

VANCOUVER CHAN CENTRE

SINCE BEING BUILT IN THE LATE '90S, THE VISUALLY STUNNING CHAN CENTRE HAS WELCOMED A WHOLE RANGE OF PERFORMING ACTS. WITH A NEW MONITOR SYSTEM IN PLACE, AND POSSIBLY MORE AUDIO UPGRADES ON THE HORIZON, THIS VENUE IS SET TO STORM INTO THE 2020S.



VANCOUVER, CANADA
THE AMERICAS

The Chan Centre for the Performing Arts in Vancouver, Canada opened its doors in 1997. Since then, this performance venue has gained international respect for both its stunning design and its outstanding acoustics. The venue's sleek, cylindrical appearance provides a stark contrast to its green surroundings.

The Chan Centre comprises three individual spaces: The Chan Shun Concert Hall which seats 1,200 people; the Telus Theatre which can cater for up to 275 patrons; and the Royal Bank Cinema which has an 160-capacity.

The building was commissioned in the early '90s and a world-class design team comprising Bing Thom Architects, ARTEC Consultants of New York and Theatre Projects Consultants headed up the project. The Chan Centre is located within Vancouver's University of British Columbia campus, so the venue is in use all the time, either by the University, the local community, or travelling performers.

The venue can cater for a wide variety of performances including a full range of musical concerts, dramatic plays, student rehearsals and presentations, plus there is flexibility to stage special events.

Over the years, the sound system in the Concert Hall has been working hard accommodating the needs of the performers. So, recently Head Audio Technician Jay O'Keeffe made the decision

to begin upgrading the audio equipment. Upgrading would mean prolonging the life of the audio system as well as offering the chance to improve it. The first part of the system to be replaced was the monitor system.

There was quite a competition for the new system, with eight manufacturers in the running, offering a total of 17 solutions. Performance expectations and testing protocol were outlined in advance by Jay, so when it came to the day of the shootout, proceedings ran smoothly. The testing process included utilising the Smaart acoustic analysis program to perform on axis and off axis, FFT measurements of the frequency response, phase and magnitude response, as well as the sound pressure level and sensitivity of each monitor.

Both self-powered and conventional monitors were included as were various driver and horn sizes. For the non-powered wedges, in order to ensure that the testing process was as un-biased as possible, Lab.gruppen PLM 10000 amps were used in all instances. Comparisons were conducted as un-processed, as well as with recommended factory presets. Each monitor was level balanced to ensure that the listening tests were only concerned with frequency and depth of field and not the audible perception of power differentials.

After narrowing down the choices from 17 to three, a trial period for the three finalists took place. And once that was complete the winner was chosen. Jay explained: "With the Adamson M15 floor ►



The Chan Shun Concert Hall

monitors it was because in all of our typical applications they simply worked the best. One area where they especially excelled was the amount of drop off of sound at the rear of the monitor, the audience side, which meant significantly less undesirable sound energy was spilling over, there is simply less 'bleed' - the monitors energise the area's you want them too.

"This can be attributed to the tight pattern control of the boxes design, they are also far less omni-directional in the lower frequencies than most of the other monitors available on the market at that time. The biggest change we have noticed is we are now using a significantly reduced overall SPL level onstage than we have in the past, and being a highly reverberant concert hall, the more you can precisely control an electro-acoustic source - the better ►

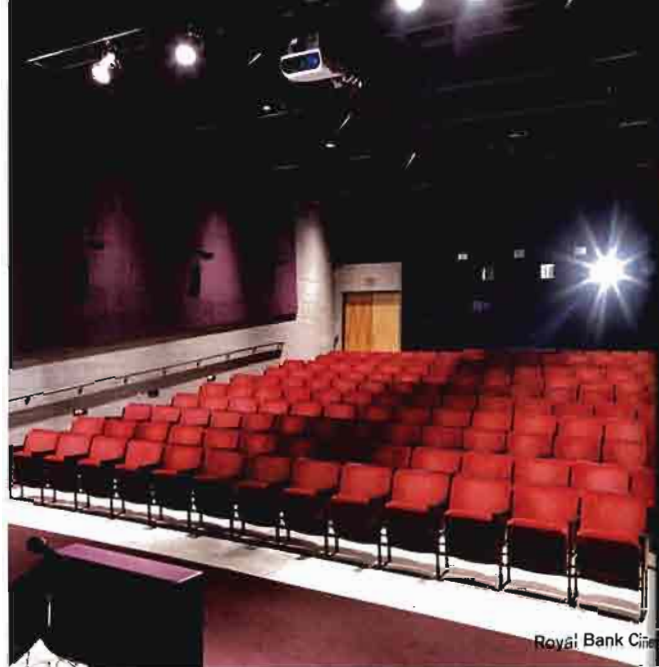
"With the Adamson M15 floor monitors it was because in all of our typical applications they simply worked the best."

the overall blend."

The Adamson M15 system was teamed with amplifiers from the testing process, the Lab.gruppen PLM 10000Qs. Jay continued: "As to the Lab.gruppen it really was ease of use. The internal Lake Processing is so flexible that it replaces a ton of traditional outboard graphs and processors, plus the ability to stand beside a performer with a tablet PC and adjust the tonality of a mix is a tremendous advantage.

"This means the operator is no longer saddled to the console having to make their best guess in what to adjust, they just walk on stage, listen and adjust; because our venue is an acoustically enhanced environment, a listen wedge at the console is not truly representative of what the performer is hearing. An artist's monitoring needs changes based on how the room's acoustic energy is perceived at their listening relative position onstage - and those needs can be quite dramatic with even just a few feet of separation between positions."

The concert hall did pose a number of challenges during the selection process. Jay described the difficulties: "It's hard to mix, because it's super live. It's kind of like mixing in a stadium. One of the reasons we actually went with the Lab.gruppen product was



because two or three times people had come through who were using the Lake Processing and it sounded spectacular – watching how fast they could use it and what they were capable of doing was one of the deciding factors when I started to do comparisons."

In addition to the Adamson wedges and the Lab.gruppen amplifiers the Chan Centre is also equipped with an Allen & Heath 2800M monitor console, DBX 1046 compressors to satisfy the requirements for channel inserts, Shure DFR 22 signal processors, which have proven to be invaluable in the venue, a Lexicon MX400XL effects processor, a Superlogics Industrial rackmount PC with monitor, and an Acer PC Tablet and the usual wireless router. The current PA system in the Concert Hall comprises EAW KF6560 mid / high's, EAW EB600 subwoofers and KV2 EX10 speakers for fill. The power is provided by Crown ComTech amplifiers except for the KV2's, which are self powered. The venue's current console is

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a Crest Century VX. It was crucial that the new monitor system was compatible with the existing sound equipment, so that they are able to work hand in hand together for as long as required.

Jay explained what made this upgrading project at the Chan Centre different from other projects he's been involved with. He said: "In terms of the monitor system the biggest difference was the ability to vet a large amount of product in situ. As a venue it was felt that it was important to maximise our efforts in coming to a decision on which product would be best for us; this meant researching the various product lines and hearing them in use in other venues and situations to create a shortlist. It meant developing a testing protocol that satisfied both the analytical as well as the more subjective creative applications of the products. Being a very busy hall - we needed time commitment for access to the venue in order to fully test, contrast and compare the numerous brands, makes and models."

Of course, Jay could not have conducted such an extensive research programme and executed the installation of the



Photo by Laura Lee Shalevich



The Telus Studio Theatre

new monitor system without the help of a trust-worthy and reliable team. Jay said: "My assistant Lloyd Balsers's input was absolutely essential in helping to develop the test methods and implementing them during the day. Don LeTexier, Bruce Crews and Kevin Feres from LTS Worldwide were extremely helpful, as were the folks at ContactWest Distribution, Shawn Hines of Gerr Audio Distribution and Harry Boyce of Rocky Mountain Production Services."

There are already talks of making further upgrades to the rest of the audio system, however, Jay is extremely pleased with what they have achieved so far, and is already seeing many positive results. He concluded: "The best way to sum up the essence of the project is the compliments we have received from the artists who visit our venue, especially those who have played here in the past and can hear the tremendous difference between our new monitor system versus the old." 📧

TECHNICAL INFORMATION

SOUND

5 x EAW KF 650 isP hi-mid box; 2 x EAW SB 600i double 15-inch subwoofer; 2 x KV2 self-powered EX10 speaker; 1 x Crest Century VX console; 2 x JBL SR Series speaker; 1 x Allen & Heath GL2800M 48 x 16 monitor mixer; 10 x Adamson MX15 floor monitor; 5 x Lab.gruppen PLM 10,000 amplifiers with Lake processor; 2 x Shure DFR22 feedback suppressor; 2 x dbx 1046 quad compressor; 1 x Lexicon MDX 400 stereo effect processor; 1 x Ashly Protea II 4.24G, 4-channel digital EQ; 1 x Ashly Protea II 4.24GS, 4-channel digital EQ; 1 x Ashly Protea II 4.24RD, remote control unit; 4 x Shure DFR22 feedback suppressor; 2 x dbx 1066 stereo compressors; 2 x Yamaha SPX 900 processor; 4 x dbx 903 compressor; 2 x dbx 905 Parametric EQ; 3 x dbx 904 noise gate; 1 x Denon DN-T625 compact disc / cassette player; 1 x Tascam DV-RA100HD digital recorder; AKG mics; Sennheiser mics

LIGHTING

76 x ETC Source 4 750W body; 28 x ETC Source 4 10' lense; 6 x ETC Source 4 14' lense; 40 x ETC Source 4 19' lense; 14 x ETC Source 4 26' lenses; 8 x FE Lighting Par 64 1000w medium flood; 8 x FE lighting par 64 1000W narrow spot; 6 x Selecon Rama 7-inch 1000W Fresnel; 2 x Altman 360Q 750w 6x16 (conductor's pit special); 2 x Altman 360Q 750w 6x16 (sound pit specials); 2 x Lycian Superstar 1275 followspot; 22 x iris kit; 1 x ETC Ion control console; 1 x wireless remote unit for focusing; 1 x ETC remote video interface; 1 x Strand premiere architectural control system; 148 x 2400W Strand CD 80 dimmer
TRUSSING: 6 x CM chain hoist motor; 12 x 2.5m Christie Lites 16x16 medium duty square truss

www.chancentre.com

FRANÇAIS

Le Centre Chan pour les Arts de la Performance de Vancouver, au Canada, a ouvert ses portes en 1997. Le bâtiment fut commandé au début des années 1990 et une équipe de designers de classe mondiale, comprenant Bing Thom Architects, ARTEC Consultants de New York ainsi que Theatre Projects Consultants, a été mise en place pour ce projet. Au fil des années, il s'est avéré que la sonorisation de la salle de concert fonctionnait mal et s'accommodait mal aux besoins des interprètes. Ainsi, récemment, le technicien de Head Audio Jay O'Keeffe décida de mettre ce dernier à niveau. La première partie de son travail consista à s'attaquer au système de contrôle. Il y eut une vraie concurrence pour la mise en place de ce nouveau système et huit producteurs s'engagèrent dans cette course, proposant un total de 17 solutions. Après une compétition de haut rang, 17 solutions furent gardées et une période d'essai, pour les trois finalistes, mise en place. C'est un système de contrôle Adamson M15 qui fut couronné, et marié à des amplificateurs Lab.gruppen PLM 10000Q qui avaient fait leurs preuves lors de la phase de test. Il est déjà question d'améliorer le reste de la sonorisation, mais Jay est d'ores et déjà extrêmement fier du travail accompli et y voit de nombreux résultats positifs.

DEUTSCH

Das Chan Centre for the Performing Arts in Vancouver, Kanada, eröffnete im Jahre 1997. Das Gebäude wurde zu Beginn der '90er Jahre in Auftrag gegeben und vom global renommierten Design-Team um Bing Thom Architects, ARTEC Consultants of New York und den Theatre Projects Consultants entwickelt. Über die Jahre musste das Soundsystem des Konzertsahls viele Anstrengungen unternehmen, um den Bedürfnissen der Künstler entsprechen zu können. Daher entschied der leitende Audiotechniker Jay O'Keeffe vor Kurzem, das Audiosystem aufzubessern. Zunächst befasste er sich mit der Optimierung des Monitorsystems. Der Wettbewerb um diesen Auftrag war groß: Acht Hersteller boten insgesamt 17 Lösungen an. Nach einem harten Wettstreit wurden drei Finalisten ernannt, die ihre Technik in einer Testphase unter Beweis stellen mussten. Das Adamson M15-Monitorsystem wurde als Sieger gekürt und zusammen mit Verstärkern aus der Testphase, den Lab.gruppen PLM 10000Qs, installiert. Schon wird darüber gesprochen, die übrigen Bereiche des Audiosystems zu überarbeiten; Jay ist jedoch sehr zufrieden mit dem bislang Erreichten und konnte bereits viele positive Ergebnisse erkennen.

ITALIANO

Il Chan Centre for the Performing Arts di Vancouver, Canada, è stato inaugurato nel 1997. La costruzione dell'edificio è stata commissionata nei primi anni '90 ed a capo del progetto di design si è posto un team di progettisti a livello mondiale, tra cui Bing Thom Architects, ARTEC Consultants of New York e Theatre Projects Consultants. Nel corso degli anni, il sistema audio a disposizione della Sala Concerti ha lavorato duramente al fine di soddisfare i bisogni degli artisti. Il Direttore Tecnico dell'Audio, Jay O'Keeffe ha di recente preso la decisione di rinnovare l'intero sistema audio, dando preferenza al sistema dei monitor. Otto case produttrici sono entrate in concorrenza tra di loro per la progettazione del nuovo sistema, offrendo un totale di 17 soluzioni diverse. In seguito ad una dura lotta, si è scelto di ridurre le soluzioni proposte ad un numero di tre ed i tre finalisti sono stati sottoposti ad un periodo di prova. La vittoria è stata successivamente assegnata al sistema Adamson M15, abbinato ad amplificatori del processo di prova, i PLM 10000Q di Lab.gruppen. Si vocifera già di effettuare ulteriori migliorie al resto del sistema audio, tuttavia Jay può dirsi pienamente soddisfatto con i risultati positivi finora ottenuti.

ESPAÑOL

El Chan Centre para Artes Interpretativas en Vancouver, Canadá abrió sus puertas en 1997. El edificio fue equipado a principios de los 90 y un equipo de diseño de clase mundial compuesto por los Arquitectos Bing Thom, los Consultores ARTEC de Nueva York y Consultores de Proyectos Teatrales encabezaron el proyecto. A lo largo de los años, el sistema de sonido en el Salón de Conciertos ha funcionado mucho para satisfacer las necesidades de los artistas. Entonces, recientemente, el Director Técnico en Sonido, Jay O'Keeffe, tomó la decisión de comenzar a actualizar el sistema. Lo primero que quiso abordar fue el sistema de monitoraje. Hubo una importante competencia por el nuevo sistema, con ocho fabricantes posibles, ofreciendo un total de diecisiete soluciones. Luego de una feroz competencia, quedaron tres de los diecisiete y así fue que se llevó a cabo un periodo de prueba para estos tres finalistas. El sistema de monitoraje Adamson M15 se coronó ganador y fue equipado con amplificadores del proceso de prueba, los Lab.gruppen PLM 10000Qs. Ya existen conversaciones sobre la realización de más actualizaciones al resto del sistema de sonido, sin embargo, Jay está sumamente complacido con lo que han logrado hasta el momento y ya está viendo muchos resultados positivos.