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*By Christine Persaud*



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# MY FAVOURITE MONTH

**WHO ELSE IS HAPPY** to see the month of September upon us? Given the fleeting nature of the Canadian summer, you must think I am nuts to be hurrying it along. I certainly had a great summer that included a bit of travel, some weekend cottage time, lazy patio evenings with a beer in hand, and many great moments hanging out with friends and family. I hope that you can say the same.

But there comes a time when it's nice to get back to work; and what I mean by work is that we are *all* back to work! No more out-of-office notices, no more postponed meetings. All the players who must agree on a decision are collectively in the same time zone. In other words, stuff starts to happen again in September; and the weather is still great!

I always enter September with a heightened sense of business energy: it's my happy new year! September marks the start of the tradeshow season, with IFA around the corner, and so is the PowerGroup/AVU show in Montreal. We are excited to announce that *WiFi HiFi* has signed up with NPD to host another breakfast meeting. Then in October comes CEDIA Expo. I love shows, because there is no better environment to see what's new, reacquaint face-to-face with colleagues, and just soak in all the gear that consumer technology has to offer.

September is also the month where we place more emphasis on home entertainment and the great indoors. Instead of summer-themed coverage of mobile audio and travel accessories, we focus on custom installation, home automation and home theatre. And this issue won't disappoint.

Gordon Brockhouse looks at one of the hottest segments of CE: wireless whole-home audio. While Sonos remains the dominant player, Gordon outlines several serious contenders fighting for marketshare. What a great time to be a consumer looking for options.

Continuing the CI theme, Christine Persaud provides a terrific first-hand account on turning her house into a smart home. What Christine doesn't share in her story is that this is the first home she has ever owned, so we are excited to know that she has a piece of the pie, and also the bricks-and-mortar to turn her home into the ultimate *WiFi HiFi* test lab! I doubt there will be a more connected house in Canada by the time she is finished.

On the home theatre front, David Susilo gives the lowdown on the new DTS:X object-based surround format, and tests a Monitor Audio 5.2.4 Dolby Atmos system.

Summer doesn't officially end until the third week of September, so we have a summer carry-over where Frank Lenk reflects on the jam-band Grateful Dead's contribution to live entertainment. They may be the smartest, most connected hippies to ever play on stage.

Frank tackles a tougher topic with digital privacy, showing how much we have been willing to forgo in order to update a Facebook page or do a search on Google. This subject hits us all; and at some point, there's going to be a massive reset on what we find acceptable.

Last, if there were any member of the *WiFi HiFi* team who is as excited to see September as I am, that would be Wally Hucker. When your beat is covering what's new on the street, summer can be a sparse time! In this issue, Wally fills several pages with pent-up industry news to get this fall season rolling.

We hope you enjoy the issue; and we look forward to meeting you face-to-face at industry shows and events as we venture into fall.

Thanks for reading.

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**Device recognition technology**, automatically senses the power requirements of any smartphone or tablet and delivers the fastest possible charge **exactly as the manufacturer had intended**.

# SHORT BITS

The newest products from the business of digital.



**Hailing on all Frequencies!:** *Star Trek* fans will beam (pun intended) with pride as they chat with friends using The Want Company's officially licensed **Original Series Star Trek Bluetooth Communicator**. Debuted at Comic-Con, it is an exact replica of the gizmo that appeared on the show, using structured-light 3D scanning to ensure that every curve and line of the original has been perfectly captured. And it's a fully functioning Bluetooth speaker and speakerphone, activated with a flick of the antenna grille. *Thinkgeek.com*



**Rugged Like a Cat:** The **Cat phones S40 rugged smartphone** is a durable device designed particularly for professional tradesmen, construction, and other outdoor workers. It has been drop-tested for up to 1.8 metres onto concrete, and exceeds Military Specification 810G for water, dust, and shockproof characteristics. It has a super-bright Corning Gorilla Glass 4 display for reading text in direct sunlight, and a large-capacity battery. It comes with glove-on working technology, and wet-finger tracking technology. Waterproof warning sensors let users know when the phone isn't waterproof (and shows an animation of how to correct this). A dedicated app store features apps relevant to outdoor working and lifestyles (as well as full access to Google Play). Approx. \$615 *Catphones.com*



**A Stand for Your Sonos:** Rather than place a Sonos Play:1 speaker directly on your desk, you can snag a cool stand for it. The **Flexson Desk Stand** (Erikson Consumer) is designed to angle the sound directly to your ear. Finished in metal with a chrome-effect inlay, it comes in either black or white to match the speaker. \$40 ea. *Flexson.com*



**A \$30 Activity Tracker:** Misfit is really targeting the price-conscious with the **Flash Link activity tracker**, which will cost only \$30. There's a catch: it doesn't come with a wristband, so you'll need to purchase one separately (from Misfit or third-party brands), or use the included clip to secure it to a piece of clothing or shoelace. It offers all of the standard activity tracking features you'd find in the regular Flash (\$40) and Shine (\$80) trackers, and will also work with the new Link app, which lets you use a Flash device to snap a selfie with your smartphone camera or Snapchat, control music from services like Spotify and Pandora, and advance slides in a presentation through double or triple presses. It will soon work with the IFTTT (If This, Then That) standard and Logitech Harmony remotes. *Misfit.com*



**Safe Night Runs:** Going for a quick run late at night or in the wee hours of the morning before the sun comes up can be quite relaxing. If you plan to do this, particularly up at a cottage or in an unfamiliar area, an accessory like **Griffin's LightRunner armband** can add peace-of-mind. The neoprene band is LED illuminated, offering both protection for your smartphone and providing high visibility. You can choose from three light pattern settings: continuous, repeating, or flashing. And you can still access the phone's touchscreen and fingerprint reader through the protective window. It has an adjustable Velcro closure, and fits iPhone 6, Galaxy S6, and other smartphones up to 4.7". US\$40 *Griffintechology.com*



**Three Lenses in One:** Unlike other 3-in-1 lens clips, the **iQ Universal Lens Clip** (Gentec International) is just that – universal – meaning it can be used with “most” smartphones and tablets. It comes with a 10x macro, fisheye, and 0.67x wide-angle lens, as well as a soft-sided carrying case. It connects the devices using a spring-loaded clip. \$20 *Gentec-intl.com*





◀ **Hue is Wireless:** The **Philips Hue Go wireless lamp** can run for up to three hours without being plugged into a power source – just enough for some mood lighting while you read a few chapters of your favourite book before bed. As with other Hue smart LED lighting products, you can select from several lighting effects, like Sunday Coffee or Night Adventure, all controlled manually from a button on the unit, or via the Hue app. If you connect Go to a Hue Bridge, you can use the app to adjust the colour of the light from more than 16 million shades. The water-resistant lamp is designed to either lay flat on its back or upright with the light at an angle. \$100 ea. [Meethue.com](http://Meethue.com)

▶ **As White as Paper:** Kindle's new **Paperwhite e-reader** aims to offer as close an experience to actual ink on paper as possible with features like 300ppi (twice the resolution of the previous model), new Bookerly font, typesetting, kerning, and ligatures, customized margins, columns, and indents based on file sizes, and longer battery life. But it also brings reading into the 21st Century with features like Whispersync for saving and synchronizing your last page read, bookmarks, and annotations across all devices and Kindle apps; automatic cloud backup; word definitions; achievement badges for kids; estimated times for completion of a novel; page and chapter scanning; vocabulary builder; and the ability to share passages. \$140 [Kindle.amazon.com](http://Kindle.amazon.com)



▶ **Add More HDMI Ports to Your TV:** Find that your TV just doesn't have enough HDMI ports to accommodate all of your gear? Check out the **Kinivo K300 4K HDMI Switch**, which can deliver UHD content to compatible displays, and be used to connect up to three additional peripherals, like gaming consoles, cable boxes, DVD players, streaming sticks, and laptops. It is simple plug-and-play, and auto-switching determines which HDMI device is turned on, then sends that source to the TV input. Use the included wireless IR remote to switch between devices. US\$35 [Kinivo.com](http://Kinivo.com)



▶ **Coaching in Your Ear:** Jabra (Affinity Electronics) says its **Sport Coach wireless earbuds** are the first in the world to include personalized in-ear coaching with Dolby sound. Listen to your favourite songs, but also personalized coaching via the Sport Life app and motion sensor which can track pace, distance, step count, cadence, and calories. There's coaching for more than 40 different exercises, and customized workouts. You can enjoy repetition-based training; and plan, track, and analyze workouts. Exercises range from beginner to advanced. The 'phones themselves are lightweight, and fit securely in the ears. \$170 [Jabra.com](http://Jabra.com)



▶ **Value Mobile Flat-Panel Cart:** Rocelco is offering a value-priced mobile flat-panel cart in the **VSTC Standard TV Cart**, which fits screens from 32" to 70", up to 100 lbs., and up to 600x400 mm VESA mounting, in standard horizontal (landscape) orientation. The cart includes an AV component shelf, top Webcam shelf, integrated cable management, and 2.5" braked castors. It offers telescopic height adjustment from 41.3" to 59" from top of the base. The average height to top of the TV is 67"/170cm, depending on the screen size being mounted. \$300 [Rocelco.com](http://Rocelco.com)

▶ **Better Smartphone Photography:** Whether it's for your Website, social media pages, presentation materials, or crowdfunding campaign, OrangeMonkie's new **Foldio2 foldable studio lightbox** (Taknology Canada) will help you take professional-looking product photos using a smartphone. It's larger than the original model, but ships flat and is easily assembled. Magnets secure the 15" squared box in place, and two high-powered LED strips offer needed light. Four colour backdrops are included: white, grey, black, and green. Snap your pic, then use the iOS or Android app to edit the photo or add chroma key features directly from the smartphone. The Kickstarter campaign raised more than \$500,000 in just 45 days. \$90 [Orangemonkie.com](http://Orangemonkie.com)





### ▲ **What's Lurking on Your Mattress?:**

On average, we shed 28 grams of skin cells every month – the equivalent of a bag of potato chips. Gross! And considering that most of us sleep six-to-eight hours a day, imagine just how many of those find their way into your mattress? The **Dyson V6 Mattress handheld vacuum** is designed specifically for getting the dust mites that feed off these cells out of your bed. Did you know they can lay up to 40 million droppings a day? The machine uses HEPA filtration, Dyson's Root Cyclone Technology and two Tier Radial Cyclone Technology that flings dust out of the air and into the bin. It will run for 20 minutes, 16 with the motorized cleaner head, and six minutes on boost mode. \$300 [Dysoncanada.ca](http://Dysoncanada.ca)



◀ **Torque Your Headphones:** The new **Torque Audio t402v headphones** are tunable so that users can get the sound experience they want using a proprietary bio-cell diaphragm. They include interchangeable on-ear and over-ear pads, 40mm bio-cell Neodymium drivers, and patent-pending modi:fi technology that allows users to adjust sound by simply changing the orientation of the magnetically held ear pad to align with the yellow, blue, red or black frequency levels (ordered from lowest to highest bass) to one of eight customizable listening settings. They fold flat for easy transporting. \$400 (\$300 for early backers) [Kickstarter.com](http://Kickstarter.com)

▶ **USB Ports in the Wall:** Finally, a way to power up all your tech devices without having to find an AC adapter! **NewerTech's Power2U wall outlet** has two traditional 15-amp power outlets, plus two 2.5-amp USB ports for charging up to four devices directly from the one outlet. With a 14-cubic-inch form factor and integrated 14-gauge copper pigtailed, it can be easily installed in virtually any electrical box. It uses a standard wall plate that also allows installation in more places, including multi-gang configurations. Internal micro switches help prevent "vampire" power by only turning on the USB power transformer when a plug is inserted into the port instead of it constantly drawing power. White, black, light almond, and ivory. US\$25 [Newertech.com](http://Newertech.com)



▶ **Super-Connected Camera:** With both Wi-Fi and NFC, **Ricoh's GR II compact camera** makes it super-easy to share photos instantly. Using Image Sync, you can also browse and transfer images to a wirelessly-connected mobile device. There are 17 effect modes, an in-camera RAW data development function, full HD movie recording, and wireless control of Pentax AF360FGZII and AF540GZII external flashes. \$900 [Ricoh.ca](http://Ricoh.ca)



◀ **Snap Pics Underwater:** The **Opatrix by Body Glove kit** for the iPhone (Fellowes Canada) includes not only a waterproof protective case for the device, but also interchangeable lenses so you can snap pics under water. The case is waterproof up to 33 feet, dust-proof, and drop-proof from as high as 20 feet. All photo accessories, including waterproof interchangeable lenses and mounting supports, are designed to work with the iPhone 5/5S/6/6 Plus. The system is also compatible with a variety of mounts and accessories. Starts at \$130 [Bodygloveopatrix.com](http://Bodygloveopatrix.com)



▶ **Roll 'n Go:** Is that a keyboard in your pocket...? LG has a clever idea with its **Rollable Keyboard**, a portable magnetic Bluetooth keyboard that rolls up neatly into a compact package that you can easily slot into a purse or briefcase. Unroll it, fold out the arms, and it will automatically turn on. Then, connect it to up to two devices. Adjustable arms let you dock a smartphone or tablet to create a full portable workstation. Roll it back up, and it will automatically power down. MSRP is TBD. [Lg.ca](http://Lg.ca)

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**Going Rustic:** Etsy is a goldmine of cool and unique handmade accessories. And this **rustic log iPhone stand** is an ideal accessory to set up at the cottage. Made-to-order by user TheRusticPalette, it's created using aspen log and finished with natural beeswax polish. The log is gently sanded to give a smooth look, while still preserving the natural shape of the wood. This means each one might look a bit different. It's just a stand, not a "dock;" i.e. there's no connector inside. But if you just want to prop your phone up to watch a video, or keep it at your desk while you catch up on some work, it'll look darned cool. About US\$45 [Etsy.com](http://Etsy.com)



**Kick the Habit:** You don't need New Year's Eve to make a worthwhile resolution – any time is a great time to kick that nasty cigarette smoking habit. And "vaping" is all the rage right now. V2 Pro offers a number of options, including the **3-in-1 Vape Pen Kit**, which includes a pocketable vaporizer, liquid cartridge, loose leaf cartridge, USB charger, wall adapter, pick, and brush. It works with loose leaf, e-liquid, and wax. High-tech features include variable voltage and temperature settings. OK, so let's be honest. This doesn't really constitute "quitting" entirely. But it may be a step in the right direction. Starts at US\$155; buy additional cartridges separately. [V2cigs.com](http://V2cigs.com)



**Hello Ollie:** Enjoy some outdoor off-road racing with the **Sphero Ollie**, a cylindrical-shaped toy that you control with your smartphone to help it move along a flat surface at up to 14mph. You can race Ollies, and make them do tricks, like spin and flip. Remove the tires for smooth surfaces, or pop them back on when you want to have some fun on a dirt road. Ollie has a durable shell, so it can take a beating. And it even has a built-in LED so adults can enjoy some silly, night-time fun once the kids are in bed. \$100 [Gosphero.com](http://Gosphero.com)



**You've Got Soul:** What's the best way to start your day? An early morning run, of course! The **Soul Electronics Pulse earbuds** are ultra-lightweight (0.6 ounces) and employ a reverse-fitting ear-lock cable that wraps around the ear and locks tightly into place, providing the snug fit of an over-the-ear headphone, while maintaining an ear bud look. The water/sweat proof silicone design is easy to clean. The 'phones also come with a tangle-free cable, universal one-button control for easy access to answering calls and music playback options, and an advanced driver and circuitry design. Red or blue, US\$50 [Soulelectronics.com](http://Soulelectronics.com)



**Designer Lighting:** London, UK-based Buster + Punch offers what it calls "**designer lighting solutions**," including a number of gorgeous pendant/teardrop-shaped bulbs that come with bases in everything from gold to smoked bronze, heavy metal/rose, and even leather. Each is LED, can fit a standard E27 socket, and offers 3W of fully dimmable light. Life is up to 10,000 hours or five years. Grab a few as a great way to modernize and style up your retail store, home, or showroom. Approx. \$55-\$180/bulb. [Busterandpunch.com](http://Busterandpunch.com)



**Step Into Reality:** If you're heading out for some R&R on the beach, bring along the **Dlodlo virtual reality glasses**. They're designed to look just like sunglasses, but house the capability to play back full HD video within the lens – no computer or smartphone needed. You can watch 2D or 3D content in a 110-degree field-of-view, and listen via the stereo headphones. Even if that cottage trip isn't going to happen this year, throw on a pair in your backyard, play a cool beach scene video loop, and float away into dreamland to whatever sunny destination you desire. US\$700 [Dlodlo.com](http://Dlodlo.com)





**A Terabyte of Xbox Storage:** If you pick up one of the latest **Xbox Ones**, you'll get a full terabyte of storage, plus other hardware improvements. Along with a new matte finish, the console will come with an updated controller that has a standard 3.5mm stereo jack so you can use it with generic headsets; upgraded "bumper" buttons with better control response along their entire surface; and wireless support. Input and output volume will be adjustable via the in-screen settings menu. US\$400 (individual controllers sell for US\$65) [Xbox.com](http://Xbox.com)



**A Drone That Walks on Water:**

We've seen drones that fly in the air and roll and jump on the ground. **Parrot's latest Minidrones** (Erikson Consumer), the **Orak** and **New Z**, are attached to a hydrofoil that hovers and glides across the water, reaching speeds up to 6mph. Each can run for seven minutes per charge, and quick charge in 25 minutes using a 2.6A charger (not included). These and other models boast faster rolling, better autopilot, and more powerful motors than previous-generation Minidrones. And they can, of course, be controlled from a smartphone or tablet using the free FreeFlight 3 app. \$230 ea. [Parrot.com](http://Parrot.com)



**Going Hifi with B&W:** The new **P5 Wireless headphones** from Bowers & Wilkins (B&W) are stylishly made of leather and aluminum, use Bluetooth aptX technology, and boast hifi sound. They include controls for play/pause and skip music, two microphones, and can run for up to 17 hours before needing a recharge. If you prefer, they also come with a cable for wired listening. Store everything in the included carrying case. US\$400 [Bowers-wilkins.com](http://Bowers-wilkins.com)



**Retro Cool:** Is the office AC just not enough? Or perhaps your home office can get a bit warm? Check out this cool **USB retro fan** from Logiix (Atlantia), which is powered by any USB port to provide a nice, cool breeze. It offers 180-degree oscillation, and has anti-slip rubber pads. Place it in the ideal spot, running the five-foot cord. \$20-\$25 in three sizes: small, medium, and large. [Logiix.net](http://Logiix.net)



**Hey You, Get Up!:** A great feature for an activity tracker is a little virtual nudge that you've been sitting too long and should get up and walk about. The **Polar Loop 2** does this via a gentle vibration. Plus, it tracks your activity based on five levels of intensity (resting, sitting, low, medium, and high), workouts, and sleep. It also displays and vibrates for incoming calls, messages, and calendar alerts. Pair it with the Polar H7 Bluetooth Smart heart-rate sensor for heart-rate data. Enter your age, gender and weight and choice of activity level in the Polar Flow service, and you'll be presented with an individual daily activity goal. White, pink, or black. \$120 [Polar.com](http://Polar.com)



**Wrap Yourself Up in Gaming:** **Acer's XR341CK monitor**, meant for gamers, has a 34-inch QHD panel with AMD FreeSync technology and a curved 21:9 design that wraps around the gamer's view to offer a more immersive experience. The wide field-of-view increases the perceived area of peripheral vision compared to a flat display of the same size. FreeSync, AMD's version of Adaptive Sync technology, helps eliminate tearing and stuttering, and reduce mouse latency. A fast 4ms response will help avoid smearing or ghosting with high-action scenes and dramatic transitions. Acer EyeProtect technology helps reduce eye strain. The adjustable aluminum stand can tilt from -5 to 35 degrees, and height adjusts up to five inches – you can even mount it on the wall. \$1,300 [Acer.ca](http://Acer.ca)



# The Grateful Dead and the EVOLUTION of LIVE MUSIC



BY FRANK LENK



**MUSIC HAS ALWAYS RELIED** on technology, from Stradivarius to Moog. But over the past half-century, no musical group has had a more interesting relationship with technology than the always-unpredictable Grateful Dead. Recently, the band concluded its “long strange trip,” and also fulfilled its technological evolution from analog tape to worldwide digital streaming.

After 50 years of spectacular live performances, the Grateful Dead decided to go out with a bang: a final run of five ‘Fare Thee Well’ concerts, playing to sellout crowds for two nights at Levi’s Stadium in Santa Clara, CA, and three nights at Soldier Field in Chicago.

The Dead’s Fare Thee Well mini-tour would include all four surviving members of the original 1960s Grateful Dead: Bob Weir, Phil Lesh, Mickey Hart and Bill Kreutzmann, who promised that this would indeed be the farewell, and they would never again play together. (While true, three of the four original band members, minus Lesh, along with singer/guitarist John Mayer, later joined forces calling themselves Dead and Company and confirmed they’d be playing Madison Square Gardens on October 31.)

Guitar genius Jerry Garcia would be the most notable hole in the line-up. The choice of venue paid tribute to his memory: Chicago’s Soldier Field was the site of the Dead’s last show before Garcia’s death in 1995. The other venue, Levi’s Stadium, was symmetrically chosen for its proximity to the Dead’s San Francisco birthplace.

Trey Anastasio, brilliant guitar player with the band Phish, was the perfect substitute for Garcia. Other former members – most notably Ron ‘Pigpen’ McKernan, nominally the original leader of the band – were remembered silently, in fleeting video images. Also sitting in on the Fare Thee Well shows were keyboard players Bruce Hornsby and Jeff Chimenti, both of whom had previously toured with the Dead.

The Dead set records for remote attendance via live streaming, hinting at the dawn of a whole new entertainment medium. It was a fitting departure for a band whose entire career was based on taking live performance where it had never gone before.

## “CRYPTICAL ENVELOPMENT”

The Grateful Dead were unconventional from day one. Its members came from traditions that included bluegrass, blues, and classical music. But the band forged a new kind of sound while playing as the house band for Ken Kesey’s San Francisco Acid Tests in the mid-1960s.

Freed of any expectations or constraints, the Dead evolved an improvisational approach that made every performance a unique experience. While most bands were in the studio, stamping out catchy three-minute radio hits, the Dead were playing four-hour concerts characterized by jazzy 20-minute instrumental 'jams.'

Despite an almost perverse indifference to commercial success, by the 1980s, The Grateful Dead had become one of the highest-grossing live acts in the world, with tours bringing in as much as US\$45 and \$50 million. But the Dead remained single-minded in its pursuit of an elusive concert magic. They eagerly adopted the latest musical technology, perfecting their live sound and seeking new ways to capture those ephemeral, improvisational achievements in a recorded format.



The Dead were talking about solid-state recording formats in the 1970s, when the idea seemed like pure science fiction. When CD arrived, they weren't satisfied. Their remastered albums were issued in the HDCD format (now owned by Microsoft), in an attempt to squeeze 20 bits' worth of data into the usual 16-bit CD data stream.

Ironically, it was equipment trouble that caused the Grateful Dead's performance to be omitted from the film *Woodstock*. Rainy weather and bad grounding resulted in ball lightning dancing around the stage, and musicians getting electric shocks from their equipment.

Despite such bad experiences, the Dead remained technophiles. They were eager participants in Steve (Apple II) Wozniak's first US Festival, in 1982. And their soundboard rapidly sprouted monitor screens, computerized lighting controls, and MIDI effects gear.

Touring constantly, the Grateful Dead got the logistics of live shows down to a science. But they were always nervous and unpredictable in the seclusion of the recording studio, removed from the tie-dyed audiences that propelled their music.

The group's first album, a self-titled quickie for Warner Brothers, was disappointing for band and fans alike. Setting out to do a second album, the Dead embarked on the first of many experiments in live recording.

The result was *Anthem of the Sun*, a weird concoction even by Grateful Dead standards. It started with recordings of live shows accumulated over a six-month period in 1967-68. An 8-track tape system was used to directly record the music, and an additional 4-track machine was used to record ambient sound in the hall. Overdubs were recorded in the studio.

These elements were combined in a complex mix, 'performed' live, in real time, on multiple sound boards. The result was an LP with no discernible 'songs,' on which cryptically-named tracks were marked off arbitrarily, just to please the record label. The album was listenable on its own terms, and does perhaps reflect the band's most challenging period.

Attempts to bottle the lightning continued with 1969's double LP *Live Dead*. This time, the Dead simply recorded a number of shows using one of the first Ampex 16-track recorders. The result was more straightforward, and more approachable, but somewhat constrained by the LP format. The first of the album's four sides, for example, consisted of just one track: a 23-minute version of the Dead's signature composition, *Dark Star*.

### "A LONG STRANGE TRIP"

The Dead next surprised everyone by turning out two polished, melodic, largely-acoustic studio albums – *American Beauty* and *Workingman's Dead*. But they quickly returned to live recordings with 1971's *Skull & Roses*, and then with *Europe 72*.

The latter triple LP set may have seemed excessive at the time. But it was surpassed in 2011, when the band's business offshoot, Grateful Dead Productions (GDP), released the entire run of 22 European shows: on 73 CDs, appropriately packaged in a mock steamer-trunk case.

## THE STORY

The Grateful Dead's farewell shows set attendance records.

The five shows also set records for live streaming, via YouTube and pay-per-view.

This could signal a resurgence of live content both on TV and in cinemas.



The Dead were careful to record all of their shows right from the early days, and GDP has released dozens of these on CD. In the end, the best approach was the simplest.

At the time of the European tour, the Dead faced another challenge: deploying an increasingly melodious, virtuoso sound in ever-larger venues. Their solution was typically ambitious: a literal "Wall of Sound."

This vertical stack of 640 speakers, as tall as a three-storey building, weighed in at about 25 tons. It was driven by 89 300-watt solid-state amplifiers and three 350-watt vacuum-tube amps, generating a total output of 26,400-watts. With separate speakers for each instrument, sound quality was said to be excellent at 600 feet, and acceptable at up to a quarter-mile away.

Positioned at the rear of the stage, the Wall of Sound also did away with the need for monitors: the musicians heard what the audience heard. This arrangement should have produced cataclysmic feedback, but the band's electronics wizards came up with an ingenious solution: matched pairs of microphones, spaced slightly apart and connected out of phase. One mic captured the vocals, while the other picked up ambient sound, allowing output from the Wall to be canceled out.

Although it was considered an acoustic success, the Wall of Sound proved far too cumbersome, and was abandoned in the fall of 1974. The Grateful Dead continued to seek better audio solutions, and eventually the technology caught up with their needs. By the 1980s, the band was using commercial liquid-cooled speakers, capable of producing stadium-filling sound from relatively small enclosures.

Both the Wall of Sound and the special mics are visible in *The Grateful Dead Movie*, shot in 1974. Directed and edited by guitarist Jerry Garcia, it's generally regarded as not only a superb portrait

of the Dead at their best, but one of the best rock-concert films, period. (It's available on Blu-ray from Dead.net.)

### "EYES OF THE WORLD"

Over the years, the Grateful Dead released about a dozen concert videos of varying quality. But *The Grateful Dead Movie* remained the best chronicle of their live shows – until this summer. While crowds of 70,000 were enjoying the *Fare Thee Well* shows first-hand, the experience was enjoyed remotely by a far larger number of fans, via Internet streaming, satellite/cable pay-per-view (PPV), and showings in pubs and movie theatres.

Nate Parienti, President of Live Alliance, based in New York City, reports that his company handled over 400,000 streaming subscribers. This was over double the previous record of 166,000 subscribers, set way back in 1999 by, of all people, the Backstreet Boys. The Dead's five-night concert series grossed on the order of US\$15 million in PPV alone.

Of course, most streams were probably watched by multiple individuals. Parienti figures the total viewing audience must have been on the order of a million, possibly more.

Parienti makes the logistics seem almost mundane. "We produced all the video," he reports. "We brought in a video truck, an audio truck, a satellite truck. We arranged for the blimp and the skycam." Live Alliance handled distribution to PPV operators including DirecTV and Dish in the U.S., as well as Bell, Rogers and Shaw in Canada.

Live Alliance also delivered the feeds to YouTube, where they became the site's first live concert streams to be offered on a pay-per-view basis.

For YouTube, it was a quiet milestone. "We've seen live streams become more and more popular," reports Jenn Kaiser, Communications Manager with YouTube Canada. Events such as



the Bonnaroo Festival in Tennessee have been streamed on YouTube free of charge. Kaiser notes that the PPV option has been available to 'channel' owners for some time, on the site's Web dashboard.

YouTube is helping musicians with a resource called YouTube for Artists, which offers tips for engaging with fans, and includes a Music Insights tool, to help video creators track their audience. It's becoming an important factor in the music business. Kaiser points out that Billboard's Hot 100 listing of musical acts now takes YouTube views into account when assigning its rankings.

Watching the Grateful Dead's *Fare Thee Well* live feed, it was obvious that this new medium was coming of age. The video streams (soon to be available on DVD and Blu-ray, from Dead.net) were by far the best electronic record ever of the Grateful Dead concert experience – and possibly of any rock concerts.

Part of the magic lay in seeing the events truly live. Sitting through all 45 minutes of the intermission without being able to fast-forward. Knowing that each note was being created at that instant, in real-time. Of course, there will never be any substitute for being there. But once today's viewers get a taste of live performance on their TVs, they're going to realize how exciting it can be.

## The Dead Fare Thee Well By the Numbers

**Max attendance at Soldier Field: 71,000 (Sunday night)**

**Total attendance at Soldier Field: 212,000**

**Total attendance at Levi's Stadium: 130,000**

**Estimated box office gross at Soldier Field: \$24.5 million**

**Estimated 5-night gross ticket sales: over \$50 million\***

**Estimated merchandise sales: over \$5 million**

**Live streaming subscribers: about 400,000**

**Estimated 'retail' streaming revenue: \$15 million**

\*Variety



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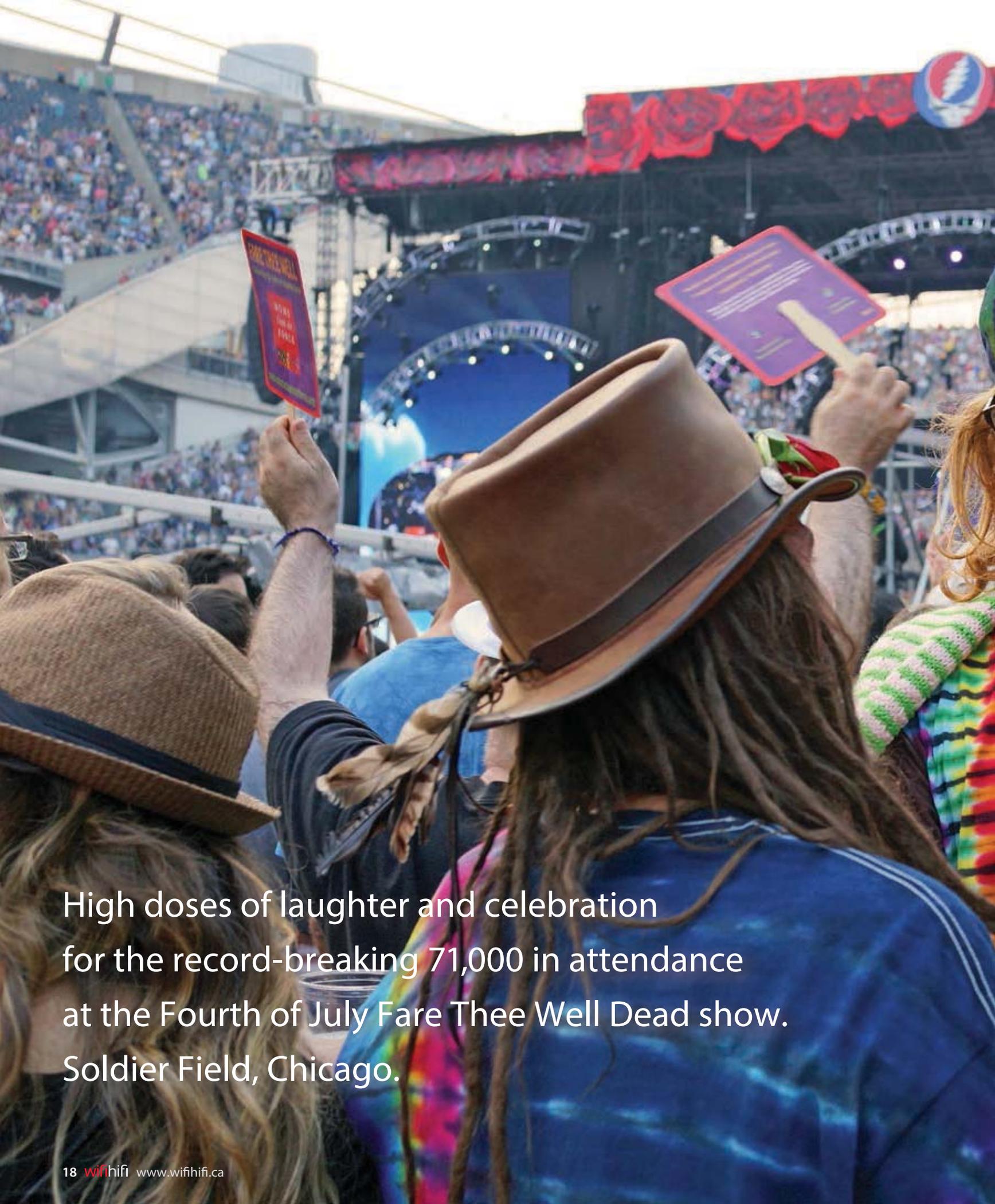
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High doses of laughter and celebration for the record-breaking 71,000 in attendance at the Fourth of July Fare Thee Well Dead show. Soldier Field, Chicago.



Another option that came into play with the Grateful Dead's farewell shows was communal viewing in movie theatres. Fathom Events, based in Denver, CO, has been catering to deadheads for five years, organizing regular fan 'meet-ups.' So it was natural for it to handle *Fare Thee Well* showings in U.S. theatres.

It's a growing business. Fathom did its first theatrical satellite event in 2000. It's been working with the Metropolitan Opera for about 10 years, but also handles everything from boxing matches to *Doctor Who* get-togethers. And, of course, rock concerts. "Music has done spectacularly for us," says John Rubey, CEO.

Rubey reports that Fathom had about two million paid attendees in 2013. That number increased to 2.5 million in 2014, and is on track to hit three million this year.

In Canada, Cineplex Entertainment has similarly established a thriving sideline in 'alternative programming,' under its Front Row Centre Events banner. This has included a number of big rock concerts: Peter Gabriel and The Who, for instance, in addition to the Grateful Dead.

Opera is a surprisingly strong draw. Originally, Cineplex showed performances from 'the Met' in one auditorium in each of 24 locations across Canada, recalls Pat Marshall, Vice President, Communications and Investor Relations. These days, operas play at 135 of the company's 160 Canadian locations, and can sell out four auditoriums in a single multiplex.



"We would have sold less than \$1 million in tickets in 2007," says Marshall. "Now it can be \$1.5 million in a single day. It's a growing part of our business. We think of our locations now as 'entertainment destinations.'" Thus, as the Grateful Dead take their leave, live music seems poised for a whole new phase of popularity.

**"THE MUSIC NEVER STOPPED"**

For most of the Grateful Dead's history, seeing them live meant ordering tickets by mail, driving for hours and then crushing into a dingy music hall or acoustically-dreadful stadium. The five *Fare Thee Well* shows finally brought that experience – flawlessly – to the comfort of our living rooms.

It seems appropriate that the Dead should bow out at this juncture. The band's 50-year quest to capture the live experience has been fulfilled beyond anyone's expectations. But the Dead's legacy of musical improvisation and experimentation will be continued by younger talent.

Not many bands, not even The Beatles or Elvis, can be said to have spawned an entire musical genre. But the Grateful Dead gave birth to an expanding universe of 'jambands,' which have embraced the live, improvisational approach. These bands are already using the Internet in new ways. Live steaming – and soon, even Virtual Reality streaming – is going to be an increasingly common way for fans to connect with their favourite acts. [wh](#)

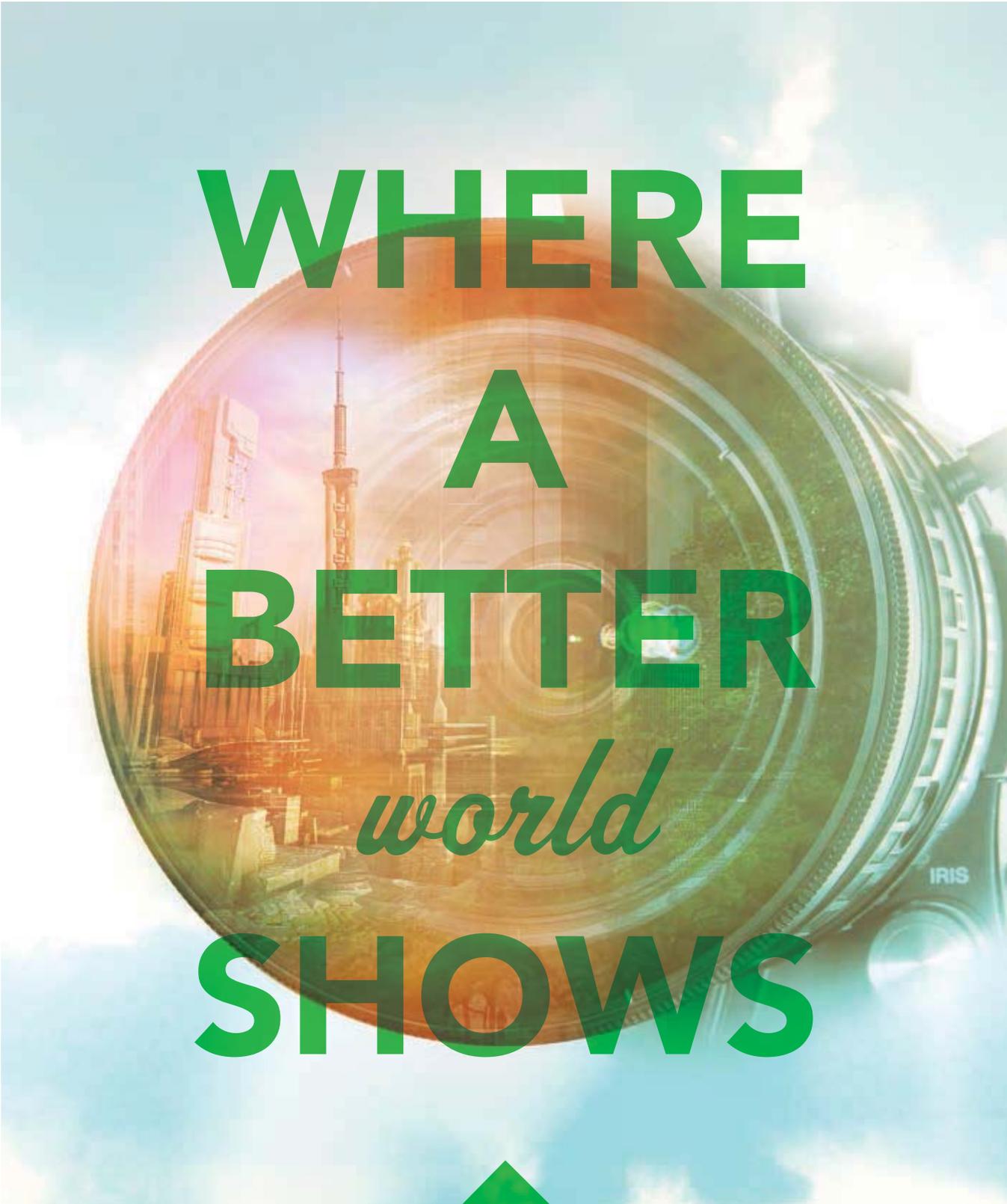
**More Dead Numbers**

- Grateful Dead's lifespan as a band:* **50 years**
- Years spent on tour:* **about 33**
- Total live concerts played:* **over 2,300\*\***
- Total live concerts available as fan tapes:* **over 2,200\*\*\***
- Total hours spent on-stage:* **5,000 to 6,000\*\*\***
- Famous venues:* **Monterey Pop (1967), Woodstock (1968), Watkins Glen (1973), US Festival (1982), Bonnaroo (2003, 2004)**
- Total 'official' albums:* **22**
- Total 'official' retrospective live albums:* **over 100**
- Total unique songs played live:* **over 500**
- Weight of the 1974 Wall of Sound speaker system:* **25 tons**
- Grateful Dead per-tour gross in the late 1980s:* **\$45 to 50 million**
- Total touring revenue in the 1990s:* **\$285 million (2nd only to the Rolling Stones)\***

\*Attendance numbers and financials as estimated by Billboard. \*\* Guinness Book of World Records; does not include solo tours. \*\*\* New York Times estimate.



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# The **AUTOMATED** App-Controlled Home



BY CHRISTINE PERSAUD

**IT'S A BEAUTIFUL SUMMER DAY**, and we're planning our housewarming party. As guests arrive, they ring the video doorbell, which alerts us that someone is here. They head inside and are greeted by music playing through speakers mounted above the cupboards in the kitchen.

Head outside and a rock speaker/fountain keeps the party going in the backyard while adding some soothing ambience. As the kids run up and down the grass, they look around, mesmerized as they continue to hear the music. One asks her dad how this marvel of entertainment is occurring – he helps her locate the small rock speaker hiding among the flowers.

As guests head upstairs to the bathroom to freshen up, the tunes keep playing from the in-wall speaker stealthily hidden behind the towel rack.

The party winds down and we head up to bed. One push of a button on my smartphone turns off all the lights, and another brings down the motorized blinds. Did we remember to put the outdoor cushions away? It may rain tomorrow. A quick peek at the live security camera feed reveals that all is good for us to tuck in for the night. Most of the gear in the home is controlled through a Savant system and app.

On Monday, I head downstairs to my home office to start the workday. Through a "Scene" I've set up to trigger at 9 a.m., Monday to Friday, the lights and Apple TV are already powered on in the Office and Kitchen zones. I select a low-key Spotify playlist ('90s Smash Hits sounds good today), and get to work as music plays from the in-ceiling speaker above my desk.

I head out to run some errands, but forget to turn the lights off. No worries – the geofencing feature in the lighting app recognizes from a pre-defined perimeter that I've left home and turns off all of the lights for me.

With all the hustle and bustle of the party on the weekend, the main level needs a good cleaning. I set a robotic vacuum to do a quick sweep. It scoots about, under couches and in corners upstairs while I finish off my workday.

It sounds almost futuristic, doesn't it? But this is a reality for many early adopters. It might include a fully wired system, or a series of wireless, app-controlled products, some of which can integrate with one another, and others that operate independently. Often, it's a mix of both as our desires for the smart home evolve.

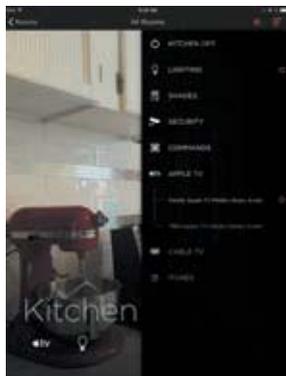
And as technology evolves along with these wants, the smart home is more than ever within

reach of consumers. You can get devices that will have your favourite song playing to wake you up in the morning, a full pot of coffee already brewed, and the TV tuned to the local morning news. The AC kicks back on 10 minutes before you arrive home from work, dinner is slow cooked and kept warm, and a smartphone notification advises that yes, the kids have arrived from school safe and sound. The possibilities really are endless.

## **TO WIRE OR NOT TO WIRE**

There's a great debate among industry folks over whether there's a need to opt for a fully wired, whole-home automation system that can cost big bank, or if choosing a selection of wireless,

At the heart of the author's home automation system is a Savant system, which allows for controlling AV, lights, shades, and security from a single app. We can control a single room, source (e.g. turning on the Bell Fibe TV), view and adjust the status of all rooms, check out live security camera footage, and more.



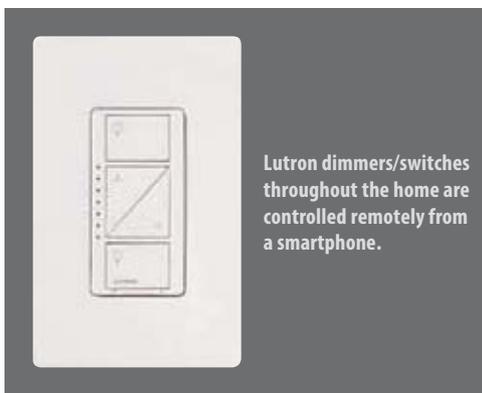


do-it-yourself (DIY) products and setting everything up independently is the better way to go.

A fully integrated system will almost always be more expensive, especially if you're dealing with an older home like mine (built circa 1916), which can pose wiring challenges. In our case, for example, North York, ON-based Knightwatch Security & Alarms, which specializes in finished homes, had to deal with issues related to plaster and lathe, small 1" gaps in the wall through which to run wires (versus the typical 3.5" gap you find in newer homes), and thick baseboards that were not easily removed, resulting in the

## THE STORY

- ▶ The smart home is becoming more accessible to the average family.
- ▶ A great debate exists between having a fully integrated system versus a series of DIY automation devices and apps.
- ▶ What are the main advantages of a smart home beyond just the cool factor?
- ▶ An in-depth look at a fully automated home, with relatable insights into daily use.



Lutron dimmers/switches throughout the home are controlled remotely from a smartphone.

need to fish wire through the quarter-round trim at the bottom of them. There's a lot more pre-planning that must go into wiring an older home as well, notes owner Adam Tolkin, who says it took about two hours to figure out the best method, versus maybe 10 minutes of planning in a newer home. "You can't get halfway through and be stumped," he notes. "You need to know [ahead of time] how you can get from Point A to Point B." In one case, he notes Knightwatch had to run wires in two different directions for the living room and dining room, even though the two rooms are right beside one another in an open-concept design.

But the pay-off can be tremendous. You can control everything through a single, intuitive app rather than flipping back and forth among several. You pay someone else to set it up for you, which means they're available for troubleshooting, can help expand or upgrade your system as needed, and can recommend devices that are seamless to integrate should you wish to later add to the system. You can also control and host everything locally: your security footage records to a local hard drive, not the cloud, thus reducing worry about privacy issues. Your speakers don't need to connect over a potentially insecure wireless network: they're wired in, which can be more reliable as well.

In the future, context will be of growing importance for the smart home as well, which will make a fully integrated system even more desirable. David Keegstra, CTO of Ericsson Canada, provided an interesting example at the Canadian Telecom Summit this summer: just getting a notification from your refrigerator that you're out of milk, for example, is not enough. "It's no use telling me at 11 at night or 10 a.m. when I'm in a meeting," he says. "It needs to tell me when I'm driving home and I'm five minutes from the supermarket. It needs to know I'm in my car. But I'm not supposed to look at my phone, so it should probably send

it to my digital assistant in my car. Or procure the milk with a mobile payment application and tell me to stop by the drive-thru window to pick it up and go home. There are a lot of touch points I need to be connected to – it's timing, context, location, device." In other words, all of the devices don't just need to be intelligent, but they need to communicate with *one another* to make the entire ecosystem smarter.

On the other hand, consumers are more tech-savvy than ever, and some smart devices are truly plug-and-play, making the DIY model an attractive proposition, despite the trade-offs. Maybe you just want a few Sonos speakers around the house to play back music (Gordon Brockhouse's hands-on feature elsewhere in this issue looks at such a setup), a couple of app-controlled smart bulbs, a Nest thermostat, and an automatic garage door opener. Sure, all of the gear is controlled through different apps, but you might be OK with that. And the big advantage: it can cost far less money.

Most automation companies welcome such piecemeal systems, calling them a great introduction to automation. Once consumers get a taste and fully realize the benefits a smart home system can afford, forking over the dough to get that truly seamless experience is more easily justified.

### WHY GO AUTOMATED?

What's the point of all of this in the first place? Can't I just pull the string to open my blinds? Use the included remote to power on the AV equipment? And manually flick a light switch or crank my thermostat up or down a few degrees?

Perhaps the biggest misconception about the smart home is that it's about being "cool," impressing friends, and keeping up with the Joneses. Whichever path to automation you take, the benefits go far beyond that.

**Money savings:** Nest says a programmable thermostat like its Learning Thermostat can actually cut up to 20% off your utility bills each month, both because it can learn your habits and automatically adjust accordingly, and because you can remotely control it.

The same goes for lighting: being able to remotely turn off lights you forgot to power down before leaving for the day or a weekend can mean significant savings. Remember the geofencing feature I mentioned earlier?

**Remote access & alerts/avoiding damages:** Being able to access devices like your thermostat remotely can be a lifesaver. I had diligently (or so

I thought) dropped the thermostat down to 18°C before we left for CES in January – coincidentally right when Toronto went into a deep freeze, hitting temperatures as low as -35°C. With an automated thermostat, which we did not yet have at that time, I could have remotely bumped the temperature up a few degrees. Instead, we arrived home to frozen pipes. Had the pipes burst, it would have cost far more than the \$250 price tag of a Nest thermostat to fix.

Gear like security cameras and remote sensors can also help prevent damage, sending alerts for everything from potential water leaks, to intruders, or raccoons devouring your garden.



Neatly powering the home automation system is a selection of gear housed in a Middle Atlantic AV rack in the basement, including everything from Bell Fibe PVRs, to a pre-amp, AV receiver, amplifiers, Savant control system with pro host, WirePath DVR, and other connected devices.

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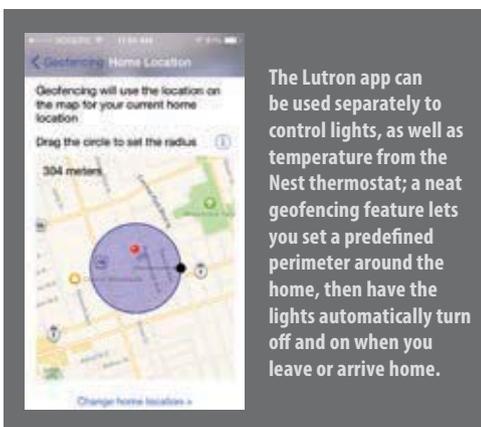
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The Lutron app can be used separately to control lights, as well as temperature from the Nest thermostat; a neat geofencing feature lets you set a predefined perimeter around the home, then have the lights automatically turn off and on when you leave or arrive home.

This way, you can take preventative or actionable measures. D-Link Canada, for example, has a Wi-Fi Water Sensor that will alert you via smartphone or tablet and the mydlink home app if it detects water. Naturally, you'd place it nearby a source of potential leaks, like by a washing machine, sump pump, or sink.

**Safety:** A security camera can provide peace-of-mind while you're away. It can also help you keep track of the kids, ensuring they arrive home from school on time, or that pets aren't sleeping on the furniture or rummaging through the garbage while you're at work.

As if calling for material for this article, I experienced an unfortunate car break-in that our Wirepath security system caught on camera. I was able to scan the night's worth of footage to locate the incident, convert and save the file to a flash drive, and hand it over to the police.

**Entertainment:** Friends and family marvel at how, with the push of a button, we can fill the kitchen with tunes, or push music out to the back deck. With an automated system, you can easily toggle among sources, whether it's music from a streaming service like Spotify, an iTunes library stored on a hard drive, or even cable TV if you want to enjoy fun in the sun but still keep track of audio from the big game.

**Style:** Technology integration can be made to fit in with, and even enhance, a room's decor. An in-ceiling or rock speaker, for example, means you aren't using up valuable space – that's particularly important for smaller homes or condos where square footage is at a minimum.

**Convenience:** With a device like the Belkin WeMo Crockpot, you can set food to slow-cook in the morning, then adjust the temperature

based on your anticipated dinner time. If my husband was running late, for example, I could turn down the heat to draw cooking out a bit longer.

**Saving Time:** Let's face it – we all live busy lives, so any technology that can automate monotonous tasks is appreciated. Instead of having to spend a weekend vacuuming, you can set an automatic cleaner to have the carpeting and floors in pristine condition by the time you get home from work on Friday night, then use your weekend for family and friends activities. Rather than drive back home because you forgot to turn the basement lights off, or can't remember if you locked the garage door, you can do it remotely. You save not only the time it would take to turn the car around, but also on gas.

**Reassurance:** When we were away for a weekend, I was able to turn the porch light on each night to make it appear as though someone was there even though the house was empty. Any time I need reassurance that all is good, I just tap into the security cameras to get a clear view of the porch, driveway, backyard, and back door.

### THE SETUP

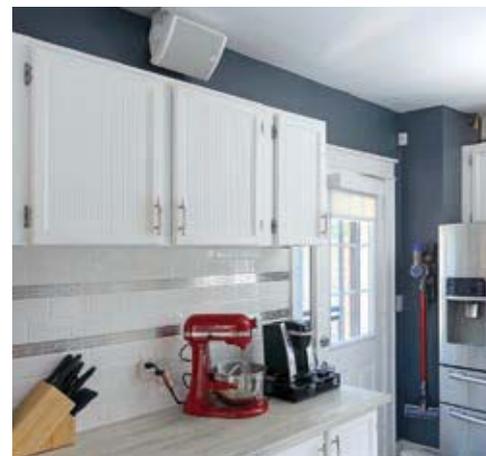
Before discussing my experience, here's a breakdown of the automated gear in my home, and how it's set up.

On the main level is a 50" Samsung plasma TV, five Tannoy Arena Highline 500 speakers, three subwoofers, a Sony PlayStation 4, and Microsoft Xbox One in the living room; two Boston Acoustic speakers (kitchen), ClearAudio turntable (distributed by Tricell) and Cambre Audio LP shelf (dining room); a Pyle outdoor speaker/fountain, Rockustics Rocky Jr. Speaker, and two



Gear like turntables can also be integrated with an automation system so music from spinning vinyl can be played back from the room's speakers.

WirePath cameras (backyard). At the front are two more WirePath cameras (distributed by Staub Electronics) and a Logenex Teleport doorbell. The iRobot Roomba is not tapped into the system but does run automatically on a schedule (or manually via button press) and is on the main level as well. Also on the main level is a Nest thermostat (Staub Electronics). It operates independent from the main system, but is integrated within the Lutron app, and the Dropcam (Staub Electronics) in the basement.



Providing audio throughout the kitchen, whether it's music playing from a streaming service or audio from the TV (the big game, perhaps?) is a pair of ceiling-mounted Boston Acoustics speakers.

On the upper level is a 55" Vizio TV and Mirage surround speakers (master bedroom) and a B&W in-wall speaker (bathroom); and in the basement is an in-ceiling Monitor Audio speaker in the office (distributed by Kevro International), a Nest DropCam (playroom), and the D-Link DCH-S160 Wi-Fi Water Sensor. A separate media room is wired for AV but was not yet complete in time for this article.

Everything is powered by gear housed in a Middle Atlantic RCS-4224 AV rack in the basement. This includes a pair of Bell Fibe TV set-top boxes, Marantz AV-7005 preamp and NR1605 network AV receiver, three Denon POA-2200 amplifiers, an Apple TV, two Western Digital media players, router, Apple Airport Extreme, Sonance multi-zone amplifier, Savant control system with pro host (Evolution Home Entertainment), Lutron Caseta Smart Bridge Pro, Wirepath Camera DVR, and a Monster power conditioner.

Throughout the home is Lutron Caseta lighting (Staub), including switches/dimmers, and Somfy motorized blinds (installed by Toronto-based Brading Specialties) using RTSII wireless control.



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Most of the system, which was installed, and programmed by Toronto-based Sound Designs, works seamlessly together, with the AV, lights, blinds, and cameras all accessible through the Savant app. And everything is wired.

In all, with all of the aforementioned equipment, labour, wiring, and programming, a setup like this one would cost somewhere in the \$60,000 range. But automating a single room of a home could start at around \$2,000, allowing you to upgrade and add to the system as needed, and potentially integrate gear you already own. The scope of the installation, specific gear desired, and state of the home (for example, old versus new; finished versus new construction) will impact the cost as well.

### MY EXPERIENCE

It's always a good idea to map out where you want to put gear and get the prewiring work done beforehand - we began wiring the house before moving in late last year. While there have been a few programming snags and upgrades as we add gear, the process has been relatively smooth overall. That said, there are a few small, but important, real-world observations worth noting.



A series of Somfy motorized roller shades throughout the home can be opened or closed at the push of a button via handheld remotes or through the Savant app – either individually, by rooms, or as part of scenes, like “bedtime.”

### LET ME ENTERTAIN YOU: AUDIO/VIDEO

I immediately realized that relying solely on a smartphone or tablet for AV control isn't feasible, unless you have a spare device dedicated to that purpose. We watch a lot of TV, and having to use smartphones or tablets exclusively to power the system on and off, change channels, and skip past commercials, became irritating. The battery



When entertaining for summer barbeques, music plays in the backyard through both a speaker fountain on the deck and a Rockustics Rocky Jr. Speaker that's stealthily hidden within the garden. Both can be controlled using smartphones and tablets.



would drain quickly, I'd have to stop what I was doing on my phone and re-open the app (or unlock my phone) every time I wanted to skip by a commercial or adjust volume. The experience just wasn't as satisfying as using traditional, tactile physical buttons. What's more, if you have guests, chances are you aren't going to want to hand them your phone so they can watch TV. So we added a Savant Universal Remote 500 for primetime TV viewing in the living room. It has also been programmed to control the lighting and blinds.

With music playback, we relied in large part on tunes saved to an iTunes library, or by streaming Spotify or Songza through the Apple TV. However, when entertaining, it made more sense to connect and stream through a laptop or tablet versus a smartphone – otherwise, if you're streaming from your phone and there's an incoming call, it will stop the music and ring through the house. You can get around this by turning off cell service, of course. But let's face it, who's going to do that?

### BLINDED BY THE LIGHT: LIGHTS & BLINDS

Blinds, as noted, are also controlled through the Savant app, along with several Somfy remotes. One blind is programmed per “channel” (i.e. button) with four channels on each remote. I'd often forget which was which, having to toggle among them until I successfully activated the right one. Having the remotes is great for guests: imagine if they couldn't close the blinds in the guest bedroom because they didn't have access to the app! Otherwise, the app works as a great way to let some natural light in during the day, or close the shades at bedtime.

As noted, my favourite feature with Lutron Caseta lighting is geofencing, which lets you set a predefined perimeter to call “home.” Once

your phone (i.e. you) leaves that perimeter, all lights shut off automatically, and likewise, turn back on when you're back within range. The only downside: this feature isn't accessible in the Savant control app, which means you still have to download the dedicated Lutron app and set it up there. I positioned them side-by-side on my phone to make things easy.

Lutron recently added Siri control capability, allowing you to dictate commands vocally, like “turn off the master bedroom light.” However, this required a new Lutron Smart Bridge, which we did not set up in time for this feature.

### BIG BROTHER: SECURITY

Similar to the Lutron lighting, while all four outdoor security camera views are accessible from the Savant app, motion detection and detailed information can only be viewed from the WirePath app. That said, most of the time a live view while we were away was all that was necessary to ensure nothing was awry.

Placing the Dropcam in my son's playroom, we could keep an eye on him through the Nest app, and receive motion detection notifications,

While smartphones and tablets are great tools for remote control of home automation equipment, it's always nice to have a device with physical buttons – particularly for controlling audio and video – which is why we also opted for a Savant Universal Remote 500.



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though these tended to come several times a day as the camera detected lights in other rooms being turned on, or even the sun shining through the window. Best of all is the ability for remote viewing, and two-way communication. My husband could see our son in the playroom while he was at work, and have a conversation with him through the camera's speaker. You can sign up for cloud recording to view the camera feed at specific times, and even create time-lapse videos.

While the Dropcam is not integrated with the main system, it *is* integrated with the Nest thermostat, which can also be accessed and controlled through the Lutron app. And we're seeing more and more inter-device communications like this, fuelled through initiatives like IFTTT (If This Then That) which lets you program triggers from one device to control another. For example, you could pair a Misfit Flash activity and sleep tracker with a Nest thermostat so that it adjusts the home to your ideal temperature when you wake up. Or, you can double or triple tap the tracker's face to control music playback from streaming services like Spotify.



The benefits of an automated home go far beyond the "cool factor:" devices like the Nest thermostat can help you save money by auto-adjusting temperature based on learning habits, and by allowing you to tap into them remotely.

I was able to simulate a water leak by dripping water on the D-Link Wi-Fi Water Sensor from a tap in the basement. Slight drips triggered an intermittent siren, but once the water was flowing, the siren went off – loud enough to hear from the upstairs kitchen, but not loud enough to hear it from the upper level. That said, a push notification to my iPhone also alerted that a leak was detected. An alert is sent every five minutes, and if the unit is disconnected.

### THE HEAT IS ON: TEMPERATURE

We did not have air conditioning installed in time for this review, and the Nest thermostat was not set up until long after heat was no longer needed

Four security cameras are placed around the perimeter of the author's house: one facing the front porch, one the driveway, one by the basement door, and one (shown here) on the back deck that captures the entire backyard. Footage can be viewed in real time through the Savant or WirePath apps, and is recorded to a local DVR for playback of specific dates, times, or motion detection.



in the home. But while I haven't yet been able to enjoy any of the monetary savings from having such a device, I am able to appreciate just how easy it was to install. It was literally a pop out of the old thermostat, a quick call to the extremely helpful tech support line to confirm the proper way to connect, an account setup online, and *voila!* I'm looking forward to truly realizing its benefits come winter. Stay tuned for more analysis.

And with Google's growing Works With Nest program, more and more devices will work with the thermostat to allow for a truly smart home experience that combines temperature with other aspects of your daily life. For example, the Nest thermostat already works with certain LG appliances to notice when you're away and put the refrigerator into energy savings mode, or alert you if you left the oven on. And that will help bring more of that relevant context that Ericsson's Keegstra urges is so critical.

### SWEPT AWAY: CLEANING

Every piece of automation technology has a creepy factor, but a vacuum that scoots across your floors on its own, sneakily traveling under your furniture and emerging like a little alien life form, takes the cake.

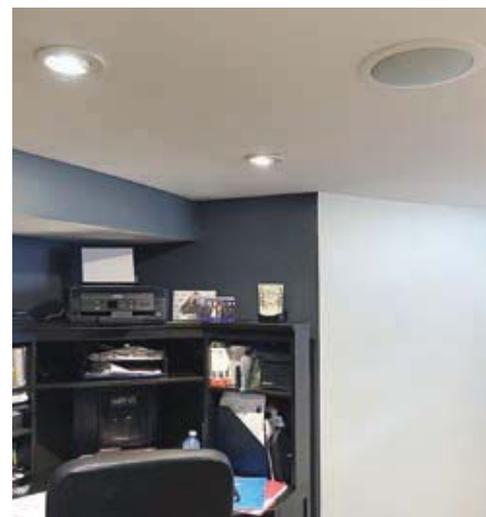
Indeed, the iRobot Roomba 880 almost looks like a flying saucer. Setup is super-easy: plug in the dock, set it down on the charger, and wait until the green light indicates a full charge. Then, just press the "clean" button, and Roomba will do its thing, gliding along the floors, analyzing the room, and cleaning. It will get under couches and furniture (it easily fit under our beds, couch, and dining room buffet), disappearing stealthily as it picks up dust and debris, and unearths lost toys or papers that mysteriously ended up there. After a thorough clean, it will diligently head back to its base. It can sense things like stairs and

objects in its way, though it may have trouble with particularly dark objects: it seemed insistent on running into a pair of speaker stands in the bedroom, for example, likely due to their dark, black bases.

To truly automate this process, you can set Roomba on a schedule so it will clean every week, for example, at a time when you're not at home. The kit also comes with a pair of Virtual Wall Lighthouses that you can place to set up a perimeter, if you want it to keep out of a particular room, or area of a room, for example.

### IN CONTROL: THE SAVANT APP

I started off using the Savant TrueControl II app (v. 7.2.1), but switched to the new Savant app (v. 7.2.1) toward the end of this review. While it boasts a much sleeker and sexier look, it takes



In the author's home office, just above the desk is a Monitor Audio in-ceiling speaker. The audio zone is automatically turned on and set to Apple TV for music streaming at 9 a.m., Monday to Friday, through a programmed "Christine's workday" scene.

some getting used to. With Bell Fibe TV, in particular, the swipe motion for navigating on-screen menus can be finicky, scrolling through three or four PVR recordings, or selecting one, for example, when you just want to move to the next one in line.

The best part about the app is the ability to snap photos to identify each room and "zone" to go along with the text labels versus generic icons. View all rooms in a line list, or select a room then swipe left and right to scroll through them. Once in the desired room, tap on the photo or the top right icon to bring up the menu, where you can activate a command, whether it's to turn on the TV, lights, shades, or view security footage. For my master bedroom, for example, options include Shades, Security, Apple TV, Cable TV, Western Digital hard drive, iTunes, and Chromecast.

On the top, right is the "now playing" button, which you can press to control playback, including turning something off, skipping music tracks, or adjusting volume. And you can choose to control the source in just the room you're in, or in all rooms. If I have music playing throughout the home, for example, and want to only turn it off upstairs once my son has gone to bed, I can do



Even cleaning can be automated. While it isn't controlled by an app, the iRobot Roomba automatically glides across floors and carpets at the push of its button, then obediently returns to its docking station upon completion.

that here through one page, versus skipping back and forth from room to room.

The workday music scene discussed at the beginning of this article was set up through this app. The easiest way to do this: once the desired devices and settings are in place, click My Scenes

from the main menu, tap New Scene, then simply Capture current settings. Name the scene (I called that one "Christine's workday.") If desired, you can set the scene to activate on a schedule, as I did. Common scenes might include Morning, Bedtime, Party, or Home From Work. You can also manually create a new scene, though that setup isn't quite as intuitive, and can be complicated if you have a lot of gear. It's best to have your actions in mind ahead of time and have a programmer/installer do it for you.

### GOING SMART

It used to be that smart homes were reserved for the upper class, and *über* tech-savvy. But the reality today is that smart homes are accessible to, and desired by, just about everyone. Anyone can realize the benefits noted above. And often it's the least tech savvy folks that can really appreciate being able to push a single button to easily trigger several activities, or the time-constrained families who could use the extra time and money savings that automated gear can afford. The smart home is quickly becoming a reality. How will you get on board? [wh](#)

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# GOING ATMOS:

## Hands-on with Monitor Audio's Silver Series & CT-265IDC In-Ceiling Speakers

BY DAVID SUSILO



**MY INVOLVEMENT WITH DOLBY ATMOS** is not new. By the time this article is in your hands, I will have 53 Atmos commercial theatres under my design belt.

The problem I've often found with Atmos for home is that by using direct radiating speakers above the listener, in too many cases, the atmospheric layer (i.e. the second speaker layer), sounds too jarring and gimmicky.

The only way thus far to eliminate the "in-your-face" effect is by using Atmos-enabled speakers angled by approximately 30 degrees combined with special crossover within the speakers, and Digital Signal Processing in the processor to shoot the atmospheric sound to the ceiling and reflect it back to the listeners' ears. However, this method also washes out the directional sound cues.

To borrow the As Seen On TV phrase: "There must be a better way." And there is: you just need to find in-ceiling speakers with an exceptionally wide radiation pattern, with tweeters that can be angled towards the listeners.

After a lot of reading, testing, and measuring, I found speakers that, at least on paper, meet this requirement: the Monitor Audio CT-265IDC, distributed by Kevro International, has a wide dispersion angle, a boundary-compensation switch so lower-frequency sounds clear and not bloated, and can easily go down to 80Hz as per THX criteria.

For this review, I used a pair of Monitor Audio Silver 6 floorstanders, a Silver Centre, a pair of Silver 1 bookshelf speakers, and Silver W12 subwoofer for ear-level surround, plus four CT-265IDC in-ceiling speakers for the Atmos layer. Ideally, one should go with the Silver 10 floorstanders, as they can produce improved bass response and wider sound dispersion for a better overall sonic experience. However, considering the small size of my viewing room (10' x 16' x 7.5'), the Silver 6 was more than enough to create an ideal sonic balance without any bloat and/or excessive unwanted reflections. Remember, bigger is only better if room acoustics allow it.

In terms of aesthetics, I chose gloss black to make the speakers "disappear" into the darkness

when all the lights are turned off – they also come in walnut, rosenut or white.

### THE SILVER SERIES SPEAKERS

Monitor Audio uses C-CAM, a thin, light, and rigid alloy of aluminum and magnesium, with a layer of ceramic coating for added rigidity. The C-CAM cones in the Silvers are dimpled to further strengthen them and minimize air resistance during playback, a technique the company calls RST, or Rigid Surface Technology. The Silvers' tweeter domes are also made of C-CAM in glossy gold. The speaker grilles are held in place by magnets hidden beneath the veneer. It's very classy looking, with or without the grille. But again, because I didn't want to be distracted by the look of the speakers in my home theatre, I kept the grilles on at all times.

In a technique now used in most Monitor speakers, threaded rods are fastened to the back of the Silvers' drivers and extend through the rear of the cabinet, where they are tightened down by visible bolts with hexagonal slot (Allen Key included with each speaker). Each individual rod holds the drivers securely to the cabinet, providing a clean appearance without the need for visible



To get true atmospheric sound that isn't "in-your-face" in a Dolby Atmos setup, you need to find in-ceiling speakers with an exceptionally wide radiation pattern, and tweeters that can be angled towards the listeners: Monitor Audio's CT-265IDC in-ceiling speakers appear to fit that bill.

screws, and perhaps most importantly, drastically increase the cabinet's front-to-back rigidity.

Foam plugs (or as Monitor Audio calls them, Port Bungs) are provided for blocking the ports, which is suggested for small rooms of 80 square feet or less, or rooms "known to reproduce accentuated bass response." In my case, where the Silver 6s are placed in corners, I filled the bass reflex port with the provided foam to prevent bass overhang or bloat. Regardless, I always prefer an enclosed cabinet as opposed to bass reflex as the latter tends to have the side effect of bass bloat. Bass boom, Monitor Audio explains, can be caused when "bass energy from the loudspeaker 'excites' room modes and causes an accentuation at a particular frequency, or number of frequencies." Plugging in the foam plugs will not affect the fundamental frequencies of the bass response, but will reduce the harmonics to prevent the bass from sounding like a car stereo from the '90s.

### THE IN-CEILING CT-265IDC

The CT-265IDC in-ceiling speakers use a 6.5" C-CAM bass driver, a pivoting IDC module housing a 4" C-CAM RST inverted midrange driver, and a 1" C-CAM gold coloured dome tweeter.

These in-ceiling speakers employ a unique pivoting Inverted Dual Concentric midrange/tweeter module that can be tilted by  $\pm 18$  degrees, which allows for a wide dispersion angle. They can also be positioned so the localized sound within the Dolby Atmos soundtrack can be directed toward the listening zone by pivoting the IDC driver module.

Within the proprietary IDC module, an inverted 4" midrange driver provides superior dispersion while enabling the midrange cone and tweeter dome assembly to be set as far forward as possible, allowing a clear acoustic "line-of-sight" of the desired listening zone and reducing undesirable diffraction effects.

With the IDC module installed, these speakers become true three-way designs, offering superior performance and flexibility over typical two-way

or fixed-angle speakers. To obtain the proper angle is easy if you are using the Atmos-enabled speakers. And as the new THX standards require direct-radiating speakers, the ability to position the ceiling speakers properly is crucial.

There are two very important switches to customize these speakers even further. One controls the high frequency (+3dB / 0dB / -3dB) level adjustment – which is necessary if your room acoustics are either too “dead” or too “live.” And, most important, as noted, there’s a boundary compensation (on/off) control to eliminate, or at least minimize boundary gain effects (read: boomy bass).

### THE SILVER W12 SUBWOOFER

To control unwanted reflections of midrange and high frequencies is actually very easy: slap on some sound absorbers and you’re done. For the lower frequencies, however, it’s a different story. Any room almost inevitably wreaks havoc, no matter how good the speaker is, on base linearity.

Below 100Hz, the speaker’s sound is being reflected around the room and the direct sound arrives to your ear in one big lump with the room effects. The phenomenon of a boom somewhere below 100Hz and a large dip between 100Hz and 200Hz is far too common. To fix the room effects (also known as Room Modes), Monitor Audio employs Automatic Position Correction (APC) to the W-12 subwoofer providing a degree of automated DSP room equalization.

The subwoofer’s 12” cone, also made of C-CAM, is driven by a 500-watt (continuous) Class D amplifier. Despite the W-12’s small size – barely larger than the driver itself - it offers everything you would expect in a full-featured powered sub, including 12V trigger and phase control. The level control is positioned on top, along with the control buttons and microphone connector for the W-12’s Automatic Position Correction (APC) feature. I prefer the volume control to be at the back to make the subwoofer appear “cleaner.” It also has three operating modes: Music, Movies, and Impact. From my Real Time Analyzer, I found that Music is the most neutral of the three, whereas Movies tends to add some bass harmonics, and Impact uses some kind of boost in select frequencies.

### THE EVALUATION

After running all speakers using white noise for 100 hours non-stop, I started my listening test. I used a Pioneer Elite SC-85 AV receiver (reviewed

in the January 2015 issue; accessible online at [Wifihifi.digitlpub.com](http://Wifihifi.digitlpub.com)), my oldie-but-goodie Pioneer Elite BDP-09 Blu-ray player, a Panasonic PT-AE7000U projector, and Stewart Filmscreen StudioTek 130 screen. Content was played from the Dolby Atmos 2015 demonstration disc, supplied by Dolby Labs, which I can only assume to be the best representation of Atmos.

Choosing the sound-only tracks, which go back and forth between Dolby TrueHD and Dolby Atmos, the sound quality difference is immense, to say the least. The sound of rain changed from only surrounding me to a truly immersive experience. With the in-ceiling speakers, the imaging was amazing and the speakers almost disappeared. However, when the thunder struck, I could clearly locate the source of the thunder, but still not the speaker itself.

The same goes when I played a track filled with percussion and insects buzzing around. I could not spot the location of the in-ceiling speakers, or any speaker, for that matter. All of the speakers (and especially the CT-265IDC) are effective in terms of dispersion angle, yet they all sound very controlled at the same time. On the other hand, imaging is still very close to perfect. I could locate every single sound cue within the spherical sound envelope, even though some of the sounds didn’t come directly from the speakers. When I played the sound-only track called *Abduction*, all I had to do was close my eyes, listen to the soundtrack, and I felt like I’d been “abducted” by the aliens.

From the demo disc, I moved to Shania Twain’s *Still The One – Live in Vegas* concert, which is recorded natively in 5.1. This is done not only to showcase how great the Dolby Surround Upmixer capability is in creating *faux*-Atmos, but serves as a torture test of dispersion angle. I’ve played the disc a couple of times using Atmos-enabled speakers and the result was impressive, considering the nature of reflected sound. How did these in-ceiling speakers fare? Quite well. I almost forgot I was using in-ceiling speakers instead of Atmos-enabled speakers. Yes, the dispersion angle is that wide.

### BOTTOM LINE

The speakers were impressive overall – it turns out the 18-degree angling capability makes a whole lot of difference for an Atmos experience. The Silver series, and especially the CT-265IDC, truly create an amazing enveloping sound. Thus far, this set of speakers with proper calibration performed closer to a true Dolby Atmos com-

mercial theatre setup than any others I’ve tried. And they do that without breaking the bank: the CT-265IDCs are \$500 ea., the Silver Centre \$800, Silver 6 towers \$800 ea., and the Silver 1 bookshelf speakers \$900/pr. [wh](http://wh)



In addition to the four CT-265IDC in-ceiling speakers for the atmospheric level, the test theatre also included a pair each of Monitor Audio Silver 6 floorstanding and Silver 1 bookshelf speakers, a Silver Centre speaker, and a Silver W12 subwoofer.

# WIRELESS WHOLE-HOME AUDIO

## One of CE's Hottest Categories



BY GORDON BROCKHOUSE



**WHEN MARC AND ELNA** decided to try out a Sonos wireless multi-room system, they hoped that they'd be able to enjoy music in all areas of their house. They certainly didn't expect that the system would help their family get a better night's sleep. But that's what happened.

Elna and Marc are my wife's daughter and son-in-law; their children Luka and Mila are her grandchildren (and my step-grandchildren). Last May, they moved from a third-floor apartment in west Toronto to a nearby house; and they were looking for an easy-to-use music system.

The timing was fortuitous, because I was looking for a family to use as guinea pigs for wireless multi-room sound. So in late July, I showed up with my small SUV loaded with boxes. To complement the Panasonic plasma TV in their den, I had a Sonos PLAYBAR (\$749) and SUB (also \$749), plus two PLAY:1 wireless speakers (\$219 each) for the surround channels. For Marc's third-floor office, I had a PLAY:3 speaker (\$329). Another PLAY:3 was designated for the main-floor living room, a PLAY:1 for the kitchen, and another PLAY:1 for the kids' bedroom.

Originally, I had planned to have Marc (who's more technically adept than Elna) set up the system, standing by in case he ran into difficulties. But he was in a work crunch at the time, so I took on the task. Afterward he thanked me profusely, saying he couldn't have done it himself. "I'm impatient," Marc confesses. "I don't want to spend a lot of time tinkering. I want it to work right away."

In fact, I have no doubt that Marc could have handled setup just fine; because I can't imagine how the process could be any easier. But there are lots of potential buyers who are busy and impatient. Even for technically adept people like Marc, having the system installed by an expert (typically a custom integrator) is a great option. That's one reason that the CI channel is as important as retail for this category.

All told, it took me about half a day to get the system working in five different rooms. The most onerous part was lugging the products into the house and unpacking them. After that, it was easy.

The first task is downloading the Sonos app to an iOS or Android device. Then you plug in the first Sonos speaker, and push a couple of buttons on the top. The app will instruct you to select Sonos as your Wi-Fi network, then enter the network name and password for your home network. The app transfers that information to your Sonos speaker, then asks you if you want to install more Sonos speakers. You can designate speakers as stereo pairs, or as surround speakers in a 5.1 setup in conjunction with the PLAYBAR.

The only hiccup I experienced was installing the sub; for some reason the Sonos app did not detect it initially. But all was good after a subsequent attempt. After detecting the sub, the app asked me to select a preference between two test tones, and then set subwoofer level. The process was simple and straightforward; and the SUB blended well with the rest of the system.

After getting everything configured, we loaded the Sonos app onto the family's Android tablets and smartphones. Marc's a Spotify subscriber, so

### THE STORY

Canadian unit sales of wireless multi-room speakers are growing at almost 40% annually. Growth in dollar sales exceeds 60%.

Sonos has dominated the wireless multi-room market since it created the category a decade ago. Now major CE brands are entering the space.

A robust home network is a must for whole-home music. Users can get the reliability of a wired connection with affordable Powerline networking products.

after we entered his username and password into the Sonos app, his playlists showed up. But we didn't see a way to search for music on Spotify when he selected that option in the Sonos app. That's because Sonos has a global search function that lets you find music on all your music sources. Now all was good. We also used the Internet radio function to designate Elna's preferred stations as favourites.

### TIME TO PLAY

Now it was time for me to hand the system over to Marc and his family. Marc tried some other services as well, including Songza, then started building playlists, including one with soothing classical music. Which brings us to the family's sleep pattern.

A few nights a week, Luka or Mila will wake up, find it hard to get back to sleep, start crying, disturbing the other child and rousing their parents. It takes a while to comfort them, and as a result, everyone is tired and cranky the next day.

So Marc decided to keep soothing music playing through the PLAY:1 in the kids' room all night. They still wake up sometimes, but the music quickly lulls them back to sleep.

In almost all respects, the system has been a great success. "I wanted something easy for Elna to use," Marc says, "and we have all found it very easy to search for music with the system."

The PLAY:3 in his office isn't as full-bodied and dynamic as Marc would like. He wonders if he'd be better served by the larger PLAY:5 (\$449). That may be, but I did note that Marc has the speaker installed on a shelf behind his office chair, which will make the sound more muffled than it would be if it were on his desk, or a wall in front of him.

The 5.1-channel system in the den has been a great success. Not only is the sound leagues better than the TV's built-in sound, the surround speakers, placed near a wall adjacent to a busy street, block street noise, making the sound clearer and more intelligible.

I streamed several songs from my iPhone 6 Plus to the Sonos surround system. While imaging wasn't pinpoint sharp, the sound filled the room effortlessly. Transients were fast and articulate; and timbres were pleasingly accurate on both instruments and voices.

### STILL GROWING

The wireless multi-room category is now a decade old. Sonos was formed in 2002, and started shipping products in 2005. The founders didn't foresee everyone having a smartphone (and potential



Wireless multi-room speakers like Sonos' PLAY:1 let users send locally stored and streaming music to different rooms in their house, under control of a free mobile app.

Sonos controller) in their pocket, says Sonos Spokesperson Eric Nielsen. But they did foresee a fundamental shift in people's listening habits.

"Right from the start, we saw the future as streaming," Nielsen says. "Streaming has become mainstream, but it took longer than we thought it would take."

Sonos created the wireless multi-room category, and continues to dominate it. It has a comprehensive lineup that includes three wireless speakers, a soundbar and subwoofer, plus the CONNECT wireless receiver (\$399) for use with an existing sound system and CONNECT:AMP (\$599) for use with conventional passive speakers.

But lots of other companies are now jumping in, partly because they want a piece of the market, but largely because the future that Sonos foresaw a decade ago is now the present.

"We're a 100-year-old company," comments Brendon Stead, Senior Vice President, Global Product Development for D+M Group, which last year launched the Denon HEOS multi-room system. "If we had stayed with gramophones

when LPs appeared, we wouldn't be in business. Streaming is the way consumer behaviour is trending. It is important that we establish ourselves in this business."

As always happens with new categories, growth in wireless multi-room sales has leveled off since the explosive initial phase. But it's still incredibly robust. "Wireless multi-room speakers are the hottest category in the AV space," comments Mark Haar, Director of Consumer Electronics for NPD Canada. "Surprisingly, the average selling price has actually increased, an occurrence that is unfortunately rare in the CE industry."

According to NPD, Canadian unit sales of wireless multi-room speakers increased 39% in the 12 months ending June 30, 2015, compared to the same period a year earlier. Dollar sales grew 64%. The average selling price for wireless multi-room speakers was \$301, 18% higher than it was a year ago.

Haar acknowledges that NPD is not capturing all of the activity in this space. For example, Sonos and several competitors offer soundbars with wireless multi-room capability; and these products are very popular. But NPD classifies these products as soundbars, and does not group them with multi-room product.

Moreover, NPD tracks retail purchases, but not sales through custom integrators. Stead estimates that CIs account for 50% of Denon's HEOS sales.

### NEW PLAYERS

Denon is just one of several brands that have launched their own multi-room products in the



For use in the TV room, Sonos offers the PLAYBAR and SUB. Adding a pair of PLAY:1 speakers for surrounds creates a full 5.1-channel system that can be used for home theatre and whole-home music.

last couple of years. This is helping drive growth and awareness for the category, Nielsen believes. "New entries are creating credibility," he says. "For a long time, we were telling people about streaming all the music on earth to multiple rooms. We were waving our hands by ourselves."

All these systems share some common characteristics. They let you play music from local sources (PCs and Macs, smartphones and tablets on your local network), and from a selection of streaming services as well. They use Wi-Fi to distribute audio, though many let you use a wired connection – a very useful option for rooms with poor Wi-Fi coverage.

All of them are controlled by free apps that run on iOS and Android devices. All of them let you create groups of speakers, so you can play the same music in several rooms, with independent volume control for each zone plus master volume for the whole group. Most systems let you combine two speakers into a stereo pair, for greater output and a much more immersive stereo effect.

But there are some key differences. Some systems support playback of high-res audio files; others (including Sonos) do not. Like Sonos, some systems let you combine speakers (often a soundbar and sub plus two satellites) for 5.1-channel surround sound; but not all systems have this option. Some systems, but not all, support Bluetooth, so that visitors can stream music from their devices without loading the system app.

Some systems let you search globally for music from all available sources, both online and local. With others, you use the app for the streaming service that's playing. And of course, there are differences in the streaming services that the various systems support.

New multi-room platforms are emerging quickly, and existing players are adding new products and capabilities to their offerings. In the sections that follow, I've outlined what some of the key vendors are doing.

Haar doesn't see growth abating anytime soon. "As we look forward to the holiday selling season, I expect that wireless multi-room will continue to remain hot as streaming music services grow and awareness of this category builds," he predicts.

## Bluesound

Canada's Lenbrook International made something of a splash two years ago when it launched its Bluesound brand.

The initial offering included a standalone wireless speaker (the Pulse); a preamp/controller (the



**On August 25, Lenbrook announced a second-generation version of its Bluesound multi-room music system. There are two new wireless speakers, plus new versions of the Node receiver, Pownode amplifier and Vault music server with updated cosmetics, more powerful processors and more robust networking.**

Node); an amplifier/controller (the Pownode); and a preamp/CD ripper/NAS/music server (the Vault). The products have a distinguished pedigree, incorporating technology from Lenbrook's other brands: NAD Electronics and PSB Loudspeakers.

Two years on, Lenbrook is completely refreshing the Bluesound line. Announced on August 25 in NYC, the Generation Two lineup includes two new wireless speakers: the Pulse Flex, a small two-way powered speaker that can be wall- or desk-mounted (\$349); and the Pulse Mini, a bi-amplified 50-watt 2.1-channel system (\$599). The updated Pulse 2, an 80-watt bi-amplified speaker, retails for \$999. Bluesound offers an optional battery pack for the Pulse Flex.

As previously, Pulse speakers can be grouped into stereo pairs. But currently, there's no option for surround sound.

The Node, Pownode and Vault (\$599, \$999 and \$1,499 respectively) have also been updated. The most visible change is new cosmetics, with a rounded rectangular shape (not unlike the Mac Mini), rather than the unusual diamond shape of their predecessors. The Gen2 versions feature faster processors, more robust Wi-Fi networking (as before, the Vault is Ethernet-only), full Gigabit Ethernet connectivity, built-in headphone amplifiers, and IR sensors with TV remote-learning functionality. There are top-mounted soft-touch controls, not just for volume (as on the previous versions), but for track skipping as well.

The Pownode 2 uses Hypex hybrid digital amplification rather than NAD's DirectDigital topology. The new model can deliver more current to the speakers than the previous version, Lenbrook says. As before, the Pownode has a subwoofer output and built-in crossover.

All models have Bluetooth 4.0 connectivity with aptX, for one-to-one pairing with smart devices. The hallmarks of the original Bluesound line remain, including support for high-res audio

to 24/192. A wide range of streaming services is supported, including Spotify, Deezer, Rdio, Slacker and Tidal.

For the Gen 2 launch, Bluesound has updated its app, enhancing the design and adding functions like Presets, which lets users start a playlist or program with a single touch. The new app is compatible with Gen 1 products. The Bluesound system now has Control4 certification.

Users can add Bluesound functionality to NAD's C390DD integrated amplifier and M12 AV pre-amp/processor through the addition of a BluOS module. This is an attractive option, because it lets users stream audio wirelessly to the amplifier using the Bluesound app. At CEDIA, Lenbrook will announce new NAD products for the custom channel with Bluesound functionality.

## Denon HEOS

When Denon launched its HEOS multi-room system in mid-2014, the lineup included three self-contained wireless stereo speakers, the HEOS 3, 5 and 7 (\$329, \$449 and \$699 respectively); the 100-wpc HEOS Amp (\$599); and HEOS Link wireless receiver/preamp (\$399).

Since last year's launch, Denon has fleshed out the HEOS system, adding a soundbar/subwoofer combination and an entry-level compact wireless speaker with battery option.

Retailing for \$1,099, the HEOS HomeCinema has HDMI inputs and outputs, with support for Audio Return Channel, as well as Dolby TrueHD and DTS:Master Audio decoding and Virtual 5.1 processing. This capability differentiates the HEOS HomeCinema from competing products like the Sonos PLAYBAR, notes Brendon Stead, Senior Vice President, Global Product Development for D+M Group. "Other products typically have optical inputs and two-channel sound," he elaborates.

The new HEOS 1 (\$299) is an IPX4-rated water-resistant speaker, suitable for use in the bath-



**The new HEOS 1 wireless speaker from Denon is IPX4-rated for water-resistance, making it suitable for outdoor use. Denon also offers an optional battery pack that provides six hours of playback time per charge.**



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room or kitchen, or outdoors on the deck or near the swimming pool. For outdoor use, there's the optional HEOS 1 Go Pack (\$129), which provides six hours of running time per charge, as well as Bluetooth connectivity for one-to-one pairing.

Aimed squarely at the custom channel, the HEOS Drive eight-channel amplifier (\$2,999) can deliver music to four zones from a single chassis, under control of the HEOS app. Rated power is 8x60 watts (8Ω, 20Hz-20kHz, 0.05% THD, all channels driven).

The HEOS app now allows stereo pairing of HEOS speakers, a function that wasn't offered initially. Stead says Denon will add the ability to combine HEOS speakers for true 5.1-channel surround sound in the spring of 2016. Right now, HEOS supports resolution to 24 bits/48kHz. In October, Denon will update the system to allow playback of files to 24 bits/96kHz.

There will be more HEOS products in 2016, Stead says. Putting HEOS capability into some Denon audio-video receivers is also on the road-map. What about Marantz? "HEOS is a high-end processing platform," Stead responds. "It would make sense to make a cross-brand play."

Streaming services supported in Canada on the HEOS platform include Deezer, Rdio, Soundcloud, Spotify, Tidal and TuneIn Internet radio.

## DTS Play-Fi/Paradigm Premium Wireless

Last year at CEDIA, some major audio brands announced plans for wireless music systems based on DTS, Inc.'s Play-Fi platform. An attraction of Play-Fi is that devices from different brands can interoperate seamlessly.



**All products in Paradigm's new Premium Wireless series, including the PW800 speaker shown here, incorporate Anthem Room Correction. Especially in challenging environments like kitchens, ARC can significantly improve sound quality.**

Definitive Technology has launched its Wireless Collection in the U.S., and is now preparing to roll out the line internationally, says Saxe Brickenden, Director of Marketing for Evolution Home Entertainment Corp., DefTech's Canadian distributor. However, the company did not provide details of the Canadian launch in time for our deadlines. The line includes a soundbar/subwoofer package, two self-contained powered wireless speakers, a Play-Fi amp for use with conventional passive speakers, and a link product for adding Play-Fi functionality to an existing amp and speakers. Sister company Polk Audio has a similar assortment.

Paradigm Electronics Inc. also announced plans for Play-Fi at CEDIA last year; and will launch its Premium Wireless line in early fall. It includes two self-contained wireless speakers: the PW-600 and PW-800, priced in Canada at \$699 and \$899 estimated retail. Rounding out the line is the PW-AMP (\$599). Coming later this year is the PW-LINK (\$399).

The free iOS and Android apps let users combine Play-Fi zones into groups, and pair two Play-Fi speakers for stereo. However, there's no option for combining multiple Play-Fi speakers for 5.1-channel surround sound. "We hope the technology will evolve to 5.1," notes Zoltan Balla, Director of Product Development at Paradigm. "But that's out of our control."

There's also a free Windows application that essentially replaces the Windows audio driver, allowing users to send music to a single Play-Fi device. But not just music: it also sends Windows alerts and chimes. For US\$14.95, users can download a paid version, Play-Fi HD, that disables alerts and beeps, and allows playback to multiple Play-Fi devices.

When you launch the Play-Fi app, it shows all the available media: music on the device, on servers connected to the network, Internet radio, and streaming services that are available in the user's region. In Canada, these include Spotify and Songza. All this content is aggregated under a single interface.

Play-Fi supports playback of locally stored high-resolution files to 24/192, but will downsample for playback over Wi-Fi if necessary. Paradigm is unique among Play-Fi OEMs in offering wired Ethernet connectivity. Not only does this provide more reliable playback of high-res files at native resolution through multiple zones, the Ethernet option increases the maximum number of Play-Fi zones from 16 to 256. "We had to build hardware that bridges the Ethernet port and Play-Fi module," Balla comments. "This has massive benefits for quality of service."

"We were one of the only brands that DTS signed up as a Play-Fi OEM," he continues. "We can actually manufacture Play-Fi solutions in

## MAKING THE CONNECTION

An essential component of any wireless multi-room system is a robust home network. "You don't just need a connection," notes Lou Reda, President of D-Link Networks Canada, "you need a stable connection."

Reda finds it ironic that people will spend thousands of dollars on audio products, then try to make them work using a router they bought five years ago for \$50. "If you're moving to a connected smart home, the first thing you should look at is a new router."

But even with the latest Wi-Fi radios and new antenna designs, there may be areas of your home where you want wireless music, but have poor coverage. One option is to place a Wi-Fi extender between your router and the area with poor coverage. These products are one of the fastest-growing segments in the networking market, Reda says.

Wi-Fi will never provide the bulletproof reliability of a wired connection; but in most existing homes, it's impractical to string Ethernet cable to all the areas where people want music. As Reda observes, an often-overlooked solution is a Powerline networking kit, which distributes network signals over household AC wiring. D-Link offers starter kits, consisting of a Powerline module that connects between the router and AC outlet, and another that connects between an Ethernet-equipped audio device and AC outlet, for as little as \$80.



**Because Powerline networking kits like D-Link's AV500 work over household AC wiring, homeowners don't have to install Ethernet cable to get the reliability of a wired connection.**

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# BRYSTON

## Mini T Loudspeaker

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“The Mini Ts’ unerring neutrality, great soundstaging, and ability to play ridiculously loudly without breaking up and distorting will tick all the right boxes for many music lovers, and will likely attract new customers to the brand.”

*-Phillip Beaudette  
Soundstage!  
2014*

“What shocked me with the Brystons was how much of my collection was fun to listen to again.”

*-Jared Rachwalski  
Secrets of Home Theater  
and High Fidelity  
2013*



“I could swear on a stack of TAS back issues that Ella Fitzgerald was right there next door in the listening room.”

*-Ron Doering  
The Absolute Sound  
2013*



“These are, in short, very, very well-executed loudspeakers, crafted and finished to Bryston’s long-established high standards, speakers that will fully reveal what is on a recording for better or for worse.”

*-Daniel Kumin  
Sound & Vision  
2014*



our own facility. We worked with our Advanced Research Centre in Ottawa to develop a lot of the electronic platforms.”

Which brings us to the signature feature for Paradigm’s Play-Fi lineup: Anthem Room Correction (ARC), which is built into all models. “It’s the same solution you’d get in an Anthem Statement D2V processor or MRX receiver,” Balla states.

Every Premium Wireless SKU ships with a calibration microphone that connects to the USB port on a Windows PC. Users can download ARC software free of charge. They’re prompted to hold the mic at ear level in the primary listening location, activate a test tone, and repeat the process at different locations. The software analyzes the results, and then wirelessly sends a correction curve to the Premium Wireless product being calibrated.

Balla demonstrated the feature for me at Paradigm’s showroom using a PW800. Users can toggle ARC in and out, and the corrected version had noticeably tighter bass and clearer midrange. Not all users will want to go through the trouble of applying room correction of course, especially as it requires a Windows PC and special software.

But as Balla notes, calibration is a great value-add for custom integrators. CIs can create a whole-house music system by using PW-AMPs in a central cabinet, connected to architectural speakers in remote rooms. “Where ARC will really come into play is areas like kitchens and bathrooms, where there are a lot of hard surfaces and irregular cavities,” Balla says.

Paradigm plans to migrate ARC to iOS and Android, so users can perform room correction with a mobile device. Balla estimates that’s about a year away.

Paradigm will expand the PW line over the next year. After the PW-LINK, the next product on the roadmap is a soundbar. The LINK, soundbar and future PW products will have auxiliary inputs, not just for local playback, but for playback of connected sources in other Play-Fi zones as well.

The company is also planning to integrate Play-Fi into future Anthem audio-video receivers and processors. Anthem will announce a new series of MRX receivers at CEDIA, and begin shipping them in late 2015. Those products will incorporate Play-Fi.

The Premium Wireless launch will be supported with dedicated P.O.P. displays and a dedicated Website. The P.O.P. displays will contain all three PW models, along with a tablet running the Play-Fi app so consumers can do

self-demos. The support Website will contain videos and a Q&A section to guide users through setup and network configuration.

### Samsung Multiroom 2.0

Samsung integrates multi-room capability into a wide range of products, not just wireless speakers, but also select soundbars and HTiB systems.

This year, Samsung is replacing the current wedge-shaped Shape-series wireless speakers with new Radiant-series omnidirectional models. The top-of-the-line Radiant R7, covered in last issue’s feature on Samsung’s new Audio Lab, is already shipping in Canada for \$599. Coming in the fall are three new Radiant models. Like the R7, the R1, R3 and R5 deliver omnidirectional sound through upward-firing tweeters and downward-firing woofers that vent into the room through a narrow cavity along the lower circumference (Samsung calls the design a “ring radiator”). The three newest speakers have top-mounted controls for volume and track-skipping.

Using the Multiroom 2.0 app, available for iOS and Android, users can send music stored on the device, music from streaming services, and music from devices on the local network to one Multiroom speaker or to several. Supported streaming services include TuneIn, Murfie, Rdio, Spotify, 8Trax and 7Digital. There’s also a Bluetooth option, for one-to-one pairing with a mobile device.

In the System Edit screen, users can drag and drop speakers to create a stereo pair, or a 5.1-channel system with soundbar and satellites. Speakers can be easily ungrouped as well. “You can use two satellites for surround sound on movie night,” notes Jeff Ingram, Training Content Manager for Samsung Electronics Canada Inc., “then revert to 2.1-channel sound in the TV room and redeploy the satellites to other areas.”

Many Samsung TVs and Blu-ray players have multi-room options in their menus, allowing users

For 2015, Samsung is launching a new series of wireless multi-room speakers. Like the Radiant R7 shown here, they all deliver omnidirectional sound through upward-firing tweeters and downward-firing woofers.



to stream audio to different zones, or configure speakers for stereo or surround sound.

### Sony

Sony has an unusually comprehensive assortment of multi-room-capable products. For 2015, 13 different wireless music products can be controlled by its SongPal app, available for iOS and Android.



Sony has an unusually wide assortment of multi-room capable products that can be controlled from its SongPal app. Besides soundbars, wireless speakers and micro systems, these include the STR-DN1060 AV receiver.

There are two soundbars, one of them HDMI-equipped with onboard Dolby and DTS encoding; a sound plate; three wireless speakers; two micro systems; and two AV receivers. Except for the entry-level wireless speaker, all of them can play high-res files. In addition to Wi-Fi connectivity, all models have Ethernet ports for making a more reliable wired connection. A wired connection is also needed for streaming high-res music; with a wired connection, the system downsamples to CD resolution.

An exception is Sony’s Walkman NWZ-ZX2 music player, which can stream high-res music to Sony’s SRS-X88 and SRS-X99 wireless speakers.

When you launch the SongPal app and hit refresh, it will find all compatible devices on the network. The app lets you group speakers together just by dragging them toward each other; and then ungroup them by dragging them away. You can send locally stored music, and music from supported streaming services, to one device or several, with independent volume control. While most multi-room systems group streaming services under a single interface, with SongPal, you use the native app for your streaming service, which then plays to the speakers or groups that you’ve designated. Multi-room playback can also be controlled via the GUI for the STR-DN860 and STR-DN1060 AV receivers. [wh](#)

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# DTS:X

## Clash of the Titans



BY DAVID SUSILO

**THE DOLBY ATMOS AND DTS:X** object-based immersive audio technologies are about to go head-to-head. I wrote extensively about Dolby Atmos in the October 2014 issue (visit [Wifihifi.dgtpub.com](http://wifihifi.dgtpub.com) to download a copy). Now, how does DTS:X, which will officially launch following CEDIA 2015 this October, measure up?

As the only Canadian journalist invited to the DTS head office in Calabasas, CA to listen to DTS:X the way it was truly intended, and after conducting my own listening tests at home with a prototype receiver, I'm able to provide a first-hand account.

### WHAT IS DTS:X?

Unlike regular 5.2/7.1 surround sound, object-based audio is not mixed to discrete channels like a traditional soundtrack, but supports a large number of simultaneous "objects" or sounds set in 3D space around the listener. The position of these objects is then interpreted on-the-fly by a receiver's internal processor in order to suit the particular speaker layout.

The foundation of DTS:X is MDA, Multi Dimensional Audio (invented by SRS Labs before it was acquired by DTS), DTS' license fee-free,

British sci-fi thriller *Ex Machina* is the first DTS:X movie to be released, and was used for listening tests of the technology, both at DTS' head office in California, and in the writer's personal viewing room.

Alicia Vikander as Ava, in *Ex Machina*. Courtesy of Mongrel Media. © Universal Pictures

open platform for the creation of object-based immersive audio. MDA gives movie studios control over the specific placement, movement and volume of sound objects. The platform also enables sound engineers to "mix once" for both immersive and conventional cinemas in a combined object- and channel-based audio format, allowing content to be easily distributed beyond the theatre for streaming, broadcast, optical media and more.

Just like Dolby Atmos, DTS:X is fully backward-compatible with existing DTS bitstreams. The newest iteration of DTS:X will also incorporate height channels derived from the objects within its metadata.

Unlike standard surround sound systems, DTS:X (and also Dolby Atmos) is not tied to

prescribed speaker configurations or a specific number of audio channels. DTS:X adapts to the viewing environment, allowing for a flexible speaker configuration that best fits the viewing space. DTS:X more accurately conveys the fluid movement of sound to create a richer entertainment soundscape than has previously been possible by moving sound objects to and through specific locations within – in front of, behind, above and beside the audience, precisely where the mixing engineer placed them.

"Through the use of object-based audio, DTS:X is able to scale immersive soundtrack presentations across a wide range of playback systems, from efficient to extravagant, while staying true to the content creator's vision," says Jon Kirchner, chairman and CEO of DTS, Inc.

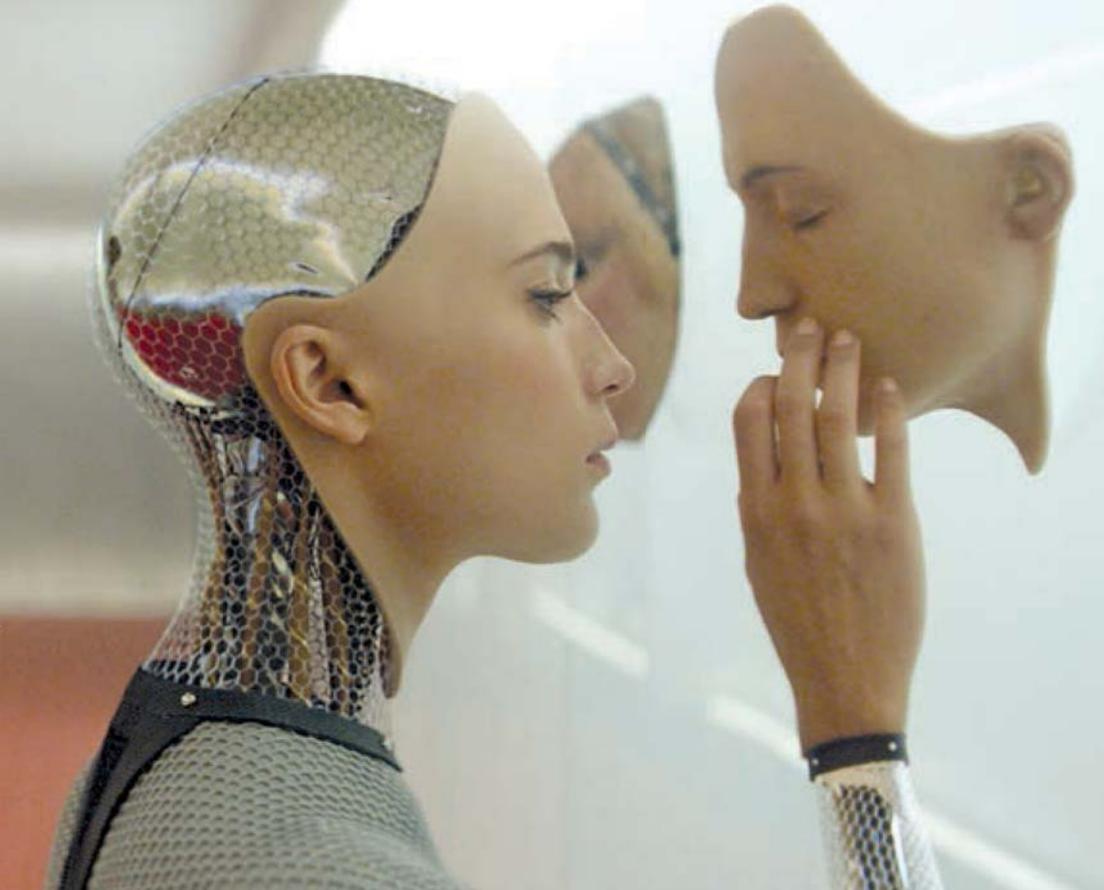
### THE CLAIMS

DTS:X will be available in most 2015 model mid-to-high-end receivers and processors that use silicon platforms representing the majority of the DSP platform marketshare, including Cirrus Logic, Analog Devices and Texas Instruments. Key features include:

**Backward Compatibility:** It builds upon existing DTS-HD Master Audio to provide backward compatibility with existing DTS bitstreams and speaker layouts. All features of DTS-HD Master Audio are supported and enable an immersive audio experience for older content.

In the lobby of DTS Inc.'s head office in Calabasas, CA is a listening station where visitors can hear Headphone:X directly from a TV. As part of the DTS:X suite, Headphone:X simulates the 3D environment of the audio's original mixing stage using any pair of headphones.





- DTS:X content is backward-compatible with the DTS-HD decoder.
- The DTS:X decoder supports DVD, Blu-ray Disc (BD) and streaming media file formats.
- DTS:X can spatially reformat 5.1 or 7.1 content to take full advantage of all speakers in a surround system (sadly it cannot upmix any signal lower than a 5.1 configuration).

**Objects are Never Lost:** If the object is embedded, it can be extracted and used in the rendered experience.

**Dialog Control:** AVR owners will be able to control the volume of specific audio elements at home, such as increasing dialog volume to match their listening preferences. Dialog, as an object, can be lifted out from the background sounds when clarity and intelligibility are desired. Note that the content creators have the choice to implement this feature in their content mix. I doubt that this feature will be implemented on any movie productions. It's a good idea, though.

**Flexible Speaker Layout:** With flexible speaker layouts and remapping technology, DTS:X allows the placement of home theatre speakers virtually anywhere within a hemispherical layout based around the listening position in the room, with any number of speakers. However, again, the flexibility of the remapping feature depends on the CPU

power of the receiver/processor. Further, since Dolby Atmos has been released a full year prior to DTS:X, in most cases, the speaker configuration will be a straight copy-and-paste of the home version of Dolby Atmos.

According to DTS, 2015 DTS:X receivers can only support up to 7.2.4 speaker output channels. Just like Dolby Atmos, content created for a specific speaker layout can be remapped for playback through a different layout when a powerful standalone processor like a Trinnov 32 or Lyngdorf P200 is used, enabling remapping of outputs to custom or OEM-defined speaker layouts, and remapping legacy content to new output configurations. These standalone high-end processors can support 32 speaker locations (subject to each manufacturer's product capabilities) by utilizing metadata-based spatial mapping to render the ideal 3D sound image to actual speaker layouts.

### HEADPHONE:X, PART OF THE DTS:X SUITE

With Headphone:X, which is "bundled" with DTS:X, surround isn't confined to a multi-speaker home theatre setup: all you need is a pair of headphones – any pair of headphones – and the technology simulates the 3D environment of the audio's original mixing stage (up to 11.1).

The technology will accurately place the height and width channels of DTS Neo:X 11.1 mixes that are optimized for playback through

home theatre systems equipped with DTS Neo:X post-processing, a spokesman at DTS tells us.

Hard to believe? I thought so! In the DTS soundroom, with an 11.1 configuration, I was unable to tell whether the sounds were coming from the Focal speakers or the \$80 Sennheiser HD219 pair of headphones I was wearing. It's one of those experiences that you really have to try for yourself to understand.

Any DTS:X-compatible receiver and/or processor will have this technological marvel built in, as well all Samsung 2015-2016 UltraHD TVs (via firmware upgrade.)

### LISTENING TESTS

As noted, I had the chance to experience DTS:X both at the company's California head office and in my own home theatre.

At the DTS office, the experience was utterly fabulous, enhanced with the circling array of speakers in multiple layers. The demo "Locked Up" from the 2015 DTS Demo Blu-ray was rendered beautifully; the sound of a fly buzzing around and over my head was replicated in a perfectly natural manner. The same goes with the snippet from the rebooted *Robocop* movie, with glass shattering around and above my head. Bullets whizzed with spatial cues that made the physical walls and ceiling virtually disappear from the listening area. I left impressed with the performance of DTS:X in a perfect setting, feeling that it was better than Dolby Atmos. But I was also curious (and cautious) on how the technology might translate in a regular home set-up, where speaker locations will be mapped to a Dolby Atmos 5.2.4 configuration: the first wave of receivers will (mostly) only do 5.2.4 and 7.2.4 at best.

## THE STORY

Once it becomes available later this year, DTS:X will compete head-to-head with Dolby Atmos as another object-based immersive audio technology meant to enhance the home theatre experience.

We outline the key features that DTS:X promises to deliver, and how it compares to Dolby Atmos.

The writer, who reviewed Dolby Atmos in a previous issue, conducts in-depth listening tests of DTS:X, including Headphone:X, to assess the claims, and compare it to the rival technology.

I managed to get a prototype receiver with DTS:X decoding capability (at DTS' request, however, I cannot disclose which one.) With the 2015 DTS Demo Blu-ray and the first DTS:X movie release, *Ex Machina* in hand, I started my listening test in my viewing room. The room has been "blessed" by Dolby and Andrew Jones (in terms of speaker locations) and by THX (in terms of room dimensions, viewing distance, floor noise and sound pressure level).

Setting up DTS:X for the home is no different than Dolby Atmos. I chose a speaker configuration that duplicates a Dolby Atmos 5.2.4 set up, then calibrated equalisation, delay and volume levels accordingly. It took me the same two-hour window to set up DTS:X as it did Dolby Atmos.

As per usual, the included automatic calibration system is borderline acceptable for a regular 5.1/7.1 configuration, but utterly useless for immersive audio (both DTS:X and Dolby Atmos). My suggestion for anyone wanting to have immersive audio is to hire a well-versed sound calibrator. From the 62 immersive audio systems I have calibrated in the past eight months, every person said the difference in sound quality was immense, to say the least, after the manual calibration.

Going back to DTS:X, the first thing I tried was DTS Headphone:X using PSB M4U-2 and NAD Viso HP50 headphones. As expected, it sounded amazing, as if there was a real surround system playing around me. It wasn't as impactful as the

demo at DTS' head office, mind you, but still amazing nevertheless. And still miles better than Yamaha's Silent Cinema and Dolby Headphone.

But when it comes to reproducing immersive sound, the home version is nowhere near what DTS:X can do in a perfect environment. This is due to several factors. First, at DTS, they used a more powerful processor than any first-generation receiver with DTS:X will have. Second, users are limited to the 11 channels as opposed to 30. And third, room height in most home theatres tends to be seven feet, as opposed to the ideal 12 feet in DTS' listening room.

When compared to Dolby Atmos (note that there is no disc with both DTS:X and Dolby Atmos to allow for switching back and forth between sound formats, so this isn't a truly accurate apples-to-apples comparison), I found the experience with DTS:X to be no better or worse. With *Ex Machina* in DTS:X, it was, as expected, a pleasant experience; the sound enveloped me, causing the room to disappear into the abyss.

Now, comes the most important feature from my perspective: since there aren't many immersive audio discs out there – currently about a dozen in Dolby Atmos and one in DTS:X – the function of the upmixer is very important. Fortunately, this is helpful for making a fair comparison between the two upmixing technologies since I'm forced to use a regular Blu-ray disc and switch back and forth between the Dolby Atmos Upmixer and DTS:X Upmixer.



Shifting to a home setup and using a prototype DTS:X receiver, the experience was effective and pleasant, but not quite as impactful as the head office demo, due, in large part, to some limitations within a typical home setting.

I was saddened to learn that the DTS Upmixer can only upmix to DTS:X if the soundtrack is originally in at least 5.1. This means 4.0, regular matrixed surround soundtracks, music and mono recordings are out of the question. That's a big oversight. This is not the case with the Dolby Surround Upmixer: any source can be upmixed to Dolby Atmos (with varying degrees of success.)

The irony is that when playing back *Ex Machina* in a regular DTS mix (not DTS:X), the Dolby Surround Upmixer worked better than the DTS Neural Upmixer. The Dolby Surround Upmixer tends to be more natural, whereas the DTS Neural Upmixer tends to be more gimmicky. The latter is a better demo if you like to show off your ceiling speakers, but to create a more natural, atmospheric sound, the Dolby Surround Upmixer wins hands-down.

## BOTTOM LINE

All in all, I don't have a preference between the formats. Both Dolby and DTS can create relatively the same sound immersion natively. Having DTS Headphone:X as part of the DTS:X suite is a big plus on the DTS side.

As upmixing technology goes, if you want something that sounds more atmospheric and natural, you should opt for the Dolby Surround Upmixer. But for action movies, you might be more inclined to use the DTS Neural Upmixer.

Dolby Atmos and DTS:X are different technologies trying to achieve the same goal of bringing immersive audio to the home. And they both succeed quite effectively. I'm waiting for the upcoming Pioneer Elite SC-95, which will offer both DTS:X and Dolby Atmos, along with HDCP 2.2 for the soon-to-arrive Ultra HD Blu-ray standard. Stay tuned for a review of that receiver, which will hopefully provide the best of both immersive worlds. **wh**



In listening tests of DTS:X in a demo room at the company's California head office, the writer was left feeling that the experience was better than rival technology Dolby Atmos, but also cautious at how it might translate to a home setup.



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# THE PROBLEM WITH PRIVACY

BY FRANK LENK



Photo: Frank Peters – iStock

**PRIVACY IS SOMETHING WE'VE COME TO TAKE FOR GRANTED.** We don't stop to think about what privacy is, or what we need to do to protect it, or what we should get in return for giving some of it away. But now we face a crisis, as digital technology and online connectivity threaten to make privacy obsolete.

Each new generation of digital products and services has asked consumers to trade away a little more of their privacy, in exchange for marvelous new capabilities. But now we're reaching an inflection point, where the demands are getting bigger, and there's very little privacy left to trade.

A new generation of smart devices, the 'Internet of Things' (IoT), is bringing still more ways of collecting consumer data. It has now become urgent that we come to grips with the fundamental issues of personal privacy.

## WHY IT MATTERS

Astonishingly, many people continue to assert that they don't need privacy at all, because they "have nothing to hide." For them, the best cure is a look at journalist Glenn Greenwald's 20-minute TED talk, "Why Privacy Matters."

Greenwald starts by noting that he often asks privacy skeptics to send him all their e-mail passwords. Strangely, "not a single person" so far has been willing to provide them. "People who say... that privacy isn't really important – they don't actually believe it," observes Greenwald. Everyone puts locks on their bathroom doors, and curtains in their bedroom windows.

Ironically, those who most vocally decry the value of privacy still seek it for themselves. Greenwald cites the case of billionaire Eric Schmidt. As CEO of Google, Schmidt famously dismissed privacy

concerns with the statement: "If you're doing something that you don't want anyone to know, maybe you shouldn't be doing it in the first place." The same Schmidt went ballistic when Internet news site CNET published a bunch of private information about *him* – ironically, obtained using Google searches.

Unfortunately, privacy is not an absolute. Almost every human interaction requires us to surrender some of it. Security expert Bruce Schneier, in his newest book *Data and Goliath*, cites cell phones as an example. In exchange for instant access to our friends and business contacts, we allow a cellular provider to know where we are at all times. It's a pretty fair trade.

But when providers combine our data with everyone else's, it turns out they can deduce all sorts of things we may not have anticipated: who we spend our time with, our shopping patterns, our likes and dislikes, our state of health. "In

2012, researchers were able to use this data to predict where people would be 24 hours later, to within 20 metres," says Schneier.

Data is power, and it can be used for good or ill. Schneier notes that the Ukrainian government used cell phones to register participants at a political protest. The Michigan police similarly identified attendees at a labour protest in 2010 – without obtaining warrants to do so.

For the sake of safety, we all submit to the investigative powers of the police. But concerns recently emerged in British Columbia that security agencies were ‘monitoring’ environmental activists and First Nations groups, who were suspected of no crime. Does such wholesale surveillance become reasonable, just because the technology makes it effortless? Or do we set a limit on how far it can go in the absence of an imminent legal offense?

These are questions that are best answered proactively, by the establishment of strong general principles. We need to make the rules of privacy less abstract, before we can decide how much of privacy should be given up in any instance. Corporations have put a commercial value on our privacy. We urgently need to establish a corresponding ethical value, a legal value and, ultimately, a political value.

### SETTING THE STANDARDS

Consumers need to become more aware of the trade-offs. We may be willing to share many details of our lives on a service like Facebook. We'd like to have firm boundaries on this expo-



Noel Biderman  
CEO, Ashley Madison

A huge wakeup call to consumers was the hack of AshleyMadison.com this summer. It compromised the personal information of 37 million users, which the hackers threatened to release if Toronto-based Avid Life Media did not shut down the extramarital affair hookup site. In mid-August, they followed through and reportedly released 10GB worth of user data on the dark Web.



In his brief but impactful TED Talk called *Why Privacy Matters*, journalist Glenn Greenwald says the argument that “I have nothing to hide” implicitly suggests that the world is divided into only good people and bad people, and is self-deprecating. “People who say... that privacy isn’t really important – they don’t actually believe it.”

sure, but Facebook constantly challenges any limits we establish. Settings may be rearranged, and information may be analyzed and combined in unexpected ways.

Online advertisers similarly push the boundaries. It’s nice to see ads that, unlike those on TV, are actually relevant to our interests. But the profile of those interests is built up by tracking our every move, and can’t be adjusted by us.

“Data we’re willing to share can imply conclusions that we don’t want to share,” points out Schneier. His example: a woman may not mind a store knowing what selection of items she’s buying, but she’s likely to feel a lot less comfortable if the store deduces that she’s pregnant.

Many Facebook users may not be aware that the content of their news feed includes paid insertions based on the personal profile that Facebook constructs. How happy are we with this blurring of the distinction between overt advertising, and helpful suggestions from trusted friends?

Businesses that value online ads should realize that some sort of code of standards is long overdue. Distrust of surreptitious tracking and profiling has already led many knowledgeable Internet users to block ads, scripts, Web beacons, tracking cookies, super-cookies, cross-site references, media plug-ins and other mechanisms of monetization. The marketshare of privacy-respecting search engines like DuckDuckGo.com is still tiny compared to Google, but it’s growing steadily.

The Electronic Frontier Foundation (EFF) is trying to nudge the business community in the direction of proper privacy standards. Its new browser add-in, Privacy Badger, is designed to detect and block Internet domains that attempt

to track users in violation of the Do Not Track (DNT) setting in their browser. Advertisers and site operators who adopt the EFF’s DNT Compliance Policy will be whitelisted.

Disconnect, in San Francisco, claims “over 10 million” users of its anti-tracking app for Windows, Mac, iOS and Android. “The failure of the ad industry and privacy groups to reach a compromise on DNT has led to a viral surge in ad blocking,” says Casey Oppenheim, CEO. This, he adds, has led to “massive losses for Internet companies dependent on ad revenue.”

Disconnect’s own privacy policy is worth quoting. Here it is, in full: “We don’t collect your IP address or any other personal info, except the info you volunteer.” By comparison, Google’s Privacy Policy is nine pages of fine print.

Another attempt to create privacy standards comes from the Online Trust Alliance (OTA) in Bellevue, WA (otalliance.org). OTA has released an Internet of Things Trust Framework, which it describes as “the first global, multi-stakeholder effort to address IoT risks comprehensively.”

### THE STORY

- ▶ Personal data has a huge cash value, yet privacy is undervalued by many individuals.
- ▶ Once harvested, personal data can be exploited in surprising ways, even lost to hackers.
- ▶ Privacy standards are needed, especially for the growing Internet of Things.

Unfortunately, OTA includes only a few major corporate players, such as Microsoft, Symantec and Twitter. And its proposed framework focuses mostly on disclosure of, rather than limits on, the privacy that users are required to give up. However, it does stipulate that a product's "core functions must remain operative" even when "smart" (i.e. tethered) features are disabled. It also lays out some good basic requirements for securing data once it's collected.

In the absence of such sensible precautions, it seems like only a matter of time before we see what Byron Holland, President and CEO of the Canadian Internet Registration Authority (CIRA) calls a 'Cecil the Lion' moment. "We don't know which incident is suddenly going to galvanize public opinion. You don't want to be on the wrong side of that, when public opinion turns."

CIRA's core mission is to operate the .ca 'name-space.' But the group also works proactively on issues such as online privacy. "It's going to take some time, and – unfortunately – some really significant breaches, before people realize how clearly their individual lives can be laid out if they don't protect themselves," says Holland.

**CORPORATE COLLUSION**

Having hardware manufacturers, software publishers and Internet service providers collecting user data for profit creates undesirable side effects. For starters, it gives these companies an incentive to weaken overall security.



Photo: Lynne Henry

Bruce Schneier, security expert and author of *Data and Goliath*, notes that while most people are happy to provide their location information to cellular providers in exchange for instant access to contacts, they don't realize that the information can be combined with others to determine everything from who we spend our time with to shopping patterns or even our state of health.

*"It's going to take some time, and – unfortunately – some really significant breaches, before people realize how clearly their individual lives can be laid out, if they don't protect themselves."*

**Byron Holland**  
President and CEO of the Canadian Internet Registration Authority (CIRA)



Most security vulnerabilities in Web browsers require JavaScript. Yet JavaScript is enabled by default, at least partly because browser developers want the capability of creating flashy display ads and harvesting user information. Worse, JavaScript code is typically delivered from multiple domains. (A common example is ajax.googleapis.com.) It's not uncommon for major news pages to consist of snippets of code and data from dozens of different sources.

Most ads are served up by services, and neither the service nor the operator of the main site is likely to know what's in every single ad. This has opened the door to so many malicious payloads that the term 'malvertising' has recently come into popular usage. Site operators, the makers of Web browsers and even groups like the World Wide Web Consortium (W3C) have collaborated in setting a very low bar for user security.

Privacy issues will be exacerbated by the coming wave of Internet of Things devices. Gartner estimates that the number of 'smart connected homes' in the U.S. will grow from its current mark of about 100-200 million to between 500 and 700 million by 2020. It has also estimated that there will be about five billion IoT devices in the field this year, and as many as 25 billion by 2020. As yet, there are no general standards for security and privacy.

'Connected' cars are already collecting data about driving habits. Features like voice control are heavily promoted, even though they don't work well, require cloud processing, and typically default to always-on, instead of requiring a positive 'push-to-talk' action by the user. Consumers are expected to have these devices listening all the time.

The waters become murkier when government and business get together. Documents leaked by Edward Snowden showed that many large U.S. companies had been providing data to the government for years. Now, the U.S. has new legislation on the table that would give the

government easier access to corporate data. The new U.S. Cybersecurity Information Sharing Act (CISA) would authorize companies to share user information with "any federal entity."

CISA has been loudly protested. The advocacy group Fight for the Future sent over six million faxes to Senate offices, using "1984 technology" to combat what they termed an Orwellian piece of legislation. But various high-tech companies, including Google and Facebook, have supported the bill, presumably because it would shield them from legal repercussions of privacy violation.



*The failure of the ad industry and privacy groups to reach a compromise on DNT [Do Not Track] has led to a viral surge in ad blocking.*



**Casey Oppenheim**  
CEO of the Disconnect anti-tracking app for Windows, Mac, iOS, and Android



**GOVERNMENT DISINCENTIVE**

Perhaps the oddest thing about privacy in today's political climate is its extreme asymmetry. While governments are scooping up user data by every means available, the unauthorized release of government data is viewed as a capital crime. Big corporations voraciously ingest user data, but hacks like that of Sony Studios' servers are considered tantamount to acts of war.

Then there are the massive global trade deals currently under negotiation: accessible only to politicians and lawyers, and then only in special reading rooms. These are not military secrets; they're business contracts that could impact the lives of every citizen on several continents.

In Canada, Bill-C51 raised serious concerns about privacy. Critics state that the law authorizes

sharing of personal information among as many as 21 government agencies, “without any accountability or transparency.” It also includes provisions for warrants to be issued and hearings to be conducted in secret. Even the UN Human Rights Committee has criticized the act.

A constitutional challenge has been launched by The Canadian Civil Liberties Association (CCLA) and the Canadian Journalists for Free Expression. “You have information being shared at warp speed without any review of whether it was necessary or proportional or being used solely for the purpose for which it was shared,” says CCLA Executive Director Sukanya Pillay.

Law-enforcement agencies that might be expected to help protect taxpayers are working energetically to put them at greater risk. We’ve seen heavy campaigning by U.S. officials *against* pervasive encryption of user data, similar to what Apple has enabled on its mobile devices.

Their contention is that making encryption the default would preclude vital investigative access to communications media and devices. But in reality, malefactors already have endless third-party encryption tools from which to choose. Default encryption on a device like the iPhone will mainly protect the average user, who wouldn’t otherwise bother with this extra layer of security. Crippling it would benefit only a vanishingly small number of investigations.

It’s bad enough that government and industry are so conspicuously hungry for our data. It adds

insult to injury that these organizations frequently fail to safeguard the data once they get it. Troves of user data make tempting targets for hackers, and we’ve seen a continual series of massive data breaches in recent years.

The hack of Ashley Madison in July is a perfect example. Some 37 million personal profiles were stolen from this online dating service, which specializes in extramarital affairs. This left users at risk of blackmail and ruined marriages.

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*In perhaps one of the most-publicized stories to heat up the debate on the topic of privacy, documents leaked by Edward Snowden showed a close relationship between the U.S. government and several large U.S. companies.*



Edward Snowden

Photo: Laura Poitras/Praxis Films

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One could argue that Ashley Madison users did indeed have ‘something to hide.’ But that wouldn’t have been true of the owners of 60 million credit card numbers that were stolen from Home Depot’s systems in 2014. Or the 80 million customers of Anthem insurance, hacked in February of this year. The list gets longer every day.

Companies can also lose control of their data when they die. Earlier this year, Radio Shack was forced as part of its bankruptcy settlement to

sell its data on 117 million customers – despite long-standing promises that it would never do so. Ultimately, the U.S. Federal Trade Commission ruled that much of the identifying data would be destroyed, and that the purchaser, General Wireless, would be bound by Radio Shack’s original policy of not selling the remaining data.

Manufacturers and service providers need to start thinking about the responsibilities of ‘big data,’ and not just the most profitable possibilities. Otherwise, consumers may start to err on the side of caution, and choose products that don’t skate quite so close to the bleeding edge of cloud technology.

## CONCLUSION

Government and industry seem to be of one mind: they want all our data, and complete freedom to do what they like with it. This system works only because the majority of the population remains in denial. Being based on ignorance of the facts, such acquiescence is fragile. A single incident could shatter it beyond recovery.

“The problem is that these aren’t good or fair bargains, at least as they’re structured today,” says Schneier. “We’ve been accepting them too easily, and without really understanding the terms.”

Schneier’s warning is simple: “The rules we had established to protect us from these dangers under earlier technological regimes are now woefully insufficient; they are not working. We need to fix that, and we need to do it very soon.” **wh**

## WINDOWS 10

It would take more than one article to do justice to the privacy violations in Windows 10. How-To Geek has a Web page listing 30 different ways that the new OS leaks users’ data back to Microsoft. The list ends with the disclaimer that it is undoubtedly incomplete.

European Digital Rights (EDRI) points out that upon installing the ‘free’ Windows 10 upgrade, users agree to 45 pages of terms and conditions. These give Microsoft the right to use their personal data, directly or in conjunction with affiliates, to “personalize” user experiences and to help make ads “more relevant.”

Advertising “opportunities” abound in Windows 10, including promotion of new apps in the Start Menu and Lock Screen, and sponsored responses in Cortana. Even Microsoft’s Solitaire Collection now includes huge pop-up ads that cost \$1.50 per month to disable.

Ads are ‘personalized’ by extensive collection of user data. The Cortana voice assistant keeps a database of user activities, contacts, search history, personal calendar, location data and more. This information is shared with Microsoft’s new Edge browser, which in turn shares browsing history back to Cortana. Local searches initiated from the Start menu are sent to Microsoft, and return results from Bing and the Windows Store.

Continuous Web browsing analysis is performed by Microsoft “on trillions of URLs crawled in conjunction with Bing.” Ostensibly, this is to improve the compatibility of Microsoft’s Web browsers. A new ‘telemetry’ system sends diagnostic and usage data to Microsoft, and can only be disabled in the Enterprise edition of Windows 10.

Security features like Windows Defender send Microsoft “info about potential security problems,” and even samples of software that are suspected of being malicious. SmartScreen checks any application downloaded from the Internet against Microsoft’s database of suspect software.

Windows 10 even creates a unique ID for each user, which can be used by app developers and advertising networks to assist in tracking and profiling.

Some of these privacy violations can be disabled, though settings are scattered in various places, including Websites outside Windows 10 itself. Permanently disabling all data collection is probably impossible. Add the new ‘Windows as a Service’ approach (i.e. mandatory updates), and Microsoft has essentially turned the personal computer into a connected appliance, with users monetized by collection of their personal data.

Like Facebook, Windows 10 is ‘free’ because its users are not the customers – they’re the product.

# TALKING SHOP



BY WALLY HUCKER

## ousting Old Inventory

“Money invested in inventory that moves,” says Tom Shay, “makes money.” Shay is a fourth-generation small business owner who has written four books on small business, plus a college textbook on small business accounting.

With decades of retail experience, and currently working as a Certified Speaking Professional and operator of Profits Plus Solutions, Shay’s recent seminar at Nationwide Marketing Group’s PrimeTime convention addressed the cost of retaining old inventory. “If you have a 3,000-square-foot store with 300 for a clearance area, that 10 per cent of the store can’t produce what the other 90 per cent does.”

“The biggest concerns for retailers,” he emphasizes, “are reducing operating cost, and increasing margins.” Shay believes getting rid of old inventory is key to both, and procedures should be simple, “with no accounting or tax hocus pocus.” His Profitsplus.org Website offers free calculators to determine things like ROF (return on floor space) and ROI (return on investment).

Shay stresses that money invested in old stock is not growing, so selling for 10% margin is better than nothing. Even sold at cost, that money can be invested in new inventory with higher margins. Retailers must realize that, in essence, they’ve gotten a refund.

“Money in chequing accounts might get one per cent interest, good stocks eight per cent,” he says. One sample store’s minimal margin increases and expense cuts boosted ROI from 19% to 26%. “However, by eliminating 15 per cent dead inventory to buy inventory which turned, ROI became 41 per cent.”

“In a perfect world,” notes Robin Williams of Roy’s Audio Video in Yellowknife, “my crystal ball is clear and we buy exactly what we need and turn it before it gets stale. But sometimes that’s not the case.”

Weather and other vagaries may cause inventory accretion. A cool summer may make seasonal supplies sit. Shay observes emotional attachments to old inventory as well. “I bought it. I like it. If it

doesn’t sell, it means I made a mistake, so I hang on, saying ‘it will sell to the right person.’”

## Get It Out the Door

No matter how you got it, get rid of it. First, advise Shay and Williams, determine a product’s shelf life. “We treat TVs more urgently than categories like home audio,” says Williams, “first, because it’s more heavily scrutinized by the all-powerful customer. Second, because of the category’s promotional nature, a small loss to clear a set today can quickly become a deep discount hurting the bottom line if left until tomorrow.”

## Limited Time

Two basic approaches to reducing old inventory are the ongoing and the time-limited. “My TV strategy,” says Williams, “is discounting aggressively and early, ensuring no dead stock remains, freeing up cash for the new models. Factoring in display allowances and purchase discounts helps me sleep, knowing we haven’t lost too much.”

Advance Electronics in Winnipeg monitors aged inventory daily. “All clear-out merchandise,” says General Manager Rob Olinyk, “is aggressively priced to move quickly, merchandised on a regular basis, and clearly identified with special price cards showing discounted price, original selling price, and savings.”

Advance ends Boxing Week with its one day “Last Hurrah” sale that packs both the store and garage.

Shay prefers such special limited-time events to ongoing babysitting of clearance merchandise. “Never have a clearance room or department,” he advises. “Old merchandise sits there, has a habit of growing, and creates clouds of customers who spend less.” Overall, he says, clearance areas “lower the tone of your store.” You’re also paying rent and utilities on space which is not making any money.”

Move the merchandise to your storeroom, he advises. Then plan an event. Any reason, like Winnie the Pooh’s “No Reason At All Party,” can be good enough if managed right. Surprisingly, he advises buying more merchandise for it.

“Vendors have inventory and storage issues, too. Buy odds and ends, onesies and twosies, but at real cheap prices.”

## Purchase With Purchase

A favourite gambit of Shay’s is purchase with purchase. “If your store’s average purchase is \$200, offer a choice of a clearance item at cost for \$275 spent on full-margin goods.” Similarly, couple a slow mover as a gift with a hot item selling at full price.

Keep event periods short. Whatever doesn’t sell, return to storage for the next event, or get rid of it. Always mix in something new, so bargain hunters don’t become alienated and blasé.

## Go Dutch, BOGO, Couple Up

Other tactics could include Dutch Auctions, cutting prices daily or hourly until sold; a BOGO (buy one get one free) sale; and spotlighting a table of specials close to the entrance. End capping items of the same price works well during holiday rushes, especially if items are wrapped or tied with a bow. Shoppers tend to budget gifts at set prices.

Seasonal gift baskets could include items from old inventory as bonuses, similar to coupling as mentioned above. Giving old merchandise to customers as door prizes may not return any money, but frees up valuable space and creates priceless goodwill.

When giving to charity, says Shay, be careful of deduction receipts. Tax implications can be too involved. Jean Simard of L.L. Lozeau Photo in Montreal, concurs. “We just give it outright.”

Several retailers told *WiFi HiFi* that selling clearance merchandise on eBay can be a time-consuming endeavour. Shay feels having somebody else sell your goods there or on sites like Overstock.com, means you have a problem.

“You admit,” he opines, “[that] you don’t know how to retail.” *wh*



**“Never have a clearance room or department. Old merchandise sits there, has a habit of growing, and creates clouds of customers who spend less.”**

**Tom Shay**, Owner of Profits Plus Solutions

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## SOUNDS GOOD AVS OPENS EXPERIENCE CENTRE

Sometimes it takes a nudge from an outside advisor to set the plan in motion for your company's growth. That was the case when Rob May and Nikki Lord, the husband-and-wife team behind Sounds Good AVS Solutions, took the plunge to open the company's first Customer Experience Centre.

May was sitting at year-end with his accountant who stressed the company's opportunity for additional expansion would be a challenge if it remained based out of a home office. The team, which also includes Luke Jensen, took the advice and opened the doors this summer to a physical store at 507 Speers Rd. in Oakville, ON, about 40 minutes west of downtown Toronto.

Prior to Sounds Good, May worked for Harmony Audio in Vancouver and had a short stint at Definitive in Mississauga, ON when he moved back east. He ventured out on his own in 2009.

"We had so much experience in custom installation, but as a company owner, we were really at ground zero," he says. "Our first venture in making a name for ourselves was to take a \$15 classified in the *Oakville Beaver* community newspaper with not much expectation. But then, we got a call for a job from that tiny classified, and the referrals just started coming. We have now done most of the homes on that street, all from referrals that started from a few lines in a community paper!"

The team has capitalized on Lord's graphic design background and has placed tremendous

attention to the visual branding for Sounds Good. "In our early days, Nikki would design us really cool postcards and I would walk door to door dropping off the cards in mailboxes," reflects May. "We would get around one job for every 300 postcards delivered."

Post cards have been replaced with a slick Website and community classifieds have been replaced with a sizeable Google AdWords budget that has spread Sounds Good's name throughout the Golden Horseshoe.

May describes the company as whole-home specialists with a sweet spot in customer service. "We have made a commitment that any job we take over the next five years will have an owner on site. We firmly believe the customer experience is enhanced when the owner is involved."

The Experience Centre is an extension of the overall customer experience. Lord has designed the space to be welcoming and non-intimidating. A stand-up coffee bar built into a stressed barn board is your welcome point, followed by an oversized table in a bright open room that also has demo space for ELAN Home Systems, Sonos, Nakymatone and Screen Innovations. Deeper into the space, the team beams with excitement to demo what they call Canada's only 7.2.4 Dolby Atmos Pro Audio Technology home theatre room.

*WiFi HiFi* wishes Sounds Good nothing but success. — *John Thomson* [wh](#)



This summer, the husband-and-wife team behind Sounds Good AVS Solutions, Rob May and Nikki Lord (shown with long-standing team member Luke Jensen at back), decided to take the plunge and expand their home-based business by opening up the company's first Customer Experience Centre in Oakville, ON.

Electronics repair chain **uBreakiFix** has opened a new Canadian location in the heart of downtown Montreal, in the Atrium Le 1000 de la Gauchetière, described as Montreal's tallest building. This marks the fifth location in the Montreal area, and the sixth in Canada including one in Regina. The chain, which specializes in same-day repair service of small electronics, boasts over 100 stores in total, scattered across the U.S., Canada and Trinidad. By 2016, the brand expects to have a total of 175 stores across North America.



The Sherway Gardens shopping centre in Etobicoke, ON about a half hour west of downtown Toronto, will soon be home to **SAMSUNG'S** largest experience store in Canada, and the first standalone retail outlet in Ontario. The brand store, which will be part of a \$550 million expansion and renovation of the upscale shopping mall, will include new design elements, and showcase a broad range of Samsung products. The 2,535-square-foot space is the fourth Samsung brand store in Canada – the other three are in Western Canada: one each in Burnaby and Richmond, BC, and one in Edmonton, AB. Customers can get hands-on with connected technologies in the Experience Zone, and a Service Centre will offer walk-in service support for a variety of Samsung products, including one-hour repairs, as well as the option to purchase extended warranty sales and support and accessories from trained product technicians.



Photo of Samsung Store in Richmond, BC

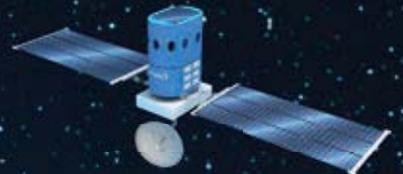
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## VISTEK VETERAN RETIRES AFTER NEARLY HALF A CENTURY

Since Canada's Centennial year, Brian George has been a fixture in photo sales in Toronto. After working at Vistek for the last quarter century as a sales representative, he removed his employee card and keys from his neck for the last time.

George spent most of his career in professional sales at retail, and in his last two weeks at Vistek, many customers climbed up three flights on the circular wrought-iron staircase to say goodbye.

He started with the Toronto Camera group at its store on Granby St. near Maple Leaf Gardens in September 1967. Soon recognized for his technical knowledge, not to mention his legendary calmness in the trade's frequent stressful situations, after a month he was transferred to the company's professional division, Rutherford Photo, in Leaside's industrial area.

When the Rutherford family closed up shop in Leaside in 1982, George and the late Roy MacFarlane moved downtown, to Toronto Camera's remaining store at 340 Yonge St. In 1986, after Queen St. Camera bought Toronto Camera, George spent a year working with Leica Canada at its head office, then about 36 months with Treck Photo, which merged with Hall to become Treck-Hall.

One of George's most memorable stories in the industry is about a man from Germany who, in the early '00s, hopped on a plane just to buy a hard-to-find \$12,000 special model Leica M camera from the store: only about 500 were made. After paying for his new camera, the man hurried out of the store to catch the first flight back to Germany.

As for changes in the industry, George says without hesitation that the switch to digital cameras has had the most impact. He recalls the early days of digital photography. "For the first two years, there were mostly point & shoot models, and people would pay \$1,200 to \$1,500 for them. I remember selling a Fuji camera for \$900, and the memory card for \$450."

Computers affected the business as well. Rutherford Photo computerized early, by 1980. "The salesman told us," he chuckles, "that it would be a paperless society within three-to-five-years."

In his retirement, George plans to devote more time to his hobbies of photography, pen-and-ink drawing, and watercolour painting. In addition, he will attend more meetings of the MG owners club. His 1967 MG B, British Racing Green, may get more road time. Travel, especially if it involves steam train excursions, are not beyond conjecture either.

WiFi HiFi wishes George a happy retirement. [wh](#)



Brian George, a long-time fixture of the Canadian photography retail industry, who spent the past 25 years with Vistek, has confirmed his retirement.

**AMAZON** held its first Prime Day on July 15, alleging it bigger than Black Friday. Shoppers, media, and tracking companies are split on this. Many consumers called it a garage sale. Retail tracking company ChannelAdvisor, said U.S. sales were up 80% and European sales grew 40%. Amazon is coy about stats. Not so coy was rival

**WALMART.** The retailer's U.S. site mocked paying almost \$100 to shop online as an Amazon Prime member, (although it must be noted that Walmart is experimenting with its own three-day shipping at US\$50 per year,) and offered its own deals, plus free shipping for orders over \$35 or free in-store pickup. Rollbacks, Walmart parlance for price reductions, totalled 3,597, with 234 for electronics. With these two retail titans battling it out on Prime Day, and Amazon touting it as a yearly event, one can expect more merchants to be drawn into the fray, willingly or not. If not as big as Black Friday (yet), Prime Day may well have the potential to become a huge shopping day.



Yorkdale Mall in Toronto is now home to the first experiential-format **THE SOURCE** store, which affords a more hands-on, tech-centric shopping experience, says the retailer. The new format, which will be a prototype for future locations, was designed by Toronto-based retail design agency Shikatani Lacroix, and features "warm wood tones and neutral white transaction surfaces." Products are grouped into categories, and displayed to allow for interactive demos. For example, there's a new headphone wall where shoppers can actually test and compare models. A new front window digital display features dynamic content to draw customers in and educate them on the latest products and brands. The Source, owned by Bell, has more than 650 locations nationwide.



**LENS RENTAL CANADA** in Owen Sound, ON has ceased operations, the aftermath of a series of high-value thefts last year. Switching couriers helped somewhat, but content insurance coverage was denied for the company as "a direct result of the thefts while shipping via Canada Post." According to partner and co-founder Craig Blair, the retailer tried shipping its lenses and other gear by Purolator Courier, but eventually, late deliveries became frequent. Blair will now concentrate on his online blog featuring Canon photo products.

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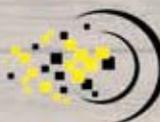
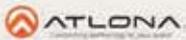
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**MOBILE SOLUTIONS OF CANADA  
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The latest vehicle from Lamborghini, its 2015 Huracan, was shown off to a half-dozen selected 12V specialists in BC and Saskatchewan during July and August. Mobile Solutions of Canada used the Lambo to demonstrate the latest Audison auto entertainment hardware.

The Perfect Storm tour kicked off July 23 at Kustomeis Car Audio in Regina, and moved to Richmond, BC's BPG Autosound's Hot Import Nights in August. Following the long weekend, Ralph's Radio hosted the event to mark its 66th anniversary, attracting 150 visitors during a public afternoon viewing, followed by another 100 invited customers in the evening, who also partook in good eats and craft brew from the neighbouring Red Truck Beer Company. There was also the chance to win an Audison/Lamborghini Lifestyle Collection package.

Three more BC showings in as many days followed: Driven Audio in Abbotsford; Voltage Sound & Security in Chilliwack; and Custom Car Concepts in Vernon.



*Ralph's Radio was one of six 12V dealers in BC and Saskatchewan to show off the new Lamborghini 2015 Huracan and its Audison entertainment hardware, through distributor Mobile Solutions of Canada's Perfect Storm tour. The Vancouver retailer held the event in conjunction with a celebration of its 66th anniversary.*

The Lambo's red and black interior rocks with the Audison AP4.9 bit 4-channel amplifier/processor factory head unit. Yet another Audison amplifier, the AP4D, works in concert with the main amp/processor. Both hide under the back shelf where other stock Lamborghini electronics reside.

Mobile Solutions engineered and molded speaker enclosures into the front quarter windows.

These house Audison AV3 midrange and Audison AV1.1 tweeters. Stock factory locations in the doors house Audison's Prima AP8 8" woofer.

The tow vehicle for the Lambo is a show-and-go Ford F-150 pickup. To audition the performance available to motorists of more modest means, the truck's stock 4" screen was replaced with Alpine's X009 9" multimedia head unit. Alpine tweeters, woofers, and coaxials, are driven by three different Audison amps. Rounding out the bottom is an Audison Prima AP10 beneath the rear seat. Audison's bit Play HD media server allows higher, 96khz, 24-bit FLAC sound reproduction. **wh**

**BLACKS PHOTOFINISHING CONTINUES  
ONLINE WITH LES PROS DE LA PHOTO**

The online aspect of Blacks' photo shops was bought by Les Pros de la Photo. The Montreal-based photofinisher and photo gift specialist continued honouring Blacks' prepaid photo cards after the stores shut their doors on August 8. Already a major Canadian photofinisher, Les Pros de la Photo claims to make 100 million prints annually.

"We will offer photofinishing and free shipping to all provinces and territories," partner and Director of Sales Jacques Girard tells *WiFi HiFi*. The company already supplies 1,300 pharmacies in Quebec alone, plus many more throughout the country. It operates under its own Website in New Brunswick and eastern Ontario.

Les Pros de la Photo hired "a small number" of Blacks' employees. When Blacks parent Telus closed all 59 of the remaining retailer stores, it affected 485 employees. **wh**



*Trevor (extreme left), Dave (second from left) and Tristan (extreme right) Rurak, head of the wireless department, partner, and store manager of Ralph's Radio, respectively, are joined by Sue Penn, owner, Mobile Solutions of Calgary (middle) and Larry Penn, owner, Mobile Solutions of Canada. Ralph's Radio was one of six stops Mobile Solutions made in touring with the new Lamborghini Huracan to demo the luxury car's Audison entertainment system.*

**NATIONWIDE MARKETING GROUP**, parent of **CANTREX NATIONWIDE**, held its semi-annual meeting and trade show, known as PrimeTime! August 2 through 5. It occupied 185,000 square feet at The Venetian in Las Vegas. Almost 4,000 people, including members and vendors, participated from over 1,200 member companies and more than 175 vendors. New President & CEO Dave Bilas said the group has grown to over 3,800 member companies representing more than 11,000 storefronts in the U.S. and Canada. Jeff Knock, new Chief Commercial Officer, reported strong growth in all categories. Tom Hickman, Executive Vice President of Consumer Electronics & Distribution, reported that the biggest change in the CE segment is the introduction of HTSN (Home Theater Specialists of Nationwide) for members. The next PrimeTime! is in Orlando in mid-March.



*Les Pros de la Photo, a photofinisher and photo gifts specialist based in Montreal, has purchased the online portion of Blacks.*

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## WHO WENT WHERE?

**Dave Bilas** (left) has taken over as President & CEO, and **Jeff Knock** as Chief Commercial Officer at Nationwide Marketing Group, the parent of Cantrex Nationwide. The moves culminate a planned three-year transition. Bilas, who had been President & COO, assumes the CEO position from Robert Weisner and Les Kirk, who have retired as co-CEOs but remain directors. Knock was previously executive vice president. Also, Frank Sandtner and Tom Hickman are now Executive Vice Presidents. Hickman had been vice president of electronics.



Just over six months after taking the head post at Sears, **Ronald D. Boire** (pictured) departed as president and CEO of the retailer at the end of the summer to "pursue an opportunity in the U.S." During the transition, **Brandon G. Stranzl**, Chairman of the Board of the Corporation, has been named Executive Chairman. The Board of Directors has commenced a search for a new president and CEO.



Microcel has appointed **Michael Brown** as Key Account Manager, Western Canada. Brown has 13 years of experience in the consumer electronics industry, previously with Best Buy Canada, where he worked since 2002. In his new position, Brown will be responsible for managing existing accounts and developing new ones within the region.



Call2Recycle Canada, Inc., which operates the country's largest non-profit consumer battery stewardship program, has elected **Norman Clubb** as Chairperson of its Board of Directors, responsible for guiding the overall strategic direction and growth strategies for the program. Clubb most recently served as executive vice president and CFO of Diversey Holdings Inc. He has served on the Call2Recycle Canada, Inc. Board of Directors since 2013. He succeeds Susan Nieuwhof of Procter & Gamble (P&G) Canada, who served as chairperson since 2013.

D&H Canada, has added two new account personnel in Canada: **Connie Fisher** (left) and **Martin Abidogun** will both hold the title of Senior Account Executive, Retail. Fisher joins D&H from Toshiba of Canada, where she served as a national account manager. Abidogun spent more than a decade executing mass-merchant retail sales initiatives within IT distribution, and was involved in multiple online retail site launches, including Walmart.ca, Costco.ca, and Staples.ca. He obtained first-hand retail experience while employed by Future Shop.

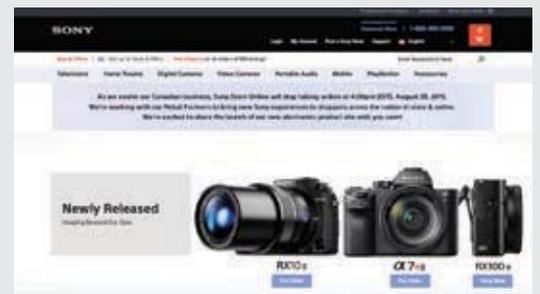


**TECHDIRECT** on Kennedy Road in Scarborough, ON was shut down by a \$450,000 fire on the evening of June 25. There were no injuries, but nearby businesses, including a Starbucks, were evacuated. The retailer's Website was up and running at the time of this writing in early August, although the store had not reopened, and the phone went unanswered with no voicemail. A reader informed *WiFi HiFi* that he had managed to reach the Scarborough number in mid-July, and was informed it would "reopen in two months." Another TechDirect store in North York provided no information on the Scarborough location. Yet another TechDirect store, on College St. in downtown Toronto, has rebranded as TechSource. Stay tuned.



**INDIGO** has added a Like2Buy button on its Instagram feed that lets those who check out their account make purchases right from the social media platform. To use the feature, click the Like2Buy link in the @chaptersindigo Instagram bio, and you'll be directed to a new page that shows the brand's photos, in a similar experience to Instagram. From there, you can click on items to be directed to the Indigo.ca site to make purchases. Indigo is one of the first Canadian brands to use the platform.

Following the company's decision earlier this year to shut the doors on its standalone retail shops, **SONY** has now confirmed that it will also be closing the virtual doors to its e-tailing site, no longer selling direct to consumers. While **SONY OF CANADA** hasn't officially confirmed if the store.sony.ca portal would close as well, the same notice appeared on that site, stating the closure as of August 28. "We're working with our retail partners to bring new Sony experiences to shoppers across the nation in store and online," read the statement. "We're excited to share the launch of our new electronics product site with you soon!" The site will switch to an educational one about Sony products, where interested customers will be directed to authorized reseller sites to actually make purchases.



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**YAMAHA**

## WHO'S DOING WHAT?

■ **Staub Electronics** has been appointed a Canadian distributor for **Apollo Enclosures** outdoor LCD TV enclosures come in three sizes, and can accommodate TVs ranging from 39" to 65" in size. The enclosures are designed for use in both residential and commercial environments. Accessories include a heater module for areas of extreme humidity or where temperature dips below -20°C, dust covers to preserve the aesthetics of the enclosure, and modesty frames for a custom fit appearance when installing smaller size TVs.



Staub has also been appointed exclusive Canadian representative for **SpringDeck's** software for AV dealers. Dealers can access current product content from top AV manufacturers through the SpringDeck Store, and can download product files to the SpringDeck app and access the necessary collateral for a sales pitch. The software also features in-depth analytics so dealers and manufacturers can access hard data on what's working for their sales pipeline.



■ **AVAD LLC** has added the **SMART kapp** whiteboard to its lineup, a digital replacement to the traditional dry-erase board. Users can write and draw while others follow the process in real-time on their digital devices. Work is saved with SMART's software app (iOS and Android) and as a final product as PDFs or JPEGs for sharing through Evernote, Dropbox, Google Drive or other storage accounts. Users can convert notes and sync them to computers, tablets, and mobile devices using a QR code or NFC. The whiteboard comes in 42" and 84" sizes, both portrait and landscape, and works with dry-erase SMART ink markers.



■ **Manitoba Telecom Services (MTS)** has acquired 15MHz of paired AWS-1 spectrum within its home province from **WIND Mobile** for \$45 million to help increase network speeds for customers. WIND, meanwhile, will focus its resources on an LTE rollout in Ontario, B.C., and Alberta.

■ **Hisense** has purchased all equity and assets of **Sharp's** TV factory in Mexico for US\$23.7 million. With the purchase, Hisense, which expects its revenues in this region to increase by US\$2 billion, will have rights to use the Sharp brand name and all of the company's channel resources in North and South America. Sharp-branded TVs are no longer



sold in Canada, and there's no word on whether this acquisition might change that.

■ **AutoMobility** has been appointed as **Directed's** exclusive Canadian distribution partner for the **Clifford** line of security and remote-start systems. AutoMobility, based in Montreal, will serve all existing and new Canadian authorized dealers.



AutoMobility has also been named the exclusive Canadian distributor for **Escort Inc.'s** line of radar and laser detectors. While radar detectors are illegal in most of Canada, they are legal in Saskatchewan, Alberta, and B.C. Escort, which is headquartered in West Chester, OH, manufactures most products in a facility in Mississauga, ON.



The company makes products under the Escort, Passport, Max, Redline, Solo, Pro, and Beltronics brands.

■ **Nexus International Inc.** has been appointed the exclusive Canadian distributor of **FiiO** portable audio products. The Chinese brand offers digital audio players, portable headphone amplifiers, portable headphone amp/DACs, in-ear monitors and accessories. Nexus will carry the full FiiO lineup, and will ship products to Canadian dealers from its head office in Markham, ON.



■ **BlackBerry Limited** has acquired **AtHoc Inc.**, a provider of secure, networked "crisis communications," enabling the exchange of critical information in real time during crisis situations. Terms were not disclosed, but the transaction is scheduled to be completed by BlackBerry's 2016 fiscal Q3.

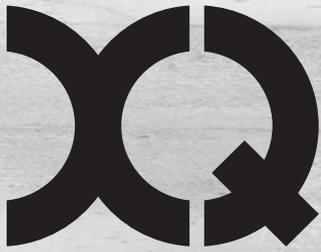
■ **Erikson Consumer** has been appointed the exclusive Canadian distributor for the **Yurbuds** (powered by **JBL**) line of sport earphones and accessories. Yurbuds, which offers in-ear, behind-the-ear, and wireless headphones aimed at active individuals, was acquired by Harman International in June 2014. Yurbuds has since expanded to offer accessories, including phone cases and armbands.



■ **Atlantia** has been appointed Canadian distributor for the **Que** brand of unlocked Android smartphones. The budget-priced (\$130-\$300) phones boast up to 26 hours of talk time, 70 hours of audio, or 10 hours of video playback using the 2,000mAh battery, and include cameras with autofocus, touch to focus, manual focus, and high dynamic range (HDR). They have qHD high-resolution screens and dual-core processors. They come in multiple colour options and with dual SIM card slots.

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## iStore Lands in Two Canadian Shopping Malls

You might recognize the name iStore as that shop you walk by in many airports across North America, luring you in with the high-tech gear that you need (or want) before hopping onto the plane: a nice pair of headphones, an extra Mac charger, maybe a snazzy smartphone case. Until now, the only iStore outside of an airport was in Montreal. But this summer, the company opened up two new retail outlets in Canada: one in the Scarborough Town Centre shopping mall in Scarborough, ON, about a half hour northeast of downtown Toronto, and the second in the West Edmonton Mall.

### Two Ends of the Spectrum

The two locations are markedly different, but chosen for very specific reasons. Apart from opportunity – the Scarborough Town Centre location will look familiar to residents as the space previously occupied by the now closed down The Sony Store – CEO Joel Teitelbaum tells *WiFi HiFi* that the venue remains one of the last remaining high-traffic shopping malls within the greater Toronto area (GTA) that doesn't yet have an Apple Store. He wanted to see how the store might perform in such an environment.

Meanwhile, the West Edmonton Mall, which does have an Apple Store, is known as the largest shopping mall in North America, and the 10th largest in the world, representing ample oppor-

tunity for those looking for Apple gear and other mobile accessories.

While iStore is an Apple authorized reseller, and does sell select Apple hardware, including MacBooks, plus iPads and iPhones exclusively from Telus, it's clear as soon as you walk into the store that accessories are the priority. And a premium selection, at that, including fashion-centric brands you won't find flooding the market, and may not even be familiar with, and unique product categories – from Frends interchangeable headphone caps, to beautiful Herschel backpacks, and coloured, braided charging cables from Eastern Collective. At every turn, the packaging and designs immediately catch your eye.

### Standing Out

Aside from the unique product selection, one of the key standouts for the 3,000-square-foot stores is the custom-built SoundBooth, which Teitelbaum calls iStore's audio equivalent of a clothing store change room. Engineered with a sound-dampening foam interior, customers can step inside, slide the semi-circular door closed to partially block out the rest of the store, and test and compare a variety of premium portable speakers from brands like B&W, Stelle Audio, and Harman Kardon. "I never understood," Teitelbaum tells us, "how a customer could spend \$300 on a portable speaker without actually listening to it."



*iStore prides itself on simple yet subtle and clever features, like mirrors as part of the headphones display so customers can not only check out how the 'phones sound, but also how they look.*

Another feature Teitelbaum is particularly excited about: the mirrors that line the walls in front of the headphones displays. "It seems logical to me," he says, "because a lot of the time, the customers are buying headphones as a fashion piece."

The signage throughout is custom-built to feature lifestyle imagery that ties in with the products. The store logo at the entrance of the store and in the back features LED backlit glass that can change colour, so look for seasonally appealing adjustments, like red on Valentine's Day and green on St. Patrick's Day.

The SafeCharge station is also a clever addition: shoppers use fingerprint recognition to unlock a small personal locker where they can safely charge their smartphone as they browse.

Many of the products are displayed out-of-the-box on floating trays, allowing customers to get hands-on.

### Apple and More

iStore offers hot products that work with other mobile gear as well. For example, there's the Misfit Shine and Fitbit activity trackers (which can work with both Android and iOS devices), Parrot drones, and GoPro cameras and accessories.

As with Apple stores, customers can checkout with a salesperson from anywhere in the store, and workshops will be held for those who want to learn more about certain products.

In this day and age when creating an experience in a store is a requirement in order to convince customers to visit, it seems iStore is on the right track to success, and ready to soar to new heights. **wh**

— Christine Persaud

**Like the WiFiHiFiMag Page on Facebook to see a full gallery of photos from the event.**



*Joel Teitelbaum, CEO, iStore poses in front of the SoundBooth in the new Scarborough Town Centre store, which he calls the audio equivalent of a clothing store's change room. Slide the semi-circular door shut, and you're enveloped in the sound emanating from a premium portable Bluetooth speaker from brands like B&W, Harman Kardon, and Stelle Audio.*

Photo by Christine Persaud

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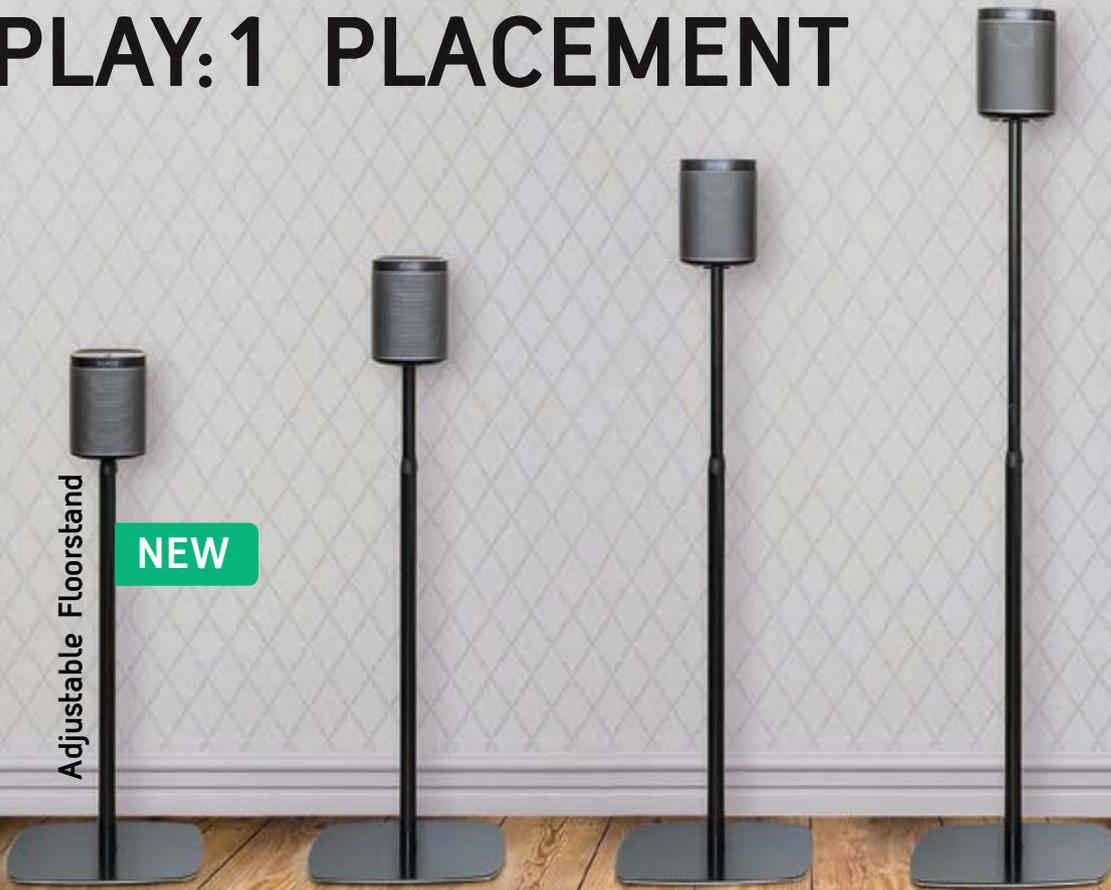


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