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High Quality Audio and Home Theatre Gear Magazine

February | March 2014

2014 Consumer Electronics Show Highlights Hottest Trends and Products

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CANADA HiFi

High Quality Audio and Home Theatre Gear Magazine

February/March 2014

forward >>>

Thank you for picking up this latest issue of CANADA HiFi! If you're a regular reader you probably noticed our new cover design, as part of our effort to modernize and freshen up the look of the magazine. Our new slogan - "High Quality Audio and Home Theatre Gear Magazine" - should help to clarify to everyone that CANADA HiFi is about both home audio and video entertainment products and technologies, rather than just about audio. If you're a first-time reader, hopefully our new cover grabbed your attention.

With every new year comes a new Consumer Electronics Show (CES) in Las Vegas, and the opportunity for us to see previews of new products and technologies, many of which will be hitting store shelves throughout the year. Bigger and smarter TVs have attracted much of the spotlight in the last few years, and this year was certainly no different. At CES 2014 we saw 4K Ultra HD TVs from just about every manufacturer and perhaps even more exciting were the OLED production models that will soon be finally available for purchase, after many years of delays. Of course CES is about much more than just TVs. This year's other hot trends and products included wearable technology, affordable home automation, smart appliances, new wireless multi-room music systems and car technology - just to mention a few. For a glimpse of what we found most interesting at this year's show, check out Jeremy's "2014 Consumer Electronics Show Highlights". We hope to bring you many of these new products to the 2014 Toronto Audio Video Entertainment Show (TAVES) this fall. Details about TAVES will be coming very soon!

But of course that's just one of the articles that you'll find inside this issue. Take a look at the table of contents below and give all the articles a read. You're bound to learn something new and interesting.

Happy reading!

Suave Kajko
Publisher / Editor in Chief

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contents

forward>>

7 Letter from the editor

featurearticles

8 Product News
11 2014 Consumer Electronics Show (CES) Highlights: Hottest Trends and Products
18 Exploring Audio Urban Legends
24 How To Setup and Optimize Your Audio System

productreviews

32 Paradigm H15NC Active Noise Cancelling Headphones
34 Samsung UN65F9000 Flagship 65-Inch 4K Ultra HDTV
37 quadral Aurum Montan VIII Loudspeakers

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LG Electronics TVs For 2014 Include Five OLED Sets

At the 2014 CES in Las Vegas, LG revealed five new OLED TV models, ranging in size from 55 to 77 inches, which will go on sale this year. The curved screen 77 inch model (EC9800) is capable of 4K resolution and is expected to begin shipping this summer. One of the new models will be part of a new Gallery OLED TV series, acting as a TV when you're watching it and a screensaver that displays artwork and photos when it's turned off. LG's Ultra HD TV models will span 6 new series in 2014, offering 12 different models ranging from 49 to massive 105 inch screen sizes. All new LG smart TVs will use the WebOS platform, purchased recently from Hewlett-Packard, which the company says will simplify and improve user experience. WebOS will also make it possible for widespread 4K streaming content delivery. Many of the Ultra HD TVs will feature built-in subwoofers. The LB7100 and LB7200 will be LG's top of the line 1080p TV series for 2014 and will feature the company's latest tech such as local dimming, private listening through your smart phone and a new, upgraded LG Magic Remote. www.lge.ca

Devialet 240, Devialet 170 and Devialet 110 Audio Systems

If sophistication, elegant design and the highest level of audio performance is what you have in mind, then you'll definitely want to have a listen to one of these new Devialet systems. Each of these powerful integrated systems combines an ultra-linear Class-A amplifier with a built-in DAC, and offers a wide range of connectivity options and digital capabilities. The flagship Devialet 240's Wi-Fi streamer allows bit-perfect streaming of music stored on a computer, smart phone or tablet, using any format up to 24 bit/192 kHz. Made for the web generation, all three models are software-upgradable, ensuring a long life and high value. Made in France and milled from single blocks of aluminum, these Devialet systems and their remote controls are distinctively shaped and polished to a stunning black chrome mirror-finish. Highly sophisticated yet remarkably easy and intuitive to operate, they support a broad range of speakers, CD players, turntables and digital music sources as well as Internet-based programs and services. MSRP: \$17,995 (Devialet 240), \$9,995 (Devialet 170) and \$6,995 (Devialet 110). www.devialet.com. Distributed in Canada by Plurison | www.plurison.com | 1-866-271-5689



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New Product Spotlight

[Aëdle VK-1 Headphones]



The Aëdle VK-1 are an exquisite over-the-ear pair of headphones designed and handcrafted in Paris, France. They are available in two versions: the VK-1 Classic Edition which combines a minimalistic and refined design with high-definition custom made titanium transducers, and the VK-1 Carbon Limited Edition which features black lambskin leather and pure black matte anodization. Raphael Lebas, the company's founder, has spent nearly five years on the development of the VK-1 and other models are planned for the near future. The VK-1 utilizes 40mm titanium drivers, has an impedance rated at 32 ohms and weighs just 7.5 ounces which makes it very comfortable for longer listening sessions, both at home and on the go. The VK-1 package contains a detachable 3.5 mm/1 meter audio cable, a quilted travel pouch, an airline adapter and a 6.5 mm adapter. \$549. www.aedle.net. Distributed in North America by Rutherford Audio | 604-542-0904 | www.rutherfordaudio.com





Bowers & Wilkins P5 Maserati Edition Headphones

The P5 headphones are now available in a special Maserati Edition (ME), matching the unbeatable audio performance of Bowers & Wilkins with the understated opulence of Maserati. The P5 ME is crafted from fine-grain natural leather in Maserati's iconic and distinctive deep racing blue, for a luxuriously comfortable fit. Of course, the P5 ME also features the award-winning audio performance for which the original P5 is renowned, with unfatiguing natural sound from the use of specially developed, ultra-linear neodymium magnets and highly optimized Mylar diaphragms. www.bowers-wilkins.com



Panasonic Shows Its Latest 4K and OLED TVs at CES 2014

Panasonic stopped plasma TV production at the end of 2013 and now the company is investing into 4K and OLED technologies, as its CES 2014 display showed. The Life+Screen AX800 series will be the company's new 4K Ultra LED HD TV and promises exceptionally high picture quality along with next generation smart TV functions. The AX800 series will come in 58-inch and 65-inch screen sizes and feature HDMI 2.0 support. Panasonic also demonstrated 4K OLED Panels at CES 2014, although the company has not yet released any consumer production models - we expect to hear more on this later this year. www.panasonic.ca



Samsung Introductions at CES 2014

Samsung is determined to stay ahead of the pack in 2014 by introducing some hot new home entertainment products at CES 2014. Among these were the world's biggest 110-inch 4K Ultra HD TV, a 105-inch curved Ultra HD TV, the Samsung Shape wireless audio-multiroom system, the HW-H600 Sound Stand, a newly designed Smart Control, the HT-H7730WM Home Entertainment System, and the MX-HS8500 GIGA Sound System. Samsung's 110S9 is a 110-inch, 800-megapixel UHD giant, which claims the title of the largest Ultra HD TV in the world. Price for such luxury you ask? A cool \$150,000 US! Us everyday people better take a look at Samsung's 55-, 65- or 85-inch UHD TVs. If you believe that the future of home entertainment is curved then you'll be intrigued by Samsung's 105-inch curved Ultra HD TV. Rather than offering the standard 4K resolution of 3,840 x 2,160 pixels, this TV ups the resolution to 5,120 x 2,160 pixels. This gives the screen an aspect ratio of 21:9 (wider than the standard 16:9 TVs), and increases the pixel count from 8 million to 11 million. Check out www.canadahifi.com for details on all Samsung products shown at CES 2014. www.samsung.ca



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2014 Consumer Electronics Show Highlights

Hottest Trends and Products

Jeremy Phan

The 2014 International Consumer Electronics Show has wrapped up once again and while last year's show saw the effects of the economic downturn, this year's show saw a return to grander times both in products showcased and announcements made. So what were some of the hottest trends and products at the 2014 CES?

Last year saw the push by television manufacturers towards Ultra HD (4K) and with the finalization of HDMI 2.0 in late Q3 last year, 2014 will see a raft of new, more economically accessible 4K TVs. Specifically of note is Vizio's abandonment of 3D technology altogether in its 2014 lineup, instead pushing for cheaper 4K televisions. Vizio's entry-level P-Series starts with a 50" set with an MSRP of only \$999 USD and is slated to ship in the second half of this year. Going up

from there, Vizio will offer 5" increments up to its 70" 4K set that is still very accessible at \$2,599 USD. They also showed off a 'Reference' 120" 4K TV but didn't provide pricing or availability. Previously a second tier manufacturer, all of Vizio's 2014 TVs now feature full-array LED backlights with 64-zone local dimming and advanced colour management which should give the likes of Samsung, LG, Sony, Panasonic, and Toshiba a run for their money. Vizio's smart TVs also support the new HEVC codec for 4K



video streaming and come with the latest 802.11ac WiFi standard built-in to handle the increase in bandwidth required. For those that wish to create their own 4K content, Sony announced the FDR-AX100 compact 4K Handycam which carries an MSRP of \$1,999 USD, bringing 4K,

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equidistant viewing angles, the limitations and shortcomings are just far too great: the sweet spot is too small and the distortion is even greater when seated off-centre. The premise behind curved

TVs is to emulate

massive screens such as IMAX, completely filling a viewer's vision with imagery. However, to achieve this, IMAX screens are humungous – something that home televisions will never be. As such, unless TV

which was once only available to Hollywood studios, into consumer hands. In addition to this, many new smart phones will soon be capable of 4K video recording; in fact Samsung's Galaxy Note 3 already offers this. Another noteworthy device that Sony showcased was a 21" deep ultrashort-throw laser-powered projector that sits on the floor and projects a 147" 4K image onto the wall from a mere 7" away.

To help address 4K's chicken/egg content/hardware problem, services such as Netflix and Amazon have announced plans to start producing and streaming native 4K content, allowing consumers to access a wide variety of native 4K content for their new 4K TVs. Partnering to help push 4K, Amazon is teaming up with Warner Bros., 20th Century Fox, Discovery, Lionsgate Entertainment and Samsung. Cable providers in the US such as Comcast and DirecTV are also set to start broadcasting 4K content. Unfortunately, Canadian providers have yet to announce plans for 4K.

Sadly, while CES often showcases new technologies, the absence of products also signals their demise, in this case: plasma television. With Panasonic announcing that it is ceasing production of its much-loved Viera plasma sets, the final nail is in plasma's coffin. LG did announce a new plasma HDTV but didn't bother bringing it to their booth. With LED-backlit LCDs constantly improving, the costs of manufacturing plasma just isn't justifiable anymore. However, until OLEDs finally come down in price – something that Samsung's VP of Visual Displays says will take three to four years due to difficulties

in manufacturing and low yields – LCDs will be the only display technology in mass production. The push for the next decade will be 4K and OLED. For Panasonic fans, all is not lost as Panasonic showed off a 4K LCD, side-by-side in a darkened room, with their flagship ZT60 (1080p) and last year's WT600 (4K). Using the extremely dark hilltop scene from Harry Potter: The Deathly Hallows Part II [Chapter 12], Panasonic's new LED-backlit LCD showed similar stellar black-level performance as the ZT60 with the added bonus of image enhancements that boosted the non-black areas (such as faces) while preserving the dark areas. Panasonic claims they've transferred image processing technology from their plasmas which analyzes the black-level content to optimize shadow detail without diminishing the brightness of surrounding highlights.

Back to new technology, with 4K sufficiently pushed on consumers, television manufacturers have moved onto the next trick up their sleeves: curved televisions. While the jury is still out on the benefits and shortcomings of ever-so-slightly curved televisions, having seen Sony's 65" KDL-65S990A at Bay Bloor Radio in Toronto, I can't see curved televisions gaining wide scale adoption. While there are benefits to the curve such as the reduction in reflections and a greater sense of immersion thanks to the



viewers want to all huddle closely together to be in the visual sweet spot and sit at a distance close enough to fill their field of view, very few will be able to enjoy the intention of curved TVs. To show that it's not all smoke and prototypes, both Samsung (105U9500) and LG (105UC9) have revealed massive 105" curved 4K TVs, with Samsung taking orders for their behemoth \$60,000 set for shipment later this year.

Moving from the very large to the very small, 2014 is going to see the release of technology meant to augment everyday lives: wearable technology, home automation, and connected vehicles. Pebble, the e-ink watch that put wearables and crowd-funding on the map after it generated a record 10 million dollars on Kickstarter in May of 2012,



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released a new steel-clad model at this year's CES that makes it look more like a proper timepiece and less like Dick Tracy's wristwatch. Following on their heels are smart watches from Sony, Samsung, Qualcomm, Omate, Casio, Meta

ESPN, and even Mercedes-Benz.

Wearable displays such as Google Glass are continuing to make inroads and while mainstream adoption is still years away, enterprises are already developing amazing potential uses in the fields of me-

chanics, firefighting, medical practitioners, and others where having augmented real-time data and analysis bring huge benefits to the users.

Moving to connected, smart devices, enabled by low-power Bluetooth 4.0 (which allows some to last years on a single CR2032 coin battery) or Texas Instruments' \$10 WiFi chip, these devices will usher in the era of the "Internet of Things." Such devices have the potential to help make our lives more accessible, automated, and even healthier. CES 2014 showcased everything from smart thermostats such as the Nest and Ecobee, to sensors such as WiMotos, activity/fitness trackers such as the Fitbit, home security devices like Piper, and lighting control via Philips' Hue or Belkin's WeMo. I will be talking about all of these devices in a future Home Automation article.

Home automation, in particular, is set to become much more accessible this year. Amazon.com has launched a dedicated section on their website for home automation filled with devices such as Z-Wave home controllers, WiFi-connected thermostats, smart locks, and other devices. Where previously, it cost thousands, or tens of thousands, of dollars to connect and automate one's home à la The Jetsons, now \$50 will get you a Belkin WeMo WiFi-enabled wall switch or socket adapter. Belkin's free app on your smart phone then allows you to control that connected load from anywhere you've got Internet access. Rules and scheduling further allow you to automate it relative to sunset/



Watch, Magellan and Canada's own Neptune Pine. With the exception of the Pine (which is a fully functional smart phone), all these smart watches connect to your smart phone via Bluetooth to display information, email and social network notifications, allow you to remotely control your smart phone, and take pictures, among other functions. Pebble has announced new apps from the NFL,



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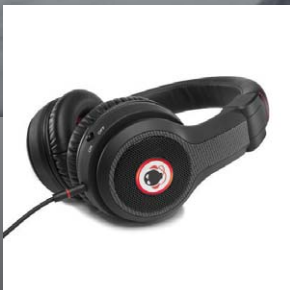
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sunrise or your own schedule. As there are still competing wireless home automation standards, companies such as Revolv and Securifi are releasing controllers with multiple radios (Z-Wave, Insteon, WiFi, etc.), ensuring universal compatibility. Thanks to new \$50 switches and \$100-\$300 controllers (no central controller is even needed for Belkin's WeMo system) mean that outfitting a home can be done for a few hundred dollars and by incrementally adding home automation devices as you desire. These devices will allow smart homes to detect and respond to changes in the environment (both internally and externally such as weather), know when/where their occupants are and adjust accordingly, and save energy by controlling lights, outlets, and HVAC systems.

Speaking of the connected home, for music, what once was the domain of Sonos, with its multi-room audio systems, is now finally seeing competition from Samsung, LG, Panasonic, Pure, and Korus. Each of these systems is slightly different but in general, allow users to wirelessly stream music from devices such as PCs, smart phones, or network attached storage. Samsung's "Shape" wireless audio system consists of a hub that you plug into your router and the wireless M5 or M7 speakers, which you can place anywhere within your router's WiFi range. Samsung is also releasing the "Connect Box" which enables you to stream music to any existing audio system via WiFi. Controlled by smart phone apps, the Shape system allows you to send independent streams to the connected, multi-zone speakers. Sonically, manufacturers are pushing for high-resolution lossless audio now that broadband Internet is more commonplace. Compressed MP3s will slowly go the way of plasma as consumers purchase higher quality playback devices, both portable (earphones, headphones) and home-based, and prices continue to decline for music distribution and streaming systems.

Lastly, stepping out of the home and into the garage, this year's show saw the announcement of the "Open Auto Alliance" which aims to bring Google's Android into the dashboard of your next car, with Audi, GM, Honda, and Hyundai already signed up. This alliance isn't just for Google Maps in cars but will extend to other technologies such as car-to-car communication, traffic avoidance, integration with OnStar, smart roads and traffic lights, and eventually, possibly, Google's fully self-driving technology. Audi demonstrated automated driving technology that took over in stop-and-go traffic, handling braking, steering, and acceleration but stated that fully autonomous cars are still years away due to high costs, legal issues, and reliability. However, they, along with other auto manufacturers, aim to relieve drivers of strenuous, repetitive tasks that often impact driver awareness and are better handled by automation such as parking and maintaining lane discipline on the highway.

CES 2014 really showcased how



technology will make its way into other aspects of everyday life - the industry is calling it the "Internet of Things". With prices reaching a point that's finally allowing everything to be connected, new devices will help you achieve your goal of 10,000 daily steps, adjust the temperature at home when you leave the office, advise your car of route changes due to construction, automatically unlock your door when you get home, turn on the lights when you walk in, and play your favourite album throughout the home, seamlessly. The future sounds pretty fascinating!



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Exploring Audio Urban Legends

Demystifying Common Audio Misconceptions



Do tube amplifiers deliver sound that is closer to a live performance than their solid-state counterparts? Pictured on the left is the Unison Research Sinfonia integrated amplifier, while the right shows Naim Audio's solid state NAP 300 amplifier with a 300 PS power supply.

Malcolm J. Gomes

Whether you are a serious music listener or a neophyte in this wonderful hobby, I am sure many of you can't help wondering if the numerous urban legends surrounding high-end audio are true, false or if the jury is still out.

There is a real dichotomy surrounding most of these issues because the general sphere of audio engineering has a very strong science foundation and most of the reputed brands design their audio products based on strong and proven scientific principals. However, the industry has its fair share of assumptions that are based on pseudoscience. A few manufacturers use these assumptions to design and sell products in the hope that the customer will trust in the sales pitch and have faith in the veracity of the claims made for the product.

There is a common argument that is used in the world of audiophiles to justify why scientific measurements don't support claims of superior performance. They opine that science has not advanced to the stage where it can measure the superior sound quality being delivered. When readers ask me about audio products that make claims that do not seem to have any basis in scientific fact, the general rule of thumb that I recommend is that they should adopt the 'try before you buy' strategy and that they part with their hard earned money only if they hear a positive difference in the sound quality that is commensurate

with the price being asked for the product. One caveat here is that they should audition the product without being subjected to a cleverly crafted sales pitch by a slick sales person with a great gift of the gab. This is because a skillfully delivered spiel is quite capable of playing tricks with your brain and results in you hearing things that you would not otherwise hear.

If you have any doubts about this phenomenon, I would recommend that you watch the video clip titled 'Audio Myths Workshop' on YouTube which includes a demonstration by Poppy Crum where she plays Led Zeppelin's Stairway to Heaven, backwards and to most people it sounds like nothing but incomprehensible gibberish. However, when she plays the same musical passage again accompanied by text of lyrics on the screen, you can hear the words contained in the text in what your brain previously perceived to be gibberish.

This is a powerful exercise that reveals how you can start hearing things when a slick sales pitch suggests to you what you should be hearing. Our brain has a powerful ability to fill in gaps in sound that it perceives should be present, irrespective of whether the sound in question is present or not. Subjecting yourself to a cleverly devised sales pitch before you hear the product will activate this ability in your brain and prompt you to hear what may or may not be in the actual sound reproduction.

Whenever I happen upon obscenely

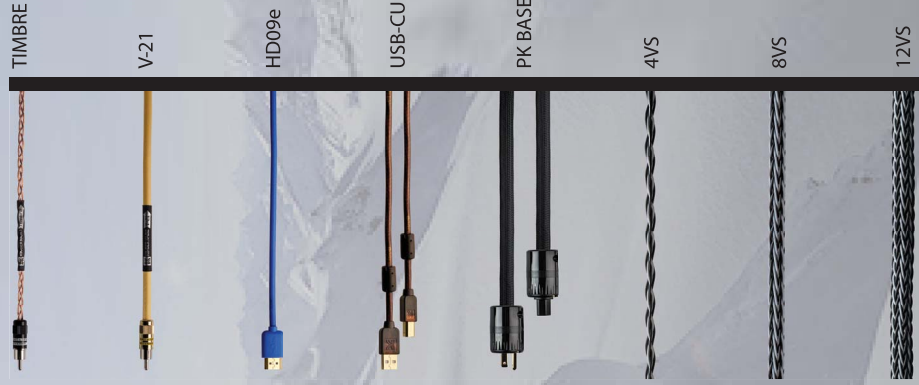
priced audio products that have no science to back up their claims, I can't help but think of the lyrics of a Greg Brown song called "Where is Maria" where he croons "There will be one corporation selling one little box, it will do what you want and tell you what you want and cost whatever you've got".

Some urban legends surrounding high-end audio have been with us for many decades and continue to generate endless controversy. One of the more common is the digital versus analog source component argument. I will concede that when the compact disc made its debut, despite its claims of 'perfect sound forever' it was anything but. Digital sound was harsh, edgy and glassy compared to analog, especially vinyl. However, thanks to advances in digital technology, we now have ways to reproduce music in the digital domain with most of the characteristics that we value in analog sound without the pops, clicks and crackle that are part and parcel of listening to vinyl records.

Granted, the reproduction delivered by the very best turntables, tone arms and cartridges meticulously calibrated for optimum performance and playing mint condition vinyl records, does have a magic that even the best digital systems may not deliver, but the initial and on-going costs of attaining this ideal case scenario can be quite exorbitant and well beyond the reach of the vast majority of audiophiles. This being the case, unless you have deep pockets and the willingness to dip

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What's better - an analogue or a digital source component? Above we see the Thorens TD 209 turntable, while the right shows the Bryston BDP-2 digital player, along with other Bryston supporting gear.



into them initially, for a state-of-the-art record player and tone arm and then periodically for accompanying accessories like cartridges, you are better off investing in a good digital to analog converter and feed it with a digital player like the Bryston BDP-2, a media player like the Pathos or a computer loaded with a well designed player like Pure Audio, Amarra or Audirvana which you can download for a very reasonable price. As for ergonomics, ease of use and maintenance, digital sources beat analog sources hands down. Of course, if a big chunk of your enjoyment as an audiophile comes from endless tweaking, then the turntable is just what you need.

Another widespread urban legend in the field of high-end audio is that very powerful amplifiers can damage speakers that do not have high power handling capacity. It is absolutely possible to damage speakers by driving them to window rattling levels by ultra powerful amplifiers. However, you are more likely to damage speakers, especially tweeters, by driving them with underpowered amplifiers that clip like crazy when driving the speakers. If you listen to your gear at reasonable volume levels and never feel the need to turn the volume all the way up, you are less likely to damage your speakers with an amplifier with power to spare vis-a-vis an underpowered amplifier that is unable to deliver enough current during musical peaks and thereby go into oscillation sending very high pitched signals to the loudspeakers that could fry your tweeters.

Another urban legend is the claim that audio systems that deliver frequencies that go well over the audible spectrum sound better than their counterparts that handle only the audible spectrum. As human beings, the audio frequencies that we hear are around 20 Hz to 20 kHz. Our ability to hear the frequencies at the upper end of this range tends to deteriorate as we age. Despite this many audiophiles are quite willing to pay exponentially more for gear that reproduces sound that is well above and below our audible frequency spectrum. Is this true or just another urban legend?

At the lower end, there is no doubt that we can detect frequencies below 20 Hz, but in most cases we tend to feel these frequencies rather than hear them. When listening to a live performance we often encounter frequencies below 20 Hz, which we feel in our bones rather than hear. This means that if you want to reproduce this same sensation when listening to reproduced music, it would behoove us to reproduce those frequencies via a true full-range speaker or by adding a well-designed subwoofer that integrates well with our main speakers.

As for frequencies above the audible spectrum, one assumption is that although we may not be able to hear them, they help complete the music listening experience by positively influencing the frequencies that we can hear. This prompts many speaker manufacturers to incorporate super-tweeters into their loudspeakers, in many cases these super-tweeters are locat-

ed on the rear of the speaker, firing backwards. The wisdom of this design strategy is debatable and I would take you back to my rule of thumb, i.e., if you cannot hear the difference, don't pay extra for it.

One urban legend that has been around for quite a while is that gold plated connectors deliver better performance than their counterparts made of tin, nickel or other metals. The fact of the matter is that gold, in itself, does not have any extra special properties that help transmit a signal better. The advantage of gold plating is that it does not oxidize and tarnish like many other metals and so the connection and therefore the signal transmission does not deteriorate over time.

Since gold is so expensive, the coating of this metal that most manufacturers use is extremely thin, typically just a few microns thick. This, combined with the softness and malleability of this metal means that the gold plating can wear off with repeated plugging and unplugging and so if you want to retain the advantage of the gold plating, you have to literally handle them with gloves and minimize the number of times you plug and unplug the connectors to minimize the chances of the gold wearing off.

One urban legend that has evoked passionate discussions that include raised voices and flared tempers is the superiority of high-end cables over their more pedestrian and modestly priced counterparts. Opinions on this span an incredibly wide spectrum, from "fancy cables are no better than wire coat hangers" to "they can make

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or break a high-end audio system". The truth of course, is somewhere in between.

The four most important factors that determine the performance of cables are inductance, resistance, capacitance and skin effect. Obviously, low resistance at audio frequencies is highly desirable. If the resistance is too high it could adversely affect the amplifiers damping factor. The damping factor is the amplifiers ability to absorb voltage fed back to it from the speaker. In a real world situation, when you send a tone to the driver unit of a speaker and then stop the signal, due to inertia, the cone continues to vibrate and this process generates a voltage. To stop this undesirable vibration the amplifiers output circuit presents a low impedance load.

Cables with high inductance and capacitance usually result in loss of high frequency signals and this is more prevalent in cables that are unusually long. If your speaker cables are in the 8 to 10 foot range, this is less of a problem. Some manufacturers use network boxes as part of the cable run to compensate for the length of the cable. This is also controversial and many feel that a network is just a way of compensating for a badly designed cable.

Many of the über expensive cables try to justify their obscenely high prices by claiming that they possess a frequency capability that extends into the megahertz range. Here again, you need to carefully listen to detect if you can tell the difference. If you can't, don't waste your hard earned money.

Skin effect is the tendency of current to flow on the outer surface of a wire. Since the inner portion of the wire carries less current, the overall effective resistance of the wire is greater at the higher frequencies. Some manufacturers have tried to counter skin effect by adopting proprietary geometry like hollow oval configurations. Another technique is to have many separate strands in the cable and insulate each one individually. This configuration is called Litz wire and if implemented well, it does help mitigate some of the problems caused by skin effect.

A good rule of thumb here is that you should only audition cables from reputable companies that are priced within your budget and a few models that are one or two price levels down. If the cables that

are in your price budget sound distinctively better than their lower priced counterparts, then shortlist those and make your final choice based on the ones that sound the best to your ears. If you cannot hear any difference between the cables in your price range and the lower priced models then go for the most affordable option provided the build quality is top notch.

If you cannot afford the high prices of fancy cables, you need not worry all that much. It is possible to get performance that is quite satisfactory with a 12 to 14-gauge oxygen free copper wire for runs that are less than 10 feet, which you can purchase at the better hardware stores. If you go down this route, you need to ensure that the terminations, be they spades or bananas, are done well, as the quality of the terminations do contribute significantly to the overall performance of the cable.

One urban legend that is related to most audio gear is the assumption that components need to be broken in before they reach optimum performance. When it comes to gear that has moving parts like CD players and speakers, this assumption makes a lot of sense in that the moving parts need to gel with each other for a time before the component delivers its best performance. This assumption is more controversial when related to gear with non-moving parts like cables and interconnects.

My personal experience has been that, with most components, I can easily hear the difference between the performance of a component used right out of the box to one that has had been through a breaking in process, whether it has moving parts or not. However the difference is definitely more pronounced with components that have moving parts. In this case, you have nothing to lose by subjecting your new gear to a breaking in process before doing any serious listening. If it sounds better, you stand to gain, whereas if it does not, you have not lost anything.

Yet another highly controversial urban legend is that tube amplifiers deliver sound that is closer to the live performance than their solid-state counterparts. My take on this is that it depends on the design of the amplifier and the quality of the parts used. Assumptions that all tube amplifiers sound better than all solid-state amplifiers or vice versa are inherently

flawed. I have heard outstanding solid-state and tube amplifiers but I have also heard horrid sounding amplifiers in both configurations.

Generally speaking, one advantage that solid state amplifiers have is a better damping factor that translates to better bass control that only the very well designed and usually very expensive tube amplifiers can match. Conversely, tube amplifiers deliver even order harmonics, which are more pleasing to the ear when compared to the odd-order harmonics that solid-state amplifiers produce. Even order harmonics tend to add overtones that are richer than their odd order counterparts. Having said that, you need to keep in mind that all distortion adds intermodulation to audio products, which is not harmonically related to the source signal and so the result is sound that is further away from a live performance. Tube aficionados point out that tube based circuits react more smoothly and with less harshness than solid-state circuits when they are driven to the point where distortion is generated. This is subjective, so you should trust your ears to verify this claim.

Here again, it comes down to personal preferences. Once you have determined how much you would like to spend on an amplifier, you should audition the leading tube and solid state based contenders in that price category and then let your ears decide which is more pleasing to your ears. If, to your ears, the differences are not significant, then going for solid-state is a no brainer, because it eliminates the need and expense to change tubes periodically.

There are exponentially more audio urban legends than what we have covered here and in my opinion they add a lot more interest, mystery and intrigue to this wonderful hobby. While we enjoy exploring these legends it is important to be cognizant of the fact that a few unscrupulous people in this industry are always attempting to use these legends to part you from your hard earned money. This being the case, it is important to understand which of these legends ring true and which are just voodoo, exploited by snake oil peddlers. This understanding plays an important role in our intrepid journey to acquire the best possible sound and getting the best value for our finite budgets.

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Roy Gregory

European Editor, TheAudioBeat.com

It is a remarkable fact of hi-fi life, that people buying audio systems put a huge amount of effort into selecting the equipment that will eventually constitute their system – and having done so, consider the job done. It's a tendency that has been reinforced by the preponderance of equipment reviews that appear in magazines, which heap additional emphasis on to specific equipment and its virtues. The role of a dealer as an adviser and installer has been marginalized, and the importance of system set up and what many customers con-

sider to be ancillaries (cables, racks, etc.) has been belittled. Yet, in reality, while great cables or supports can't make up for bad equipment, poorly chosen cables and supports can effectively destroy the performance of even the best electronics and speakers. Selecting the electronic boxes that will build an audio system doesn't deliver guaranteed performance: what it does deliver is potential performance – potential that has to be realized through careful set-up and system optimization.

It's easy to underestimate just what a

dramatic impact set-up has on system performance. It really is make or break. Yet you regularly hear customers saying things like, "It's only a cable – how can that make much difference?" Simply swap one cable in a system and it won't – which is what helps breed the complacency. But, follow a few simple set-up rules and you can transform the performance of almost any system, regardless of price.

The problem is that knowing this and explaining it are two different things. Brought up on an unrelenting diet of "Box

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Is Best”, most customers are unwilling to consider the possibility that they might have made a misstep, or that their expensive collection of electronics isn’t actually delivering the performance they’ve already paid for. The best way to really make this point is to demonstrate it, so with that in mind we arranged a series of System Set-Up seminars at the 2012 Toronto Audio Video Entertainment Show (known as TAVES). Laid out below are the basic steps that we followed in those seminars – the A, B, C of system set-up if you like. This isn’t intended as a detailed set-up guide: rather, it’s an indication of broad strategy and the steps you need to take if you are going to really hear what your electronics and speakers can do. So let’s start at the beginning...

The System and the Initial Setup

What we were setting out to do was lead an audience through multiple set-up steps in a little over an hour. That takes considerable organization, and more than one set of identical electronics, allowing comparisons to be made between different supports and cable topologies.

The system we started off with comprised of the Simaudio Moon 360D CD player, Simaudio Moon 350P Pre-amp, Simaudio Moon 400M Mono-blocs and the KEF Blade Loudspeakers.

Cables: We used a mixed selection of power cords from Nordost, vdH, Kimber, TCI and Music Works, along with a Music Works distribution block. Interconnects came from Reference Cables and Hovland, while the speaker cables were a top of the line vdH from several years ago. The specific identity of the cables wasn’t important, just the fact that I had as many different brands as possible within a single system – that’s what did the damage, not whether or not these were good or bad cables per se.

Rack: A welded steel Target HF570 with glass shelves.

Music used - I used the following tracks to introduce the system:

Julia Fischer – Bach Partita No. 2 for solo violin [Pentatone PTC 5186 074]

Buddy Holly – True Love Ways [From The Original Master Tapes, Geffen UICY-6045]

Cat Stevens – Hard Headed Woman [Tea For The Tillerman, DeLuxe Edition]

These sounded nice enough. Carefully selected, not too dynamic and good basic recordings, they sounded fairly acceptable – which was really the point. By choosing material carefully, you can make almost any system sound at least reasonable. Then I showed what the system wasn’t doing; the track used was the Las Cuevas De Mario by the Art Pepper Quintet [Smack Up, Analogue Productions CAPJ 012]. Its deep, evenly paced bass line and apparently simple rhythmic patterns quickly revealed the loose, disjointed bottom end, inconsistent dynamic range and lack of spatial and temporal coherence. Shorn of the rhythmic underpinning so vital to the track’s sense, it simply fell apart – musically repetitive, turgid and boring.

STEP 1

The first change we made was to move the speakers, each by about half an inch, to show the importance of precise positioning.

As soon as we did this, the music locked together. The bass gained shape and structure, but more importantly, started to play in time with the piano which itself became more urgent and incisive. The drums took up their proper place, spatially and musically, providing off-beat accents and fills, so that when the brass entered, it was over and in response to, a firm rhythmic setting. Now, the band actually sounded like they were playing together and the track started to take on some musical sense and shape.

Speaker placement is absolutely critical to performance, balancing the bottom end of the speakers against the bass reinforcement provided by the room. Equally important to large speakers (which don’t need too much reinforcement) and small speakers (that need as much as possible) it is crucial to achieving convincing weight, balance and integration. If your speakers are going to sound as good as they can, you really need to work on their set-up. But the really important point to realize is that until your speakers are positioned “just so”, they will hide the inadequacies of the rest of the system – and the benefits of any changes you make to overcome them. Our 2013 TAVES seminars covered

speaker set up specifically, and you can read about it at http://www.theaudiobeat.com/blog/system_setup_seminars.htm.

STEP 2

We lifted the speakers, each on a quartet of Stillpoints Ultra 5 feet/bases. As well as improving coupling to the floor, these allowed us to set the vertical and rake angles for the KEF Blade speakers.



Stillpoints Ultra5, Ultra SS and Ultra Mini feet/bases.

The purpose of this step was to open the window on system performance as wide as possible, allowing us to really hear the impact of changes made upstream. Unfortunately, opening the window wide doesn’t mean you’ll like the view. Although the sound improved in a number of ways (more shape and texture to the bass, more detail and complexity to the piano and drums), the overall coherence suffered. For the first time, we could appreciate just how disjointed the combination of rack, electronics and cables really was. The bass became totally detached, the drums lost their timing and the brass lines had no connection to the “rhythm” at all.

STEP 3

We changed to the second set of electronics, positioned on a carefully leveled Quadraspire Q4 Evo rack and wired up with a complete set of Nordost Heimdall 2 cables, from wall socket to speaker binding posts, along with a Qbase QB8 distribution block. The top shelf of the rack, used for the CD player was made of MDF, while the other shelves were made of laminated and grooved bamboo.

This brought everything back together,



During the seminars, Roy used two sets of identical electronics, allowing comparisons to be made between different supports and cable topologies.

locking the rhythm section into step, adding shape and emphasis to the brass lines. For the first time you could separate the two brass instruments, while the bass moved from plodding to setting the tempo. The improvement in temporal, spatial and musical coherence was huge; the band might have sounded smaller and more compact, but at least they were all in the same space, playing the same tune at the same time.

STEP 4

We placed three small hardwood blocks under each of the electronics, by-passing

the feet and improving their coupling to the supporting surface, allowing internally generated mechanical energy to escape from the chassis.

Providing an exit path for the internal energy cleaned up the signal dramatically. Separation and clarity of the instruments improved dramatically, as did their dynamic range and the crispness of the playing. It simply sounded like a better band having a lot more fun.

STEP 5

We moved the CD player (along with its three wood blocks) from the top, MDF shelf, down one step to a bamboo shelf, showing just how important the supporting shelf becomes, once you couple the



Quadraspire Q4 Evo Audio Rack

equipment properly.

Cleaning up the signal generated by the CD player brought an even crisper quality to the sound and playing. What had originally seemed sluggish and lazy when we first played it now had an incisive, directed quality, a sense of progress and purpose that made it much more engaging and musically relevant.

TRACK CHANGE

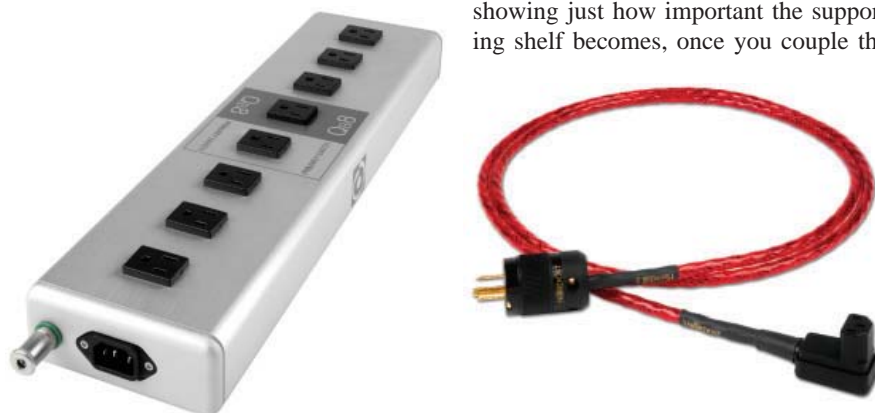
Having established a good, basic foundation (mechanical and electrical) for the system, we once again changed tracks, this time to highlight differences in the next step –

Shawn Colvin – The Facts About Jimmy [A Few Small Repairs, Columbia 454327 2] is a good, studio pop recording. It is more complex, more dynamic and requires more obviously expressive qualities than the Art Pepper track.

STEP 6

We replaced the wood blocks with trios of Stillpoints Mini Ultras. These not only improved the coupling of electronics to shelves, but increased the consistency of support, with Stillpoints technology now being used under both the electronics AND the loudspeakers.

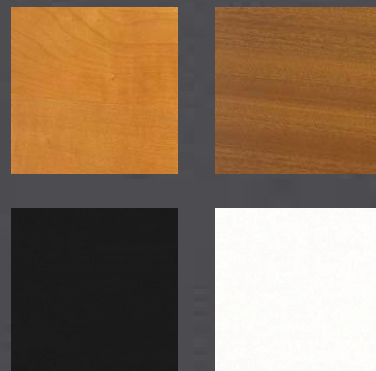
This was a big change! Having established a decent foundation (mechanical and electrical) for the system, we could start to build on and exploit that stability. The vocals were much more natural and expressive, the drummer was now clearly human (rather than a drum machine) and the sheer space and variety of instruments



Left: The Qbase QB8 distribution block. Right: A Nordost Heimdall 2 power cable.



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present in the recording was far more obvious, adding scale and texture to the music. The whole experience was louder, closer with greater musical and emotional impact.

STEP 7

We took the last step in the support chain, raising the Qbase distribution unit onto three Stillpoints Ultra 5s, placing a mechanical drain between the mechanical energy carried on the electrical grid and the electronics themselves.

This was a bit of a cheat! The impact was even greater than the previous step, bringing a whole new level of musical and emotional expression to the track, as well as far more organic, natural feel to the voice, instruments and playing. For the first time you started to feel the hollow sadness and loneliness that sits at the centre of this song.

Why the fundamental improvement? Because, by draining the mechanical energy generated by the grid out of the distribution block, we are stopping it reaching the whole system – so the improvement impacts the performance of all the electronics at once. The fact that they were already supported on the Stillpoints Mini-Ultras



Entreq Tellus ground block.

simply allowed us to hear the impact that much more clearly. In practice, the distribution block is actually the first element in the system you should support (after the loudspeakers).

STEP 8

Having improved the mechanical grounding in the system, we next did the same for the electrical supply. To do this we ran a ground wire from the star ground terminal on the Qbase to an Entreq Tellus ground

block.

The resulting drop in the noise floor was just like using the fine-focus ring on a camera – everything snaps into place. A grey haze or grain was removed from the soundstage, bringing clarity and increased dynamic contrast. The ability to hear far more clearly just where notes started and stopped brought an added sense of purpose and intent to the music. The musicians started to really work with the voice, adding accent and emphasis to the lyric. For the first time it became really obvious that the song is written in a minor key, the downbeat sadness and emotional desolation finally becoming fully apparent. The Entreq block is a relatively expensive, standalone grounding solution, but a ground wire run from the QB8 to an external ground post, sunk in the yard will deliver even better results – for the cost of a few dollars. That's not possible in a hotel room at TAVES – or in many apartments – hence the use of the Entreq Tellus.

TRACK CHANGE

With the system starting to sound considerably better, it was time, once again to show what it wasn't doing. We changed tracks to Joe Cocker – Many Rivers To Cross [Sheffield Steel, Mobile Fidelity UDCD 631] which contains an exposed, rasping vocal, massive space and atmosphere and a deep, deep rhythm track that stresses the system at completely different points in its range. Cocker's voice was distant, lost in the swirling aural backdrop, while the bass was overpowering, loose and wallowy. All told – a complete musical disaster.

STEP 9 – The really big one!

We now moved the whole set of electronics from the Quadraspire rack to the Stillpoints ESS, fitted with Ultras and the new Grids. This not only increased the sophistication and degree of mechanical draining, it eliminated the shelf material altogether.

This was the biggest single system change that we showed. The increase in scale was dramatic. The wind noise and organ track that make up the musical backdrop were separated and independent. The voice stepped forward, losing its edgy, nasty quality. The bass went much deeper and now you could tell that its fat, rounded

shape wasn't just intentional, it was in the right place too. Timing improved dramatically as a result, the slow, carefully spaced opening adding pathos now, rather than simply boring the listener. This really was the difference between music and noise.

Why the big difference? If the Quadraspire offered a firm foundation, the equivalent of a trench filled with concrete, the Stillpoints ESS is like sitting the system on pilings, sunk straight down to the bedrock. The really good news is that now, each and every small change will deliver an improvement out of all proportion with expectations.

STEP 10

We replaced the internal, hardwired links on the KEF Blades with a set of Nordost Norse Series bi-wire jumpers.

By extending the Micro Mono-Filament technology a further four inches, we tied together the crossover, bringing added coherence to the music. Cocker's voice became more natural again, with added texture and detail (making it easier to hear not just what he was singing, but how he was singing it too) while the separation of bass guitar and drums was far more apparent.

STEP 11

We added a clean signal ground, by linking the outer ring of an unused RCA input on the pre-amp to a second Entreq grounding box – in this case a Silver Tellus.

This resulted in another drop in the noise floor, resulting in more natural tonality, timing and far more expressive playing. The backdrop became more effective, as did the contrast between the stark opening and the deep, powerful bass.

STEP 12

We ran two more wires, from bottom front left and top rear right corners of the rack to the Silver Tellus, thus creating a Faraday Cage around the equipment to help eliminate RF interference.

This resulted in the removal of yet another layer of grunge, this time bubbling up from the bottom of the music/soundstage. Now you could finally hear the bottom of the bass guitar notes, appreciate the changes in pitch and placement and just how agile the playing really is. The complexity and solidity of the drum patterns



A closer look at the sophisticated Stillpoints ESS audio rack.

became fully apparent, as did the swirling expanse of the opening section.

STEP 13

We added a pair of QRT Qx4 field generators to the system, positioning one each behind the speakers.

By acting on the linearity of the fields in the drivers' motor assemblies, the effect of the Qx4s is to allow them to start and stop more quickly and precisely – which is exactly what it sounds like. Every aspect of the music became crisper and more incisive, adding purpose and impact to the song, finally really revealing that this is a great singer, backed by a great band and captured on a great recording.

Each step of the way, the music had stood further and further away from the speakers; now, they'd completely disappeared. All you heard was the song – rather than the system playing it.

STEP 14

Finally, it was time to demonstrate the impact of the Leading Edge acoustic panels we'd used to treat the room – by simply removing them!

This was the other real shocker for the audience. Having got the system really singing, simply walking the Leading Edge panels out of the room reduced it to a messy, confused and disjointed mess, de-

stroying all the good work that we'd done. The simplicity and effectiveness of these panels was possibly the most telling lesson of the whole seminar – and certainly the one that generated the most questions.

STEP 15

With the Leading Edge panels re-installed, it was time to revisit the original tracks we'd played, but each with a wrinkle...

The Art Pepper track really clicked now, but when we added a pair of LPI record weights to the top of the CD player and pre-amp, it lifted it yet another notch. Now the band was really cooking, the dirty, grinding groove of the track finally emerging. This is the APQ at their finest, a reputation you could now appreciate, a performance likewise.

STEP 16

Cat Stevens – including a small demonstration of the deleterious impact of remote operation on the system. I'm not even going to attempt to explain this one, but starting the track from the player front-panel (as opposed to using the remote control) results in a significantly more natural, more communicative and more immediate sound. If your system is working properly, you'll hear this instantly. If you don't, you know you have some work to do...

STEP 17

The Buddy Holly, but also Rachmaninoff – Symphonic Dances [Johanos, Dallas S.O. Analogue Productions APCD 006]. These tracks were used to show just how effectively the system now handled scale, and how independent the soundstage and presentation was from the speakers.

Finally, STEP 18

A return to the system as originally heard. Oh dear – 'nuff said!

By returning the system to its original state, and using a large scale piece with a big, coherent soundstage, we really showed just how much performance we'd lost, the music completely collapsing, spatially, rhythmically, but most importantly of all, in terms of emotional and musical engagement.

If the idea of any audio system is to bring the musicians and their performance into your home, this seminar showed just how critical set-up and support really is to that goal. The vast gulf in communication, the total loss of the convincing musical presence we'd established really brought home just how significant the changes we'd made actually were; all without replacing a single component.

But even more remarkable was the fact that we were demonstrating these huge differences on a system, set up in a hotel room and being ripped apart and totally rebuilt every other hour. In a domestic environment with a more stable set-up and far fewer electrical and acoustic issues, the differences will be even greater. Until you have heard just how big the impact of system infrastructure (supports, grounding, AC integrity, cable consistency and speaker placement) is, it's hard to credit. But given that few systems apply even half of the things that we demonstrated in the seminar, it's safe to say that most systems are a long way from delivering the performance they could. The good news is that realizing that performance is much more to do with time and technique than it is to do with money. Spent carefully, with purchases guided by a clear strategy, even modest sums invested in your system's infrastructure will deliver astonishing returns. Hi-fi started out as a hobby and it has become a mainstream consumable: it really is time to roll your sleeves up once again – you'll be glad that you did.

productreview

Paradigm H15NC Active Noise Cancelling Headphones



Jeremy Phan

Paradigm is a Canadian company known across the world for its wide range of speakers, both large and small. Based in Mississauga, Ontario, they have been building speakers for the past 30 years but it's only in the last two years that they've expanded their offerings into portable audio.

design features

The new H15NC headphones are their latest offering with the added functionality of active noise cancelling (their sibling, the H15 lack the noise cancelling functionality). The headphones arrive in a zippered, hard black case that holds the headphones, standard micro-USB charging cable, USB wall charger, and lastly, dual-prong mono-to-single stereo adapter (used on old airplanes). The headphones themselves are well padded with memory-foam ear cups that swivel and padding along the top of the headband, which extends on both ends. I have a borderline large-sized head (according to autocross helmet sizing) and the headphones fit comfortably for extended listening ses-

sions (1-3 hours) without much fatigue or neck strain thanks to their relatively lightweight 179g mass. However, due to the elastic nature of the headphones and their tendency to close together, after a long session I could feel the effects on my ears.

The detachable cord comes with an inline microphone and remote control for use with a smartphone and unfortunately, only fully supports Apple iOS devices (answer/reject, play, next/previous track, volume up/down) and has limited Android support (unofficially). The active noise canceling is powered by a built-in lithium ion battery which charges in approximately 4 hours and lasts up to 40 hours on a single charge. Each 40mm mylar driver takes in up to 15mW of power to deliver a response of 20 Hz through 20 kHz.

performance

To compare with these headphones, I used my well-worn Shure E4c in-ear earphones (also referred to as in-ear monitors or IEMs) which cost \$50 cheaper when I bought them six years ago than the H15NC's \$299 price tag. The E4c

IEMs offer a degree of noise isolation thanks to their foam tips which you insert in your ear. I was curious to hear the difference between physical noise isolation versus active noise cancellation of these Paradigm over-ear headphones. It should be noted that since H15NC's ear cups don't cover the entire ear, that element of physical noise isolation is not present.

To test out the sonic performance of the headphones, I wanted to try a range of different audio content, from classical to crossover instrumental to loud, vocal pop/rock. Most of my testing was performed with the noise cancelling feature activated.

Popping in Mediaphon's Vivaldi disc from their Classics set, I concentrated on the soundstage, presence, and detail of the strings and orchestra. From the start of "Spring", the

Paradigms produced a deeper, fuller soundstage than the Shures which helped to surround me and pull me further into the music. The Shures on the other hand made the performers sound more like they were outside with no walls. Nearing the end of the opus 8, no. 1 of Spring, a harpsichord is introduced and through the Paradigms, the sound was more subtle, softer, and further back on the stage than with the Shures. In addition, the Paradigms more accurately rendered the distinctive "twang" that the plucked keyboard instrument is known for. Throughout the opus, the individual instruments didn't get muddled together – something that frequently occurs when the soundstage is too small, which causes recordings to sound like everyone's figuratively in the same spot, playing their instruments. The strings were clearly positioned at the front of the stage, while the percussion instruments and the harpsichord could be heard further back left and centre, respectively.

Moving onto Strauss' Blue Danube, the distance between the different instrumental sections on the stage was even more

evident, providing a clear separation. This piece also has brass instruments such as the tuba and larger percussive instruments including the enormous timpani, which can be heard in the far back with its deep, soothing long notes, providing a foundation for the strings to keep up the melody. Of particular note was the ability for the woodwinds to peek out with their trills throughout the middle of the waltz, yet still I was able to hear the strings fade naturally in front of them. If there was one shortcoming of the midrange, it was that it lacked the piercing sharpness that instruments such as trumpets are known for. They still sounded distinctive but their metallic edge was rounded off so as to not be so glaring. The treble response was gentle, which could be heard on the rapid-fire snares, which were urgent and energetic as expected but not overly harsh or tight. Cymbals also clanged together well without leaving the lingering metallic “sss” found when treble is too bright. During the string staccato (plucked) movement, the back and forth play between the left and right orchestra sections really showed off how wide the soundstage was. My mind drew a mental picture of the conductor turning from one side to the other. At the end of the waltz, the Paradigms really shined with bass that was punchy - there are numerous drums across the entire stage all revving up for the finale.

Next, I transitioned to an album from classical crossover group called Bond, a string quartet that integrates synthesized instruments, sounds and vocals. Listening to the opening track “Explosive” on their debut album “Classified”, it was easy to visualize the four members of the quartet standing in front of an accompanying band with a clear separation of strings and percussion that surrounds them. When the woodwind solo began, I could hear the musician entering in from stage right and moving in front of the quartet. Additionally, the skewed natural transitions that occur when the pan-flute is being slid around sounded more accurate, and therefore more realistic than with my Shures. Continuing with “Lullaby” the Paradigms were beginning to reach their limits, having trouble keeping the soundstage vast. The introduction of the repetitive percussive synthesizer and operatic vocalizations, in the midrange, showed that the head-

phones had a hard time providing separation between the background accompaniment, and the string quartet and electric guitar that carry the melody. The opera singer however, was distinctly standing in the back of the stage so while her vocals had too much emphasis, at least she was not a floating ethereal voice. When there are fewer electronic accompaniments, the various stringed instruments (violin, viola, and cello) sounded less smothered. I also listened to the DVD of Bond’s live performance at London’s Royal Albert Hall, which really made the Paradigms shine, creating an immenseness that transported me to a seat in the venue.

Finally, moving onto a vocal album, I loaded up Metric’s latest album “Synthetica”. Wanting to test out if the same shrinking of the soundstage occurs with a vocalist, I started off with “Dreams So Real,” a track with a continuous, buzzing synthetic accompaniment. Here, the main element, Emily Haines’ vocals, weren’t as stifled by the accompaniment as the strings were. The synthetic accompaniment didn’t have a distinct position on the stage, but at least it wasn’t cutting off other frequencies in the mid-range. Next up, “Breathing Underwater” performed better due to its different instruments such as electric guitar, bass, drums, and more subdued synth use.

To test just how well the noise cancelling feature of the H15NCs works, I flicked the noise cancelling switch, located on the left ear cup, to the off position. With the noise cancelling disabled, the volume diminished by about a third which is typical with noise cancelling headphones. I also observed a slight increase in the weight of the bass. Acoustically, this didn’t alter the dynamics of the tracks – it just gave them more ‘oomph’ when bass was present. I should also say that the noise-cancelling performance was not as isolating as I had expected. I found that the ear pads themselves provided more isolation than the active noise cancelling feature, which was just enough to keep out the low remnants of people talking from a few feet away. The noise cancelling was also more adept at tuning out lower frequency sounds. High-frequency chimes, such as the ringing of a smartphone, still made it through the active noise-cancelling barrier. However, that said, the crucial part is that the active noise cancelling didn’t introduce

any artifacts commonly found on poorer-performing active noise-cancelling devices – namely buzzing, hissing, or other metallic background noise.

Overall, the Paradigm H15NCs are a solid performing pair of headphones that provide bass that is articulate, weighty, and precise without being bland and booming. Their ability to provide a vast, layered soundstage is impressive and is put to good use especially when listening to live performances.

It must be noted that with any portable audio, individual listeners will experience different frequency emphases depending on the type of portable audio device they listen to. For example, one person using in-ear monitors may hear a strengthened low midrange, while someone else may not when using the same device. Taking those same people, one may hear thicker bass, while the other may not when using over-ear headphones. This is due to the physical differences of how the sound is produced, ear shapes, canal shapes and sound propagation. Therefore, while reviews are an excellent place to start when looking at portable audio products, there will be instances where you don’t hear the same track as the reviewer did.

But I digress. If the music you listen to contains a multitude of natural sound-producing elements, the H15NCs ensure that each gets to shine and has sufficient space. If you’re looking for comfortable headphones with active noise-cancelling, I definitely suggest trying out these Paradigms – especially if you’re travelling by air as low-frequency noise such as engine noise should be well in the range of their noise-cancellation abilities. And the 40-hour battery life should last for most round trips. At \$299, they are well priced and should hold up well when taken care of and kept safe in their hard-shelled case when not in use.

quickinfo

Paradigm Electronics Inc.
www.paradigm.com
(905) 564-1994

Paradigm H15NC Active Noise Cancelling Headphones
Price: \$299 CAD

Samsung UN65F9000 Flagship 65-Inch 4K Ultra HDTV



Mike Osadciw

Intending on outperforming all other models in their LCD (LED-backlit) lineup, Samsung's flagship 65" 2160p UHDTV television delivers the same great image quality as their 8000-series 1080p HDTV but with four times the resolution capability. The finest details in 1080p content is resolved with precision and the television is ready for native 2160p (aka 4K) content when it becomes available. Available in 55" (\$3,999), 65" (\$5,499) and 85" sizes (\$39,998), these Ultra High Definition Televisions have the potential to keep up to date as the 2160p format evolves. Reviewed here is the 65" model. If you have UHDTV on your mind, this Samsung television deserves a closer look.

design features

I immediately noticed the effect of a

design update that looks great in its new form but may require a change on your part. If you intend on placing this set on a TV stand, Samsung has moved away from a central pedestal and has opted for a slim, curved base with its ends at the far reaches of the screen. The TV with its stand is just under 75 lbs and 33 cm deep and hence commands a larger than average TV stand. This will of course not affect you if you are considering wall mounting. The screen itself is surrounded by a slim 1 cm black bezel.

At the right rear of the television is a master power/joystick button that allows some navigation of the television without the remote, but the design is intended as a last resort should the remote be inaccessible. There are only three connectors on the rear of the TV: a service jack, a USB

2.0 connection, and Samsung's proprietary One Connect cable. While the rear USB connector will be inaccessible in all wall mount scenarios, two other USB inputs can be found on the One Connect box. This external device, connected with a 10-foot cord to the TV, has all of the television's inputs and processing and is essentially the brain of the television. This concept isn't new since boxes like these have been included with higher end televisions in the past. But what makes this Samsung television more appealing when compared to other UHDTVs is that it offers an upgrade path as the UHD specs change, for example adding HDMI 2.0 compatibility in the future. As this happens, you can be confident that your purchase can be enjoyed now and well into the future without becoming obsolete, as

long as the rest of the hardware is compatible with those upgrades. The One Connect box also allows for a cleaner look with less exposed cabling. Almost all HDTVs have HDMI inputs on the side and unless a right-angled connector is used, the cables are often exposed. The One Connect box can also be placed somewhere accessible by the rest of the components for quick and easy connection access. I'm a fan of this upgradability and quick access concept and hope other manufacturers will follow suit. TVs are just too big and environmentally hazardous to discard, and it's just a bad idea to let TVs become outdated too quickly. This is one great way to make sure perfectly good working items can be used a little longer.

On the One Connect box you will find 4 specific HDMI inputs; one to communicate with a set-top-box, one for DVI devices where the analogue audio-in will be linked to it, another for ARC (Audio Return Channel), and the last for MHL (Mobile High Definition Link) for smartphones, etc. A single analogue component and composite video input can be used with the mini-jack connectors, and the ATSC OTA HD connector is standard with the TOSlink output for broadcasts received by HD antenna. When watching over the air HD, the reception of the tuner was excellent, pulling in all of the stations I expected to, even the ones on the outskirts of my signal range. The on-screen guide and descriptions beat any other competing televisions. While the TV can pick up internet wirelessly, there is a LAN connection on the box for the fastest connection. With all of these options to access media, having the One Connect box will be a good idea for many users.

The Bluetooth enabled Smart Touch remote doesn't need line of sight to operate. It's not the typical remote since there is a swipe pad and very few buttons on it - including power, source, channel and volume, and access to Samsung's Smart Hub, among a few others. The swipe pad consumes most of the space on this small remote and allows you to navigate menu options and draw channel numbers on the surface with your finger. Another way to control the TV is with the app for iOS and Android phones and tablets. And if buttons are not enough, this TV continues offering the voice and hand gesture

features from previous years. With these features enabled, the user can navigate the television by either talking to it or by swiping their hand in the air (the gestures are recognized by the TV's retractable top-mounted camera). But as I've mentioned in previous reviews, this feature doesn't work if the TV is mounted higher than your seated position or in a darkened room, and I still personally prefer buttons. The web browsing experience is still the best over all of the competition. Browsing is not as seamless as on a tablet or an outboard computer, but it's still an effective way to access your favourite websites. For more smart features, you can read about them on Samsung's website in greater detail. In my experiences with TVs, Samsung's Smart TVs are the smartest of all.

This is a 3D-enabled television that comes with four sets of glasses. They are the lightweight and comfortable, and friendly to those who wear regular glasses. Unlike competing sets from other manufacturers, Samsung's 3D glasses are active and use a small battery to power up and sync with the TV. Even when the resolution in this 4K set can afford to be cut in half (which is what passive 3D glasses rely on), why Samsung didn't choose to pursue the passive route is a mystery to me.

performance

One of the picture aspects I was most interested in, is how this 4K UN65F9000 differs from the 1080p UN65F8000 model in regards to the black level. The literature says the F9000 has "Micro Dimming Ultimate" and "Precision Black Local Dimming", while the F8000 series only has "Micro Dimming Ultimate". Both LCD sets have edge-lit LED backlight, and the UN65F9000's local dimming feature controls dimming at the edges of the screen where the backlights are located. The results of this backlight technology in the UN65F9000 are excellent, further closing the alright tight gap between LCD and plasma technology, which is quickly becoming a thing of the past. Another advertised key feature of this set is called "Clear Motion Rate 1200". Rather than getting into how inflated these numbers are, let's just say that the Samsung's motion resolution is very good when compared to competitors, and the option to add the picture

smoothing 'soap opera' effect in varying amounts is available at your fingertips. Of course, if you care for accuracy, you'll want to disable this feature altogether.

There are several preset picture modes available out of the box that Samsung thinks will look good for the average consumer in the average environment. But like every other TV, it's impossible for Samsung to know where the TV will be set up and cannot have an image mode customized for each of their customers. In response to this reality, Samsung continues the long tradition of offering a huge number of calibration controls (that work well) in menus that can be customized for you. Video calibrators can dial in settings that follow HDTV standards using test equipment. Samsung includes 2-point and 10-point grayscale controls and an 18-point colour management system, as well as an effective way to adjust the colour decoder. Control of the image is extremely important because accurate black level, white level, grayscale, and colour is far more important than resolution. So while this may be an Ultra HDTV offering four times the resolution, all of the above should always come first. As usual for Samsung, the television looked great after calibration and was able to accurately portray movies and TV shows with precision. To calibrate this TV I used my reference Konica-Minolta CS-1000A spectroradiometer, the Accupel DVG-5000 1080p video generator, and CalMan 5.2 software. For further calibration results, please visit the 4K TVs forum at www.canadahifi.com/forum.

As in all my reviews, I report on image quality only after calibration since that's the only proper way to judge a television's performance. First, I want to mention that I had no 4K source for this review and anyone who purchases this television will be in the same boat. While at TAVES 2013 last November, I had the opportunity to do some quick calibrations on Samsung UHD displays running 4K content, based on which I can tell you that the resolution capability of this TV is amazing, but only after the most important steps of setting all of the picture controls. Remember, resolution is at the bottom of the image quality hierarchy. That said, watching 1080p content looked just as great on this TV as it did on Samsung's reference 1080p



UN65F8000 set. I reviewed this UHDTV from my typical 7 foot viewing distance; that's close to THX recommendations for this screen size and about the equivalent to the field of view the average movie theatre screen would take up, if it was possible to sit a little further than the back row. Actual pixels can be seen at a distance of 10 feet on 1080p screens and are very noticeable when sitting closer. UHDTVs give the advantage of not seeing the pixels at these same distances.

I'll come right out and be honest - if you think this Samsung UHDTV will make your 1080p Blu-ray collection look like 4K material, you will be disappointed. In fact, unless you are sitting closer than 10 feet to the screen, you will be hard-pressed to see any difference. The benefit at this close distance is that the image will remain smooth without seeing individual pixels as you would on a 1080p HDTV. What this Samsung does, is it eliminates the screen door effect by reducing the individual pixel size and tightens up the spaces between them. It also provides advantages of smoothing out rounded and stepped edges that are noticeable on text when sitting closer to the screen. Using a variety of single-pixel test patterns, all 1080p pixels were resolved a tad better on this Samsung than on a 1080p display. This means that some of the finest detailed HD content will have a slight advantage when played back on this UHD set - but only at these close distances. The game changes once 4K content becomes available; 4K content can be appreciated on this TV even when seated as far away as 15 feet.

I used a Sony PS3 as my Blu-ray player and fed it directly to the television with a Monster M1000HD HDMI cable. Some live action titles I watched included *We're the Millers*, 2012, and *Sweeney Todd*. I watched one animated film, *The Little Mermaid*, and several classics such as *Nosferatu* (1922) and *Metropolis* (1927), as well as episodes from *The Twilight Zone*. The colours in *We're the Millers* looked strikingly close to my reference plasma television when viewed directly from in front of the TV, rather than off to the side at which the colours shifted. The colours in this film are intentionally stylized like in many modern films, with warm skin tones and lush colouring. The silly disaster film 2012 looked amazing on this UHDTV from my viewing distance. Never did any pixel get in the way from my enjoyment of this film. Every bit of disaster could be seen to the finest detail offered from Blu-ray. The image was capable of switching quickly from bright to dark scenes, giving it an impressive contrast. Since this TV is capable of producing a very bright picture, the contrast ratio can be better on this set than a plasma TV, since plasma auto brightness limiters can't be defeated. I watched *Sweeney Todd* with Johnny Depp to check out this TV's handling of darker details. This film proved that if you're planning to use the dimming functions on this TV, you must have it calibrated with the feature turned 'on' or else you'll risk obscuring the darkest parts of the picture. The rock-solid grayscale this TV produced resulted in great images from this drab film, with great shadow details and acceptable blacks. Dark images were cleaner than on my plasma TV because LCD doesn't generate the same noise plasmas do at dark signal levels (which look like film grain). With this reference Samsung UHDTV, I never once felt that the panel's tiny pixels got in the way of resolving the film grain inherent in classic films. The hard pixel steps on 1080p sets just don't give me the same analogue feeling. There are some great classic film restorations out there today, and there's an inherent beauty of black and white films that LCD UHDTVs can deliver and plasmas cannot (you'll always see colour artefacts in black and white films on a plasma). Calibrating a separate warmer E5400 colour tempera-

ture setting gave these films life in my living room like I've never experienced before.

What are the downsides? The upconversion of 1080p to 4K (2160p) can give a false impression of softening the picture when in fact it's just the gap between pixels on a 1080p set that makes it feel sharper. I didn't see any real instances of softening during my viewing. I also found that when fed a picture with a resolution lower than 1080p, this Samsung can create large jagged artefacts (which look like horizontal streaks) during its up-conversion. Therefore I recommend using a good quality 1080p source with this set. If you watch a lot of over the air HD as I do, then you'll need to live with those artefacts unless you purchase a separate OTA tuner or video processor.

For those of you looking for an Ultra HDTV (or 4K TV if you prefer), there is now plenty of selection from the major manufacturers. What differentiates this Samsung from the competition is its excellent suite of smart TV features and the One Connect box which can be upgraded in the future as television technology continues to evolve - and it sure will. While 4K TVs will not make Blu-rays look like native 4K content, they will present the image without the dreaded screen door effect present on all 1080p TV sets. If you're in the market for a new television set that offers excellent picture performance and will be capable of 4K playback when the content becomes available, you should certainly look at this Samsung UN65F9000. You will not be disappointed.

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quickinfo

Samsung

www.samsung.ca
1-800-726-7864

Samsung UN65F9000 Flagship 65-Inch 4K Ultra HDTV

Price: \$5,499 CAD

quadral Aurum Montan VIII Loudspeakers

George de Sa

My first exposure to quadral and their flagship Aurum line of products came as an unexpected benefit of attending the Montreal Salon Son & Image show, in March 2013. There within a massive room occupied by Mok & Martensen, the Canadian distributor for quadral, I was enthralled by the vivid and expressive sound of the top speaker in the Aurum line – the Titan VIII (\$24,000). The Titan VIII, driven by Vincent premiumLine components, caught my attention as I walked by the room and reeled me in, all the way to the back of the room where the pair of Titan's sat orating. More recently, at the suggestion of Mok & Martensen, I had the pleasure of auditioning a more demure pair of Aurum Altan VIII standmount loudspeakers (\$3,000), with a Vincent SV-237 integrated amplifier (see the October/November 2013 issue of CANADA HiFi for this review). Along with providing me wonderful insight into the SV-237, I enjoyed my time with the Aurum Altan VIII. So when Mok & Martensen approached me with a suggestion to try out the third-from-the-top loudspeaker in the Aurum line, namely the Aurum Montan VIII (\$7,800), I knew I couldn't let the opportunity pass. It's now been a few months since the Aurum Montan VIII loudspeakers first arrived and I have to say that I've found the listening time well spent.

quadral (yes - in lower case), is a German electronics and loudspeaker company that goes back to the early 70's. Aurum, quadral's flagship electronics and loudspeaker brand hosts eleven different loudspeaker models including: three centre speakers, two standmount speakers, one subwoofer and five floorstanding/tower speakers. The Aurum Montan VIII is the third largest and third most expensive tower loudspeaker model within the flagship Aurum line.

design features

The Aurum Montan VIII loudspeaker is a full-size and virtually full-range 3-way, 3-driver, pressure/bass reflex loudspeaker,

weighing in at 40 kg. The loudspeaker stands 44.1" high, 10.6" wide and 17.6" deep and therefore, is not a speaker to be overlooked. The driver complement consists of a 10.2" woofer, 6.7" midrange and most interesting to me, a 4.72" magnetostat ribbon tweeter. Nominal/music power is 200 Watts/300 Watts, with a frequency response of 25 Hz – 65 kHz, impedance of 4 to 8 Ohms and a sensitivity of 89 dB/ 1 Watt / 1 meter.

The term magnetostat was new to me when I reviewed the Montan's little brother – the Altan, so I decided to do a little research and thought I'd share what I gleaned from my reading. In simple terms, a magnetostat tweeter might be referred to as a ribbon tweeter, which is how Aurum refers to it on their website; however, magnetostats are actually a different breed, if perhaps within the same species as ribbon tweeters. A magnetostat uses a diaphragm made of a very thin non-conductive plastic (Aurum tweeters use a diaphragm made of Kapton, which is a polyimide film developed by DuPont) onto which conductive (metal) tracks are affixed. This diaphragm sits sandwiched, between parallel rows of very strong magnets. On the other hand a true ribbon tweeter uses a very thin diaphragm that is made of metal or a metalized plastic film that itself conducts current, as opposed to using conductive tracks. Ribbon tweeters typically require a transformer, whereas, magnetostats do not.

Moving to the midrange and woofer in the Montan VIII, we find what look like typical cone drivers; however, the diaphragm cones are made of a proprietary material called ALTIMA. This name provides a hint to the composition. ALTIMA in fact is a very light metal alloy comprised of ALuminum, TItanium and MAGnesium, hence its name. This special alloy had been developed to greatly control resonances and ensure the accuracy of the drivers in the production of sound. Along with the ALTIMA diaphragm, the midrange and woofer drivers have a rubber suspension and concave dustcap that



follows the curve of cone diaphragm.

Looking at the enclosure of the speaker there are a couple things worth noting. First, as was the case with the much smaller Aurum Altan VIII, the Aurum Montan VIII is built with an integrated base that raises the speaker's bottom panel up on four barely visible cylindrical metal pedestals that are approximately ¼" high and which sit in-turn on a 1" solid MDF base. I've seen similar designs from a few other loudspeaker companies but all those that I'm familiar with use this design to provide clearance for air movement in conjunction with a bottom exhausting bass-reflex port. This though, is not the case with the Montan VIII, which uses two large rear bass-reflex ports but no bottom port, in its design. If I had to guess, I'd say that along with the integrated base being a unique and attractive element to the Montan's visual form, the quadral design-team most likely has utilized the base to reduce / optimize cabinet resonances as well as provide a level of isolation of the speaker enclosure from the floor. The second noteworthy design feature of the Montan is its woofer placement. Here, Aurum has not mounted the Montan's ALTIMA 10.2" woofer in traditional manner, i.e. on the front baffle. Nor has it been placed on the top, bottom or side. Rather, Aurum has done something quite unique with their woofer in the Montan; something I haven't experienced with any home audio loudspeaker. Aurum has placed the Montan's woofer on a diagonal slant, within an alcove that is open to the front of the speaker via a rectangular breach in the front baffle. This opening is tastefully screened with rubberized removable cords, which run top-to-bottom. Somewhat concealed in the shadow behind these cords and surrounded by the black finished walls of the alcove, the woofer's bright ALTIMA face can be found. This woofer sits only about an inch behind the baffle on one side but just short of 8" deep on the other. The added complexity of this design is not for aesthetic purposes but actually for engineering reasons. It turns out that by mounting the woofer in this manner, the space to the back of the woofer diaphragm can operate in a bass reflex manner, while the space within the alcove in front of the face of the woofer, can serve as a pressure chamber. This hybrid, bass reflex /

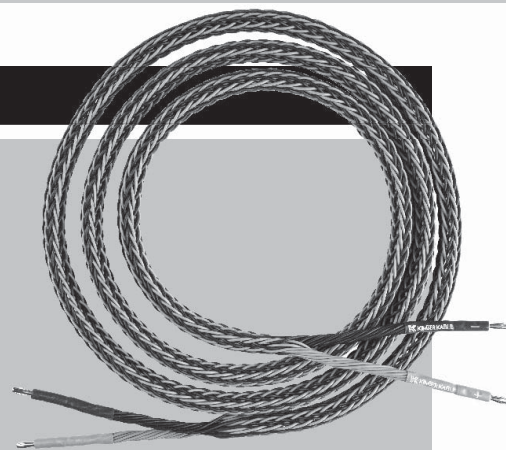
sidebar

Kimber Kable 12VS Speaker Cable

Though I've had a set of Kimber Kable 12VS loudspeaker cables on loan to me from Kimbercan, the Canadian distributor, for the past six months, it was in reviewing the Aurum Montan VIII loudspeakers that I gained insight into the 12VS cable's character.

The 12VS cables are constructed of 12 gray and 12 black conductors that result in two 8 awg conductors. The set I had was 8 feet long and terminated with Postmaster 33 spades (amp-end) and SBAN bananas (speaker-end). I found the construction and terminations to be of high quality and their girth and braiding was impressive.

In use, the 12VS loudspeaker cables demonstrated proficiency in delivering a smooth and natural sound across the midrange and treble. Vocals were delivered with good focus and detail, while avoiding an overly analytical presentation. There was a measure of kindness that the cables offered to lesser recordings, while providing a good measure of transparency – enough to reveal changes in the upstream playback chain, as well as differences in the loudspeakers. The overall tonal balance was even, with a slight attenuation of the upper-treble. I found the 12VS to be most impres-



sive in its bass performance; offering a textured and full sound with stalwart dynamics. Given recordings that call for impact on the low-end the 12VS is a very capable performer, while remaining overall neutral in character.

I believe the 12VS, given its neutrality, will work well with most systems having a neutral tone and even better with those that lean slightly to the brighter side of neutral. If you seek a smooth, balanced cable with outstanding bass and dynamic strengths, the Kimber 12VS should be one of the cables you audition.

MSRP:

6' / pair 12VS with Sban: \$405 or 8': \$475

6' / pair 12VS with PM25 or PM33: \$425 or 8' for \$495

Add \$30 for Bi-Wire with Sban or \$50 for Bi-Wire with PM25 / 33

Look for more details on Kimber Kable products at: www.kimber.com or www.kimbercan.com

pressure chamber arrangement is meant to provide greater bass extension, while ensuring higher-control and precision in bass production. Without spoiling this review, I will venture to say that I'm now a believer in this design approach.

The review pair of Montan VIII loudspeakers was finished in an oak choco real-wood veneer, which I found to be handsomely attractive. The finish was without flaw and had a lovely authentic wood grain tactile feel. Styling of the speaker is for the most part utilitarian

with overall build demonstrating high-level of quality control. The substantial aluminum surround of the magnetostat tweeter and midrange driver provided a modern / industrial aesthetic relief to the slightly curved but traditional cabinet. The magnetic grills looked and worked very well, while the front baffles revealed nothing of the mounting points. I should mention that the Montan is also available in a couple other genuine wood veneers (natural oak and cherry wood) as well as high-gloss black and white. Additionally,



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performance

This brings me to the core of this review – my listening sessions. All my listening was done using my reference gear that includes: a Windows PC, Squeezebox Touch, ADL Esprit DAC, Bryston BP6 preamplifier and 4B-SST2 amplifier. For an analog source, I used my Goldring GR1.2 / Electra cartridge and Pro-Ject Phonobox II SE stage. Interconnects were Kimber PBJ / Hero and for speaker cables, a set of Kimber 12VS that I've had for a number of months, courtesy of Kimbercan (Canadian distributor for Kimber Kable products). I found the Kimber Kable 12VS to pair very well with the Aurum Montan VIII's in my system.

Out of the box the Montan VIII loudspeakers sounded a bit reserved and simplistic in their rendering of music but with a decent break-in (400+ hours), things changed and before I knew it the Montan's began to seduce me with their aural

magic. It was in the bass frequencies that these speakers were capable of performing like no other speaker that I've heard in my room to date. Here the Montan's could provide exceptionally extended bass that I not only heard but also felt. It's funny how one can become accustomed to speakers that are incapable of providing a complete or at least a near complete picture on the lowest octave, i.e. 20Hz to 40Hz. Though in this bottom octave you don't typically find much in terms of musical information, mainly because most instruments, other than a pipe organ, are unable to reach that low – for example a bass can only reach down to 40 Hz. However, there are some recordings that do contain low frequencies within this range. And, when you do listen to such recordings or more-so feel them, via a speaker such as the Montan, you finally become aware of just what you've been missing. Take for example the Cowboy Junkies Trinity Session album. Listening to the first couple tracks provided me with great insight on the Montan VIII loudspeakers. Playing the first track, Mining for Gold, there are no instruments, just Margo Timmins' solemn solo vocals; however, in the background, this recording captures

the subterranean low frequencies of the subway resonating through the foundations of the church, where this track was recorded. On my own Audio Physic Sitara 25 speakers, some of this you can make out; however, on the Aurum Montan's you get a much fuller appreciation of this recording. By fuller, I don't just mean hearing but also a much rarer physical experience. Through the Montan VIII's, the low frequencies became more perceivable, palpable and realistic. This difference I might like to sniffing versus tasting a fresh cup of coffee – both can be pleasurable but the first provides only a sense of anticipation and wetting of appetite, whereas the second, the tasting, is what gives fulfillment. In the bass department, I can say that the Aurum Montan VIII's are fulfilling. In fact, listening to the rumble of the subway on Mining for Gold, through the Montan's allowed me to feel as though the subway was travelling under my own listening room. Keeping with the same album and moving to the next track Misguided Angel, the light tapping of the kick-drum had me mesmerized. It's not that I haven't heard the taps of the kick drum before but now I was hearing tuneful bass with weight, weight that im-

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parted feeling. The impression went beyond being lifelike in tonal expression and actually had my eardrums pulsing gently in synch with the kick of the drum – similar to what you might expect in a live and intimate setting. This sense of tactile bass continued on the track, I'm So Lonesome I Could Cry. Here, again the kick drum imparted a pulse-like feel but it went beyond my ears and was now imparting the real sense that my entire room was pulsing with the rhythmic pulses of the drum hits. At no time did I ever get the feeling that this bass was overdone or unnatural. In fact, at all times bass notes produced by the Aurum Montan's came across as very tight, controlled, articulate and textured; having no added thickness or smearing. And, though I was unable to measure the frequency response of the Montan, I'm convinced by my experience with them that they are not only solid down to their rated 25 Hz limit but also very flat, without the typical 60 to 80 Hz bass emphasis that speakers of lesser size are engineered with to provide the illusion of bass weight and extension.

I went back to the album "4" by Fourplay and the track Sexual Healing, which I had listened to a number of times with the Montan's little brother – the Aurum Altan VIII's, some months back. This track is grounded by a very tight sounding electric bass line, snapping strings and all. There are also some synth effects that float almost overhead, together with the soft tinkling of bell-like chimes. Going back to my notes, I found that the Montan was able to deliver the sparkle and generous upper-extension as well as treble lightness that I'd heard in the Altan's but I perceived just a little more mid-treble fullness with the Montan's – a little more tonal shading with the treble detail that provided some additional realism. Comparing the Montan's with my Sitara's provided more insight. Unlike the Altan's, the Montan's were able to keep up with my Sitara 25's in their apparent transparency. The presentation of these treble frequencies was different though. Whereas the Sitara's ceramic coated aluminum cone tweeters tend to provide a sense of ease and fullness to the treble notes, the magnetostat tweeters in the Montan's put more emphasis on the leading edge of notes, resulting in a cleaner, crisper and more forward presentation.

In terms of soundstage size on this track, the Montan's proved to be very capable, delivering a stage just beyond the bounds of their outer edges and going fairly deep just past my front wall. With the synthesizer effects, the Montan's seemed to have no trouble in providing the sense of an overhead presence that I'm accustomed to hearing on this recording. Vocals were clear and realistic and in comparison with my Sitara's were just a little more forward, a little lighter, a little more focused and I would say a little more transparent to the underlying recording.

Moving to the album Private Investigations: The Best of Dire Straits & Mark Knopfler and the first track Sultans of Swing, the Montan's were able to provide a sense of nimbleness and speed tracking the upbeat rhythm like a marksman. It was quite apparent from the opening drum hit that the Aurum Montan's were no slouches in terms of their ability to deliver quick transient response. Mark's voice was very clear and detailed and instruments in the mix remained distinct and intelligible, allowing me to easily zero-in on any of them individually. While the drum and bass are clearly evident in this track, the Montan's did not corrupt the rendition by overemphasizing or plumping up the bass. Drums had impact and detail; resolute, with their skins coming through on the impacts of the sticks. The cymbals on this track had a lovely clarity to them – pristine in fact, sounding very lifelike with their metallic timbre intact. The Montan's were also able to bring out a sense of air around the electric guitar strings, and ensured that each and every pluck was easily heard on the swift guitar play that is heard at the tail-end of the track. I got the sense that the Montan's were being straight up with me, telling me just what was coming from the source, rather than embellishing the recording and playback chain by imposing some specific flavor to the sound. Imaging was done well, and was very stable; however, the Montan's are large speakers and with large speakers, sounds tend to have a hard time breaking free. By that I mean that given the limits of a larger speaker, the imaging was good; however, they were never able to defy their dimension and provide that spooky realism that can be achieved with speakers of considerably smaller dimensions.

My time with the Aurum Montan VIII's has been revelatory. They have provided me with a reminder of what a well-engineered large stature speaker can actually deliver. If it's not yet evident from this review, I'll say it clearly now – the Aurum Montan's are capable of delivering marvelous bass performance – extended, flat, tuneable, articulate and dynamic. They are also impressively coherent, even at a distance of just 8ft, despite their tri-driver complement of disparate sizes and construction. I would say that if you desire uncompromising detail, accuracy, speed and transparency, coupled with essentially full-range performance, the Aurum Montan's are a speaker to be heard. At nearly \$8,000 – sure, the Aurum Montan VIII loudspeakers have a lot of competition but I believe that they offer a unique combination of qualities that once heard won't easily be forgotten.



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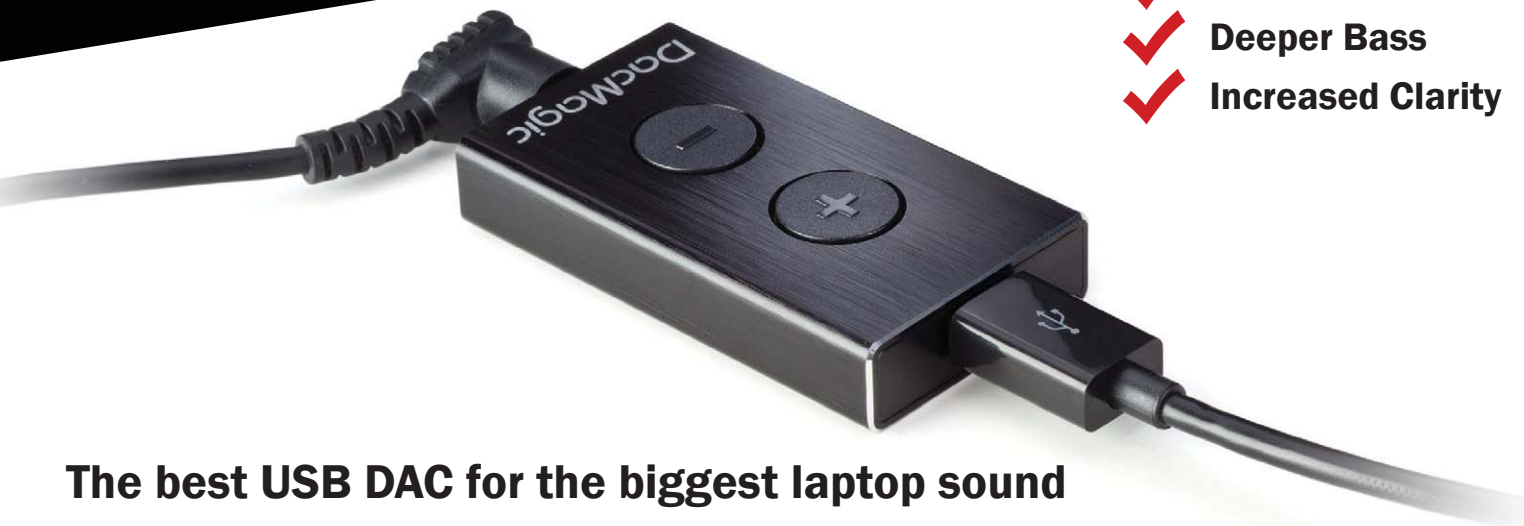


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