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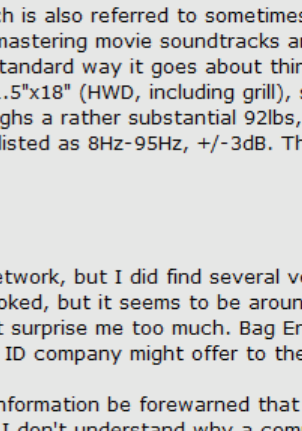
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Bag End ID-18 Pro Subwoofer Review

Bag End ID18-Pro

By Jim Wilson (theJman)



Introduction

The subject of this review is the [Bag End ID18-Pro](#), which is also referred to sometimes as Infracub 18 PRO. As its name implies the ID18-Pro is a "professional" subwoofer, primarily used in studios for mastering movie soundtracks and [music recording](#). It can be used in a HT environment as well, provided you're willing to accept the less than standard way it goes about things. The ID18-Pro is an acoustic suspension [subwoofer](#) with a single front-firing 18" driver. It measures 23.5"x21.5"x18" (HWD, including grill), so it's certainly not small. However, for a sub that contains an 18" driver it's not terribly large either. It weighs a rather substantial 92lbs, so it isn't a lightweight. The amp is rated at 400 watts "continuous sine wave", while the frequency response is listed as 8Hz-95Hz, +/-3dB. That's not a typo either; it's rated down to a bone-crunching 8Hz!

Ordering

[Bag End](#) primarily sells their products through a dealer network, but I did find several vendors offering them on the internet. The retail price listed for the ID18-Pro varied depending upon where I looked, but it seems to be around \$2000. I wasn't able to find any definitive information regarding in-home trials or return policies, but that didn't surprise me too much. Bag End is a company that supplies professionals, most of whom don't expect the same type of policies the typical ID company might offer to the consumer.

If you use Bag End's website for purchasing or product information be forewarned that it's not the best layout you're likely to encounter. For example, they list products that are no longer available. I don't understand why a company does that. They also tend to break things down into categories by potential usage -- Professional, Musical, Studio, etc -- yet in so doing the exact same product shows up in multiple locations. To an extent I see the logic, it's the implementation that leaves me cold I suppose. Same for the general layout and product descriptions. You can tell these folks are engineers first and marketing mavens second.

Unboxing

The ID18-Pro came single boxed, which for something that weighs over 100lbs in shipping trim doesn't strike me as the best choice. The entire top and bottom of the [subwoofer](#) was protected by custom molded blown-in foam, so it doesn't appear as though the unit would have been able to move around. The subwoofer itself was wrapped in plastic. This was a well-used demo though, so you probably can't draw much of a conclusion regarding the packaging from this one.

Included accessories were sparse; a warranty card and the RTI -- Remote Threshold Indicator -- which I'll explain in more detail later. There was no manual or other documentation.

Impressions

Bag End is a company that caters primarily to the professional entertainment industry. We're talking about nightclubs, DJs, auditoriums, movie theaters, etc. They also have a tremendous presence in the mastering and recording end of the business, where movie soundtracks and songs are mixed. Because HT is probably just a small portion of what they do I had to put aside some of my notions on what constitutes normal features and options because they simply don't apply here.

For example, Bag End unapologetically states that you need at least a pair of [subwoofers](#) in order to achieve sufficient output for [home theater](#) usage, an assertion I found to be true; even though I had a sub with an 18" driver it still would have required two of them for me to have adequate headroom in my 1800 ft³ space. The [bedliner](#) finish, the fact that all inputs and outputs are balanced (XLR), no adjustable phase and the lack of expected features like auto-on/standby will leave some scratching their heads. Bag End thinks about the professional and studio markets first, which have different needs. That's a bit of a shame too, because once you get past all the eccentricities you're left with something whose sound can only be described as extraordinary. We're talking about reference quality bass, pure and simple. There's really no other way to put it; the ID18-Pro left me astonished on numerous occasions, producing nuances that I had never heard before in very familiar material. In the coming paragraphs you're going to read about a few things I wasn't too pleased with, but in the end the exceptional bass almost always won me over. Words such as "accurate", "sharp" and "precise" seem inadequate to describe how the ID18-Pro sounds.

On paper there's nothing about this [subwoofer](#) to give you an inkling of what you're about to hear either. A 400 watt amp to power an 18" driver? Seems a little on the weak side, if you ask me. And what about that driver? Its accordion style surround -- with limited xmax -- and lack of exotic materials make it appear as though this thing came from a [PA speaker](#). Mount that seemingly generic driver in an innocuous cabinet sprayed with truck bedliner and you get a subwoofer only its designer could love. Maybe. Plug this thing in, flip a switch or two and hit the power button and something very special happens. What initially seems to be a pile of average parts springs to life and creates bass so pure and unadulterated that it probably has few rivals.

The way an ID18-Pro goes about producing that glorious sound is very unique too, in a manner like no other [subwoofer](#) that I know of. I always like a company that bucks convention, and does things their own way. Well, Bag End certainly fits that mold. The technology behind their unique sound is called INFRA, and they describe it thusly:

A fundamentally new approach to low frequency reproduction, the INFRA employs electronic compensation to the uniform response that a sealed box loudspeaker system exhibits below its resonance frequency. The resultant frequency response can be extended well below the audible range while at the same time greatly reducing the influence of the system resonance. An INFRA system reproduces each note with precision and uniformity while maintaining a flat frequency and phase response, eliminating the tendency to emphasize the notes around resonance as in conventional bass systems. The enhanced INFRA dual integrator provides both a very flat response below resonance and the high frequency roll-off above resonance, for crossover to the midrange driver, without the use of conventional low pass filters and the delay typically introduced by them.

So what does that really mean? Unlike every other [subwoofer](#) company that I'm aware of Bag End does not try to make their driver's resonant frequency (FS) as low as possible. Instead, they do the exact opposite; the ID18-Pro has an FS around 63Hz, way above what any other company strives for (which is usually in the lower 20Hz to upper teens range). That sounds like the work of a heretic, doesn't it? So how is this subwoofer able to produce bass down to single digits then if the resonant frequency is so ridiculously high? Bag End does something rather ingenious.

An acoustic suspension (sealed) subwoofer has a predictable and gradual roll off of 12dB per octave. With this in mind Bag End tunes their amp to boost output the exact same 12dB per octave below the driver's FS, essentially making it possible to have a flat response all the way down to 8Hz. The holy grail for sound reproduction is to have a response curve *without* a curve at all -- completely flat -- which Bag End achieves. However, there's no such thing as a free lunch. Their approach works extremely well, but it does so at the expense of headroom; since the amp uses so much power to boost the signal below FS there's very little left over to produce volume so the amplifier runs out of steam pretty quickly, hence the need for multiple [subwoofers](#). I suppose that's at least partially why other manufacturers don't take this very same approach, but I surely wish they would because the end result is sensational.

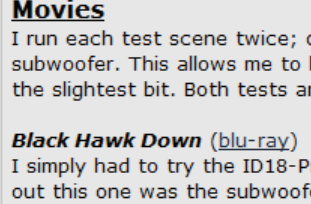
Appearance wise, the ID-18 Pro won't win any awards. A big square box covered in a sprayed-on finish is perhaps fine for a studio, but I'm not certain how that will fit in most HT environments (although I personally don't have any issue with it). The outside edge of all the cabinet panels has a slight bevel, which does temper the stark appearance somewhat. The universal "knuckle rap test" returns a solid thud, a considerable achievement when you realize there's no damping material inside. That's probably due to the 1" MDF used all around.

(After this review was published Bag End provided additional information related to a feature mentioned in the paragraph above... For some customers, where the look is important, they offer a German automotive painted finish. It gets many coats rubbed out to a tough mirror finish just like a fancy car. This is available in most any color you can imagine. Custom sizes are also available for hard to fit space requirements. The cost for custom paint is more, but that's to be expected. The price is individually quoted per order.)

The grill is similar; stout but unimpressive. Made from .75" MDF it's very sturdy, and is held firmly in place by the typical pin and socket arrangement. The cloth material employed is transparent and was applied flawlessly. A 45 degree angle cut on the outside edge and a discrete Bag End badge on the lower corner help mitigate what would otherwise be a bland appearance.

The cone of the ZEL-18T driver is made from treated paper and utilizes a corrugated surround, instead of the more typical rubber half-roll, making it appear to be closely related to a [PA speaker](#). The 8 spoke cast basket is securely attached to the cabinet using machine screws and threaded inserts, which I always like to see. Bag End equipped this driver with a single slug magnet, small voice coil bumpout and a good sized vent right in the middle of the magnet. It seems to be designed for heavy usage.

The Remote Threshold Indicator (RTI) is a vivid example of the studio heritage Bag End has. Its sole purpose is to visually indicate when the electronics have stepped in and limited the fun.



The RTI consists of a 25' balanced cable, along with an LED housed in a small plastic block. The LED will change color and intensity as the amp starts to reach distress. When the LED shines green everything is fine, but when it changes to red you know the output is being limited. The more intense the red, the more aggressive the signal attenuation. When an engineer is in the studio he/she will place the RTI in a visible location so they can easily determine when the audio soundtrack being mixed has reached the tipping point. I used it in a very similar manner, to ascertain when the content I was listening to had pushed the ID18-Pro beyond its comfort level. It works quite well in that regard.

(After this review was published Bag End provided additional information related to a feature mentioned in the paragraph above, and I quote... The Dynamic Filter is a unique protection scheme, dynamically reducing the bass extension from the bottom up. Put another way, when a particularly demanding signal enters the system it reduces the level of the lowest frequency first leaving the middle bass and upper bass unaffected. If there is a signal that has large content under 20 or 30 hertz that would normally overload the system, then lowering this just a little to keep it from overloading is a pretty good sounding way to protect it. The Dynamic Filter does this but without reducing the middle and upper bass. This is fundamentally different from a limiter as is used in most systems to keep the amplifier from clipping or the speaker from over excursion. Crossing the Dynamic Filter threshold on occasion, just a little, is quite acceptable for home enjoyment listening. In a professional studio setting this must be monitored more closely. The remote indicator is valuable to provide a visual indication because when the Dynamic Filter is engaged just a little it is not audible on unknown material, even to the pros.)

The amp itself is an industrial looking piece, keeping with the overall theme. It consists of two metal plates on the back of the enclosure; one contains all the controls and ports -- both input and output -- while the other houses the connections for the [power cord](#) and its accompanying switch. The configuration suggests something along the lines of an amp/preamp setup. On the "preamp" portion there are half a dozen balanced (XLR) inputs and 5 outputs, but no provisions for either RCA or speaker level connections. There's an additional balanced out for a slave sub, so you can daisy-chain multiples. There are three switches as well, one of which is the Cut Off setting. That's where you select the High Pass Filter (HPF), which is either 20Hz or 8Hz. Another is used for Polarity, with options for + and - (0 and 180 degrees, respectively). The last one is a bit of a mystery; it seems to be for input sensitivity on the primary balanced input port, but the only marking is "-10dB". The other side of the switch says nothing germane. The actual "amplifier" stage utilizes a large toroidal transformer, which is almost exclusively used on the best amplifiers. Both the amp and preamp are contained in a separate chamber, isolated from the back-wave of the driver. Other than the aforementioned RTI, there is no LED power indicator.

(After this review was published Bag End provided additional information related to a feature mentioned in the paragraph above... The -10 dB switch is an attenuator for the F input. When the switch is up there is no attenuation. The F input also goes through the level control just to the left of the attenuator switch. A precise 10 dB offset is sometimes useful in the mixing stage before the multiple audio channels are digitized by the Dolby or DTS processor. In a home system it is not typically used.)

Listening

My living room is 13x17x8 (1768 ft³), so it's not terribly large. The main seating position is approximately 11 feet from the subwoofer. Normally I break a subwoofer in for at least 15 hours, but since this was obviously a well used demo unit I didn't consider that necessary.

I'll cut to the chase; the quality of bass the ID-18 Pro is capable of left a huge smile on my face, it was the quantity that made me frown on occasion. For the ensuing tests you can easily add the line "what I heard was nothing short of amazing, up until the limiter kicked in" to virtually everything. Time and time again I sat in awe of just how magnificent something sounded, yet almost invariably the limiter would step in and put a damper on my fun. This subwoofer absolutely begs for you to try everything in your collection, but requires that you show some restraint with the volume. I longed for a pair of these because once you're drawn in by the astonishing dynamics and transient response turning down the volume is the *last* thing you want to do.

A few times I encountered something rather unexpected too; artifacts. On two or three separate occasions I heard a very deep, noise that seemed out of character for what was occurring on screen. Sometimes it could best be described as a hum, others a rumble, but it always struck me as unintended. I surmised the sound engineer might not have realized that detritus noise existed while originally mixing the soundtrack because the sub(s) they used couldn't play as low as the ID18-Pro can. It was really bizarre when that happened too, but just goes to show you how low this subwoofer can play; it's able to unearth sounds few other subs are able to.

Movics

I run each test scene twice; once while seated in my normal listening position, and then a second time while sitting a few feet from the subwoofer. This allows me to hear it as I normally would, yet also affords me the opportunity to determine if the subwoofer is straining even the slightest bit. Both tests are run at the same volume level, which is slightly above what I would normally use on a day-to-day basis.

[Black Hawk Down](#) (blu-ray)

I simply had to try the ID18-Pro with this movie, but because it contains an award winning soundtrack. No, what compelled me to break out this one was the subwoofers the sound engineers used when they mastered it in the first place. Yup, you guessed it; they were from Bag End. If they're good enough to use when the soundtrack was being mixed, they're certainly good enough for me to use for a review.

Without a doubt, the Irene scene had to be part of the testing repertoire. "Irene" is the code word used to signal that the mission is a 'go'. When that happens the helicopters are idling on the tarmac, waiting to be deployed. Once the code word is spoken, and it becomes official that the invasion is on, the helicopters take off. The ensuing bass sweep on the soundtrack is rumored to be less than 10Hz, which is positively brutal for a subwoofer. The texture of the chopper blades while they were idling on the ground was fabulous -- with a deep and powerful 'whoosh' about them -- but then the limiter kicked in hard as they ascended from the airfield. While the effect was still palpable you knew there was more to be had.

During the ensuing battle that rages on the streets of Mogadishu the explosions had tremendous depth, but not exclusively the kind associated to just the repercussions themselves. This was more like the space they occupied in the scene; whether they were within close proximity or far away you could literally close your eyes and discern each different effect -- be it a machine gun or RPG -- just by its unique sound signature. That was truly awesome. It wasn't all euphoria though; when Super 6 1 gets hit by the first RPG there was a 'thump' from the driver that actually startled me. Talk about a buzz kill. For the most part though, I really enjoyed this movie.

[Tron: Legacy](#) (blu-ray)

I didn't want to use this movie again, because its shown up in a few of my recent reviews, but since I had it out there I had been very impressed with the ability of the Bag End ID-18 Pro to produce bass that had incredible definition I felt compelled to drag it out. Why? Few movies will uncover the weaknesses of a subwoofer like Tron can; if it's not articulate and precise you can bet this one will expose that fact, and in short order too. A few times the RTI blinked like a strobe light, but in between it was pure bliss.

As the Transporters descend upon Kevin Flynn at the beginning of The Grid their engines emit a roar which the ID18-Pro produced with amazing definition. Minute variations in tone were distinct and clear, with no grating whatsoever. Of particular note were the sound effects during the Disc Wars; every element came across with authority, clearly occupying its own unique space.

Fireworks herald the beginning of the Lightcycle battle. They were produced with a sharp 'boom', similar to the real thing (albeit with less of a percussive sensation, possibly due to the ID18-Pro running out of headroom). The pulsing soundtrack in the background of this scene creates an ominous feel, while effects such as the Lightcycles exploding when they hit the forcefield that rings the Grid were palpable. All-in-all the LFE was deep and intense, yet not the least bit sloppy or imprecise.

[Lord of The Rings: Fellowship Of The Ring](#) (blu-ray)

This selection turned out to be a funny twist of fate... I actually wasn't going to use this movie. I had intended to grab Return Of The King instead, but I accidentally picked up the wrong disc (the cover art looks similar when the lights are down low). It's been a while since I've watched this movie though, so I opted to go with my mistake and use it anyway.

Several minutes into the Bridge Of Khazad Doom scene the Balrog -- a mythical creature inadvertently unearthed by the Dwarfs -- lets out a menacing growl which the ID-18 Pro rendered with incredible composure. Some of the foreboding rumble that underpins this scene caused the RTI to blink wildly, but it was imposing nonetheless. It was almost as though you were deep in a cave being chased by a 20 foot tall beast, precisely what the sound engineers were trying to achieve I would imagine.

The buckling and collapsing structures in the Mines Of Moria had a very realistic crunching sound, making it seem as though you were really there. When the Balrog leaps out of the chasm and lands behind the fleeing Fellowship his footsteps resonant with a decided "thud". The precision and clarity this subwoofer is capable of was very evident here. When the Balrog lets out that fire-breathing roar it was simply fabulous.

After all the testing had concluded I checked the amp to see how hot it had gotten, and I noted some heat. I wouldn't call it hot, per se, but you could tell it was working to keep up with what I had asked from it.

Music

While the ID-18 Pro was tripped up a couple of times watching movies, music was a slightly different story. True, it wasn't terribly thrilled with some of my choices -- and stumbled a few times here as well -- but for the most part it did what it was supposed to; make me grin like an idiot. I played every kind of music imaginable, and found myself falling in love with what I heard. Dynamics and transient response were nothing short of spectacular, and for an avowed music junkie like myself I don't say things like that very often.

[Dark Side Of The Moon - Pink Floyd](#) (SACD)

I've been saving this one for a special occasion; one of my favorite albums of all time, and on SACD format no less. What could possibly be better? Listening to it on a subwoofer with the ability to render the lower octaves like the Bag End ID18-Pro can was a real treat. However, I did have to set the Cut Off switch to 20Hz because leaving it on 8Hz made for some unpleasant sounds when the volume was raised. And you can be sure the volume was cranked on more than one occasion while listening to this disc.

The heartbeat in Speak To Me was pulsating with such authority that my windows were rattling with each beat, something that rarely happens now that I use an isolator. Roger Waters open 'e' bass note that signals the end of Breath and the beginning of On The Run hit with particular authority, resulting with me playing it a second time just so I could enjoy the effect. The heartbeat and crash during On The Run were intense and jarring; just like they ought to be.

The song Money pounded away with authority, including a very prominent bass guitar and kick drum. Even when I played it at low volume there was exquisite detail, but I didn't do that for too long. Virtually everyone has heard this song countless times, but when you get the opportunity to listen to it on something like the Bag End ID-18 Pro it becomes truly memorable.

[Say You Love Me - Fleetwood Mac](#) (compact disc)

[Fleetwood Mac](#)? Really?? Put down your pitchforks and torches metal heads, I haven't defected! Since the ID18-Pro was making music sound so very good I decided to play around with other genre's. While I'm not a pop music fan, by any stretch of the imagination, Fleetwood Mac always struck me as having well recorded music that was mixed with a lot of dynamic range. Perfect for what I wanted to hear. I wasn't disappointed either.

This song has a simple yet slick rhythm to it, thanks to John McVie and Mick Fleetwood (bass and drums, respectively). John's bass was rich and commanding, while Mick's kick drum was still very pronounced. Neither dominated the other, but they were both there when you would want it to be. To gauge resolution I played this song at both high and low volume, and was equally impressed. That's surely one way to determine how great a subwoofer really is; if in can make a song you don't even like sound good then you're on the right track. The ID18-Pro did that for me with Say You Love Me. Thank you Bag End.

[Alive - Pearl Jam](#) (CD)

Quite possibly my all time favorite Pearl Jam song, Alive always reminded me of those late 60's songs with its 'heavy' sound. By that I mean music where the bass guitar was not subjugated to a supporting role, but instead was a prominent component (think Black Sabbath, Humble Pie, Grand Funk, et al). I cut my teeth on that type of music, and I still love it to this day.

Principally written by guitarist Stone Gossard, Alive is a semi-fictional account of singer Eddie Vedder's discovery that who he thought was his biological father actually wasn't. The first time I played it was with the volume knob on concert hall level, simply because I wanted to unleash the ID18 Pro and see what it could do. Both ways could be summed up using one word; stunning.

Jeff Ament's bass guitar had exceptional tone, with a deep and rich sound to it. This actually came close to the growl one experiences at a live show. The variations in pitch were reproduced brilliantly. Dave Krusen's kick drum underpins the rhythm with subtle power; it was exceptionally crisp with quick decay, and blended wonderfully with Ament's bass. I really enjoyed this one.

Conclusion

Start with a fairly generic nondescript cabinet covered in truck [bedliner](#), add what appears to be a [PA speaker](#) and couple that to an amp with a relatively low power rating and what do you get? Under most circumstances it would be something laughable, but in the case of the Bag End ID-18 Pro you get astonishing results. This company's approach to subwoofers is unconventional -- by typical home theater standards anyway -- but what they ultimately achieve sound quality wise is unbelievable. The price is a bit too rich for my wallet, but oh how I enjoyed hearing the ID-18 Pro with my own ears. This is reference quality bass, plain and simple. You're going to need at least a pair of them, but oh how you'll end up with is a system that is rivaled by few others. I now understand why movie studios use Bag End subwoofers to mix their soundtracks. I'm smitten.

Please use the Bag End ID18-Pro Discussion Thread for questions and answers

Bag End ID-18 Pro Pictures

Bag End ID-18 Pro Measurements

These measurements were taken using MTR Room Analyzer 1 Pro. The unit was indoors, physically positioned in the center of my listening room with no other speakers running.

This represents the output with the Cut Off switch at 8Hz (green trace) and at 20Hz (blue trace)

This represents the Spectrograph with the Cut Off switch at 8Hz

This represents the Spectrograph with the Cut Off switch at 20Hz

-Jim

If you take yourself too seriously expect me to do the exact opposite

Last edited by theJman; 12-18-13 at 03:35 PM.. Reason: Updated the Discussion Thread link