



VICTORIAN MEETS MODERN TECH

A Toronto manor gets outfitted with state-of-the-art automation, multiroom A/V, and a high-end home cinema

BY BOB ANKOSKO

ENTERING THE oak-paneled foyer of this Victorian manor in Toronto's prestigious Rosedale neighborhood is like stepping back into the early 20th century. Built in 1901, the expansive estate has been meticulously restored to evoke the grandeur of the period—with a fantastic secret. Hiding behind the magnificent historical façade is a fully automated state-of-the-art smart home created by Moonshot Automation (moonshotautomation.com, formerly Custom Sound and Vision) in nearby Mississauga.

"The home was acquired by our clients in 2014 and underwent an extensive renovation in an effort to modernize it to suit the family's busy lifestyle while preserving the original feel of the residence," explains Carmine Malatesta, Moonshot founder and president. The company was commissioned to discreetly deploy technology throughout the 10,000-square-foot estate that would provide effortless control over lighting, heating and cooling, home security, and an extensive network of audio and video systems, including a glorious theater designed to complement the home's Victorian vibe.

It was a daunting task, made even all the more challenging because a full-on renovation was also underway at the home directly across the street. "The narrow dead-end street was filled with trade vehicles from top to bottom and around the corners," Malatesta recalls. "It became a race to see who could get to the site first in the morning to secure a parking

spot. Luckily the neighbors were patient and understanding—for the most part anyway."

A multitude of keypads, touchscreens, sensors, speakers—you name it—had to be tastefully and inconspicuously integrated without (heaven forbid) compromising or competing with the ubiquitous solid-oak panels that give the home its old world charm. "Everything had to be carefully selected to fulfill the client's request and honor this heritage home," Malatesta observes.

Moonshot cherry-picked well over 150



components from the custom-installation pioneer Crestron to create the backbone of this smart home, all neatly organized in multiple head ends and equipment racks in different parts of the home, including the attic and basement. The extensive programming required by a system of this magnitude was largely carried out by programmers from Zone Automation. A double rack of gear in the back of the home theater (which we'll get to in a moment) houses a central AV distribution hub in addition to the local components needed to bring movies to life.

A small arsenal of Crestron processors preside over internal and external lighting, audio and video distribution, and sensor-based thermostats that can be controlled from touch panels, hand-held remotes, and apps—all of which are integrated with a high-tech security system featuring automated door locks that can be operated remotely and a mix of high-resolution day/night cameras and thermal cameras (with automatic recording) to protect vulnerable areas around the property.

Simplicity and seamless integration were top priorities for the homeowners. The control interface had to be dead simple to use and, in addition to operating the many audio/video systems around the



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- 1) Network connections for the A/V distribution and security systems.
- 2, 3) Garage views: bike maintenance area and car lift.
- 4) One of many Crestron touchpanels located throughout the home.
- 5) The central Crestron rack for A/V, climate, and lighting control.



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home, provide the ability to monitor and control essential systems from a smartphone when the family is traveling, explains Mike, the Moonshot technician who worked on the project. Examples of remote access include being able to disarm the security system as they're pulling up the driveway (instead of having to race to a keypad to enter a code) and setting up automated lighting routines to create the impression that someone is home even when they're not, providing an extra layer of security.

Two DoorBird video camera/intercom systems also let the homeowners see (and converse with) who's at the main gate at the foot of the driveway, and assuming they make it past that point, the front door.

A Sound Priority

In keeping with the overall theme of excellence, the homeowners were committed to outfitting their not-so-humble abode with quality sound through and through. "They wanted deep and detailed room filling sound in the bedrooms and common areas," Mike observes, noting that Crestron processors and six SWAMPE-24x8 amplifiers were configured to deliver a generous 2 x 140 watts to something like 40 pairs of James Small Aperture (SA) speakers mounted in walls and ceilings throughout the home. Though each SA speaker is barely visible (its opening is only 3 inches in diameter), it combines a wide-dispersion tweeter module with a compact subwoofer rated to play down to 38 Hz; you don't see the sub because its enclosure sits inside the wall (or ceiling).

"Whether they are using a wall-mounted [Crestron TS-1542-C] touchpanel, touchscreen remote, or the Crestron app on their phones, the clients can entertain guests or live life day to day with sound that transcends what you would get from a mundane countertop audio system."

Cutting-edge automation extends to every corner of the residence, including a two-level restaurant-caliber wine cellar, featuring an automated drawbridge that provides access to fine bottles stored in the lower level that goes down another 8-10 feet; an ornate Victorian-style bar/game room with a tastefully integrated TV/soundbar combo behind the bar; a garage with three lifts that houses a small fleet of exotic cars (one of the lifts is actually an elevator for moving cars to a lower-level shop for service or detailing); and a spacious gym above the garage that's equipped with a pair of MartinLogan hybrid electrostatic speakers and two wall-mounted displays (Sony TVs are used throughout the home). The spaces all accommodate sound and video from a variety of sources, including a Kaleidescape movie server, Apple TV box, a personal hard drive with hundreds of terabytes (TBs) of storage space, and good old-fashioned cable TV.

Other examples of high-tech automation in action include a



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6) Gym view with MartinLogan electrostatic speakers. 7) A TV/soundbar combo behind the bar. 8) The Future Automation retractable TV lift in action. 9) A two-level wine cellar. 10-12) Views of the vintage-style home theater with Sony 4K projector and plush Fortress Seating Guild recliners.

holder and reclines just like the seats in a modern movie theater.

Intent on replicating an authentic 4K movie theater experience, the homeowners had the basement excavated to create a more comfortable space that would accommodate three-tier seating, a built-in subwoofer enclosure in the front of the room below the screen, and a suite of cleverly concealed THX Ultra2-certified Klipsch speakers arranged in a Dolby Atmos 9.2.4 layout. For seamless performance, all of the speakers feature Klipsch's signature Tractrix horn tweeters and Cerametallic woofers.

A trio of KL-650-THX LCR speakers, each of which mate a horn-loaded 1-inch titanium-dome tweeter with two 6.5-inch woofers, sit behind an acoustically transparent CineCurve screen from Stewart Filmscreen, outfitted with automated masking panels to accommodate movies

with 1.78:1 and 2.35:1 aspect ratios. Sony's \$60,000 pro-caliber VPL-VW5000ES LCOS laser projector fills the 11-foot (diagonal) screen with vivid 4K images. Instead of being out in the room, the projector is concealed in its own enclosure high on the back wall—the only thing you see is the port for its lens.

Moonshot opted for a curved screen because Malatesta and his team believe its wider field of view provides a more immersive and less fatiguing experience for movies—and gaming, which is important to the young homeowners.

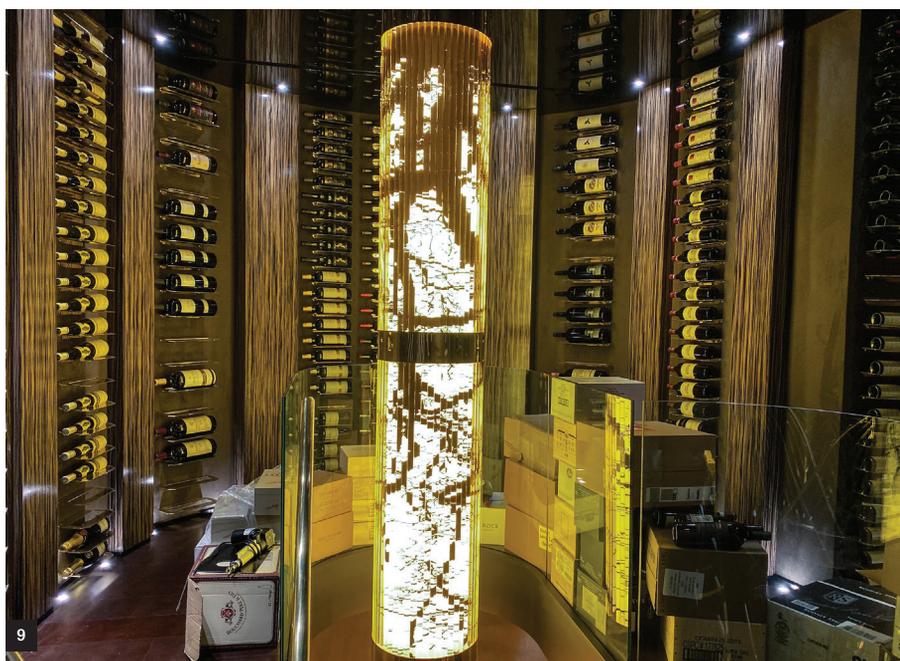
Four PRO-7800-L-THX speakers, each featuring an 8-inch woofer, are flush-mounted in the ceiling and work in tandem with two pairs of PRO-7800-S-THX speakers concealed in the rear and side walls behind acoustically-transparent fabric that matches the seating. Each "S" model is positioned about 5 feet off the floor and uses two vertically-stacked tweeters to create a diffuse sound field; the speaker grilles were painted to match the fabric to further conceal them. Together, the four height and four surround speakers produce a huge surround bubble to add you-are-there realism to movie

large Sony TV in the master bedroom that folds down magically from the ceiling upon command. The Future Automation retractable lift that makes this feat possible even allows the screen to swivel so the homeowners can position it however they like. When the TV's turned off, the screen disappears back into the ceiling so as not to spoil the room's Victorian character.

Sparing no expense to keep the family safe, the security system is equipped with commercial-grade heat-sensing Mobotix cameras that use thermal imaging to eliminate false positives caused by an animal or other non-threatening condition.

Bringing Hollywood Home

To witness the technology that subtly transforms this stately manor into a modern marvel is, indeed, a sight to behold, but it's no match for the crown jewel of the project: a majestic 10-seat theater. To evoke the feeling of a turn-of-the-century vaudeville theater, Moonshot chose Fortress Seating's plush Guild recliner, featuring tufted, red velvet-like material. Arranged in two rows of three with a front row of four, each seat has a cup



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▶ A/V Equipment List

Sony VPL-VW5000ES 4K LCOS laser projector

Stewart Filmscreen CineCurve screen with automated masking for 1.78:1 and 2.35:1 aspect ratios

Kaleidescape 40-TB Terra Movie Server

Kaleidescape DV700 Disc Vault (6)

Kaleidescape KServer-5000 (3)

Kaleidescape KPlayer-M500A (2)

Kaleidescape KPlayer-M300A (2)

Yamaha Aventure CX-A5100 preamp/surround processor

Crestron PROAMP-7x400 power amplifier

Klipsch KL-650-THX LCR speakers (3)

Klipsch PRO-7800-L-THX speakers (4)

Klipsch PRO-7800-S-THX speakers (4)

Klipsch KW-120-THX subwoofer (2)

Klipsch KA-1000-THX power amplifier (2)

Middle Atlantic PowerCore power-isolation system

James Loudspeaker Small Aperture (SA) speakers (about 40 pairs)

Crestron SWAMPE-24x8 power amplifier (6)

Fortress Seating Guild recliners (10)

▶ System Capabilities at a Glance

Audio distribution (Crestron)

Video distribution (Crestron)

Climate control (Crestron)

Automated lighting (Crestron)

CCTV for security system

Network (Ubiquiti)



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soundtracks.

To ensure proper acoustics, Moonshot installed an Aurelex Prism sound diffuser with a beautiful staggered cork design in the middle of the room's hardwood ceiling.

A pair of Klipsch KW-120-THX subwoofers, featuring 12-inch drivers and powered by a pair of 500-watt KA-1000-THX amplifiers, add deep bass (down to 20 Hz) and lots of oomph to action-adventure flicks from that custom enclosure in the front of the room.

"The rationale behind the Klipsch speakers was the THX accreditation, which is not simple to obtain," explains Malatesta, alluding to the rigorous testing speakers must undergo to get certified. "We have used them in past projects with great success. If you're not content with these speakers, there aren't many other choices that will make you more content."

The electronics behind the theater comprise the award-winning Yamaha Aventure CX-A5100 preamp/surround processor, which feeds a Crestron PROAMP-7x400 seven-channel power amplifier. Everything runs through a pair of Middle Atlantic PowerCore 15-240-U2

electrical subpanels, which provide back-up power in the event of an outage, surge protection, and filtering to remove 60-Hz noise from incoming power.

A Kaleidescape Terra Movie Server with 40 TB of storage is the primary source for the theater but the homeowners also have ready access to Apple TV and cable TV. And to extend TV and movie enjoyment across the home, the server supports six DV700 Disc Vaults, each of which hold up to 320 Blu-ray discs for importing, three KServer-5000s, two KPlayer-M500As, and two KPlayer-M300As; video distribution is handled via a Crestron DigitalMedia (DM) matrix switcher which feeds Sony TVs throughout the home.

In case you might be wondering what the cost is to assemble an automated home of this caliber, Malatesta remarks, "Let's just say it's a million plus (Canadian)." When asked what his client likes most about living in a cleverly disguised smart home, he responds: "They love their classic home and the amenities it offers—which is all the modern conveniences of a state-of-the-art home."



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