptionally bright cutting tone, while wood snares have a warmer, mellower sound. Snare drums are generally 14" in diameter and range in depth from 3-1/2" to 8".

There are several snare drums for special situations, like Piccolo, Soprano and Sopranino which are specialty snares that are progressively smaller-sized and higher-pitched than a standard snare drum. The popcorn snare is a 6" x 10" specialty snare drum with a popping, high-pitched tone.

Drumheads

Available in thick, thin, single or multi-ply, coated or clear, with reinforced centers or edges, the range of head types may seem overwhelming, but a general-purpose, medium-weight head will usually do the job for most music types. For a hard-hitting loud drummer, a heavier weight or double-ply head can withstand the pressure. For tuning out overtones and controlling ring, heads treated with sound-controlling centers or edges will help.

The heads used for the top of the drum are called batter heads, while resonant heads are used on the bottom side of the drum, adding resonance and sustain. Some drums intended for maximum attack and brightness only have a top or batter head.

Most drumheads made today are manufactured from a thin plastic called Mylar. Mylar drumheads come in various colors and are available with or without a sprayed-on white coating. Coated drumheads are the primary style available; they have a bit less ring and projection and are still favored by many jazz and worship players for their more subtle sound. These coated heads have a warmer sound than clear heads and are often used for studio work.

Drumheads come in various degrees of thickness, single or double plies, with each type having a markedly different sound.

THICK HEADS: this head sounds best tuned to a higher fundamental range and has a quicker decay with more pronounced attack than thinner heads, they are also more durable and dent resistant.

TWO-PLY HEADS: they have a more controlled sound, and sometimes come with material sandwiched between them to focus and dampen the tone.

PINSTRIPE HEADS: these have an epoxy ring sealed between the plies, which limits overtones and gives a "wet" sound. The Evans Hydraulics heads have oil between the plies for an extremely dampened sound with a very dry tone.

THIN HEADS: Many jazz players prefer the livelier sound and quick response of thinner heads, while rock players generally like the fatter sound of two-ply heads.

There are no strict guidelines for what kind of head to use, drummers have very personal responses to the way different heads sound, so let your ears be your guide.

Snare heads come in two types. The bottom or snare side head is a very thin head for sensitive response to the metal snare wires that are held across it. For the top of the snare drum, most drummers prefer to use a coated head, as it serves to slightly attenuate the lively response of a snare drum. A fine grain of coating is needed if you play with brushes.

There are various ways to dampen excessive ring and resonance in drum kits. These include using a felt strip on the bass drum batter head, cutting a hole in the front bass drumhead, placing a pillow against the inside of the batter head, or using a specialized muffling bass drumhead. There are bass drumheads available that provide several degrees of muffling. There are numerous drum sound-dampening rings, patches and pads available to help reduce excessive resonance, many are sized to fit specific drums and designed to tailor the dampening effect to your specific needs.

Rims/Hoops

There are three (3) common hoop design categories:

- **WOOD**
- **DIE-CAST**
- **FLANGED**

Compared to flanged hoops, wood and die-cast metal hoops are stronger and heavier and maintain a firmer grip on the outer edge of the drumhead. This results in a more focused sound, with less sustain, better projection with rimshots, and more tuning stability.

Flanged hoops on the other hand are much lighter and make minimal contact with the outer edge of the drumhead, resulting in more overtones, and more sustain.

The two common variations of flanged hoops are:

- **SINGLE AND DOUBLE FLANGED**: these have a sharp upper edge on the rim, which can be harsh on your drumsticks
- **TRIPLE FLANGED:** they add an extra bend over the upper edge sometimes inward, sometimes outward, to create a rounded playing surface that is easier on your drumsticks.

There is a recent new hybrid design known as the "S-Hoop", it is essentially a triple-flanged hoop with the density and strength of a diecast, and an extended top flange which offers a better playing surface for your drumsticks.

Cymbals

Cymbals provide a metallic "soprano" range of tones to complement the characteristics of drums. Here are three of the most used cymbals:

RIDE: a medium-weight cymbal that helps outline the rhythmic framework of a song, along with the kick and the snare. Ride cymbals can generally withstand repeated strikes without building up too much of a roar.

CRASH: a thin, often small-diameter cymbal that produces an explosive "crash" when struck on its edge. Crash cymbal overtones normally die away quickly, moving them out of the way of the rest of the music.

HI-HAT: two cymbals, with one inverted on top of the other on a special stand. Hi-hat cymbals are very versatile, able to be played "closed" with the stand's foot pedal pressed down, and "open" with the pedal up. Simply pushing down the pedal without striking the cymbals produces a "chick" sound.

Cymbals are an essential component of any drum set, and most drum kits do not come with cymbals, so you will want to find ones that fit your playing and complements the set that you have chosen.

Different kinds of cymbals are made to fill various roles. While the main types of cymbals are Ride, Crash, and Hi-Hats, Splash and China cymbals have also become popular. A wide variety of effects cymbals are available to provide a multitude of sounds, colors, and shapes to choose from.

Cast cymbals are made by pouring raw, molten metals into a sand mold. The castings are then heated, rolled, shaped, hammered and lathed. This lengthy process results in cymbals with a full, complex sound that improves with age. Each cast cymbal will have a distinct sonic character that is unique to that cymbal.

Sheet cymbals are cut from large sheets of metal of uniform thickness and composition. Sheet cymbals have a very uniform sound from cymbal to cymbal within the same model and are generally less expensive than cast cymbals.

Cymbal sounds are often an individual preference, with many jazz players favoring darker, more complex cymbal sounds, while rock drummers generally lean toward a brighter, louder sound that cuts through the mix. There are several cymbal-manufacturers to consider, try as many as you can to find the cymbals that will work for you and your sound.

Drum Hardware

Hardware is another necessary component that makes up a complete kit. Essential drum hardware includes bass drum pedals, snare stands, hi-hat stands, and cymbal stands.

Yamaha HW-680W Hardware Kit

Bass Drum Pedals

There is a large selection of bass drum pedals to choose from. They range from simple, inexpensive single-pedal models to sophisticated double pedals favored by rock, metal and fusion drummers. There are pedals with double beaters for use with single bass drums, double pedals with single beaters intended for dual bass drum kits, and dozens of other configurations.

Yamaha FP-9500C and DFP-9500C

Drum Thrones

Most drum sets do not include a drum throne, and It is not advisable to use anything other than a drum throne to sit on, as thrones allow height adjustment, are compact, disassemble for easy transport, and include padding to make for a comfortable playing experience. A well-designed drum stool can help you play better thanks to its superior ergonomics.

Yamaha DS-840 & DS-950

Drum and Cymbal Stands and Racks

There is a stand to mount virtually any drum, percussion instrument, or cymbal. Choosing the best drum, percussion or cymbal stand comes down to the drum kit's configuration, components and budget.

There is an alternative to mounting drums and cymbals on stands, a frame-like structure called a drum rack. Racks can offer a compact way to mount multiple toms and cymbals using the least floor space.

Yamaha Hexrack II

Drumsticks and Brushes

Drumsticks come in several sizes and shades for different styles of playing and music. In general, heavier sticks like 2Bs are used where more volume is needed, and lighter sticks like 7As are used for styles that require less volume. Try out different sticks to find the type(s) that are right for you.

TIP: Use heavier sticks for practicing than for gigging in order to develop strength and stamina.

The number assignment used in drumstick manufacturing; 5A, 5B, 2B, 3S, and 7A, are based on the stick's size and application, with the numerical part signifying the circumference of the stick. The lower the number the larger the circumference, the higher the number, the smaller the circumference. For example, a 7A stick is smaller in circumference than a 5A which in turn is narrower than the 2B. An exception is the 3S, it has a larger circumference than a 2B despite the number.

The letter designation, "S" stands for "Street," these are large sticks designed for street applications like marching band. "B" sticks are used for "band" applications like symphonic and brass bands. 2Bs continue to be recommended by drum teachers as ideal starter sticks. "A" refers to orchestral drumsticks, they are smaller in circumference compared to "B" series sticks and are popular with rock and jazz players.

Stick tips come in a choice of wood or nylon. Wood tips have a softer, warmer sound, while nylon tips offer increased durability and a brilliant, focused cymbal sound.

Brushes are commonly used in place of sticks when a softer playing style is required. Brushes come in a variety of sizes, shapes, and materials, these include telescoping and non-telescoping; metal bristles, plastic bristles, loop ends, ball ends, and handles of wood, rubber, aluminum.

Bundled sticks or "rods" consist of rods or dowels of various thicknesses bundled together for a sound that is somewhere between sticks and brushes. Bundled sticks are ideal for low volume playing and practice, and an ideal choice for small or medium Houses of Worship looking to reduce drum volume.

Reducing Acoustic Drum Volume

MESH DRUMHEADS: Replacing regular drumheads with mesh heads will dramatically reduce the volume of drums. This is a great solution if you need to make acoustic drums quieter.

Mesh drumheads have some great benefits compared to a lot of other options that reduce drum volume: Mesh heads feel realistic, can be tuned tighter or looser, depending on the amount of stick bounce you want. Mesh heads also give you a small amount of tone if you keep the resonant drumheads on. A downside with mesh drumheads, they can take a little more time to install and remove.

Tip: You can add triggers to mesh drumheads to turn your acoustic kit into an electronic one!

DRUM MUTES: this is a quick and easy way to reduce drum volume. They are soft rubber pads that you place on top of your drumheads, and a benefit, you can instantly remove them when you want to play at full volume.

Drum mutes are also available for cymbals, and they can dramatically reduce cymbal volume. The downside with drum mutes, they do not have the same feel as hitting real drums, and there is far less stick rebound, however, this can help you build strength and speed since you're relying on muscle and technique rather than just stick rebound.

LOW VOLUME CYMBALS: Low volume cymbals give a dramatic reduction in volume. These cymbals have a sound reduction of around 80%, compared to regular cymbals. Importantly, low volume cymbals still feel and respond like standard cymbals and are much better compared to drum mutes or towels. Hundreds of tiny holes in the cymbal cause the volume reduction, while still allowing for a realistic feel.

DRUMSTICKS: Changing to thinner drumsticks will instantly reduce some of the drum and cymbal volume. The thinner the drumstick, the less force you will exert, which translates to lower drum volume.

To take your drum volume reduction further, rods are even quieter than drumsticks. Rods have a foam center, surrounded by wooden dowels, but they have a different sound than drumsticks. Rods still give a good tone and rebound but help to reduce overall drum volume.

Brushes can greatly reduce volume but have a much different feel than sticks. Brushes have barely any rebound, but they are super quiet. Due to the different feel, brushes will require a different playing technique. Retractable brushes are generally the best style to get, these retract back into the handle, with these, they can be played fully extended, or semi-retracted for more rebound. Retractable brushes are also less prone to bending out of shape since they can be stored retracted.

Like drumsticks, the bass drum beater has an impact on drum volume level. Using a hard beater like plastic, rubber, metal or wood, produces a more cutting and loud bass drum sound, a fluffy will help reduce bass drum volume.

DYNAMIC CONTROL: As well as changing equipment, how a kit is played will directly affect drum volume. Having good dynamic control is not only useful for keeping overall volume in control, it is something that will improve playing technic and expression. Having good control over how hard or soft each drum and cymbal is hit, will make you a better drummer. Explosive accents will have more impact, and you will be able to draw the audience in with quieter moments. You will also be able to completely change a beat's feel by simply playing some limbs louder or quieter than others.

MAKING ELECTRONIC DRUMS QUIETER: Here are a few tips if you need to reduce the volume of electronic drums, especially for drumming in small spaces:

- Put thick foam floor tiles under the kit, this will dramatically reduce drum noise travelling through the floor.
- Use thinner sticks to reduce the stick noise on the drum kit's pads.
- The bass drum may cause a excessive noise, use a fluffy bass drum beater, or tape a thick towel around the bass drum pad, the bass drum should still trigger even with the towel, but a lot of noise will disappear. You can also use the Yamaha Silent Kick pedal the KU100.

Yamaha KU100 Silent Kick Pedal

- If you use any regular drum stands with your kit (cymbal stands, snare stand, or hi-hat stand), place the feet as wide apart as possible, this will reduce the amount of sound going directly into the floor.
- Work on dynamic control so you are not pounding the kick drum, hi-hat, or the rest of the kit.

Homemade Drum Dampening:

Besides manufactured products, there are everyday items that can be used to reduce drum volume:

- Put towels across your drums and cymbals, they are remarkably effective at reducing overall drum noise. The thicker the towel, the more you will reduce their volume, however you will also lose a lot of stick rebound.
- Stuff the bass drum with a thick blanket, pillow or towels. The more you put in there and the thicker it is, the more you will reduce bass drum volume.
- Put sheets under the drumheads, between the bearing edge and the head: remove the drumheads, cut up an old bedsheet, and then stretch pieces of the sheet across the drum as you put the drumhead back on.
- If you are using resonant drumheads, remove them, this can help reduce drum volume. If you plan to do this long-term, put the hoops back on to protect the bearing edges. Use some old drumheads cutting large holes in them (leave 1 to 2 inches around the outside), then reinstall the resonant drumheads, this will ensure the bearing edges stay protected.
- Install the drumheads upside-down. Use some older drumheads, lay them on the drum upside-down, this will moderately reduce drum volume.

A New Way to Mic Acoustic Drums

The Yamaha EAD10 is a stand-alone acoustic drum module system enabling drummers to easily capture the sounds of an acoustic drum set with a single microphone/trigger component attached to a powerful digital processor.

Ideal for both recording, rehearsal and performance, the EAD10 addresses persistent challenges facing drummers and sound engineers who want to have high-quality drum performances and affordability, without having to use large, expensive drum mic packages. The EAD10 is a great solution for Houses of Worship looking to keep their costs down, without sacrificing sound quality, thanks to its central module and combination microphone/trigger sensor that easily mounts onto the bass drum. The microphone effectively captures and reproduces the natural, dynamic sound of the entire kit, while the module adds any number of effects, including flange, phase, and several varieties of reverb.

For a hybrid drum expansion, the central module features a snare trigger input and two 3-zone trigger inputs that are compatible with the Yamaha DT50S snare trigger and DTX Series Pads. This connectivity provides endless creative possibilities with nearly 800 stored sounds and effects, an onboard sampler and 50 preset combinations, with room to program 200 more.

The EAD10's free Rec 'N' Share iOS app enables drummers to record their drum track on top of their favorite music, while at the same time capture a video of their performance.

The EAD10 is quickly and easily connected to a PA system, with all drums and effects routed through the sound system, the EAD10 helps integrate a live band's sound into a more coherent whole.

Yamaha EAD10 Stereo Drum Mic Module

Electronic Drums

Electronic drums are becoming increasingly popular as a solution for Worship bands, as they can offer a lot of advantages when compared to acoustic drums. Here are some reasons Houses of Worship may want to consider electronic drums:

VOLUME CONTROL: Easily the primary reason for using electronic drums, as the drum kit volume is controlled by the mixing console, preventing it from overpowering other instruments and singers in the band. This type of control makes it much easier to achieve a good balance with the rest of the band.

VARIETY: A five-piece acoustic drum set will give you five drum sounds, and assorted cymbals. Electronic drum sets come with a lot more options: 100's of drum and cymbal sounds, arranged in ready-to-play classic and modern kits, as well as the ability to create custom kit combinations. Some electronic drum kits also feature percussion, synthesized and even pitched sounds.

GREAT FOR SINGING DRUMMERS: Singing and playing drums at the same time is difficult for even the most experienced musician, and it is almost impossible to keep drum kit volume leakage from getting into the vocal microphone. Not only does this make it hard on the singer, but the addition of the vocal microphone will add to the overall sound level of the drums.

NO NEED FOR THAT PLASTIC SHIELD: A drum shield can be effective for limiting volume on acoustic drums, but it also needs to be placed properly for maximum reflection away from the congregation and stage mics. Shields are large, heavy, time consuming to setup, difficult to store, and in some cases, costly. Take that cost and apply it to the electronic drum budget.

SETUP ANYWHERE: Acoustic drums are usually positioned well behind the band, and as far away from the audience as possible to keep the volume level under control. However, moving the drums that far back can increase reflected sound compared to direct sound, this often results in an overall muddy effect. Electronic drums sound the same no matter where you set them up because the drums are coming directly through the main house speakers and are controlled by the sound engineer.

EASY TO BREAK DOWN AND STORE: When you need to clear the stage for other functions, electronic drums break down quickly and can fit in a closet, cabinet or case. Some electronic drums break down in a modular fashion instead of individual pieces, this can speed up the breakdown process even more.

NO MICROPHONES NEEDED: The drum's output feeds directly into the main PA system, giving the sound engineer complete control over the mix, so microphones or amplifiers are not needed or necessary.

LOTS OF FEATURES: Many electronic drum sets include a metronome, auxiliary audio input for practicing along with digital music players, a USB port for updates, trainer modules, and more. For example, the Yamaha DTX720K offers a sequencer with approximately 152,000 note capacity, but can also sample custom sounds and import audio, that way you're not restricted to the 1,268 onboard sounds.

Yamaha DTX720K

Yamaha DTX920K

EASY TO TRANSPORT: A complete electronic drum set can fit in pretty much any car, so the set doesn't have to be left at the sanctuary when not in use and can even go to the drummer's home for practicing or storage.

COST EFFECTIVE: The price range for electronic and acoustic drums are not that far apart, for either type, however, what you may get for your money can be quite different. Electronic drums can offer more flexibility, more sounds, and be more convenient than an acoustic drum set. So, in terms of getting a lot of different "Kit" sounds, ease of use, and the ability to control the volume in small spaces, an electronic may be the choice for your congregation.

Keep in mind that an electronic drum set requires connection to a sound system to produce an audible sound. You will also need a drum speaker or headphones through an In-Ear Monitor system so the drummer can hear themselves onstage.

Drum Set Glossary

Bass Drum: Large drum played with a foot pedal. Sometimes referred to as the "kick drum" or "kick." The bass drum is used to anchor the bottom of the music mix and interacts with the bass to build the music's foundation.

Bass Drum Pedal: The pedal that you step on to play the bass drum. Uses a lever and tensioning springs.

Bass Drum Beater: The metal shaft that fits into the bass drum pedal, with a head that is made of felt, wood or other material.

Bass Pedal Spring: The spring that pulls the pedal back after the pedal is depressed.

Bass Drum Spurs: Short metal legs that attach to the bass drum to prevent it from moving.

Batter Head: A drumhead that you hit, mounted on the top side of the drum.

Bearing Edge: The edge of the drum shell where it contacts the drumhead.

Bell: The round, raised part in the center of the cymbal. Used for creating accents and variations in cymbal sound.

China Cymbal: Special-effect cymbal of Chinese origin. Usually mounted in an inverted position on the stand. Has a trashy, dark, white noise sound.

Claw Hooks: The hooks that hold the bass drum hoop, or rim in place.

Crash Cymbal: Cymbal with strong attack and fast decay used to create accents and crescendos.

Cymbal Sleeve: A plastic or rubber sleeve that prevents the cymbal from contacting the metal rod at the top of the cymbal stand. Prevents cymbal damage and undesirable metal-on-metal sound.

Cymbal Stand (straight and/or boom type): Holds the cymbals. Boom stands have a movable arm, or boom, that extends from the stand at an angle, allowing you greater flexibility in placing your cymbals.

Double Bass Pedal: Bass drum pedal with two beaters and two footboards. Used in modern rock and fusion styles. Allows the drummer to play a single bass drum with two beaters for a double bass drum effect.

Drum Key: Tool used for tuning drumheads by adjusting the tension rods. Sometimes used to adjust tom arms and other hardware.

Drum Module: An electronic controller used to generate sampled and synthesized drum sounds.

Drum Rack: Used in some modern drum sets to mount multiple tom drums and cymbals as opposed to individual stands.

Drum Throne: A padded, height-adjustable, armless seat for drummers.

Drum Triggers: Small sensors attached to drumheads or rims used to trigger drum and other sounds from an electronic drum module.

DRUMHEAD: The head that fits over a drum shell. Originally made of calfskin, most modern heads are made of Mylar. The batter head goes on top of the drum and is the head you hit, while the resonant head goes on the bottom and enhances the drum sustain and resonance.

DRY SOUND: Drum sound that has little or no ambience or effects.

FLOOR TOM: The largest tom in a drum set, usually 14" to 18" in diameter. They will usually have detachable metal legs for free-standing use or can be suspended from a tom or cymbal stand.

FOOTBOARD: The part of the bass pedal or hi-hat pedal that is pressed with the foot.

FUNDAMENTAL NOTE: The tuning at which a drum produces its most open and resonant tone. Determined to a large degree by the design of the drum shell.

HI-HAT CYMBALS: A pair of cymbals that are mounted on a hi-hat stand. Hi-hat cymbals usually range in size from 12" to 15."

HI-HAT STAND: A stand that is used to mount and play a pair of hi-hat cymbals. An integrated foot pedal is pushed down to close the cymbals and raised to open them.

HI-HAT CLAMP (OR CLUTCH): The part of the hi-hat stand that holds the top hi-hat cymbal.

ISOLATION MOUNTS: Tom mounts that allow the tom to vibrate freely by isolating it from the tom holder.

LUG: A bracket that is attached to a drum and accepts a tension rod that threads through the rim to hold the drumhead in place.

LUG NUT (OR SWIVEL NUT): The receptacle inside a lug that accepts the tension rod. Interior threads allow the tension rods to be tightened in order to tune the drum.

MOUNTED TOMS: Toms that provide various voices and timbres within the set, most often used in playing fills and solos. Mounted toms generally range from 6" to 14" in diameter, and commonly mount on the shell of the bass drum, however some toms have free standing legs and sit next to the bass drum.

PICCOLO SNARE: A high-pitched specialty snare drum, usually with a 3-1/2" depth.

RIDE AREA: The large, slightly curved area of a ride cymbal that offers a balanced, consistent tone with good definition.

RIDE CYMBAL: A cymbal with sharp attack, fast decay, and clear stick definition. Generally, 20" or 22" in size, but are available in larger sizes as well. Ride cymbals create a continuous "riding" pattern and are often used for accompanying instrumental solos.

RESONANT HEAD: The bottom head used on toms, snares, and on the front of bass drums.

RIM: The metal rim that holds the drumhead in place and can be tensioned for tuning.

SHELL: The actual drum cylinder, usually made of wood.

SHELL PACK: A set of drums sold with minimal hardware that usually include only the rims and tom holder.

SNARE DRUM: Drum with a metal or wood shell and bright, cutting tone. Has a characteristic buzzing sound created by the sound of the snares mounted on the bottom drumhead.

SNARES: Coiled metal strands that vibrate against the bottom (snare-side) head of a snare drum.

Snare Side Head: A thin drumhead attached to the bottom of a snare drum.

Snare Stand: Stand with an adjustable basket that holds the snare drum.

Snare Strainer (or throw-off): The device that holds the metal snares against the bottom snare side drumhead. It has a lever that allows tightening and release the snares.

Soprano Snare: Small specialty snare drum, usually with a 12" diameter.

Splash Cymbals: Small, thin crash cymbals with a quick decay.

Tension Rods: Metal rods used in conjunction with the lug nuts to tune a drum.

Tom: Drums of varying size that are typically mounted on the bass drum with a tom holder. Toms may also be mounted on a drum rack and are referred to as suspended or hanging toms. Toms larger than 16" are usually mounted on legs, in which case the drum is called a floor tom.

Tom Holder: Mounting hardware that holds one or more toms on the bass drum shell.

Trigger: Small sensors that attach to drumheads and trigger sounds from an external drum module.

Washer: A metal disk that fits between the head of the tensioning rod and the rim.

Wet Sound: Sound that has an ambient, spacious quality, with effects like reverb and/or delay

Wing Nut: A nut with wing-like finger grips, used on the top of a cymbal stand.