

Highly recommended





Introduction

M&K Sound is the company widely credited with creating the worlds first subwoofer roughly 50 years ago. The story goes that Jonas Miller owned a high end audio shop and was selling quite a few electrostatic speakers. They're known for producing stunning mid's and highs but bass, not so much. During a conversation Jonas apparently told his friend Ken Kreisel about how customers loved the speakers for what they were capable of, but were decidedly less impressed by the fact they produced little usable bass. That conversation got Kreisel thinking and what resulted was the creation of a whole new product category, the subwoofer. At that moment an industry, and subsequently an audio company, were born.

Fast forward to today and neither Jonas Miller nor Ken Kreisel are associated with the company that bears their name but M&K Sound still make subwoofers. What I have before me today is their flagship model, the X15+.



The X15+ is M&K's first subwoofer with a 15" driver, it actually has a pair of them. With a cone made from carbon fiber sandwiched over a foam inner layer, NBR rubber surround, double stack ceramic magnets and 12 spoke cast aluminum basket this thing is a beast. But is it all looks, can it walk the walk as well?

Specifications

On paper the M&K X15+ looks like this...

• Frequency Response: 16-200 Hz +/- 3

• Variable Low Pass Filter: 40-125 Hz, continuously variable

• Phase Control: 0 - 180°, continuously variable

• Inputs: 2 XLR, 2 RCA (Left/Right, Stereo)

· Outputs: 2 XLR, 2 RCA

Amplifier type: ICEpower class-D
Amplifier Power RMS: 700 watt
Amplifier Power Peak: 1400 watt

Drive unit: 2 x 15"

· Enclosure type: Sealed, Push/Pull design

· Auto Power detect on/off: Yes

• Dimensions: 32.8 x 20.3 x 18.1 in (HWD)

· Weight: 135 lbs

· Construction: 1" MDF, internal bracing

· Cost: \$5,999

Using a toggle switch you can select what type of low pass to use; 80Hz fixed, no low pass (THX mode, more on that later) or variable. If you opt for the latter there is a dial to choose what you want the low pass frequency to be. There is also a toggle switch to control what M&K calls Bass Level Reference, gain essentially. There are options for fixed (THX mode) or variable. Selecting variable allows you to set the level using a dial. The range is rather extensive; from 9 o'clock all the way to 6 o'clock, or roughly 3/4th's of a full rotation. Curiously there are only 2 marked settings, around 1 o'clock for +3dB and 2 o'clock for +5dB. I would have preferred more positions be identified so you would know exactly what the adjustment was set for if you stray beyond those two.

M&K Sound offers a 2 year parts and labor warranty on their electronics, 5 year parts and labor on the drivers. In-home trials, returns and exchanges are handled a little differently than many other manufacturers as those policies are determined by the retailer themselves.

Push/Pull

Let's talk about the elephant in the room, that bizarre looking driver orientation.

One is pointing directly at you, which is what most people expect from a subwoofer, but what's with that perpendicular driver facing upward into the cabinet? All you see is its backside, is it really doing anything? That's a manifestation of the science behind sound, and yes it really does do something. Quite a bit in fact.



Harmonic distortion is the bane of audio reproduction. Sometimes referred to as "orders" (multiples) of the original fundamental frequency, it causes unpleasant artifacts that are audible. In an attempt to keep the sound as pure as possible engineers the world over try to overcome harmonic distortion any way they possibly can. M&K Sound has chosen an alignment called push/pull as its solution.

Mounting a pair of drivers that are perpendicular and in opposite phase to each other – one of which is in phase with the input signal while the other is out of phase – effectively cancels out even order harmonic distortion as the out of phase driver "erases" the presence of the undesirable harmonics. Unlike an isobaric system, which also has one of its drivers facing inside the cabinet, the push/pull design allows both drivers to contribute to the output (+6db worth). Introduced to consumer audio in the late 1980's with the MX-1000 subwoofer, M&K has steadily been refining its implementation of this unique approach ever since.

Impressions

Big, the M&K X15+ is a good sized subwoofer. To an extent that was evident right up front as it came on a pallet, not just wheeled to my door on a hand truck as most subwoofers are. It does have dual 15" drivers though so obviously it won't be small.

The box strapped to the pallet is more like a shipping carton, with the structural integrity that term brings to mind. Cut it open and inside you'll find that contoured thick foam covers the top and bottom of the subwoofer cabinet. At 135 pounds it's heavy so be sure you have a friend around when unboxing time comes. The X15+ is built like a tank, it feels very solid. Large and heavy are good attributes for a subwoofer however so no complaint there.

The enclosure is covered in black satin paint rather than a matte or high gloss seen more routinely. I think M&K chose wisely with a satin finish as it represents a good compromise; not so shiny as to be reflective, yet it comes across as a bit more classy than matte tends to. When you have a king-size subwoofer the choice of finish is critically important and I think they went in the right direction. The cabinet edges and corners are gently rounded giving the X15+ a smooth, refined look.

There was no manual included with the unit but you can download a PDF version. The documentation is 19 pages long and well written, providing comprehensive information on the inputs, detailed instructions about the myriad controls and options, how to best use the pass through connections, proper placement and troubleshooting.

M&K Sound doesn't offer a tuning app or any built-in room correction system for the X15+. A subwoofer in this price class often includes some method to customize the output, a notable benefit for advanced users looking to finely tune their system. I know everyone with an AVR has room EQ of some type – Audyssey, YPAO, MCACC, et al. – but to get the utmost from a subwoofer requires additional calibration to overcome anomalies introduced by the room or to adjust for personal taste (like the proverbial 'house curve').

Listening

Big, but unlike in the Impressions section I'm not talking physically here. The M&K X15+ sounds big, there is simply no other way to say that. It has a commanding presence, even when loafing about playing material that isn't challenging you get a sense it wants to be unleashed. So powerful is this subwoofer that it was able to attain the exceedingly rare THX Dominus certification. What that means is the X15+ can achieve reference level output in a room up to 6500 cubic feet. As of this writing M&K Sound is one of only two company's making a subwoofer that passed the most rigorous THX testing there is. You're talking an exclusive club there.

Realistically what does THX certification get you? For some it's seen as little more than a badge on a manufacturers website, for others it's considered the gold standard. For me it's a challenge. Dominus is the top of the THX pyramid, achieving that suggests M&K Sound has created something special. Now I want to know how that translates into what I can hear and feel.

To run the X15+ in full THX mode requires you set 3 switches; low pass, a specific EQ mode and the bass level, all of which are thoroughly explained in the manual. Because the Dominus certification is so uncommon I decided to configure the subwoofer that way while I had it. Well, sort of; I did set the low pass for THX Mode and the EQ to THX Bass but didn't choose THX for the level. Done that way you can't adjust the output to taste so I opted for variable instead and added some more punch. Like most of you reading this I like a lot of bass so I figured what the heck.

Before pushing the X15+ hard to find its limits I came to realize that in everyday listening this subwoofer can be quite docile, not to be confused with weak mind you. It was perfectly willing to play the companion role, not shout "look at me" or be obnoxious. While watching TV for example you knew for sure it was there, but it wasn't going out of its way to let you know that. When the audio content ramped up the X15+ would decide it was time to show it can dominate when the situation called for it. For me that's the way it should be, speak softly but carry a big stick.

For this evaluation I used a set of XTZ M6 speakers, in part because that would be in keeping with M&K's ethos of a sub/satellite system being the best combination. I also went that route as the M6 has a multi-tweeter array similar to a number of speakers in M&K's own product line. The

pairing blended seamlessly with the X15+ adding considerable weight to the bottom end, yet not sounding at all thick or heavy. It never overemphasized anything, but when emphasis was called for it was supremely able to respond.

One thing I wasn't thrilled with however is the X15+ had a propensity to go into standby during periods where there wasn't much happening, times with no special effects or intense action. In particular, it would occasionally doze off during sports programming. For me that's a big no-no as I'm inclined to watch car and motorcycle racing for hours on end. It takes a bit of volume to wake up as well. The X15+ never went into standby for other types of content so for most people it would likely not occur at all.

Movies

Like most who evaluate subwoofers I had to try the opening from Edge of Tomorrow. Was the M&K Sound X15+ up to the task? As is my wont I started at a moderate level and worked my up, but in this case I went way up. Because the X15+ is Dominus certified it means this thing should handle just about anything right? I set out to see if that was the case.

What is typically a very difficult ask proved not to be, it sailed right through this obstacle. It was so loud at one point I had to open closet doors and pull the blinds up just so I could determine if all the rattling I heard was from the subwoofer or my house. It turned out to be the latter, the X15+ remained resolute despite the punishment.

That proved to be a perfect segue to start the real listening tests, a preview of coming attractions if you will (this is the Movie section, see what I did there?).

Flight of the Phoenix



Dennis Quad stars as hubristic pilot Frank Towns. Towns is hired to fly workers from a Mongolian oil drilling site to Shanghai. Ignoring warnings about rough weather the arrogant Towns decides to forge ahead. Turns out to be a bad idea as they run headlong into a huge sandstorm that cripples the plane, causing it to crash land and belly flop across the Gobi desert.

The action heats up with scene 5 where they encounter the sandstorm. The rumbling produced by the howling winds lent an ominous tone, sending rumbles through my room. It kept coming in waves no matter what else was going on, an ever present reminder something bad was about to happen.

When the first engine explodes the X15+ proved it had power in reserve as the output was more fierce than the already potent effects from the wind. It got even better when the plane started spiraling out of control, hurtling toward the ground. There's this extremely low growl that can sound obnoxious on a subwoofer struggling to keep up. There was no such problem here as the X15+ went about its business totally unfazed. The bass was absolutely commanding, yet entirely composed.

Black Hawk Down



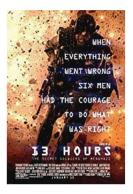
Do I need to tell you what scene I used from this movie? Yea, didn't think so.

Once the code word has been spoken and you hear those immortal words – ****ing Irene! – the job your subwoofer has to do becomes considerably more difficult, unless you happen to own M&K X15+ that is. I walked over to it at the critical moment and watched as the front-firing woofer went crazy, pumping in a piston-like manner. Even though it was hammering away there was no untoward noises from the suspension, often an unfortunate side effect when a driver is pushed extremely hard. The X15+ remained unperturbed.

When the choppers take off the sensation was strong, the bass palpable. What I particularly enjoyed was the 'whumping' sound of their blades. If you've ever been near a large helicopter when it ascends you know that sound. It's formidable, something the X15+ was able to produce with great authority and detail.

Of particular note is the music playing in the background. While all this is going on Stevie Ray Vaughn is belting out his cover of Voodoo Child. If you have combat sound effects pumping out this much low-level content any accompanying music can suffer, be drowned out, but that didn't happen. There was capacity to spare, no matter how powerful the sound of heavy equipment got you could still clearly hear every note of the soundtrack. This is why you buy a subwoofer like the M&K X15+; you want output, extension and poise all rolled into one.

13 Hours



Most of my comments from the previous movies were based primarily upon one or two scenes, but with 13 hours that's not the case. I deliberately included a movie you have to watch for a while in order to get the true essence of what your subwoofer can do. Like you I enjoy a film with a brutal soundtrack – a bassfest as some refer to it – but what I also appreciate is something that has ferocity in parts, not necessarily nonstop. Quieter sections interspersed with extreme action. 13 Hours scratches that itch.

It's 2012 in Benghazi, Libya. A clandestine CIA base staffed with ex-military contractors has been setup to provide security. US Ambassador Chris Stevens is making a visit when his compound is attacked by rebels, perhaps not coincidentally on September 11th. There's no one to come to his aid but half a dozen of the contractors from the CIA base. That sets off an all night battle to stay alive.

While there is plenty of action earlier in the movie I jumped to scene 15, that's where the contractors begin to make their stand against the insurgents. The X15+ responded to the chaos beautifully, rendering each round from the disparate automatic weapons with a sharp wallop. Even when a multitude of them were firing simultaneously you could still tell each apart, they didn't smear together. The kick from the numerous weapons varied in potency by its caliber, exactly what you want to hear.

At one point the Americans unload on a bus packed with ordinance, causing it to explode and unleash an eruption of bass. The force from that blast makes you keenly aware of how much explosives there was, eclipsing all the other work the X15+ had been asked to perform thus far. That showed me it had reserve in the tank, even during a scene which should have taxed it there was no strain detected despite the elevated volume I was using at the time.

At the conclusion of the movie tests it was apparent nothing had caused the M&K X15+ to stumble; no matter the output level, intensity or how complicated the material was it just kept chugging along. Guess there is something to that Dominus certification after all.

Music

By this point I know the X15+ is capable of handling any movie soundtrack I can throw at it, but what about music? That's a different story, what makes a subwoofer great for heated action scenes doesn't necessarily translate to impeccable music reproduction. Me being me I put a greater emphasis on music, the primary reason why you see this section after movies in my reviews. Music is ubiquitous in my world, a constant, it's in my blood (perhaps literally). This is the make-or-break part for me.

Hail to the King, Avenged Sevenfold



A true test for the X15+? Some would say no, and I would find it hard to argue, but I didn't include it because this song is terribly intricate or particularly strenuous. Instead it was chosen to determine how well this subwoofer could portray a sense of foreboding. The lyrics for this one are dark and so is the music, to properly convey that requires a sub able to embrace sinister (that's an inside joke for those of you who know the band members).

Breed, Nirvana



From lazy to energetic, Breed is diametrically opposed to Hail to the King. Featured on Nirvana's landmark release Never Mind, Breed is my favorite track from that album. It just so happens the lower octaves are prominent which make it a good test for a subwoofer. Time to crank it up.

Kurt Cobain gets things going with a heavily fuzzed guitar, followed shortly thereafter by Dave Grohl frenetically beating on his drums. Instantly I sensed this was going to be good, the kick drum had... well, a lot of kick. When Krist Novoselic started plucking away at his bass the X15+ showed even more life, ratcheting up the intensity. Breed is about 3 minutes of pure mayhem, yet in spite of the non-stop pace this subwoofer was totally in its element. I was too.

Don't Walk Away, Firehouse



From lazy to energetic and back to lazy, I'm in that kind of mood today. Like Hail to the Kind this song not only pounds away but was recorded quite well, critical ingredients when pushing a subwoofer. One of 12 tracks from the bands eponymous debut album, Don't Walk Away became very big for Firehouse.

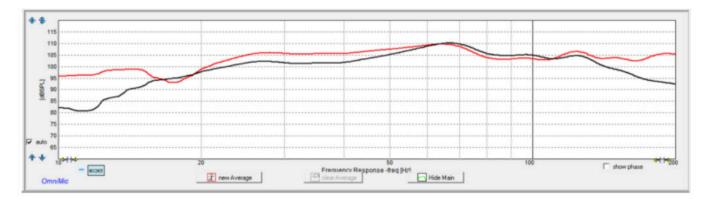
The song leads off with Michael Foster hitting hard with his kick drum, and I do mean hard. The sound engineer evidently felt that needed to be heard so he ensured it was. Within a few seconds the rest of the band joins the act including Perry Richardson and his bass, another band member the sound engineer thought needed to be highlighted. I think Foster and Richardson were recorded even hotter than Grohl and Novoselic on Breed, yet that didn't pose a challenge for the M&K X15+. It didn't break a sweat while producing deep, rich bass that encouraged me to push as far as I dared. Feel free to do so yourself, I'm sure you'll be as impressed as I was. Even at the extreme the sound was nuanced, you could clearly hear every single bass note despite the pummeling from the drums. The low end was authoritative without being overpowering.

Conclusion

The M&K Sound X15+ doesn't seem to fear any content, no matter how high you crank the volume it just keeps getting louder. If you do somehow reach a point where it can't go any further it smoothly engages protection mechanisms and prevents itself from coming undone. The X15+ is insouciant when driven, it doesn't care you're doing everything in your power to bury it. Even at the extreme it remains in control, never losing the ability to reproduce clean sound. It doesn't just excel at sheer output, it backs up that skill with precision and detail. If you have big demands the M&K Sound X15+ subwoofer is certainly able to fulfill them. Highly recommended.

These measurements were taken using an Omnimic. The subwoofer was positioned in the center of my listening room with the microphone 1 foot from the front panel, pointed at the emblem in the center of the cabinet in order to sum the output from both drivers. The controls were set as follows:

- · Phase 0°
- Low Pass 125Hz (max) or THX Mode (defeated), measurement dependent
- · EQ Mode Anechoic or THX, measurement dependent
- · Bass Level Reference THX (fixed) or Variable (max), measurement dependent



Graph Legend

- THX Mode Enabled Red
- THX Mode Disabled Black

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