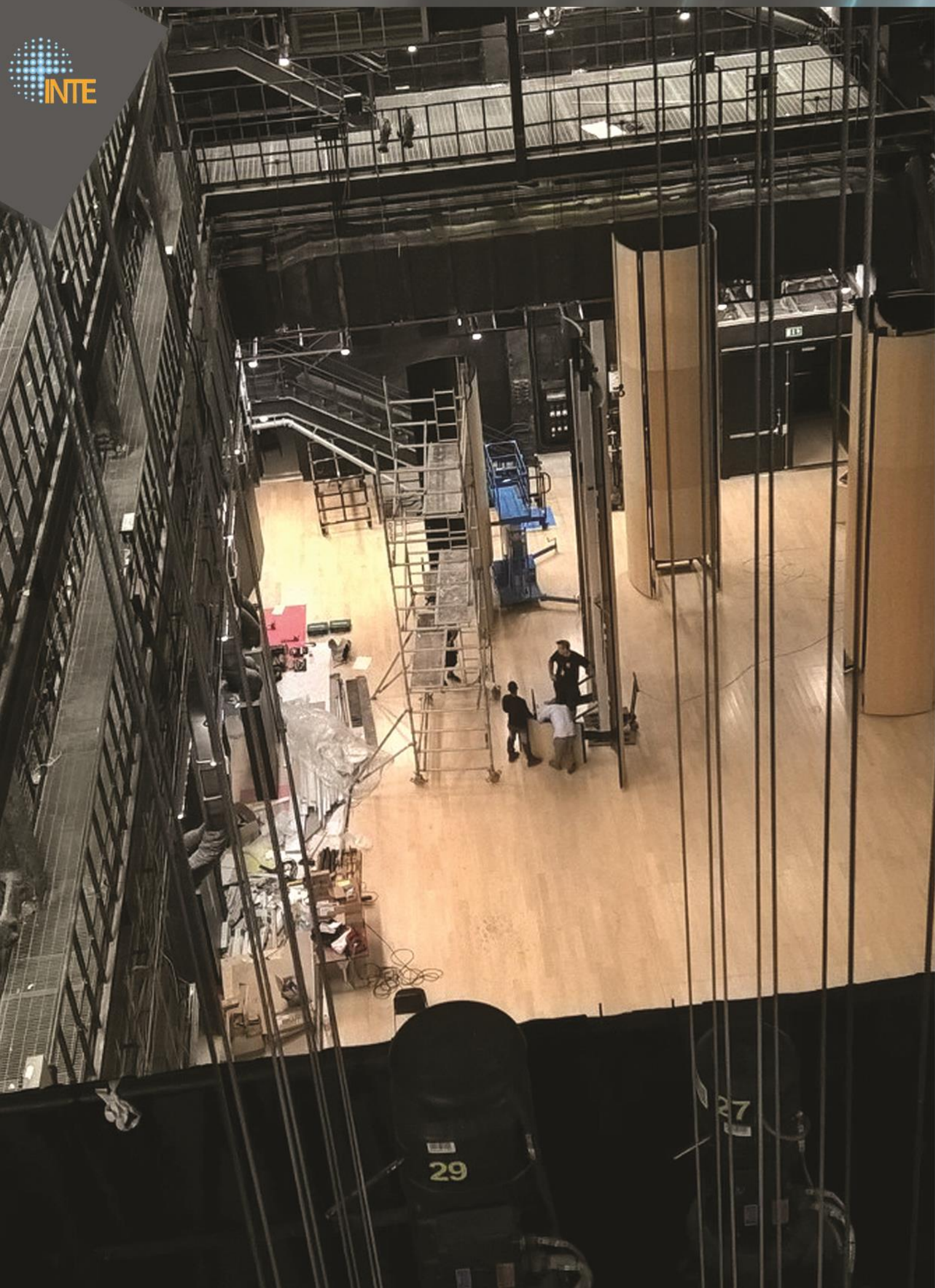




— THE —
THEATER SPECIALIST

2022



Introducing INTE

INTE was established in 1983 in Amman– Jordan.

INTE is the leading theater specialist in the design, supply and install of full professional theater specialty systems, performing arts, and music education products in the Middle East.

Why INTE ?

We come from a strong Engineering background that provides us great support with all aspects of your project.

When we are involved, we will advise you on all aspects that will affect the systems in your project.

Unmatchable unique services and added values that make your project the most efficient in terms of design, execution time, and budget.

INTE aims to achieve world class, high tech theaters and projects in the whole ME region using our values that INCLUDE:

Creativity in design and implementation.

Honesty and Dignity.

Leadership.

Commitment and unmatched services.

Diversity of services with highest quality.

Strong communication with our clients and end users for after sales support.

Our Services Includes:

Stage Lighting Systems
 Stage Mechanics and Machinery
 Stage Rigging, Automated
 Counter weight rigging
 Orchestra pit and stage lifts
 Seat Wagons and Stage Platforms
 Fire Safety Curtain
 Stage Acoustical Shells
 Stage Draperies and Curtains
 Audio reinforcement Systems
 Audio Band Systems
 Audio Discussion Conference Systems
 Interpretation Systems
 Cinema Systems
 Intercom Systems
 Broadcasting Systems
 Video Systems
 OB-Van Systems
 Stage LED curtains and effects
 CCTV and Access control.





INTE offers clients a unique, collaborative approach that is tailored to suit their individual needs.

As INTE provide service office for **Wenger/JRClancy** in the MENA Region (Middle East and North Africa) , we understand that every performance space has unique needs and challenges, that's why we are proud to offer exceptional products, technical support, installation services and project management.

We provide professional backstage and on-stage equipments for performing arts facilities of all sizes and the world's most trusted products that inspire great music learning and performance.

We prefer to get involved from early stages of project design. This will give you engineering support with the theater Architecture, Civil, Electrical, Mechanical and specialty systems.



Wenger CORPORATION

Athletics

athletics

- Create the Ideal Team Room
- Flexible and customizable solutions to improve organization, cleanliness and transportation
- Engineering ingenuity saves time, space and effort
- Heavy Duty Construction
- Powerful aesthetics for team rooms that attract recruits and motivates athletes
- Options to protect your valuable equipment and inform

Shaping and Platforms

Audience

Planning and Design Training Day for Music, Theaters and Athletic Spaces. Amman-Jordan
Hosted by **INTE**



It's always been **INTE** full interest to provide support in spreading awareness about the world of theater including providing training seminars for architects and engineers involved in theater design.





Partners

Wenger
Your Performance Partner

CLANCY

PHILIPS

SONY

Extron

AKG



Roland
Professional A/V

tv ONE

AUDiTEL

PROEL

TASCAM

ROSE BRAND

SERAPID
RIGID CHAIN TECHNOLOGY

Gerriets

CHRISTIE

CRESTRON

LEYARD

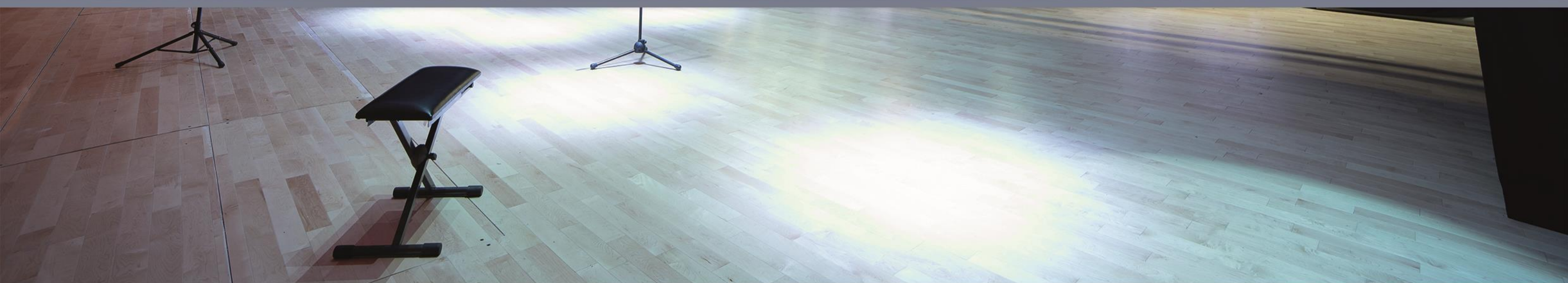
DIGITAL
PROJECTION

AMPETRONIC

SENNHEISER

screenint

ALTAIR



Achievements



INTE team of experts includes some of the best experts in theaters fields in the Middle East.

Sami Nazzal was the first person from the whole Middle East region to win the prestige award of (Project Manager of the Year) at the InAVation awards in the year 2015 for his work managing design and build the theater of Palestine Red Crescent (PRCS) in Ramallah. The judges at the awards were impressed with INTE and Sami Nazzal work in managing that project that they decided to award it the only Individual awards InAVate awards give to him

Consultant / Project Manager of the Year

Ingo Aicher
Rhythm Arora
Matt Hunt
Sami Nazzal

Jones AV
Qubix
Reflex
International New Technical Est

UK
India
UK
Jordan

INAVATION
AWARDS 2015

AMX
by HARMAN



PROJECTS





Our projects: (within last 15 years)

INTE has done many projects in and out Jordan

- Amman Academy Theater.	Amman, Jordan
- American Community School Theater	Amman, Jordan
- PRCS Theater	Ramallah, Palestine
- King Abdullallah II Theater	Zarqa, Jordan
- Middle East University Theater	Amman, Jordan
- American Community School	Amman, Jordan
- Princess Sumaya University theater	Amman, Jordan
- Moa'tah University theater	Moa'tah, Jordan
- Amman Chamber of Commerce Theater	Amman, Jordan
- Balqa Applied University theaters	Amman, Jordan
- Maan Culture Center	Maan, Jordan
- Irbid Culture Center	Irbid, Jordan
- Royal Culture Center	Amman, Jordan
- Al-Karak theater	Al Karak, Jordan
- IT college theater- Jordan University	Amman, Jordan
- Dead Sea Convention Center	Dead Sea, Jordan
- Al jawazat and Al motaba'ah theater	Amman, Jordan



We have provided technical support and installation services to Wenger for the following projects:

-The City of Art, Administrative Capital	Egypt
-Dubai Opera House	Dubai, UAE
-New York university	Abu Dhabi, UAE
-Arab Center for research	Doha, Qatar
-International Conference Center (ICC)	Medinah, KSA
-King Abdulaziz Center for Knowledge and Culture	Dahran, KSA
-Ankara theater	Turkey
-American International School	Riyadh, KSA
-Faith Academy	Philippines
-American international school of Guangzhou	China
-Nanyang Technological University	Singapore
-Shanghai Daning international elementary school	China
-National Opera House	Lithuania

Key Projects

Amman Academy Theater:

2021

Well-equipped modern multi purpose theater, INTE scope of work about 1.75million dollars include All specialty systems :

- Rigging System - Theatrical Lighting
- Audiovisual systems -Assisted hearing listening system.
- Intercom system -Orchestra pit filler

American Community School Theater:

2017

Design and built for all theater specialty systems. INTE scope of work about 1.5 million dollars include All systems :

- Rigging -stage Lighting -AV system -Seating
- Orchestra pit filler

PRCS Theater Ramallah:

2014-2015

Well-equipped modern performance space for the Red Crescent Society, INTE scope of work about 3.5 million dollars include All specialty systems :

- Rigging -Lighting -Video broadcast -OB Van
- cinema sound systems -CCTV -Intercom

Irbid Culture Centers:

Supply and install all theater specialty systems. The Theater systems was about 1.75 million Dollar.

Ma'an Culture Centers:

Supply and install all theater specialty systems. The Theater systems was about 1.70 million Dollar.

Zarqa Culture Centers:

Supply and install all theater specialty systems. The Theater systems was about 1.69 million Dollar.

Amman Chamber of Commerce Theater:

Full ten key solutions theater including all systems, interior, seating and AV systems

Balqa Applied University theaters :

Five Theaters. Full ten key solutions including all systems: interior, seating , stage lighting system and AV systems.

Royal Culture Center :

renovation of lighting system and maintenance for others specialty systems.

Al-Karak theater :

Full ten key solutions including all systems: interior, seating , stage lighting system and AV systems.

Moa'tah University theater:

All AV Systems .

Middle East university Theater:

All Specialty Systems.

IT college theater - Jordan University:

Full ten key solutions theater including all systems: interior, seating , stage lighting system and AV Systems.

Princess Sumaya University theater-:

Full ten key solutions theater including all systems: interior, seating , stage lighting system and AV Systems.

Dead sea Convention center

The Biggest AV system project in Jordan
AV and Broadcasting Systems for 21 halls.

Projects Under Process

International Conference Center (ICC):

fully responsible for all the engineering services for the project starting with submittals and shop drawings all the way to testing, commissioning and training.

-subcontractor for rigging system with Al Faisalia group

-Consultant for lighting and AV systems.

project value over 50 Milion Rial

Serena Hotel Ballroom

(KENYA)

Av System.

Brookhouse School Auditorium (KENYA)

AV System, Lighting System, Rigging System.

AL Jeamea Theater (KENYA)

Rigging System ,AV System , Lighting System

Point of contact for our projects in Kenya :

Irfan Merali - Project Manager (+254722522934)

Engineering Services

National Art center

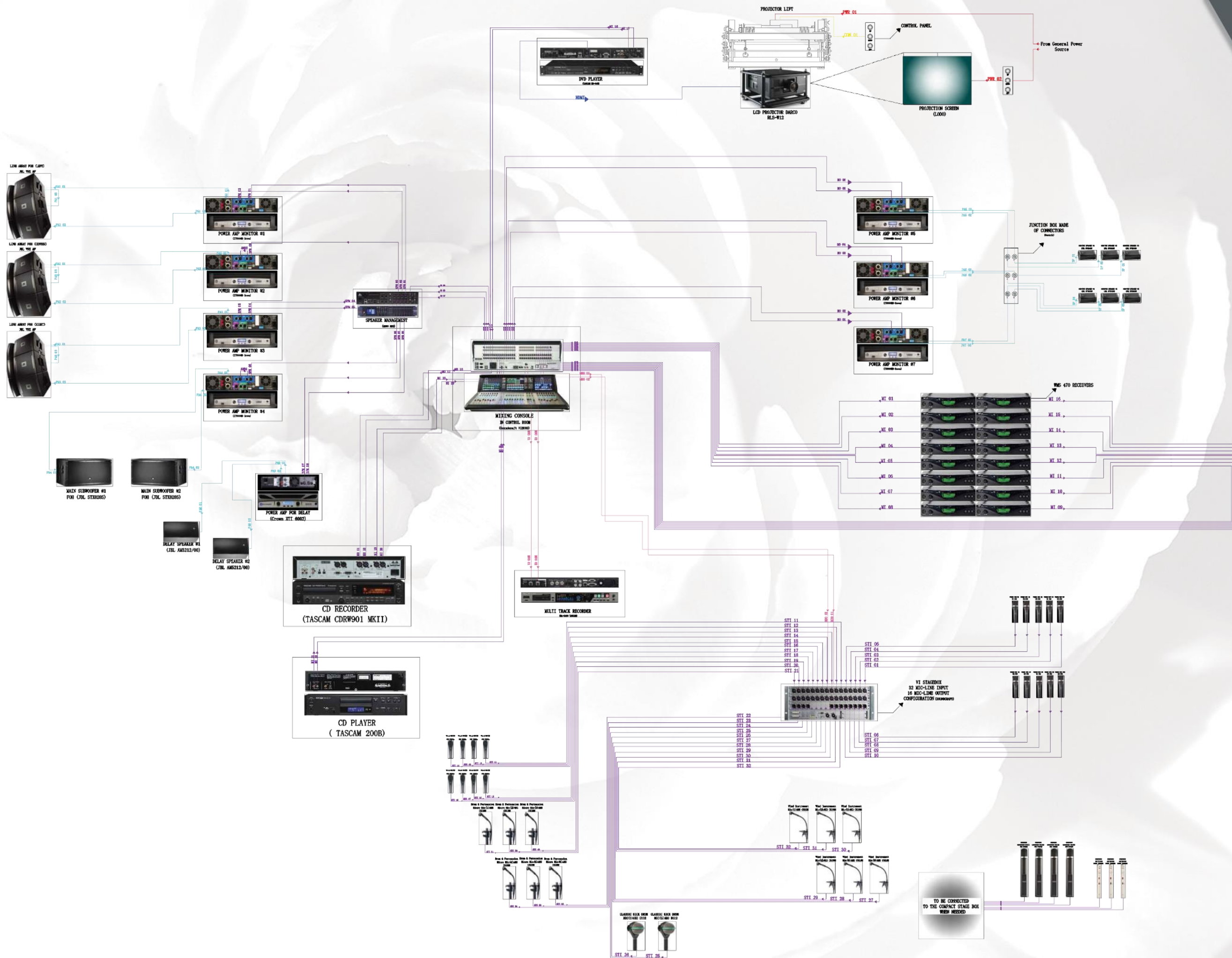
Ottawa, Canada

Shanghai Danning School

China

American International School of Abuja

Nigeria



Amman Academy Theater : 2021

Well-equipped modern multi purpose theater y, INTE scope of work about 1.75million dollars include All specialty systems :

- Rigging System
- Theatrical Lighting
- Audiovisual systems
- Assisted hearing listening system.
- Intercom system
- Orchestra pit filler









Inavation Awards

PROJECT FINALIST 2022

INTE team members appear on national TV's morning show Youm Jadeed to speak about the nomination to the finale of Inavation Awards 2022. Amman Academy Theater is competing against three other projects from India, Denmark, and Egypt.

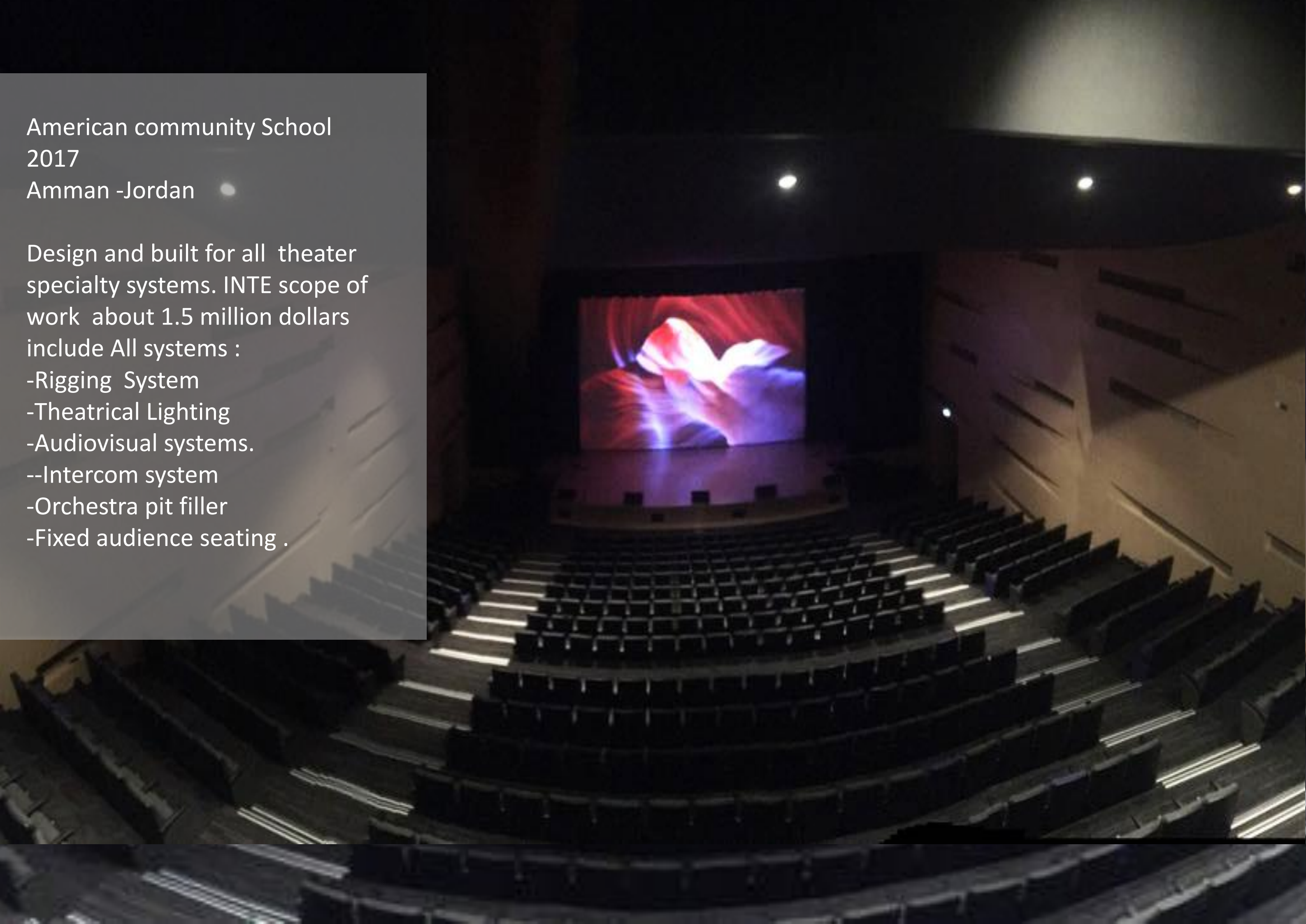
This award is one of the most renowned international awards in the field of audio-visual systems

American community School
2017

Amman -Jordan

Design and built for all theater
specialty systems. INTE scope of
work about 1.5 million dollars
include All systems :

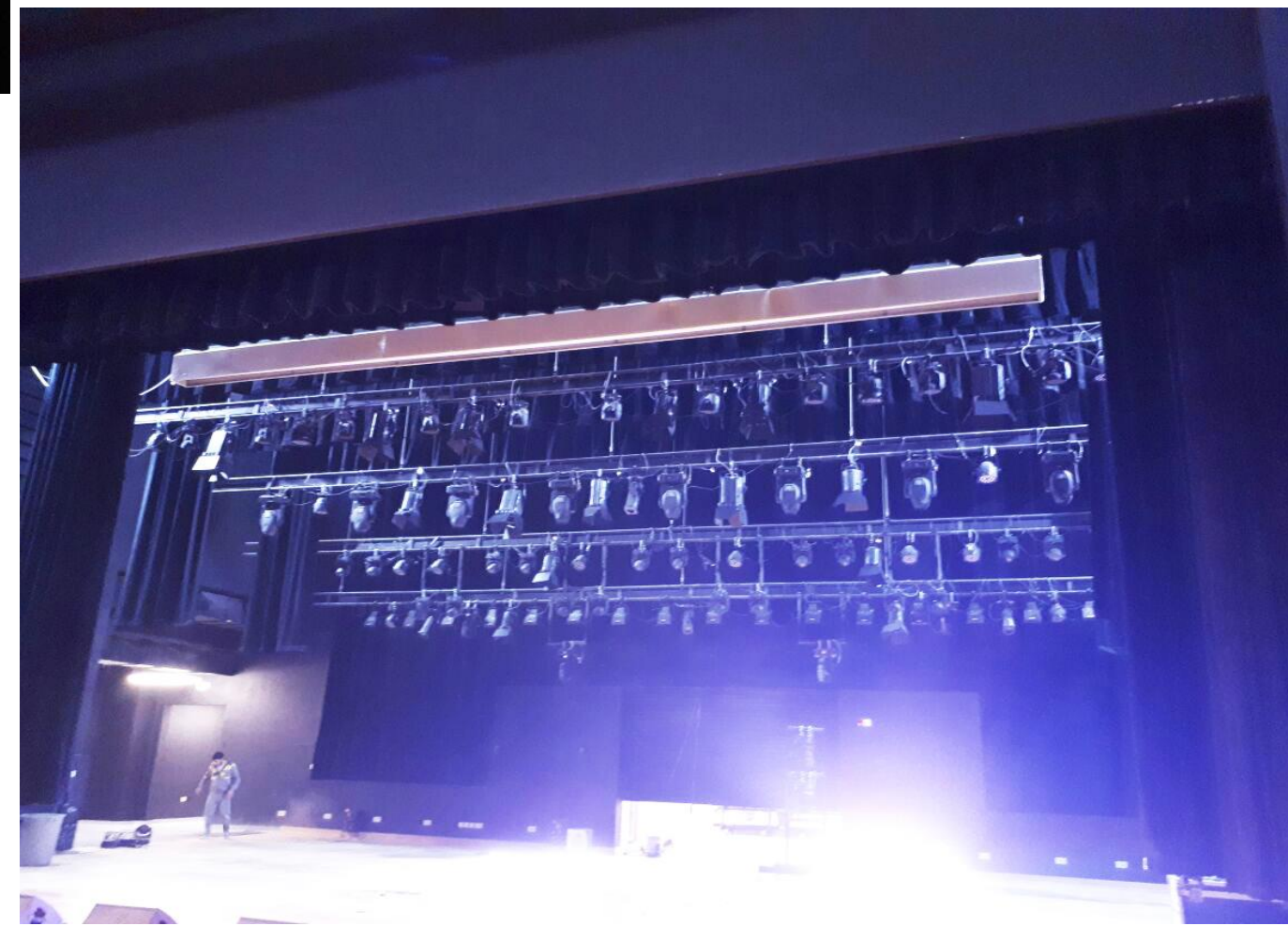
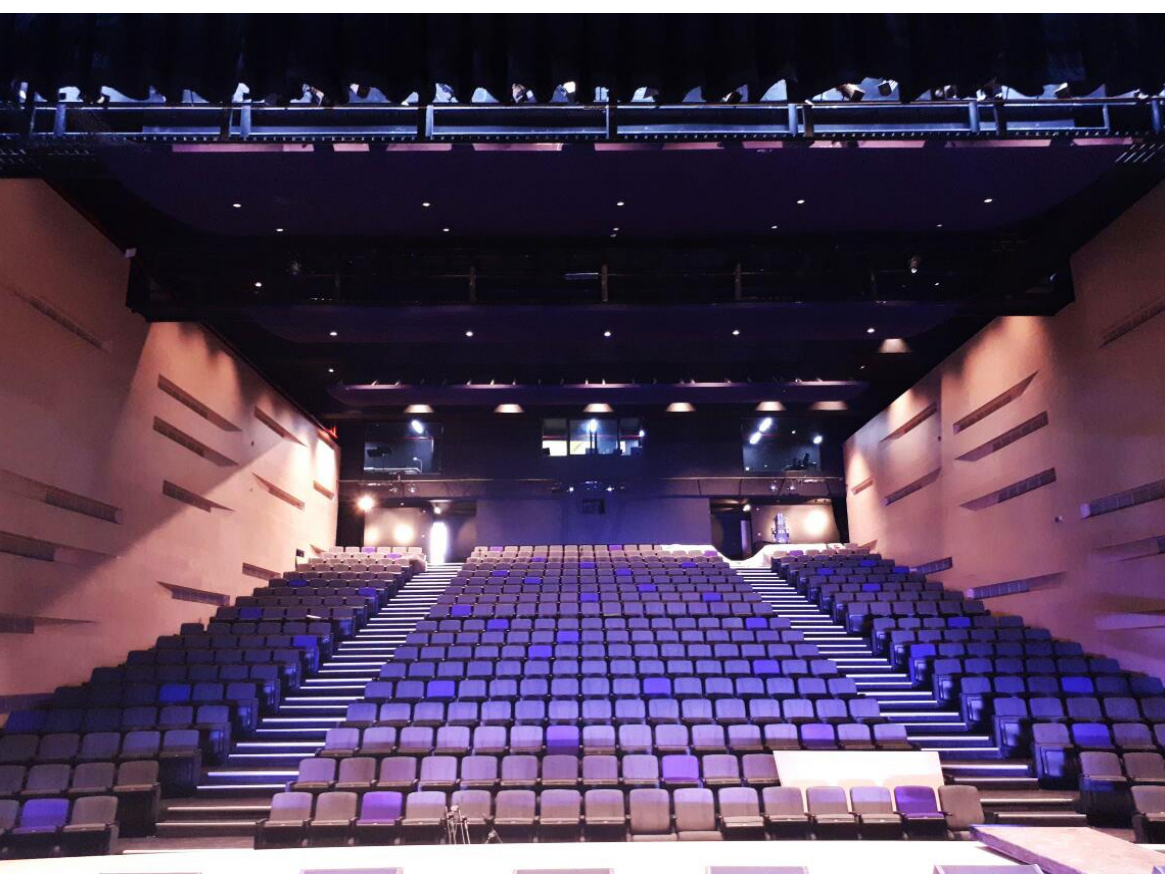
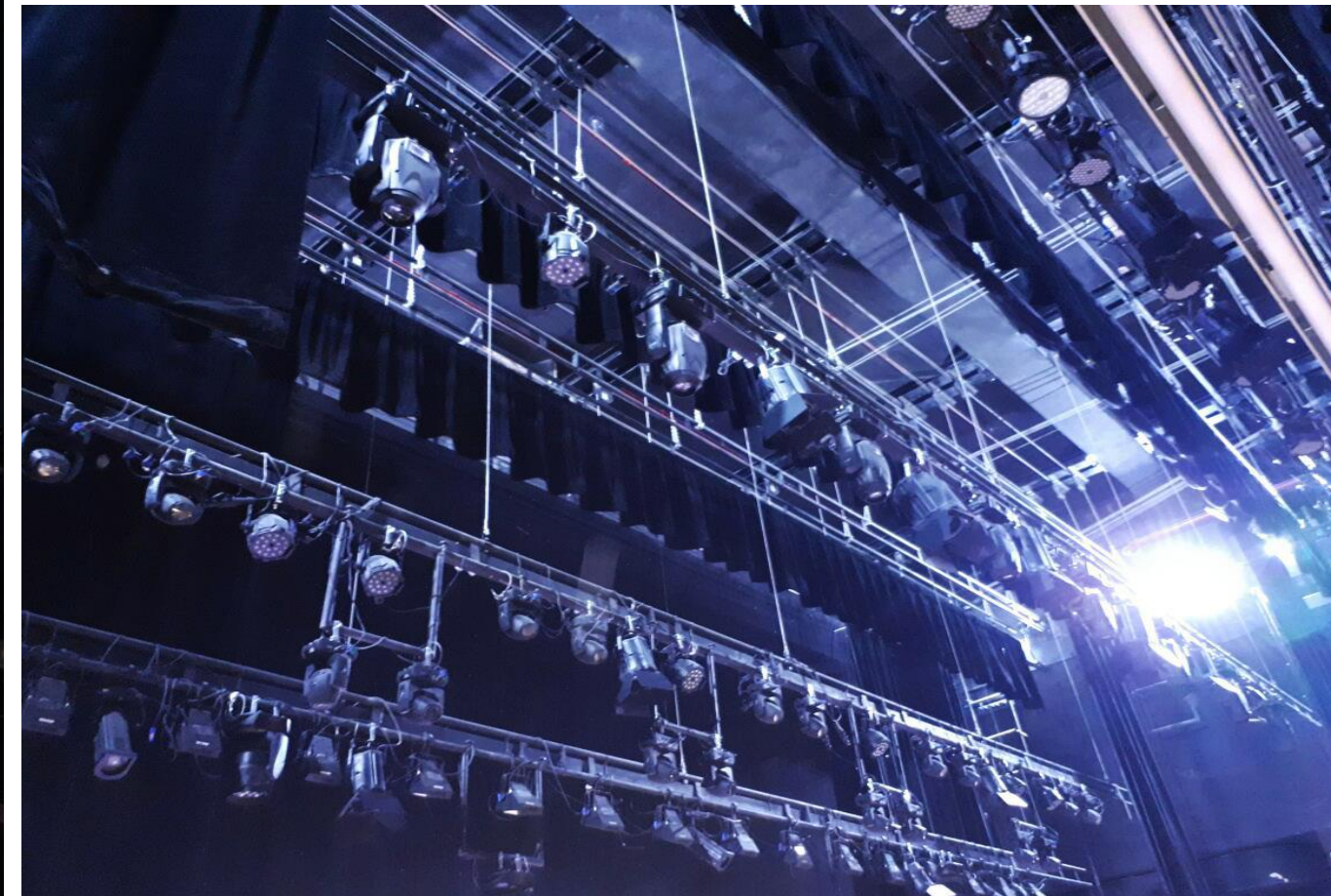
- Rigging System
- Theatrical Lighting
- Audiovisual systems.
- Intercom system
- Orchestra pit filler
- Fixed audience seating .





INAVATION AWARDS

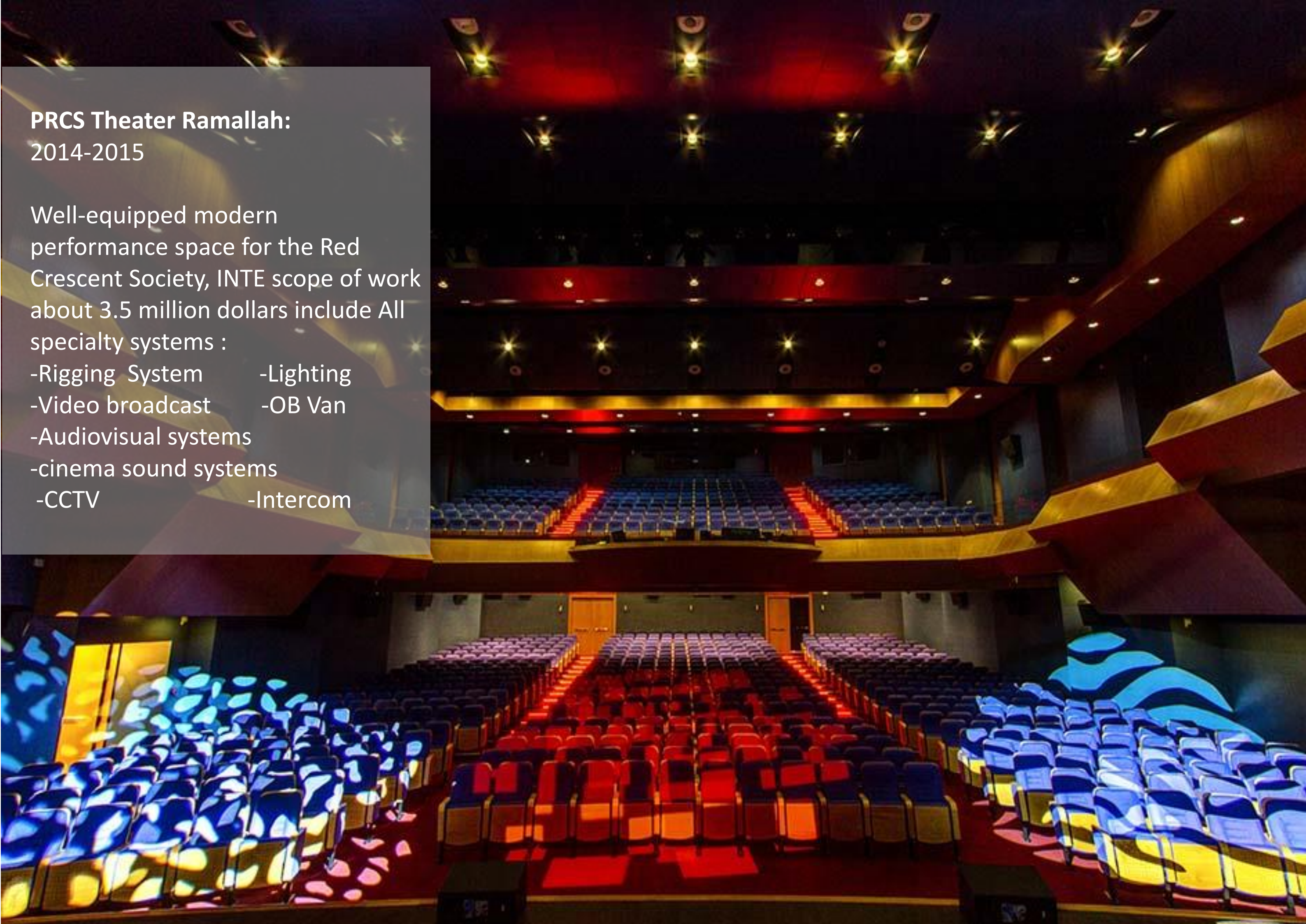
PROJECT FINALIST 2019



PRCS Theater Ramallah: 2014-2015

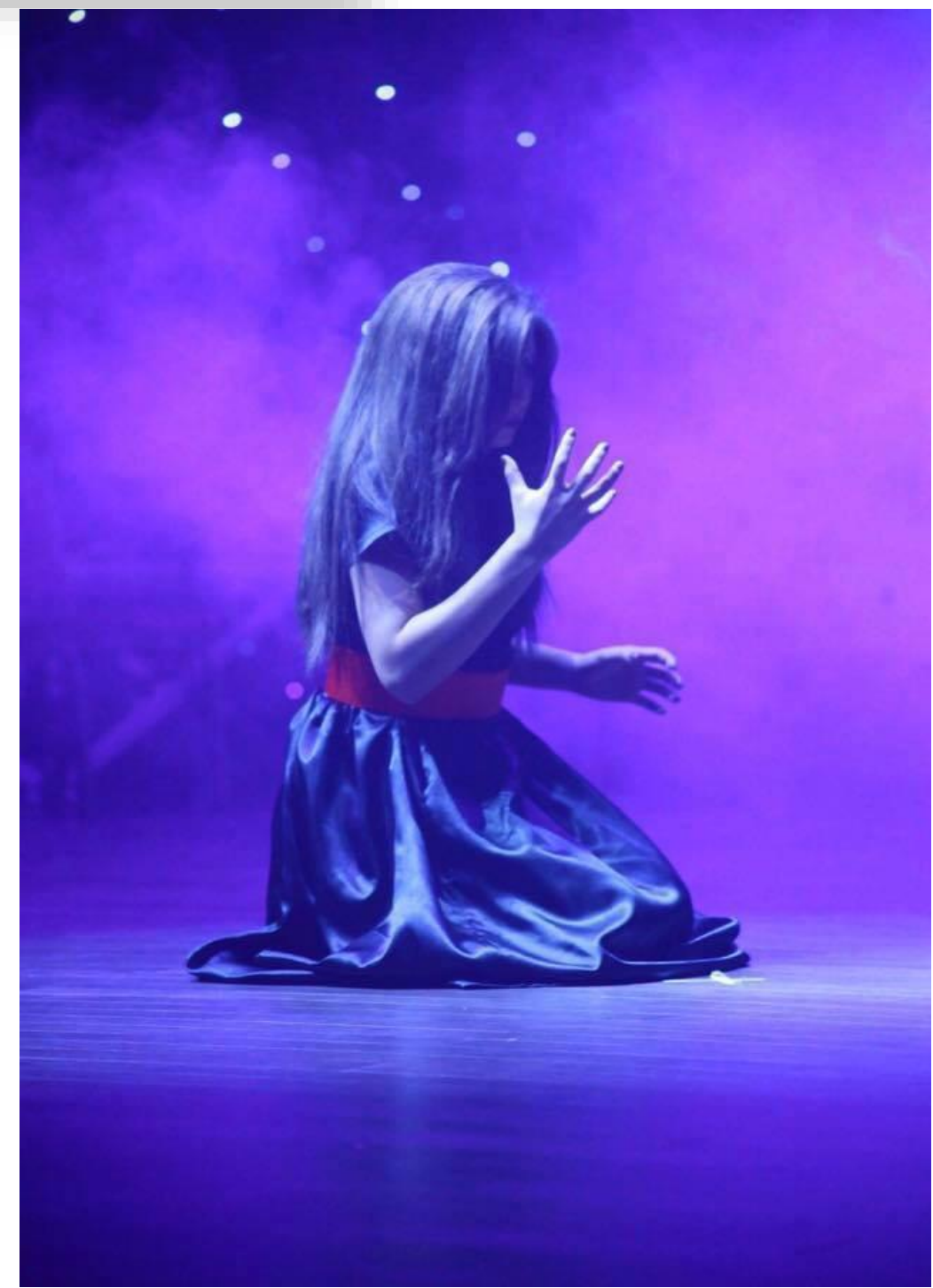
Well-equipped modern performance space for the Red Crescent Society, INTE scope of work about 3.5 million dollars include All specialty systems :

- Rigging System
- Lighting
- Video broadcast
- OB Van
- Audiovisual systems
- cinema sound systems
- CCTV
- Intercom









University Of Jordan
IT college theater







U-17Fifa World cup for women
Amman -Jordan

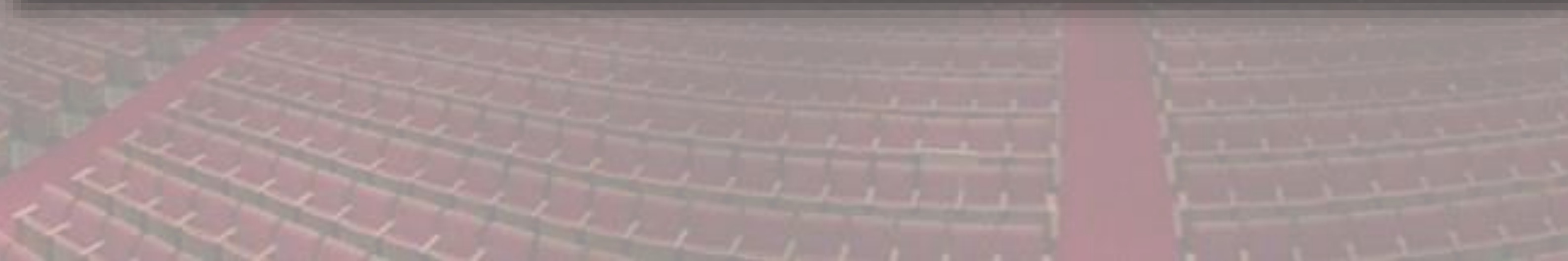






National Art Center
Attwa –Canada



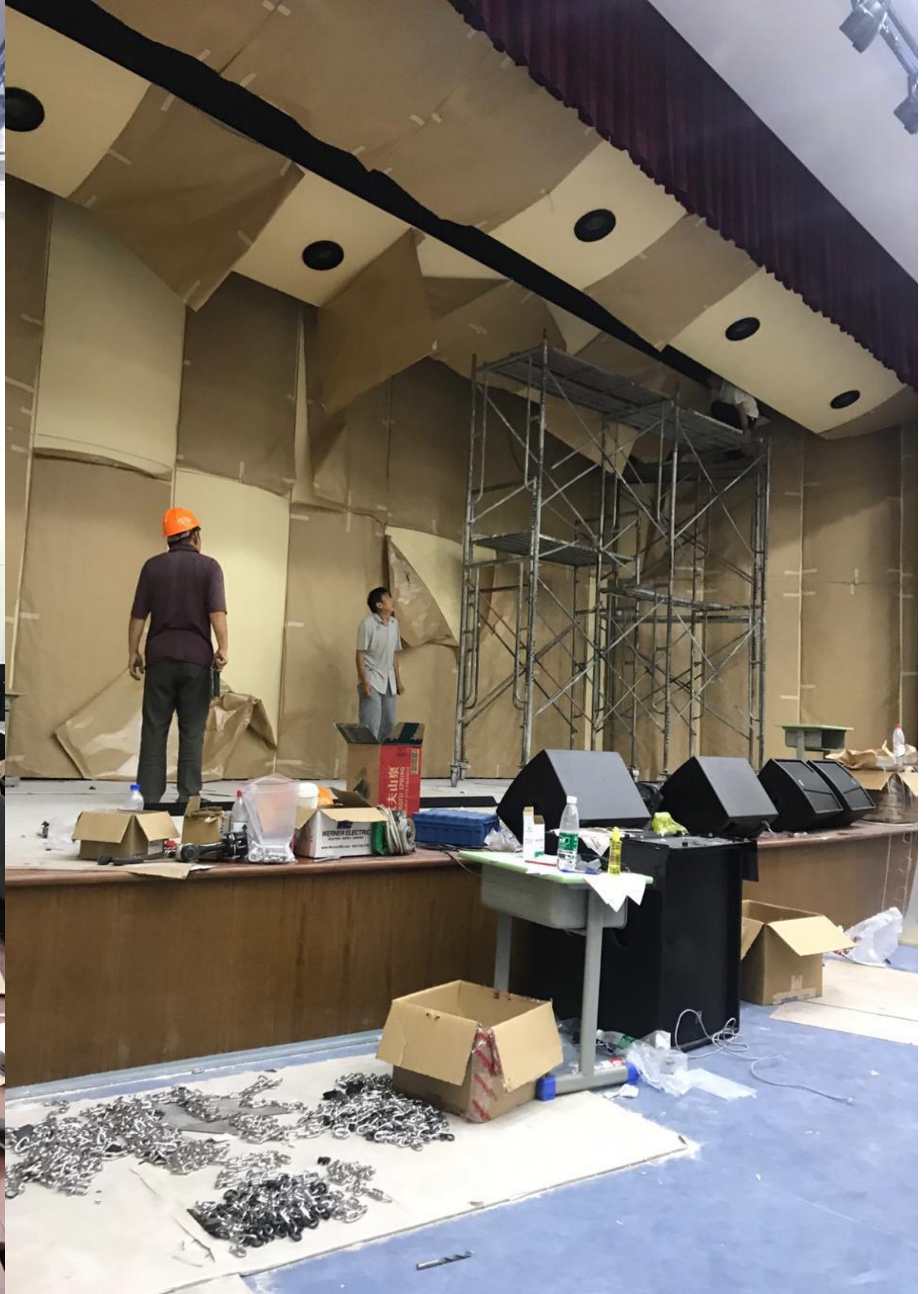






Shanghai Danning School
China





Serena Hotel Ballroom
Nairobi -Kenya



Al-Jemea Auditorium
Nairobi -Kenya



Dead Sea Convention center
Jordan





Hilton
Sustainability and
Community Impact

MEDIA



RESOURCES



Interviews

Consultant Hoare Lea spells out 'Engineers of Human Experience' approach to AV

Special Report

The very latest in networked AV products and services

Technology

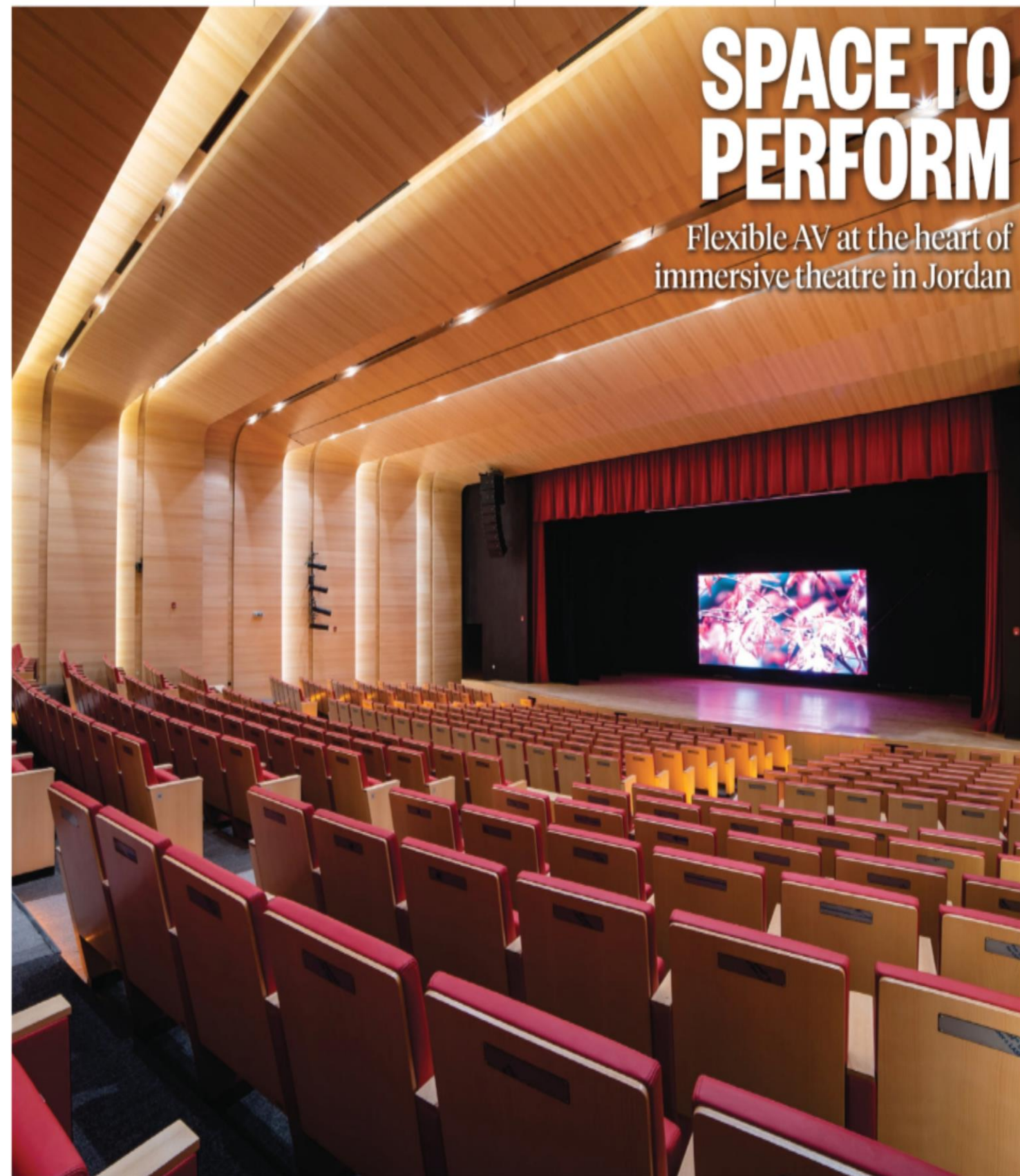
Your next flight will be controlled miles from where it took off

40 under 40

The class of 2021 has adapted to difficult times

SPACE TO PERFORM

Flexible AV at the heart of immersive theatre in Jordan



The Amman Academy is known in the region as an esteemed school with a rich, 30-year history. To expand its offerings for students and commercial use it recently added a new building dedicated to theatrical performances including a multipurpose space designed for meetings. International New Technical Est. (INTE), a systems integrator specialising in theatre installations, was brought in to bring the academy's ambitious vision to life.

Hashem Nazzal, project manager, INTE, explains: "We were brought on as a subcontractor for the project by the main contractor. "They wanted the best theatre, and the school was very excited about this project."

The Amman Academy required an adaptable, world-class theatre equipped with the latest AV technology and stunning lighting to create a space that immerses audiences and can be adapted for the varying needs of the school.

Additionally, a multipurpose space was required that could be used by staff and visitors for meetings or as a breakout area.

Curtain call

The theatre is mid-size with approximately 437 seats, dominated by a Leyard CV4 4mm pixel pitch LED videowall clocking in at a 20 sq m display. INTE worked closely with the client to ensure that the videowall would not compromise the look and feel of the space by encouraging the installation of a mobile display that can be adapted to the needs and requirements of the theatre's users.

Nazzal clarifies: "The original design called for a videowall, and we made a recommendation to allow the design to be of a non-fixed type. You cannot have a fixed display because you will lose space and flexibility. We installed the videowall on one of the theatre's rigging bars and you can simply bring the screen down, it is easy to reconfigure or reinstall and is one of the nicest aspects of the theatre.

"I had to prepare the receivers and the cabling in such a way that we can add more screens or reconfigure the display to futureproof the design."

The theatre uses a TVOne Magenta video matrix and

corresponding transmitters and receivers that are designed for long-life use. The TVOne system was selected due to its reliability in hard-to-reach environments. The latency is very good, and you can switch quickly from inputs to outputs."

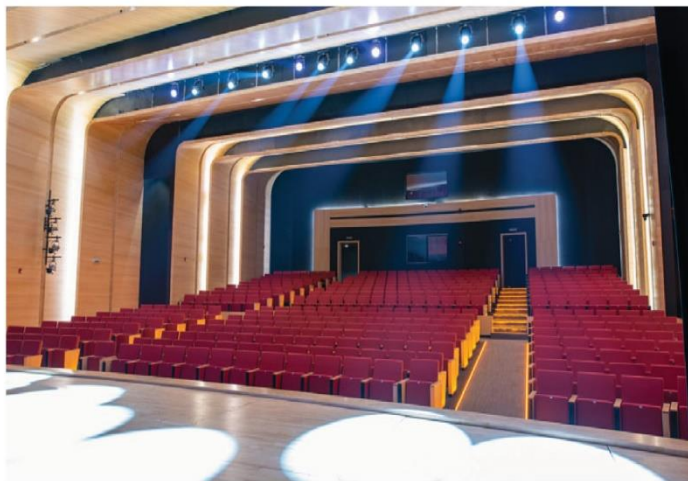
Control of the system was designed to be streamlined and simple for staff at the academy, with INTE selecting an Extron IPCP Pro 550-IP link control processor to control numerous aspects of the theatre's operation, from control of the curtains all the way to the control of the theatre's two BirdDog P100 PTZ video cameras.

Nazzal: "I tried to enable as much control as possible via the touchscreen. We can also record remote learning sessions through the Extron SMP 351 remote learning system. You can also start recording from the touchscreen for any event in the theatre. It's designed to be simple for end users to use, making it as smart as possible.

"For me, it's very important to offer the end user as much control as we can give. Often, it is not a technical specialist using these systems so if it is not well

ACADEMIC EXCELLENCE

Intelligent audio, flexible setups and a streamlined control system combine to create a pioneering theatre at the heart of the Amman Academy. **Reece Webb** reports.



prepared, then there will be operational issues.”

A Digital Projection M-Vision Laser 18K single chip DLP projector is available to provide 18,000 lumens projected onto a Screen International Major Pro-c 7m x 4m electric projection screen. The projector can be controlled via the Extron touchscreen, opening the menu to allow calibration and configuration changes to be made. The projection screen can also be positioned via the Extron touchscreen.

Additionally, the theatre’s dressing rooms are equipped with Samsung RU7170 50-in flat panel displays

A Roland V800HD MK-II-multi-format video switcher is used for video mixing in the theatre, with potential scope for additional cameras to allow the theatre to mix scenes in the space.

Nazzal says: “This theatre is the first theatre in Jordan to have an assisted listening system [Ampetronic D72 DSP hearing loop driver and audio induction loop receiver]. We worked with Ampetronic and a

lot of students will be happy with this setup, we have never seen a theatre in the country with a system like this.”

The main sound system is comprised of a DAS Audio loudspeaker system, using four Aero20A and Aero20 12A, as well as four Artec 5-8A loudspeakers as front fills. The system is supported by four LX-118A line array subwoofers and DAS Audio Road loudspeakers ranging in size from 12-in to 15-in.

Nazzal: “The distribution in the sound is amazing, as the difference between the first row and the last row is less than 3dB, the human ear can’t even detect the difference. The sound is exceptionally clear and for a theatre hosting performances or musicians, this is one of the most important things.”

“DASaim technology has been used to optimise SPL distribution, tonality and frequency response in the whole of the audience area. Audio is distributed by Cat7 cable and it’s managed by DASNet software and DSP 2060 A. Alvaro Plumed, DAS Audio engineer supported the design and

A reliable well equipped lighting system and a clear sound supported by a powerful video system, this is what makes a good theatre.

Hashem Nazzal, INTE

optimisation of the Amman academy theatre system, achieving an amazing result.”

The theatre also features a comprehensive microphone system, using Sennheiser SKM100G4 and MMD 835-1 BK wireless microphones as well as a range of wired microphones to support events at the theatre.

AKG microphones - from small-diaphragm condenser microphones all the way up to professional vocal microphone and instrument microphones for visiting performers – were provided.

INTE was responsible for working with the client to add wireless microphones to the mix, increasing the number and types of microphones available for added flexibility and added value. An Allen & Heath SQ6-D digital mixing console is also used with four AB168 boxes on stage to handle inputs and outputs where needed.

INTE also specified a Philips lighting system for the theatre, equipping the space with 92 Philips luminaires and moving spots. MKII LED luminaires were



installed ranging in size from 18-34 degrees zoomspot models up to the 15-54 degree PLFresnel LED luminaire, as well as SL Beam 300FX and Signify VL 2600 spot moving heads.

Additionally, a Proel PL I S 20 follow spotlight was installed alongside a custom power and control box designed and manufactured by INTE.

Functional design

Adjacent to theatre is the Amman Academy’s multipurpose hall, designed for the theatre team to hold meetings with up to 75 people.

Designed as a space that can be adapted for meetings with staff and visitors, the multipurpose hall features a Digital Projection E-Vision 6900II laser projector and Screen International compact electric projection screen which can be discreetly concealed when not in use.

An Extron IPCP Pro 550 processor sits at the heart of the room, with control functions accessed from an Extron TLP PRO 525 M-Touch-screen control panel.

Nazzal says: “I connected everything to the control processor, even the architectural

lighting of the room and the motorised shades. We have the screen and projector connected to enable up and down movement of the screen as well as all inputs and outputs connected to the processor. Everything is controlled by the touch panel.

“There is also a Roland video mixer which I configured to work remotely from the Extron panel to switch inputs, acting as a video switcher.”

Eight DAS Audio CL6T and two ARTEC 315.96 speakers were installed in the ceiling and wall, supported by DAS Audio PA1500 and PA900 amplifiers.

A project of this scope is, of course, not without its challenges, with the Covid-19 pandemic causing an impact both on project delivery time and the number of staff available to carry out the installation.

Nazzal explains: “This project was built from scratch. When the Covid-19 pandemic hit, we were in the middle of the project and things became much harder. We couldn’t work at full capacity, and we had to work with personal protective equipment.

“Despite that, I wanted to make the systems as simple as possible,

this was my main focus, and I wanted to make the system as futureproof as possible, to allow the theatre to upgrade and upscale the system as required in the future.”

During the project, some members of the INTE team were required to move to other projects, leaving Nazzal to continue with two technicians and additional support staff to complete the project.

Despite the challenges, INTE were able to deliver the project to a high standard, providing the academy with a powerful system that is streamlined and ready for anything that future requirements can throw at it.

Nazzal closes: “The greatest achievement on this project is the theatre: it’s great to have a system that is so well connected. A reliable well equipped lighting system and clear sound supported by a powerful video system is what makes a good theatre.

“I had support from all the companies that we were working with, and they were very supportive. We had to put in a lot of hard work, and we delivered the project to an exceptional standard.” 🍷

Kit List

Audio AKG GN30 ESP gooseneck; C1000-S, C451B, C7, C5 and CK98 condenser; and D7 handheld vocal microphones Allen & Heath SQ6-D digital mixing console, AB168 audio rack Altair WBS-202 and WBP-200HD wireless belt packs and WAM 100s and 100/2s intercom headsets Ampetronic D7-2 assisted listening system and audio induction loop receiver Art MX821 eight channel mic/line mixer DAS Audio Aero 20A and 20.120A line-array loudspeakers, CL6T ceiling speakers, LX-118A line-array subwoofer, Artec 508A and 315.96 speakers, Road series stage monitors, DSP-2060A audio processors and DSP PA-1500 and PA-900 amplifiers Sennheiser Evolution wireless microphone system Tascam monitor speakers	Control Extron IPCP Pro 550-IP control processor, SMP 351 recording and streaming processor, TLP Pro 1220 TG and TLP Pro 525M touchpanels and SW4-HD 4K Plus HDMI switcher TVOne Magenta Mondo Matrix III switching and extension system Roland V800HD and V-1HD video switchers Video & Lighting BirdDog P100 PTZ video camera Digital Projection M-Vision 18K and E-Vision 6900II laser projectors Elmo L12iD document camera Leyard CV4 4mm pitch LED videowall, Venus X1 LED video processor Philips NEO Console; eight port DMX node; PLProfile1 MK II, PLCYCI, PLFresnell, SL Bar 620 LED luminaires; SL series moving heads; and Punchlite 220 and Signify VL 2600 Profiles ProelPLIS20 follow spotlights Samsung RU7170 50-in flat panel displays Screen International Major Pro-c electric projection screens and SI-HL200 motorised projector mount
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Down to business

Historic site offers modern teaching

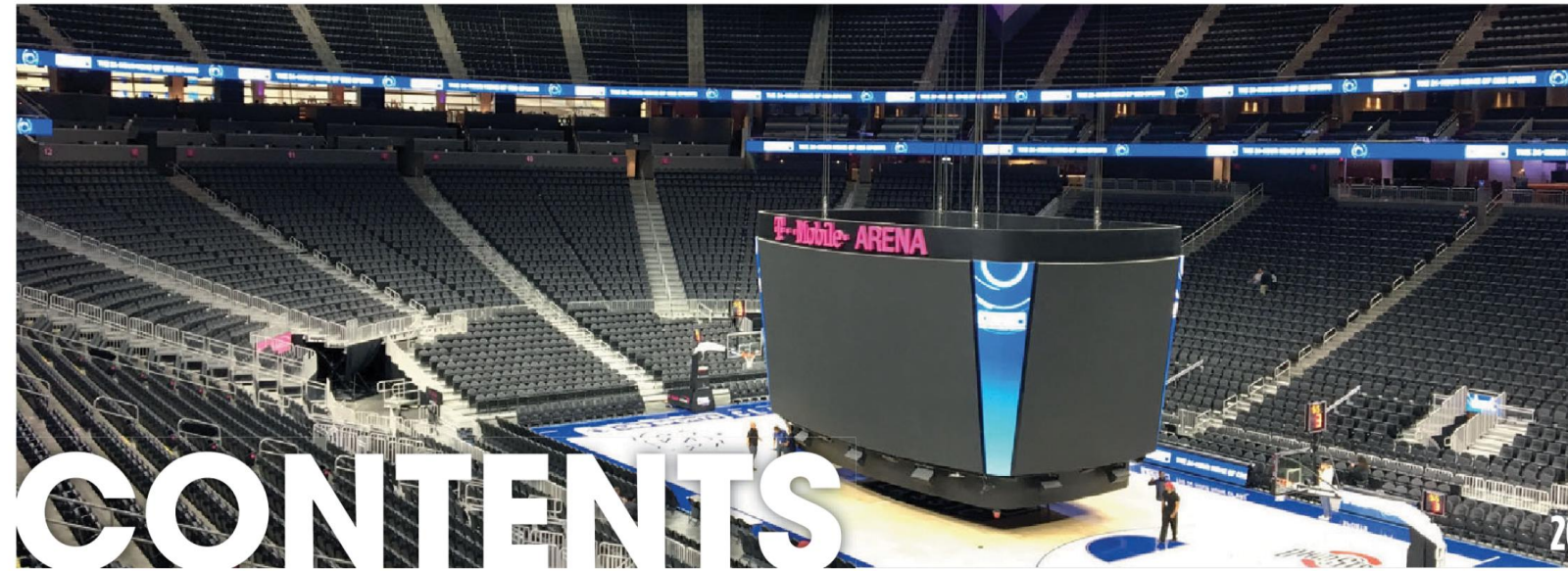
Rise of the robots

Is there room for AI in AV?

Network

Theatre signal dis

A complex composition: Royal Birmingham Conservatoire



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A global outlook

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All the 2018 InAVation Award Project finalists ahead of the ceremony on February 6.
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Kiry Chykeyuk, the co-founder of Kino-mo, is hoping to see his LED-based holographic system in retail stores around the world.
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AI is generating lots of buzz in other verticals, but what can AV learn from those?
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Despite huge budgets, why do stadium owners seem reluctant to install high quality AV throughout new projects?
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Lighting should be an integral part of AV, but often exists separately. Paul Milligan looks at the barriers and opportunities.
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From touchscreen terminals to opinion voting, congress systems are increasingly sophisticated.

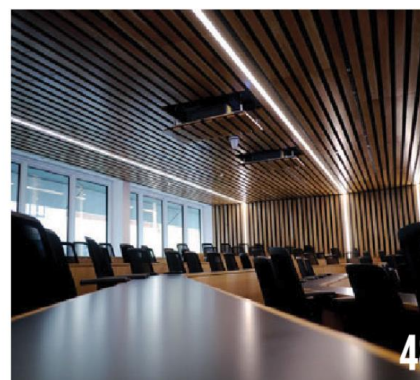
Cover picture is the Recital Hall at The Royal Birmingham Conservatoire, courtesy of Hufton+Crow

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The latest international projects.

Technology

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What to see and do at the RAI in Amsterdam.



After four years in the making, The American Community School in Amman, Jordan has added a 504-seat theatre to its world class facilities. Anna Mitchell reports on AV technologies provided by integration firm INTE.

Take the stage

When Sami Nazzal, project manager at integrator International New Technical Est. (INTE), first heard about plans for a new theatre at Amman's American Community School (ACS), it was in the form of a tender put out by the main building contractor for the project.

Nazzal quickly realised that the systems being asked for hadn't been planned by a theatre specialist, nor would they provide the school with value for money or technologies that would suit its needs and objectives.

Bypassing the main contractor, Nazzal contacted the school directly in 2014 when building work had just started. A happy coincidence meant that, at this time, the school was looking for some help with its gym that it was also using as a theatre.

"We were able to help and it was a chance to show our engineering capabilities," notes Nazzal. "After that I approached them with an offer to design and build the theatre systems, we negotiated a contract and they decided to go with us."

Part way through the project James Housego joined the school at theatre manager. "James

“We believe by having a purpose built, professional theatre it will raise the level of our students’ performances and help them be confident presenters.”

- Larry McIlvain, American Community School

coming into the project was very good for us," notes Nazzal. "He has a background in music but is very smart technically so he started to get involved on the technical side. It was great to have that kind of input from the client."

Housego adds: "I was able to contribute to the final design stages. Minor structural changes were still possible. In addition, I had significant input on the final finishings, electrical, communication, and theatre technical systems."

The design quickly became unrecognisable from that originally proposed. A JR Clancy rigging system was added, the lighting system was upgraded and a 7.1 surround sound system was removed as INTE felt it would be underutilised and budget could be better spent elsewhere.

"There was a lot of money put into a complicated video system and signal conversion," adds Nazzal. "But most of the time there are simply a few sources from the stage, most of

which are HDMI from laptops with a few SDI from cameras. The original design would be good for a multipurpose ballroom but not for this theatre."

Instead, INTE chose to invest more in the projection system that comprised a 20k lumen Christie Roadster projector and a 10 x 5.62m projection screen from Screenint. Matrix switching was handled by a TVOne unit.

Nazzal explains: "The projector creates a beautiful image and we chose a micro-perforated projection screen and put lights in the back so it can be used as a projection screen or as a set for the stage. This will be really important in the future as they also plan to add LED displays when budget allows."

D.A.S. Audio loudspeakers were chosen, with Nazzal opting for the company's Aero 20 line array. Two clusters of six units were hung on each side, complemented by two subwoofers.

< Four front fill speakers at the orchestra pit cover the first few rows. Twelve stage monitors were also provided and an additional four monitors were used as stage fillers from the left and right.

"It's the first time I've used the Aero 20," says Nazzal. "They are networked loudspeakers so I can monitor each unit and check its status using DASnet software."

Nazzal had to be creative to maximise the capabilities of the theatre while keeping within the school's budget. "For audio mixing we got a very nice solution from Roland [the M-5000 live mixing console] that we felt was great in terms of value for money," he says.

One of the features of the project was that the school wanted to be able to route AV signals between the theatre and its studios, music rooms and swimming pool. Smaller Roland mixers – an M-300 and two M-200i units – were installed in the studios and music room.

"We provided three additional mixers but distributed cable to more areas," adds Nazzal. "They have two studios, a drama room that is like a small black box theatre, a music room, a multipurpose room and the pool. James wanted to be able to connect to all these places so the mixers can be moved around. We have made good infrastructure for expansion in the future

and they can gradually buy equipment as they need it and budget becomes available."

Six pairs of Tascam loudspeakers were deployed in control room, music room and studio. Inputs included a Tascam CD player and AKG wireless microphones.

INTE's scope was wide and even included installation of 504 seats sourced from US theatre specialist Wenger.

"The technical systems have been designed for impressive functionality as well as ease of use," adds Housego. "The hope is that all members of the school community will be able to execute basic functions of the technical systems intuitively with little or no



“The original design would be good for a multipurpose ballroom but not for this theatre.”

- Sami Nazzal, INTE

guidance from technical staff."

"Accomplishing this required designing multiple methods of accessing the functionality of the technical systems. For the trained staff, we have the hands on control in the control booth as well as wireless control via iPad, laptop and a stage manager access point.

"Power users will be able to control the systems from the side stage point with minimal help from technical staff. Regular, non-trained, users will have three nine-digit keypads at the side stage that control the sound, lights, and video systems through a MIDI signal control system. We will pre-program basic sound, light, and video commands into the MIDI receiving capabilities of the light board, audio mixer, and video mixer in the control booth. This is an untested system that I have not seen before. Our solution was custom designed by me to try to take the scariness out of theatre tech for non-trained users. We will have a list of commands at the side stage that users can punch into the keypads to execute basic functions."

Larry McIlvain, superintendent at ACS, notes that before the theatre was constructed, school performances were carried out on a makeshift stage in the gym. "While it served the purpose, and we dressed it up a lot, it was still a gym. It

had really old lights, really old sound systems and poor acoustics." McIlvain even noted that the space negatively affected the behaviour of the audience.

"One of our goals is that every student have an opportunity to present to an audience each year," he continues. "We believe by having a purpose built, professional theatre, it will raise the level of our students' performances and help them be confident presenters."

Although, INTE got on site and installed the rigging system in 2015, the project faced some long delays and it wasn't until the winter of 2017 that it was finally complete with the school starting to use it properly at the beginning of 2018.

That was tough for Nazzal's team. "It's hard to be on and off site for a long time," he explains. "It's easy to work solidly on a project for three months but not easy to go one day a week. But we are happy with the outcome."

It seems his client is too. As well as better sound and lighting, McIlvain says the theatre allows the school to teach its students how to be "a proper audience in a purpose built space", offers greater accountability and importance for the performers, provides more space and more opportunities for students to learn new skills as well as delivering a "wow factor".

Tech-Spec

Accessories

Neutrik cables and connectors
Proel racks, stage boxes, mic stands, music stands and cables

Audio

AKG wireless microphone system
Altair Intercom system
D.A.S Audio Aero 20 line arrays, subwoofers, front fill speakers and stage monitors

Roland Digital Snake stage units, recorder, mixing consoles
Tascam CD player and loudspeakers

Video and lighting

Christie Roadster projector
Philips Strand Lighting NEO lighting control console
Roland vision mixer, video convertor
Screenint motorised projection screen
TVOne matrix switcher



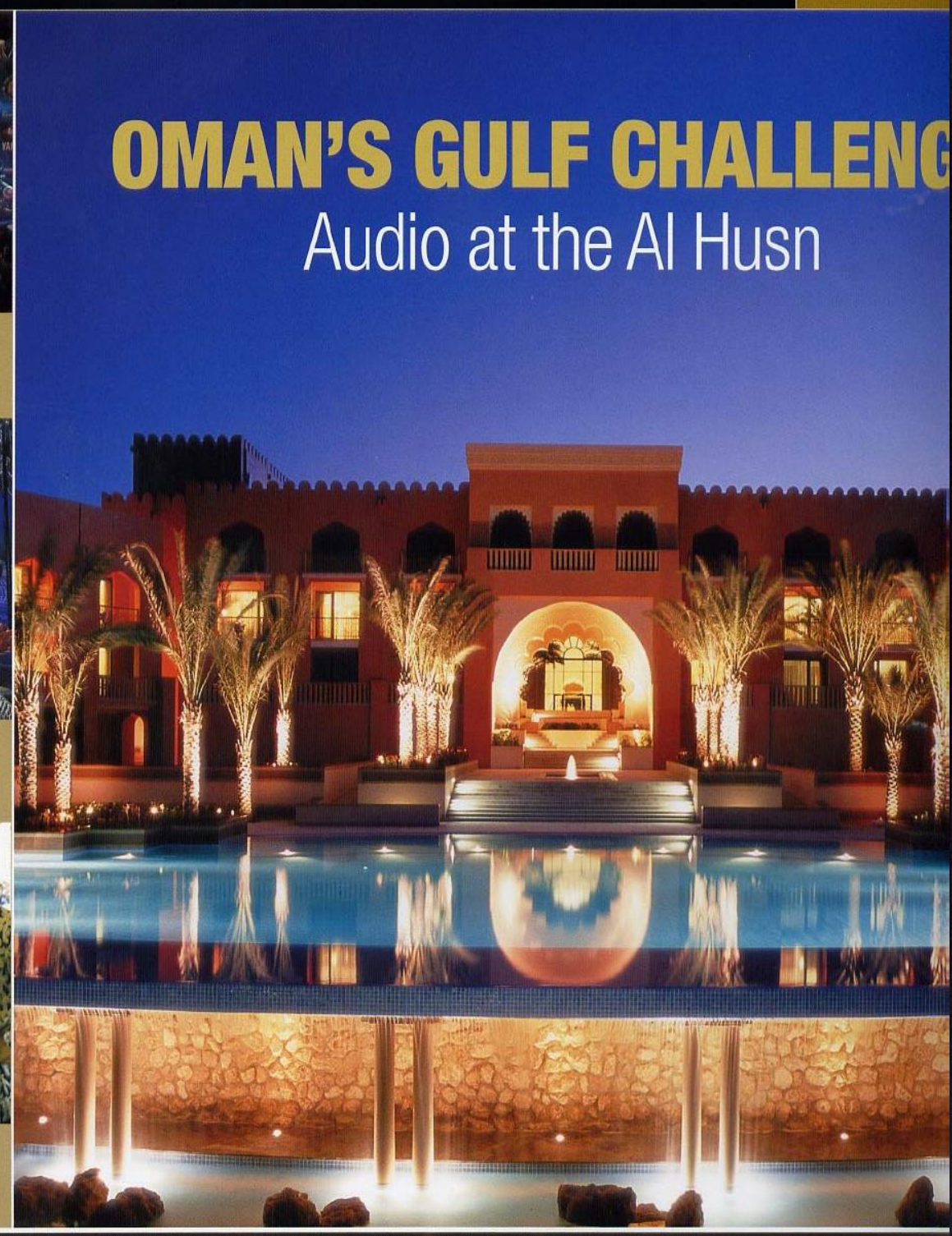
SOUND STORM
DUBAI DESERT ROCK FESTIVAL



FANTASY ISLAND
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ORAL FIXATION
SHAKIRA TOURS GULF



OMAN'S GULF CHALLENGE

Audio at the Al Husn



"I took a whole bunch of controllers home and did a lengthy shoot-out between them. The XTA DP-4 Series won that hands down, followed closely by the DP-226. So we've standardized our systems now around the DP series controllers"

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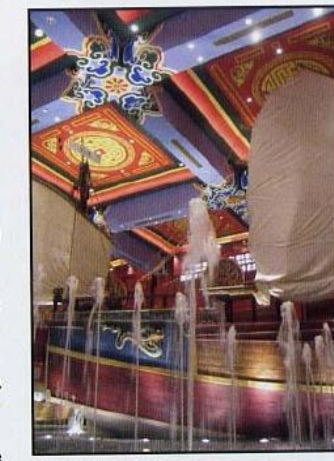
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LEADER



Having spent a lot of time in recording studios, I share the frustration that has been voiced by so many audio professions over the years. The audio standards brought about by the MP3 delivery format and psychoacoustic masking schemes that accompanied MPEL (Adaptive Transform Acoustic Coding) and Digital Companding (Precision Adaptive Sub-band Coding) that were its predecessor.

Having felt myself a part of pro audio's quest for ever higher standards for a good many years, it's disturbing to witness the current trend to adopt lesser standards, even if many of the reasons for this development are legitimate, and the technology behind the current standards is short of astounding. The mistake that I may be making is to believe that pro audio is somehow divine, and that the current sound has always been with us in some form or other.

Of course, the truth is that it took a long time to make the transition from analogue electronics that set our first audio benchmark to the supreme effort to obtain a similar result from the digital domain and processes that followed. Now – in so many ways – we are back to the starting line.

Throwing aside 'traditional' hi-fi systems in favour of portability, we have invited yet another set of challenges that we must overcome if we are to reinstate some of our earlier achievements – to restore the power and fidelity we have enjoyed to the mobile music, TV and film delivery systems that are now regarded as sexy.

And it's beginning to happen – there are technological developments that will change our understanding of entertainment systems. Again. For me, they can't arrive quickly enough.

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COVER Oman raises stakes with Barr Al Jissah Resort

DEAD CENTRE

The unusual background to Jordan's Dead Sea Convention Center provides a suitable setting for the country's first line array installation, among other 'firsts'. **Tim Goodyer** reports

THE EXISTENCE OF THE KING

Hussein Bin Talal Convention Center, located by the Dead Sea, around 25 miles from Amman in Jordan, is entirely down to the World Economic Forum (WEF). After the Geneva-based foundation – whose annual meetings of top business leaders, national political leaders (presidents, prime ministers and others) and selected intellectuals and journalists – convened an Extraordinary Annual Meeting on the Middle East in 2003, it decided to give Jordan a regular place on its international itinerary. In response, Jordan chose to build a convention centre specifically to meet its requirements, among others.

Construction of the King Hussein Bin Talal – or Dead Sea – Convention Center began in November 2003 with

the initial phase covering the ground floor and some basement areas completed in time to accommodate a WEF meeting six months later. Responsibility for the A/V installation was awarded to International New Technical Est, and began around February 2004. In the words of project manager Sami Nazzal: 'It was one of the most important projects we've done.'

It was also something of an impossible mission...

The project fell to INTE largely as a result of its hard-earned standing in Jordan's A/V market. 'Because we are certified as a first-class electromechanical contracting company [contracting companies start from sixth class and go up to first], we have a big advantage over

our competitors when it comes to any project that goes out to tender,' says Mr Nazzal. 'And because all government work goes out to tender, it's a large percentage of our work. Our strategy is to take the good, important jobs where a lot of A/V equipment is involved – instead of 10 small projects, we'll take three or four big ones.'

The centre contains more than 60,000 square feet of meeting and exhibition space, with 15 halls and 12 lounges, and terraces that can also serve as meeting rooms, with INTE holding the contract to provide all the A/V systems throughout. It was an ongoing task that saw it working at the centre in the first few months of 2004 and 2005, preceding WEFs held in late May. Nine of the halls so

far fitted out include the largest – the Philadelphia Hall – along with Wadi Rum Halls 1 and 2, Potra Halls 1 and 2, Mount Nobo Halls 1 and 2 and Dead Sea Halls 1 and 2. Four of the halls can be divided into two by the use of moving partitions, and here INTE has provided 'dual' A/V systems that can function independently or as a single integrated system.

One of the results of the extremely tight schedule required was that the architect made no allowance for the speaker clusters in the biggest hall in the centre. A bigger problem was that there was no time to revise drawings or change anything. 'The speakers were simply set-up on the floor temporarily until the WEF was concluded and we could review the situation,' recalls Mr Nazzal. 'After the WEF, we realised that it was really hard to find any way to solve this problem, as the speaker clusters were big and rigging them would require some kind of support structure that would be very hard to hide. The centre took a long time to hire management and decision-makers, and so decisions on the speaker issue were delayed. Then, after studying the issue closely, it was decided that the earlier DAS Audio speaker clusters we had been using should be changed, as it was impractical to make them blend into the architectural design of the hall – not because of any audio or technical reason. These clusters were moved to other halls in the centre and a new speaker system needed to be purchased for the main hall.'

In addition to the main system in the Philadelphia Hall, there were also ceiling speaker systems throughout the complex to consider. 'Sometimes compromises had to be made to make it possible to finish in time,' says Mr Nazzal. 'For the main hall we used DAS DS-115 and Sub118 speakers and Next Two ceiling speakers. Originally the intention was for all the halls to have Next Two ceiling speakers, however, some of them were lost and we had to find an

alternative very quickly. So we ended up using Merlaud ceiling speakers well, because we had them available.'

The centre took a long time determining which new speakers should be used, with DAS and JBL in close contention. Finally, the management concluded that the DAS Aero line array series was the best choice. After running an EASE modelling simulation for the proposed loudspeakers, it was decided to install two hangs – a straightforward left-right configuration – each consisting of two CA-28A two-way line array modules and two CA-215A subwoofer line array modules. 'Line arrays are not common in Jordan or the Middle East due to their high cost,' Mr Nazzal says. 'In fact, this installation is the first fixed line array installation in Jordan. It has been installed in a very good way and is performing perfectly, and the centre is extremely satisfied with it in all respects. Acoustically, the sound quality is extremely high and has very good sound pressure distribution – and now it looks great and fits well into the existing architecture design of the hall.'

As well as the sound reinforcement systems, the facility was required to host meetings of different nationalities and so needed a conferencing and translation system – in this case an Auditel IP-6d translation system for six languages in the Philadelphia Hall along with two mobile IP-6d translation systems (accommodating three and two languages respectively) for the other halls. The conference systems in the main hall use Auditel SCM-2 chairman units, PMIC-2H and PMIC-2D controllers and SMD-2 and SMD-2F microphones. 'We use Auditel conferencing systems a lot in our work,' explains Mr Nazzal. 'We've done many big projects using them, such as the Jordan Parliament and the Sudan Parliament. In the past year we placed purchase orders of over £200,000 with Auditel.'

For the centre's meeting rooms, INTE supplied mobile A/V systems that include NEC 62-inch plasma

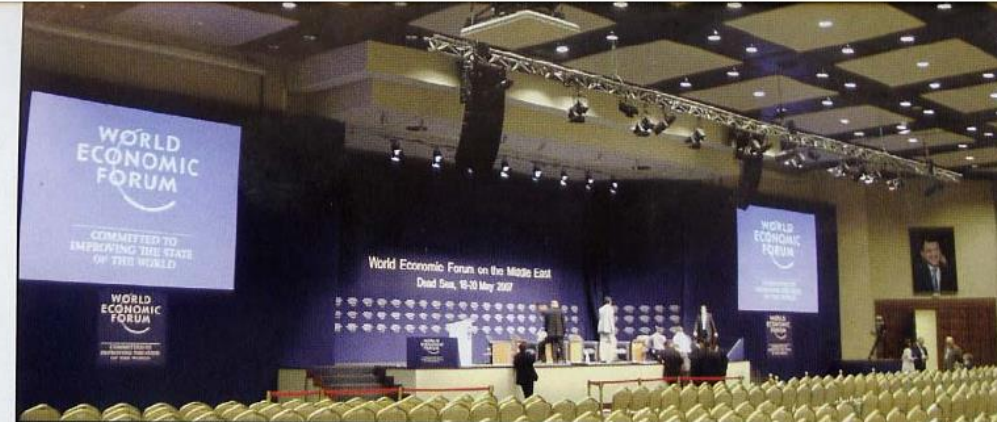
screens, DVD players, custom Cabasse speakers and QSC 850 power amplifiers. Mr Nazzal believes that the mobile equipment can be used flexibly – for example the Cabasse speakers are sometimes used to augment the sound system in any of the eight halls. All halls have video systems comprising a Sony DVO player, Sony VHS player, Elmo visual presenter, LG 17-inch LCD preview monitor and an Extron ISS 108 seamless switcher. The Philadelphia Hall also has two Sanyo PLC-XF 45 10,000 lumen projectors projecting onto two 6m by 4m screens, while the other eight halls each have Sanyo PLC-XF31N 5,000 lumen projectors and either a 3m x 228m screen (six halls) or a 4m x 3m screen (two halls). Electrical projector lifts from US-based SVS were used in all of the halls.

One manufacturer whose products the company has made significant use of is Extron: 'Extron is very well-known in Jordan,' says Mr Nazzal. 'People here consider Extron to be almost a standard when it comes to video switchers. All our competitors use Extron; they control a huge portion of the market.'

Each of the A/V-equipped halls has an Extron ISS 108 seamless switcher, which allows switching of up to eight signal sources in formats that include RGBHV, component, S-video, and composite video. Magenta Research transmitters and receivers are used to deliver the signals – camera feeds from the halls, for instance – over UTP, at distances of up to 1,500 feet. 'We take outputs from the Extron switchers and the audio mixers, send them all to a central control room (over UTP), and there we have a Magenta Research MultiView Cat5 video switch, which can be used to redirect the signals anywhere you want,' Mr Nazzal explains.

He subsequently had the idea of using RGBHV over UTP to distribute digital signage and video to a network of plasma and LCD screens around the building, and proposed this system to the Centre. The final decision to put in the plasma and LCD network – another 'first' for Jordan – was taken at the beginning of April 2005.

'One thing about Jordan is that it's a small country, so you don't have distributors for equipment the way you do in Europe,' Mr Nazzal observes. 'I often purchase directly from the manufacturers or main distributors in Europe or the States. In fact, we've taken on distribution for



The main stage with DAS Audio Aero line array installed by INTE.

offer the longest distance capability with the highest resolution in the market.'

According to Sami Nazzal, Jordan is seeing a boom in inward

investment from other Arab countries such as Dubai and Saudi Arabia: 'There is a lot of work in Jordan at this time,' he says. 'The increase in oil prices means so much cash for

the Gulf countries and a lot of them are coming here to Jordan and investing in big projects. Last year there were at least five projects of US\$300m and above. To illustrate

the point, five-star hotels, construction opportunities are other and government rolling projects being built on old buildings, an essential

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The new M7 rear panel



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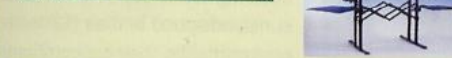


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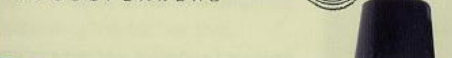
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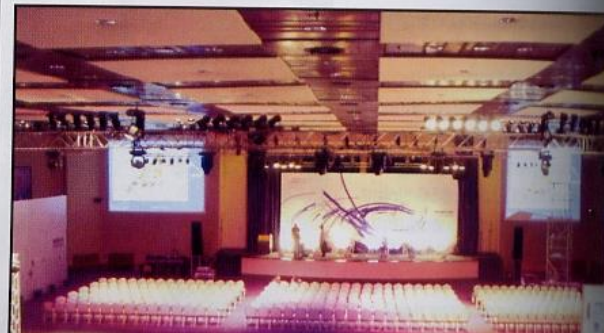
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FEATURE Middle East Report



Jordan's Dead Sea resorts
are due for new hotels.

Despite these misgivings Maunder remains positive about the present situation. "Yeah, we're very optimistic. The market is buoyant, everyone seems to be busy and there's some amazing projects coming from all over the place."

But as has been already noted, there's more to the Middle East than the Emirates. To the south lies Saudi Arabia, an even more oil rich nation but with a much more closed economy, which perhaps explains why less has been made to date of its AV market. It's a far cry from the crazy construction site that is Dubai.

However Waddah El Rayyes, National Manager of Samir, detects a change in the air: "Education and training is the biggest market for us," he says. "Government offices and private companies – we do a lot of turnkey solutions for their presentation rooms and lecture halls. Also for the military, there are a lot of installations for the military because education is a big part of what they do."

"About 30% of our total turn over is turnkey solutions, we're also a distributor of projectors and the turnkey business really depends on what projects come along. Recently we did a very large control room project for Aramco (the state oil company) with Barco equipment."

Mr El Rayyes visited the PALME show in Dubai this year: "I felt there was a lot of light and sound stuff, it was quite a lot of entertainment, but there have been some good changes."

We're seeing more companies we want to there. Several of our suppliers are considering going next year.

"I have been to InfoComm eight times, but this time I'm not going. I've decided that it's not a show for the Middle East, sometimes we just can't find the people to talk to, it's all about the Americas. We're thinking about ISE next year. Again, several of my suppliers are talking to me about this show."

"In Saudi business is generally good. The economy is strong, and we're about to see major investment in education by the government. We're starting put systems into private schools. We installed 150 class rooms with wireless projectors, interactive boards, and room control. This is something we've not seen in Saudi Arabia before. The minister of education is now also talking about doing a pilot project for a complete school with Smart boards and the rest."

El Rayyes also reports that awareness of AV technologies is also increasing in general. Applications such as videoconferencing, which have traditionally been the preserve of the international oil companies, are starting to find their way into Saudi domestic businesses as a way of cutting down on travel times. Improved availability of communication lines and broadband internet connections is driving this forward. A similar situation regarding skilled labour exists in Saudi as it does in The Emirates. Mr El Rayyes has sufficient staff for his regular workload but extra business can be problematic due to the difficulties finding qualified people other than the ones Samir have trained themselves.

Mohammed Nazzal is a Project Manager for Jordan based integration firm International New Technical Est. In an interview at the PALME show Nazzal told me that there has never

been a better time in the company's history.

"What we're seeing at the moment is a fantastically buoyant market. Whilst Jordan may not be seeing the incredible volume of work that is going on in, say, Dubai, we as an integrator are still in a position where we can be choosy about what jobs to bid for and which projects we wish to work on. A particularly strong segment for us continues to be hotels. The area around the Dead-sea coast is still being extensively developed for tourism and we expect another 15 hotels to be built the next few years."

"The Jordanian government has done a great deal to develop a good environment for business and we are profiting from this."

The Egyptian AV market on the other hand is less developed. Maged Abdel-Wadood is Managing Director of IntelliTech who've been running since 2001. Their primary market used to be residential systems but in the last few years Abdel-Wadood says they've started to move into the hotel and boardroom markets. "We do

some very nice, high value board rooms. Right now we're working on a training suite for an Indian company in Egypt, and a boardroom for an Italian firm. "I feel there is a bit of buoyancy in the market now, we've

been through a pretty rough time over the last five years or so, but there is buoyancy, and people are starting to spend a little more money."

It appears most IntelliTech's work is done on a personal level. Indeed, Maged is scathing about tendered business:

"I try not to get involved in competitive tender business out here. The reason is that there are a large number of electrical consultants specifying AV and specifying it poorly. So, for instance with a Crestron system the spec will say something

"The general consensus, talking to designers, consultants and the people out here is that there's another good five to ten years of this level of market activity."
– Richard Maunder

in·no·vate v to bring something new to an environment; to introduce something new



A highly successful ISE show in Brussels has got 2006 off to a good start and hopefully later this month ProLight & Sound will maintain the momentum as we head into the second quarter. Furthermore, recent research carried out by for Infocomm International predicts growth of almost 11% for the European AV market in 2006, making this the fourth year of growth in a row. But how can you make sure you capitalise on the opportunities that will undoubtedly abound this year?

Your first port of call should be the pages of InAVate. This month's business feature from Ron Burges provides excellent advice on how to go about approaching the public sector. Generally less subject to the vagaries of economic performance' government funded projects can provide a reliable source of work, provided that is you know how to approach it.

One area where governments will always spend money is education. Our market insight takes a look at how one

government's ambitious spending plans have affected markets elsewhere as well as providing an overview of technology trends and the prospects for the future.

To those of you who came to see us in Brussels, it was a pleasure to meet you, and to those attending the Frankfurt Messe, I do hope you'll come along and make yourselves, and your thoughts for 2006 known.

Chris Fitzsimmons
Editor

Dead Sea Conference Centre

The installation of a digital signage network in Jordan's Dead Sea Convention Centre.

Networking the World

According to Sami Nazzal, project manager at INTE, now is a good time to be an AV system integrator in Jordan. Bordered by Israel, Iraq, Syria and Saudi Arabia, the country is very much at the heart of the Middle East, and is seeing a boom in inward investment from other Arab countries such as Dubai and Saudi Arabia.

"There is a lot of work in Jordan at this time," says Nazzal. "The increase in oil prices means so much cash for the Gulf countries, and a lot of them are coming here to Jordan and investing in big projects. Last year there were at least five, six projects announced that are 300 million dollars and above."

Nazzal talks of 15-20 new five-star hotels beginning construction, with resultant opportunities for AV work. But there are other opportunities opening up in Jordan as well, in education and government work. For instance, there's a rolling program of new government facilities being built, because a lot of the existing buildings are 20-30 years old. AV technology is considered an essential aspect of the new buildings.

"Because we are certified a first-class electromechanical contracting company (in Jordan, contracting companies start from sixth class and go up to first), that gives us a big advantage over our competitors when it comes to any project that comes in to tender," says Nazzal. "Because all the government work comes in to tender, it's a large percentage of our work."

"Our strategy is we try to only take the good, important jobs where a lot of AV equipment is involved," says Nazzal. "We worked in the past under a lot of pressure from taking so many small projects, so now instead of ten small ones we'll take three or four big ones."

One such large, not to mention very prestigious, project is the King Hussein Bin Talal Convention Center (also known as the Dead Sea Convention Centre). Located less than 25 miles from Amman, by the Dead Sea, the Centre offers more than 60,000 square feet of meeting and exhibition space, with some 15 halls and some 12 lounges and terraces that can act as meeting rooms. The Centre owes its existence

to the World Economic Forum. After Jordan hosted an Extraordinary Annual Meeting on the Middle East for the WEF in 2003, the decision was taken to build the Convention Centre with the primary objective of hosting WEF events in subsequent years. Construction of the Centre began in November 2003, and phase one (the ground floor and some basement areas) was finished in time for the WEF forum meeting six months later. AV design for phase one started around February 2004. INTE got the contract to provide all the AV at the Centre - an ongoing task which has seen it working at the Centre in the first few months of 2004 and 2005, preceding the respective WEF forums, which were held in late May. Nazzal describes the Convention Centre as "one of the most important projects we've done." INTE also has an ongoing operational and maintenance contract with the Centre.

Nine of the halls at the Convention Centre were fitted out with AV equipment by INTE. These consist of the largest hall, the Philadelphia, plus Wadi Rum Halls 1 and 2, Potra Halls 1 and 2, Mount Nobo halls 1 and 2, and Dead Sea Halls 1 and 2. The four hall pairs are single halls which can be turned into two halls by the use of moving partitions, and INTE has equipped each of the partitioned halls to function independently AV-wise.

All nine halls have a video system which consists of a Sony DVD player, Sony VHS player, Elmo visual presenter, LG 17" LCD preview monitor, and an Extron ISS 108 seamless switcher. The Philadelphia hall also has two Sanyo PLC-XF45 10,000 lumen projectors projecting onto two 6m x 4m screens, while the



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other eight halls each have a Sanyo PLC-XF31N 5,000 lumen projector projecting onto either a 3m x 2.28m screen (six halls) or a 4m x 3m screen (two halls). Electrical projector lifts from US company SVS were used in all the halls. INTE also supplied an Auditel IP-6d translation system for six languages in the Philadelphia hall along with two further mobile IP-6d translation systems (three and two languages respectively) for the other halls, with a total of 1,250 IRX-12R infra-red receivers for the translation systems.

For the Centre's meeting rooms, INTE supplied mobile systems that include NEC 62" plasma screens, Auditel conference systems, DVD players, custom built Cabasse speakers and QSC 850 power amplifiers. The Auditel conference system contained SMD-2 and SMD-2F microphones as well as SCM-2 chairman units, and was powered by PMIC-2H and PMIC-2D controllers.

"We use Auditel conferencing systems a lot in our work," says Nazzal. "We've done many big projects using them, such as the Jordanian Parliament and the Sudanese Parliament. In the past year we made purchase orders of over £200,000 with Auditel."

Nazzal comments that the mobile equipment can be used flexibly – for example the Cabasse speakers are sometimes used to strengthen the sound system in one of the eight halls. "Dead Sea I or II for example often needs at least one pair of these speakers. But they're not fixed installation, they can be moved."

INTE also installed the fixed audio systems in the halls. The company used a mix of speakers from Spanish company D.A.S (see tech-spec), MC-6T ceiling speakers from Next Two in the UK, MPA series amplifiers and PMP1040 processors from Swiss company Uniton, and PA and FP 156 TB ceiling speakers from Merlaud in France.

"Many things had to be designed and implemented very, very fast, and sometimes compromises had to be made to make it possible to finish in



The Auditel conference system in situ in one of the many meeting rooms.

time," says Nazzal. "For the main hall we used D.A.S DS-115 and SUB118 speakers and Next Two ceiling speakers. Originally the intention was for all the halls to have Next Two ceiling speakers. However, some of them were lost, and we had no choice but to find some alternative very fast, because we couldn't afford the time to import Next Two speakers. So we ended up using Merlaud ceiling speakers as well because we had them available.

"One thing about Jordan, it's a small country so you don't have any distributors for equipment the way you do in Europe. I purchase directly most of the time from the manufacturers or main distributors in Europe or the States. Most of the people who get the equipment in Jordan are integrators themselves.

"We've taken on distribution for Magenta Research in Jordan, Egypt, Lebanon and Iraq. When it comes to sending signals over UTP cable, they have the longest distance in the market with the highest resolution. Our clients and ourselves have been very satisfied with the signal quality and video quality that you can send over UTP using their products."

INTE has made use of Magenta Research products at the Dead Sea Convention Centre to enable distribution of RGBHV signals over UTP cabling. Another manufacturer whose products the company has made significant use of is Extron.

"Extron is very well known in

Jordan," says Nazzal. "People here consider Extron to be almost a standard when it comes to video switchers. All our competitors use Extron, they control a huge portion of the market."

Each of the AV-equipped halls includes an Extron ISS 108 seamless switcher, which allows switching of up to eight signal sources in formats that include RGBHV, component, S-video, and composite video. Magenta Research transmitters and receivers are used deliver the signals – camera feeds from the halls, for instance – over UTP, at distances of up to 1,500 feet.

"We take outputs from the Extron switchers and the audio mixers, send them all to a central control room [over UTP], and there we have a Magenta Research MultiView 8x8 Cat-5 Video Switch which can be used to redirect the signals to go anywhere else you want," says Nazzal.

Nazzal subsequently had the idea of using RGBHV over UTP to distribute digital signage and video to a network of plasma and LCD screens around the building, and proposed this system to the Centre. The final decision to put in the plasma and LCD network – the first of its kind in Jordan, apparently – was taken at the beginning of April 2005. With everything having to be finished by mid May in time for the WEF, INTE had to move fast. As a result, says Nazzal, the plasma and LCD screens

Tech-Spec

Plasma & LCD network

AutoPatch Modula 32 x 32 RGBHV matrix
Extron DVS 406 digital video scaler x 2
Extron VGA distributors (DA4 x 4, DA6 x 2)
Magenta Research KVM x 2
Magenta Research MultiView Matrix 8x8
Magenta Research Universal MultiView UTx transmitters x 61
Magenta Research receivers x 61 (MultiView AK500 DP, AK1000 DP and AK1500 DP)
LG RT-42PX12X 42"
Plasma screens x 6
LG 3020A 30" LCD screens x 10
LG 1940P 19" LCD screen x 8
NEC PX-61XR3W 61" plasmas x 14
14 computers
Sony DVD recorders
SVS electrical projector lifts

► were not chosen for technical reasons so much as the simple fact that they were available within the given time scale. The screens, in the form of 42" plasmas and 19" and 30" LCDs all from LG, are positioned outside the halls and meeting rooms as well as in lobbies and VIP areas; in addition, 14 NEC PX-61XR3W 61" plasmas are used as mobile displays, which can be positioned and plugged into UTP points as required. The screens can be used to display information such as a site map, room name, schedule of events for the day, the event taking place at the time, and the time till the end of a break. The system can also take in satellite signals and show Jordanian TV, as well as deliver video signals from inside the Centre itself. The plan is to also deliver advertising, from for instance event sponsoring companies and exhibitors.

INTE again took the notion of distributing RGBHV signals over UTP cabling using Magenta Research transmitters. The centre piece of the system is an AutoPatch Modula 32 x 32 RGBHV matrix.

This takes a feed from the aforementioned Extron MultiView Matrix 8x8, enabling events in any of the halls to be sent to any of the screens around the Centre, as well as up to two satellite, broadcast rack, and DVD recorder feeds at a time from a BNC patch panel via two Extron DVS 406 digital video scalars which handle signal conversion from

composite to RGBHV.

For the digital signage, 14 PCs are used; these are connected into the Modula via VGA to RGBHV adaptor cables. Routing of information to relevant screens is done using the matrix. For now the origination, scheduling and routing of information to the screens is done in a relatively unsophisticated way, using Powerpoint, with content selection and routing being done manually.

Nazzal says dedicated digital signage software could be on the agenda, and in this respect a trip to the recent Integrated Systems Europe show proved very useful.

"At ISE I saw a lot of software that could be very helpful in scheduling, and I think I'll bring that up at the Centre," he comments. "Definitely it would make the system much easier to operate."

With the cost of the screens themselves ("The 61" plasma screens alone cost a lot of money"), INTE looked to make cost savings elsewhere, for instance by employing a 32 x 32 rather than a 64 x 64 RGBHV matrix ("That was a significant saving"). Nazzal says they can cover up to 50 screens at the same time using the matrix and some Extron DA4 and DA6 distributor boxes, meaning that some of the screens get dedicated content while others have to display the same content. With 96 patch points around the Centre for fixed and mobile displays, outputs from the matrix and

distributors (which are converted onto UTP using Magenta Research UTx transmitters) are sent to a UTP patch panel in the control room, where the signal outputs can be manually patched to the relevant points around the Centre.

Meanwhile, a plan to use a CCTV system to deliver video feeds to the display network from sessions in the rooms (suitably scaled to RGBHV from composite feeds off the CCTV matrix) has had to be put on hold.

"We were almost going to start installing the CCTV system, then the bombings happened in Amman [in November 2005]," recalls Nazzal.

"Because of the attacks that happened on the three hotels here, the security agencies in Jordan decided that they wanted to put in standards and have approved manufacturers for security systems in all public areas. So we've had to put the CCTV system on hold until they've finished their standards."

It's a salutary reminder of the impact that external factors can have on business.

"There is a lot of potential in the market here," concludes Nazzal. "However, we are in an unstable region, and people are always worried about what the future holds for them. But overall, everyone is looking forward to the coming three to five years, and we're trying to prepare ourselves to do bigger projects than we usually have in Jordan."

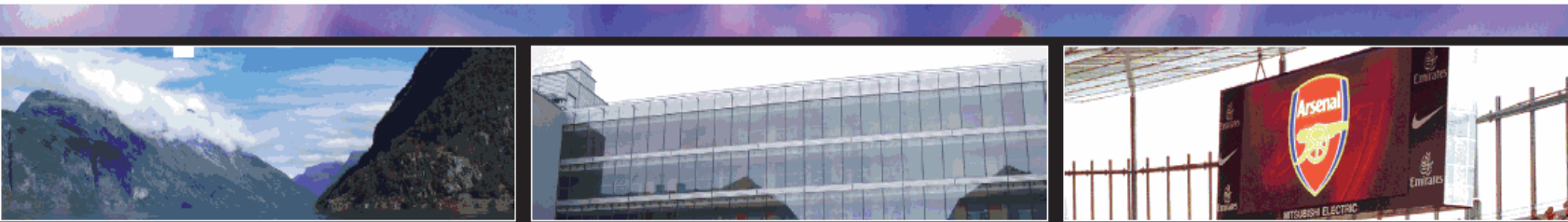


The control room monitors the content on all the displays throughout the site.

More info from:

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THE FUTURE OF AV



Welcome back, I do hope you've all had a great Christmas break. However, there's no time to dwell on that. By the time this issue arrives, the first shows of the year will have been and gone. BETT, the important education technology show was held in London between the 10th and 13th of the month and the Winter NAMM show in the states will have kicked off the year for the audiophiles amongst you.

The main event of the next couple of months however is ISE 2007 at the RAI in Amsterdam. A chance for the industry to meet, chew the fat and get an early glimpse at what's in store for 2007. Some of the market's biggest players have taken some big steps over recent

months and we're bound to start seeing the fruits of these on stands around the show. For a sneak peak at what's going to be there, flick to page 56 for our ISE preview pages. Of course while you're there you should take time out to drop by the InAVate booth, enjoy a coffee or something a little stronger, and give us your thoughts on what you've seen.

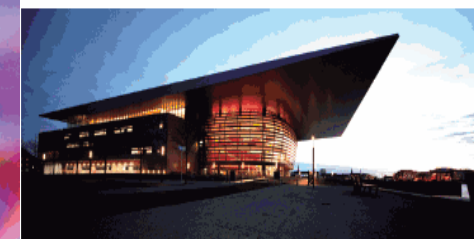
Another feature this month that should give you an idea of the shape of things to come is the first in a series of articles by Tim Kridel. He has selected six technologies as his picks to have a big impact on AV in 2007 and beyond.

In 2006 the InAVate team spent a good portion of its time on the road, meeting with integrators, consultants and other

AV specialists. Part of those encounters always involved getting some feed back, and in 2007 you'll see the results of that as we continuously add to our mix of editorial features. Regional and national insights, interviews with key industry figures and peer reviews are all things that you'll see regularly in the next twelve months in the pages of InAVate.

Have a prosperous New Year, and hopefully I'll see many of you in Amsterdam.

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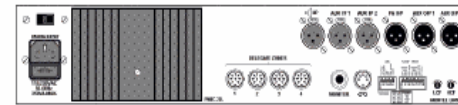
Latest tender news, a five minute interview, InAVate asks and "Did you know?"



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Auditel PMIC-2D

Reviewed by: Mohammed Nazzal, Project manager, International Technical Est. Based in Amman, Jordan. The company specialises in large multipurpose venues and hotels.



The Product:

Auditel PMIC-2D discussion system central unit.

What I use it for:

Conference centres and multipurpose venues as well as educational auditoriums.

What I like about it:

I particularly like the overall ease with which I can implement the product in a project. This starts with the simplest things like very accurately finished terminations for the cabling and ends with simplicity for the user. This reduces the amount of time I have to spend training the client after the installation. Another really neat feature which customers like is the built in monitor loudspeaker for monitoring the floor. This is great for smaller systems where it would be overkill to have separate monitor speaker. The Auditel system also competes very well on price with other comparable systems.

What would I change:

I think the main thing would be to increase the number of delegates that can be attached to each zone. There are power limitations, which mean that a maximum of 100 delegate units can be attached. However this is halved if they have loudspeakers incorporated, and falls even further if additional features such as card readers and translation are used. Another thing I'd like to see are LCD panels on the units, but these would consume even more

power so I can see why they are not currently a feature.

Cabling is an area that could be made better. At the moment we're using Belden 8777 cable on all our installations with this product, but I'd like to switch over to UTP and hopefully this will be addressed soon.

I recently installed it:

In the Jordanian parliament. This was a special job and seated 368 delegates. In the end we employed 192 microphone units, built into the arms of seats allowing members to share one between.

Despite reducing the number of units we still needed more power so we used auxiliary PCIM controllers as additional power supplies. The outcome was very satisfactory, as it had to be - this was a prestige project for us.

Tech-Spec

Frequency response:	125Hz - 22kHz (-3dB)
Distortion at 1kHz:	0.1% maximum
S:N Ratio at 1mV input:	Better than 68dB
Audio input:	0dB nominal (775mV RMS)
Input impedance:	20k Ohms (balanced)
Audio output:	0dB nominal (775mV RMS)
Output impedance:	600 Ohms
Power consumption:	350VA
Power supply:	115/230 VAC 50/60 Hz
Dimensions:	485 x 90 x 460mm
Weight:	10kg

Fixed installations



» D.A.S. Sound Products

Fixed installations

D.A.S. in Jordan

International New Technical Est. (INTE) was responsible for an impressive **audio-visual** installation at the King Hussein Bin Talal Congress Center, also known as the Dead Sea Congress Center. Nine salons have been outfitted with a variety of D.A.S. Sound Products.



Specifically speaking about audio, INTE employed D.A.S. Dynamics, Compact and Pf series acoustic systems, primarily DS-115 and Sub-118 for the main congress hall. Powered Compact 2 systems have been installed as mobile units, for use throughout the Congress Center where ever sound reinforcement is needed. The Pf-115 passive two-way systems were used to provide stage monitoring. The systems were chosen with versatility in mind in order to handle the wide range of events held in the congress center.

According to Sami Nazzal, Project Director at INTE, "The **work opportunities** in Jordan today are immense thanks to its geopolitical situation and the **cash** flowing into the region from the Gulf countries. The large number of hotel being built and the development of other government projects that require audio-visual systems has increased the demands for our services. Now we are concentrating on larger projects as in the past, we worked under a lot of pressure from taking so many small projects."



One of the best examples of the larger government projects taken on by INTE is the magnificent congress center capable of handling any type of convention, exposition or corporate event. Situated about 45 km. from the Jordanian capital of Amman, the surface area exceeds 5,500 square meters divided into 30 halls and terraces conditioned and equipped with the latest audiovisual technologies providing great flexibility and functionality. INTE confided the audio to D.A.S. combining products effectively, providing quality, ease of use and flexibility.



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Recopilamos en estas páginas las noticias e informaciones remitidas por DAS Audio sobre las diferentes actividades y novedades de la compañía durante estos meses.

"CEILING LOUDSPEAKERS" INSTALADOS EN EL HOTEL TABURIENTE

La empresa de instalación y sonorización "Oscar Molowny Sonido-Iluminación, S.L." ha sido la encargada de la instalación de audio en el "Hotel Taburiente" situado en pleno corazón de Santa Cruz de Tenerife (Canarias) al lado del parque García Sanabria, uno de los más bellos de la ciudad. En esta ocasión Oscar Molowny, ha resuelto las exigencias de la sonorización en este espacio multifuncional con los altavoces para empotrar en techo "Ceiling Loudspeakers" concretamente del modelo CL-8T y con sistemas de la serie Factor.



Mientras que en el comedor se ha optado por ocho unidades del modelo Factor 5T (versión con transformador de línea), más de 100 unidades CL-8T proporcionan la música ambiente a los pasillos, vestíbulo, salas de conferencia y cafetería. "Los altavoces de techo Ceiling, -comenta Oscar Molowny-, optimizan la dispersión acústica y favorecen una mayor inteligibilidad del mensaje sonoro que es fundamental para las salas de reuniones y conferencias del hotel". Además de ser altavoces caracterizados por ser fáciles de instalar, Oscar afirma que "armonizan con la decoración tipo Zen del hotel". La reciente decoración del Hotel Taburiente traslada los espacios a Oriente y a las culturas suburbanas. Los Ceiling Loudspeakers se mezclan estéticamente con los colores neutros, las maderas naturales, las líneas rectas, los muebles sencillos y la luz indirecta, todo en perfecto equilibrio. El espacio es muy sobrio, confortable y práctico. Con todo ello se logra crear un ambiente suave y neutral siendo los tonos más utilizados el blanco y toda la gama de los ocreos o los beige.

El Hotel Taburiente es epicentro de muchas actividades empresariales que se valen de sus salones con capacidad de 14 a 200 personas para realizar conferencias, congresos y banquetes. Los CL-8T, se han ubicado principalmente en los salones donde se celebran encuentros sociales o profesionales, como convenciones o reuniones de empresa, donde una comprensión de mensaje preciso y claro es fundamental. Estas salas de conferencia son configurables con paneles divisorios, es decir que el espacio puede convertirse en una, dos, tres o cuatro salas, dependiendo del acontecimiento que vaya a



llevarse a cabo. En la sala de control se encuentran las etapas RMX de QSC. Las señales de entrada de las etapas desde los mezcladores existentes en cada zona se conmutan a través de una matriz digital programable, la cual mediante las teclas de función se programa para lograr la configuración necesaria para cada acto. Incluso, el funcionamiento individual y simultáneo de las cuatro salas sin necesidad de cambios de cableado por parte de los técnicos del hotel.

SONIDO D.A.S. EN EL PALACIO DE CONGRESOS DEL MAR MUERTO

INTE (International New Technical Est.) se ha encargado de acondicionar audiovisualmente nueve de las salas del Palacio de Congresos del Rey Hussein Talal, también conocido como Palacio de



Congresos del Mar Muerto, cuyo nombre recibe de su ubicación en el incomparable marco del mencionado lago salado.

Concretamente en el apartado de audio y entre otros equipos de diferentes fabricantes europeos, se han utilizado recintos de D.A.S. Audio de las series Dynamics, Compact y Pf. Los modelos empleados han sido los siguientes: DS-115 y Sub-118 para uso general en la Sala Principal. Compact 2 para aplicaciones móviles y Pf-115 como monitores de suelo. Equipos de muy diferentes características y gran versatilidad para usos variados según las necesidades del evento a realizar en el Palacio.

Según Sami Nazzal, director de proyectos de INTE "las enormes



posibilidades que ofrece Jordania hoy día debido a su situación geopolítica, su creciente economía, la construcción de hoteles y el desarrollo de proyectos gubernamentales que requieren equipos de audio, explican que la demanda en este sector se hayan disparado y nos hemos centrado en realizar macro encargos del gobierno y hemos optado por descartar pequeños proyectos"

Uno de los mayores ejemplos de estos encargos del gobierno lo tenemos en este magnífico recinto para convenciones, exposiciones y eventos corporativos de todo tipo que se encuentra a 45 km de Amman, la capital de Jordania y que cuenta con más de 5.500 metros cuadrados repartidos en más de 30 salas y terrazas acondicionadas y equipadas con la última tecnología audiovisual para dotarlo de gran flexibilidad y funcionalidad. Una de estas tecnologías es la aportada por D.A.S. Audio con la que INTE ha combinado eficientemente productos de calidad contrastada, gran robustez y prestaciones flexibles.

DALLAS BULL CLUB EN FLORIDA CON REFERENCE DE D.A.S.

Indiscutiblemente uno de los lugares de ocio más en boga de la ciudad de Tampa, el recientemente inaugurado Dallas Bull es hogar de los fanáticos de la música country de la zona. El lugar de aproximadamente 3.000 metros cuadrados atrae interpretes nacionales además de artistas populares locales. Construido desde cero y con un coste de \$6.2M, el Dallas Bull está localizado en las proximidades de los parques feriales del Estado de Florida, a solamente cuatro millas del Old Bull - el club original, que era efectivamente dos remolques el uno contra el otro.

Salvin Sound & Lighting con sede en Kingston, Nueva York es una firma especializada en el diseño e instalación de sistemas audiovisuales, iluminación e integración de efectos especiales. La empresa manejó todos los aspectos de la infraestructura de sonido e iluminación del club. La integración de los sistemas de iluminación y de audio comenzó en noviembre de 2005 y fue completada en julio de 2006 con un coste aproximado de \$400,000. El club destaca por su música del género "Country" y su entretenimiento dividido en dos plantas, con el nivel inferior dedicado a las actuaciones en directo y el nivel superior a la música pre-grabada y el baile.

El Dallas Bull también dispone de una considerable capacidad de iluminación y video. Un sistema de control DMX maneja tanto la iluminación del escenario como la iluminación ambiental de todo el local. Hay un uso intensivo de pantallas de plasma en el club, que se

usan predominantemente para retransmitir las actuaciones en vivo por todas las instalaciones y realizan una doble función, sirviendo para el playback de eventos deportivos y anuncios publicitarios.

Como un local de entretenimiento en vivo, la instalación de audio es extensa y gira alrededor de varios productos del catálogo de D.A.S. Audio. El sistema de refuerzo de sonido está configurado para facilitar el control independiente de las plantas superiores e inferiores además de tener la capacidad de funcionar como un único sistema.

En el nivel inferior, el área del escenario principal tiene instalada catorce altavoces D.A.S. RF-15. Este sistema de dos vías activas destaca por su transductor de 15 pulgadas y su motor de compresión M-10N, que utiliza un imán con estructura de neodimio y una bobina de 3 pulgadas. Cuatro cajas están suspendidas sobre cada lado del escenario, mientras otras seis unidades RF-15 rodean el perímetro de la sala. Para monitores de escenario, Dallas Bull dispone de cuatro sistemas pasivos de dos vías D.A.S. ST-32.

Las tareas de refuerzo de las bajas frecuencias se confían a subwoofers S218 de doble 18 pulgadas diseñado por Salvin. Estos sistemas albergan dos transductores de baja frecuencia D.A.S. 18-GN de 1400 vatios programa que incorporan una estructura de imán de neodimio. Cuatro subwoofers S218 están situados debajo del esce-



nario.

La mezcla del PA principal se realiza por medio de una consola de 40 canales Soundcraft GB8, con dos altavoces D.A.S. DS-112 para monitores en el puesto de mezcla. Procesadores P4800 de Shure ubicados en las dos plantas se encargan de la gestión de los altavoces. Permiten el control independiente o sumado de las dos principales zonas de audio. Las tareas adicionales de gestión de la señal son manejadas por medio de compresores/limitadores Rane C4, puertas de ruido G4 y ecualizadores DEQ 60. El vídeo para las actuaciones en vivo es proyectado desde una estación adyacente al puesto de mezcla principal y es entonces matrizada por toda la instalación.

En el nivel superior, ocho altavoces pasivos D.A.S. DS-112 que incorporan un transductor de bajas frecuencias de 12 pulgadas y un motor de compresión de 1 pulgada forman el núcleo del sistema de refuerzo de sonido. Este sistema se complementa con cuatro subwoofers S218 de doble 18 pulgadas Salvin. La amplificación tanto para los sistemas DS-112 como para las cajas de graves es proporcionada por amplificadores QSC RMX y por la serie PLX. ■

Sonido D.A.S. en el Palacio de Congresos del Mar Muerto en Jordania

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Según Sami Nazzal, director de proyectos de INTE "las enormes posibilidades que ofrece Jordania hoy día debido a su situación geopolítica, su creciente economía, la construcción de hoteles y el desarrollo de proyectos gubernamentales que requieren equipos de audio, explican que la demanda en este sector se hayan disparado y nos hemos centrado en realizar macro encargos del gobierno y hemos optado por descartar pequeños proyectos"

Uno de los mayores ejemplos de estos encargos del gobierno lo tenemos en este magnífico recinto para convenciones, exposiciones y eventos corporativos de todo tipo que se encuentra a 45 km de Amman, la capital de Jordania y que cuenta con más de 5.500 metros cuadrados repartidos en más de 30 salas y terrazas acondicionadas y equipadas con la última tecnología audiovisual para dotarlo de gran flexibilidad y funcionalidad. Una de estas tecnologías es la aportada por D.A.S. Audio con la que INTE ha combinado eficientemente productos de calidad contrastada, gran robustez y prestaciones flexibles.



Finalmente y como comenta el propio Sami Nazzal "el potencial de mercado en Jordania es muy alentador, a pesar de los acontecimientos internacionales recientes.



SOUND & COMMUNICATIONS

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NEWS

Creston Launches Gaming Partner Program

Creston's Gaming Partner Program addresses the particular needs and specific requirements of its Las Vegas hotel and casino customers. Creston's Gaming Partnership Program offers casinos direct access to Creston's True Blue Support team for optimum collaboration with its programmers, designers and engineers. According to Randy Klein, executive VP, "Casinos have special needs because they never close, they have high security issues and they often cater to very discerning clientele." Creston is taking up residence in locations including MGM SkyLofts, Mandalay Bay, Venetian Hotel & Casino, Hard Rock Hotel & Casino, Sapphire, Marriot Club Villas and Fashion Show Mall. The newest installation is The Wynn Resort and Casino.

Wohler Expands

Wohler Technologies has expanded into new space. The San Francisco Bay Area facility is in Hayward CA, and gives Wohler the room required for the present product demands and future expansion. According to Carl Dempsey, executive VP, "[2004] was indeed a record growth year for Wohler as our sales grew by more than 26%. The company has enjoyed an average 15% growth rate for the past five years."

Shea Stadium Teams With Synergy

The New York Mets and Shea Stadium have invested in a Ross Video Synergy 3 Digital Production Switcher as part of a video scoreboard upgrade. "We looked at different SDI switcher options, and in terms of the feature power and efficiencies, Ross was the right investment," commented Tim Gunkel, senior director, marketing production, New York Mets, Shea Stadium. "We have the ability to grow with Synergy as our needs change and we eventually migrate beyond SD to HD." Formerly, the stadium employed an analog 4x3 video scoreboard and has upgraded to an SDI 16x9 Diamond Vision LED video scoreboard for displaying quality digital signals.

Lightronics, AMX Forge Alliance

Lightronics Inc has forged an alliance with AMX Corp. as a Silver InConcert Partner. AMX's InConcert Partner Program enables the integration of manufacturers' equipment with AMX control systems. The integration of Lightronics' Architectural Series with AMX control systems permits Lightronics' commercial and residential customers to not only control their lighting, but a range of other technologies such as audio/video, from one central location.



Control room at the Dead Sea Convention Center, Jordan, with MultiView full-matrix Cat5 switchers and local monitors, permitting full content-to-display flexibility. The system is tied into the CCTV security system. (Source: INTE)



The Dead Sea Convention Center lobby display is located more than 1000 feet from the control room video source. Content includes welcome messages, site map and event schedules. (Source: INTE)



Dead Sea Convention Center's VIP meeting room with remote videoconferencing utilizing MultiView Series gear configured for camera output. (Source: INTE)



Dynamic signage utilizing Magenta's MultiView Series gear at Bloomingdale's department stores. Retail applications are perhaps the highest-growth market segment because installations tend to be replicated, chain-wide.

plays. "We're talking to all the major display manufacturers about expansion-slot receivers for LCDs and plasmas. In fact, we've already done that with Pioneer. We're also an OEM supplier; typically MultiView was selected after an evaluation of the various Cat5 products."

Overall, Magenta's focus seems to be threefold: performance, reliability and flexibility. According to Young, "We put ESD protection on all circuitry so there's no risk of failure from electrostatic discharge. Plus, the RepliSync technology means you can put MultiView into a store with fluorescent lighting, for example, and not be concerned. It's also robust enough for outdoor and noisy environments, such as train platforms and electrical motor rooms." With respect to flexibility, Young outlined more: MultiView is compatible with all types of analog video:

composite, S-video, component video, hi-def TV and computer video. "We address different types of audio as well, including SPDIF, which is the Sony/Philips Digital Interface format. Cascading transmitters, chainable receivers and Cat5 distribution amps can deliver the signals to any number of displays, usually in a variety of schemes. We help customers determine the optimum layout and equipment set."

The Magenta Research story, thus far, has been one of success. Young concluded, "Looking ahead, the product line will evolve to make it even more convenient and cost-effective for end users and integrators. Magenta will continue to take user input, add creative thinking, apply learned technology and develop exceptional products. We encourage customers to let us know what they'll need." —Dan Ferrisi

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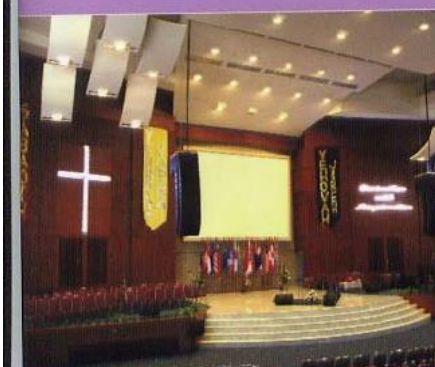
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Issue Five Summer 2007

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Outboard focus. Pages 38-44



Building Jordan. Page 50

LEADER

You will have noticed that we have chosen outboard equipment as the theme for this issue of *WorshipAudio Asia*. Alongside the roundup that gives a healthy indication of the kit that has hit the market over the last 12 months or so, you will find features examining different aspects of what you might want in the outboard world, to your mixing desk and how technical advances have shaped the current state of the outboard art.

Before digital consoles began to rewrite the definition of what a desk did, and why you needed an outboard rack to supplement it, were pretty clear. Although everything was taken care of by the 'family' of electronics, integrating the various functions and processes into the same frame was largely impractical. With the common exception of mixers, preamps, the desk was basically a routing and processing tool, and everything else warranted a separate outboard rack.

But, somewhere between the expense and inconvenience involved in moving in and out of a digital desk domain – and the growing power of DSP – 'outboard' functions migrated onboard. Very recently, German manufacturer Lawo announced that its digital desk is able to work with processing plugins the same way as a digital audio workstation. This combines the integrated approach offered by digital processing with the freedom of choice of separate outboard units.

The benefits of onboard processing are obvious: convenience, reduced equipment footprints and a range of desk configurations among them. Whether you're talking about a touring PA rig, a Broadway production OB truck or a worship hall, space can be a critical factor in selecting a suitable mixing console.

What, then, is left for modern-day outboard? You'll find some of the answers here but behind the scenes, you need to understand the relative merits of any given piece and to relate it to your particular situation. Perhaps most importantly, we should remember that sometimes the old doesn't always take us forward.

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COVER: Seoul's Il San Kwangsung Church

DESIGNER: Dave Houghton, dh@col.biz



"I took a whole bunch of controllers home and did a lengthy shoot-out between them. The XTA DP-4 Series won that hands down, followed closely by the DP-226. So we've standardized our systems now around the DP series controllers"

Dave Rat - Rat Sound



SAMI NAZZAL

project manager at leading Jordan contractor INTE, where he is involved in a wide variety of installation projects including many of the country's mosques

Tell us a little about yourself and pro audio...

A My Father, Nasri Nazzal, is the owner and general manager of INTE so, when I used to come home from university in Canada, where I did my engineering degree, I used to work during the summer.

I presently have more than seven years' experience in the audio industry, mainly in the design and integration of professional audio systems. I have gained experience of many types of audio system, but professional theatres are the most frequent installation that our company undertakes.

How did INTE enter the pro audio industry?

A Our company's first involvement in the pro audio industry was more than 22 years ago, when it was contracted to provide a full auditorium installation in Jordan. This included fitting Auditel delegate microphones in all the seats. It was a very successful project.

What is the company's function?

A Our company is unique, and has certain advantages over its competitors. In addition to being a market leader in audiovisual systems in general, our company is a certified first-class electro-mechanical contracting company (recently moving from sixth to first). This enables us to offer a service that is usually difficult for a single company here – to provide complete solutions for auditoria and theatres.

Our electrical and mechanical engineers manage all electrical and mechanical aspects of the finishing of the auditorium or theatre, while our architects manage the decoration, seating and so on. In addition to this, we have some of the best professionals of A/V in Jordan to design and install all of our audiovisual systems.

Furthermore, INTE is one of the very few companies in the whole Middle East region that is experienced in professional theatre stage mechanics – stage machinery, rigging, orchestra pit

and so on – which makes us a favoured consultant for theatres around the Middle East and outside Jordan. It is very hard to gather all of this expertise in one company, and it took – and still takes – a lot of effort. However, usually our clients are extremely pleased to get the whole package at one stop.

What worship projects does INTE undertake?

A We usually work on professional systems only, and a company of our size and reputation can't work with commercial products.

Unfortunately many worship projects in Jordan prefer cheaper, commercial products which really take a huge portion of this market from us. However, we did a few, such as the King Abdullah Mosque in Amman, which is the most famous mosque in Jordan. It is very famous and many TV stations use it as a background scene when they refer to Amman. In addition to all the audio systems installed inside it, we fitted a nice auditorium for courses and lectures with around 450 seats. All of the seats are equipped with delegate conference microphones. We handled the full auditorium installation, and the work value of the project was \$3,000,000 in 1989.

What are the typical needs of a worship project?

A Muslims in Jordan constitute around 95 per cent of the population, so you can imagine that most worship houses are mosques. There are some churches for the minority Christians but, unfortunately, these are small in number and we have not yet had the opportunity to do one.

Most mosques will require simple audio systems with only a few microphones – mainly for the Imam who is giving the Friday lecture or leading the prayer. This is relayed through speakers distributed in all the locations where people can be, as well as horn speakers outside to relay the Athan, or the prayer call. Very few mosques have other facilities, such as auditoria, that require

other audio systems of the scale found in a theatre.

Do you have specialists for worship installations?

A We don't have specialised people for worship installations. This is because of the small size of this market, as I explained before.

How varied are worship projects in Jordan?

A Most mosques have simple reinforcement systems as I mentioned and very few have other facilities.

How different is worship from other areas of pro audio?

A I would say that there are two things. First, the installation standards are not yet very high, which enables anyone to compete for the work – even those who barely know anything about audio. Most theatres and other audio projects that we undertake have high standards, and thus we will have very few competitors. Second, the shape of mosques usually is very different from normal audio application as a sphere is a very popular aspect of the architect design. This can be very challenging, acoustically speaking.

Is audio for worship a growing market in Jordan?

A I think it is growing normally, in accordance with the population growth and their needs, but that's it. No dramatic growth change.

Do you have access to all the equipment you need?

A Jordan is a very open market and you can get everything you need from anywhere around the world. However, almost everyone – including our company – will refuse to buy from Israel for political and principle reasons, even though it's legally permitted.

What projects do you currently have running?

A We currently have no worship projects but have a lot of other projects. We are involved in a professional theatre installation

that we will be finishing with the next two months. We also have an auditorium in a university (again with delegate microphones provided for all the seats) and we have another auditorium. We also have around six different meeting or multipurpose halls and we have the potential of a few projects that might come in soon.



Dead Sea Convention Center.

What is the most prestigious project you have seen?

A I would say the Dead Sea Convention Center, due to the very high prestige event that it was built for – the World Economic Forum – and to the other conferences it hosts. Because of this, we hold the record for many of the systems related to A/V in the centre – such as the biggest broadcast system in Jordan, the biggest A/V project in Jordan, the biggest motorised projection screen in Jordan, the biggest translation system in Jordan...

But we are also proud of other installations such as the Parliament building, Queen Alia Airport (the main airport in Jordan), The Royal Courts and Prime Minister's Cabinet building.

How do you see worship developing in terms of A/V?

A Unfortunately, I think the worship houses market will keep relying mainly on commercial audio products and it will take time before everyone will realise the importance of having professional products and integrators except for a small percentage of big worship houses.

WAA Thank you Sami Nazzal

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Setting the stage

It was logistics rather than the technical side which provided the biggest challenge for International New Technical Est at the PRCS theatre in Ramallah. **James Ling** finds out more



The system called for 12 DAS Audio Aero 12A line array cabinets flown in L-R hangs

THE NEW THEATRE FOR THE Palestine Red Crescent Society (PRCS) in Ramallah is a well-equipped modern performance space. It features a strong inventory of equipment from major international manufacturers to cover live performances, cinema and broadcast. Getting to this point has been a real challenge for Jordanian designer and installer, International New Technical Est (INTE). However, it was the logistical rather than the technical issues that proved the biggest obstacle.

'You don't have a theatre like this built every day in Palestine,' says INTE project manager Sami Nazzal. 'We had done a few projects over the region in the past, but this one was special because we did the design and then the installation of everything.'

'The experience was very unique,' he continues. 'Philips regional sales manager, Charbel Zoghbi introduced this opportunity to us around August 2013, asking for our support in contacting the client as they needed a complete solution for the theatre. The client gave us around three to four weeks to design everything from stage mechanics to audio, video and lighting. That was very tough. They have a General Assembly where all the PRCS people from around the world come to Ramallah once every five years and they wanted the theatre to be ready for then.'

The design was completed on schedule in a month, giving the PRCS time to look at potential integrators who could take on the work. A number of companies competed



Two powered LX-215RA subwoofers per side are rigged in a cardioid configuration above the Aero 12As

for the installation, but it was INTE that successfully won the contract.

With work getting underway rapidly, the initial signs were promising for completing the project on schedule. 'All of our suppliers were very fast in responding to us and providing the order for us. We shipped everything within a week or two of the order and then we faced the problems with customs.'

'The General Assembly was delayed by four weeks to give us more time and we did everything we could to hit that,' continues the project manager. 'But customs delays are totally out of your control. You just have to wait and it is very frustrating because you know you

that I like a lot in this theatre is that we have a sound cockpit in the middle that is very unique from anything else I've seen,' says Mr Nazzal. 'It's unlike any FOH, in the middle of the seating area. Coming out from the front of the balcony, it's done in a way that doesn't prevent people at the back from seeing, but it is like the top VIP seat because the view from it is the best. It is permanent and it is practical for the operators – they are the luckiest operators from any theatre because they have the best seat in the house.'

One of the biggest investments for the project was the lighting system from various Philips Entertainment brands. 'This was an important project for Philips to be involved with,' says Philips regional sales manager Charbel Zoghbi. 'We have supplied PRCS with a large number of our LED products from Philips Showline and conventional fixtures from Philips Selecon. Our Palette console from Philips Strand is the main lighting desk. It's nice to see our latest LEDs working so well in this prestigious theatre.'

Completing the theatre setup is an intercom solution from Altair, a 22 motorised flybar rigging system from JR Clancy and a large microphone package from AKG. 'It's not a big theatre, but with the design we tried to maximise the usage of the space we have there,' notes the project manager. 'They wanted to compensate for the size by making it very well equipped.'

Away from the main PA, INTE was also responsible for the cinema setup. 'The cinema system is 7.1. We have 24 surround speakers and the five front ones,' explains Mr Nazzal. 'We bought the cinema system from KCS. For the video we have a Barco HD 20,000 lumens DLP projector, and we have a nice motorised



The lighting system is controlled by a Strand Lighting desk



The venue has a 7.1 surround cinema system from KCS



FOH comes out from the front of the balcony to form a cockpit



Traditional dancing performed at the new theatre



Audio control is via a Midas Pro6

9m screen from Screenint in Italy.'

In total, INTE was responsible for 11 different systems in the theatre. 'We connected the theatre with an outside digital signage system which has 3x3 and 2x2 video walls,' explains Mr Nazzal. 'We have the switcher and also some other items from Extron. We have 66 sq-m of really nice LED screens. We have also put in a 16 camera CCTV system.'

The final aspect for the systems integrator was the broadcast setup. 'We have two broadcast systems in there. One is a small full studio. It is five HD cameras with a video switcher from Panasonic with the camera controller and full editing equipment. Also to archive it we have a workstation so people can edit it later,' explains Mr Nazzal. 'Also it is not rare to see an OB van outside taking a live feed from the PRCS building. We have 10 outlets for OB vans to plug into, they have coaxial and triax cables so anyone can come in and either take our feed or plug in their own cameras.'

The end result is something the project manager is rightly proud of. 'What made this project particularly unique was not the technical part, it was the political, business and logistics part,' he reflects. 'The challenges and problems we faced meant it was not an easy project. Technically it was okay, it was the issues bringing the material in which challenged us. It's a nice project in the end though.'

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University of Copenhagen

100 million pixels: Show time at City Walk



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When Jordan won the bid to host a FIFA World Cup tournament it quickly had to bring four of the country's stadiums up to scratch to meet specific regulations for AV equipment. Anna Mitchell finds out more from INTE, the integrator tasked with the meeting the challenge.

Put to the test

When Jordan was selected to host the women's under 17 FIFA World Cup it was tasked with bringing four of the country's football stadiums up to speed to meet FIFA regulations.

Stadiums selected for the tournament were the Amman International Stadium, King Abdullah II Stadium, Prince Hassan Stadium and Prince Mohammad Stadium. Tenders were put out to refit the PA systems in all four stadiums with Jordanian integrator INTE picking up the contracts for three facilities.

FIFA requires that dB levels are between 95-105dB and STI is above 0.55 and one of the first challenges was to convey the importance of the design of the PA systems to the clients. "The clients had no one on board who could judge the designs, who were specialised in similar systems or even

had a minimal amount of experience," explains Haitham Nazzal, project manager at INTE.

INTE had to liaise with the Ministry of Youth and Sport for all stadiums apart from the King Abdullah II stadium, which was handled by the Municipality of Amman.

Nazzal adds: "However, with lots of meetings and discussions we managed to explain the design and our suggestions for PA systems and used the acoustic simulations to show great numbers for dB and STI levels."

But it was after the suggestions were accepted that the real challenge began for INTE. Work on all three stadiums had to be completed in about 25 days and finished in mid-June 2016. Distance was also a challenge. The 18,000 seat Amman

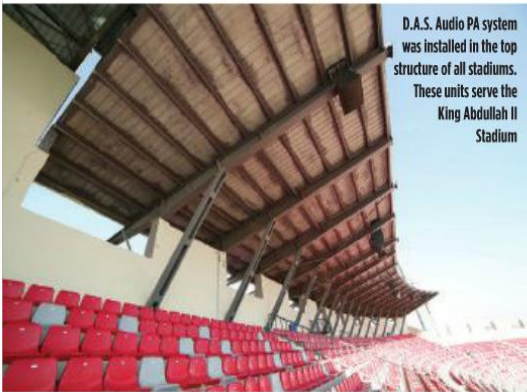
International Stadium; the 14,000 seat King Abdullah II, also in Amman; and the 13,000 seat Prince Hassan Stadium in Irbid were as much as 100km apart.

"From the middle of Amman to Irbid it takes an hour and a half and can easily exceed two hours in traffic," notes Nazzal. "That is three to four hours a day spent in the car. For that, we hired freelance employees who live nearby for stadiums outside Amman."

Nazzal attributes much of the project's success to INTE's ability to find good local engineers who worked on a freelance basis for the integrator.

All three stadiums were to have similar loudspeaker set ups with a slight difference in the number of cabinets deployed depending on >

“At the first level of matches there were four games a day and at times in two different cities.”
- Haitham Nazzal, INTE



D.A.S. Audio PA system was installed in the top structure of all stadiums. These units serve the King Abdullah II Stadium



The Amman International Stadium



Loudspeakers installed at the Prince Hassan Stadium

< the size of the stadium. The system was based on D.A.S. Audio HQ series loudspeakers: 23 were deployed in Amman International, 23 in King Abdullah II and 20 in Prince Hassan.

The units were powered by D.A.S. Audio D-Series amplifiers, with a range of D-10 and D-20 units used. Finally DSP was delivered by D.A.S. Audio DSP-2060As.

Inputs came from OB vans and AKG wireless and wired headphones and INTE supplied Roland Mi-200 mixers.

The proposal had relied on hanging speakers on the top structure of the stadiums. Access was difficult and each cabinet weighed about 80kg and had to be suspended at an average of 25m high.

"We created an iron basket that was hung on the steel structure for maintenance, while the whole installation process, including conduits and cables and hanging the speakers, was done using the mobile crane," says Nazzal.

Large LED screens are used in each stadium and, whilst INTE were not responsible for installation, the company had to interface with the products as the audio system works with the same signal feed for breaks during the match.

The audio systems are used for announcements and music, to build match atmosphere. "They are really powerful speakers," adds Nazzal. "We've used long and short throw cabinets and the long throw ones have the ability to deliver sound, at a very clear and good quality, to about 600 or 700 metres beyond the stadiums."

When INTE answered the tender for PA systems, it also submitted a design for video distribution for cable TV (CATV) systems, which was initially rejected.

"We assumed that the video system was taken by another contractor," explains Nazzal. "Far into the project, we were surprised to find the subject

“By mid-August I received an urgent phone call from the client asking for a meeting. FIFA had asked about video systems and there was no clear answer.”
- Haitham Nazzal, INTE

had been ignored and the systems still needed to be installed. By mid-August I received an urgent phone call from the client asking for a meeting. FIFA had asked about video systems and there was no clear answer."

The design was finally accepted and approved with INTE contracted to deliver systems to the Amman International, Prince Hassan and Prince Mohammad stadiums. However, by this time INTE only had 23 days left before the beginning of the tournament and, in adding the Prince Mohammad Stadium to the installation, also now had work in a third city located about 90km from Amman in Zarqa.

INTE started work on preparing conduits and cabling before the equipment arrived on site. The video system was designed to take signals from OB vans and distribute them to 24 screens throughout the stadiums, including a number of outdoor locations (such as commentary box and media tribune) and indoor areas (including VIP lounges, game co-ordinator room and doping room). The system included encoding and modulation systems and decoders, located at each screen.

A satellite system was considered but rejected and a local system was settled on. "The reason for this is time delay," explains Nazzal. "If you use a satellite receiver system the time delay between a live game and what you watch on screen is 7 to 10 seconds, while in our system the delay between live and the screen is around 0.5-

1 second which is acceptable. FIFA regulations stipulate a maximum of two seconds."

Nazzal worked with a Chinese manufacturer called Colable to deliver encoders and modulators - packaged into one unit dubbed an Encodulator. Colable also sourced and supplied TV boxes, cables and accessories to deliver the complete CATV system.

When the tournament began INTE continued to offer technical support for each match.

"At the first level of matches there were four games a day and at times in two different cities," says Nazzal. "There was a media trained department that communicates between the stadium management and FIFA. They were responsible for operation of systems, especially the PA so it works with the game co-ordinator who manages the music and the announcements."

Now INTE is involved with the training of staff to operate the systems in the stadiums moving forward. "The PA system is very simple," Nazzal continues. "It has a DSP so the signal is processed already. Usually all you need to do is supply a flat signal and the system does the rest. There is no acoustic manipulation needed."

Nazzal pinpoints the specific challenge on the project as the race against time. While the PA installation was carried out under time pressure, it was the video systems that were the most remarkable achievement. It was a huge triumph to have a working system installed on time for this project. ♡

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Video
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October 11, 2017

To Whom it May Concern:



Mr. Sami Nazzal of INTE has been a partner for Wenger Corporation for the past few years and has the confidence of our company to perform as a sales representative of our music education and performing arts products, as well as provide technical support and installations services as requested and required.

In the past few months, Mr. Nazzal has provided technical support and installation services to Wenger for the following projects and customers:

- Dubai Opera House
- Ankara Theater, Turkey
- American International School, Riyadh, KSA
- New York University – Abu Dhabi
- Arab Center for Research – Doha, Qatar
- International Conference Center (ICC), Medinah, KSA
- King Abdulaziz Centre for Knowledge & Culture, Dharhan, KSA
- Faith Academy – Philippines
- American International School of Guangzhou – China
- Nanyang Technological University – Singapore
- Shanghai Daning International Elementary School – China
- National Opera House - Lithuania

Mr. Nazzal and INTE have the full faith and confidence of our organization. We can highly recommend Mr. Nazzal.

Yours sincerely,

Stephanie R Atkinson
International Sales Leader – Europe / Middle East
Wenger Corporation
Tel: +1-507-774-8178
E-mail: stephanie.atkinson@wengercorp.com

WENGER CORPORATION

555 Park Drive P.O. Box 448 Owatonna, MN 55060-0448 | telephone 507.455.4100 | facsimile 507.455.4258 | internet wengercorp.com

J.R. CLANCY

7041 Interstate Island Road Syracuse, NY 13209-9713 | telephone 315.451.3440 | facsimile 315.451.1766 | internet jrclancy.com



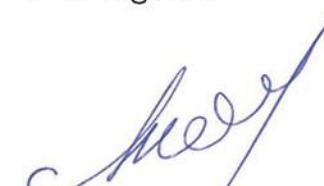
International New
Technical Est. INTE
P.O.Box 925059
Amman 11190
Jordan

Rouxmesnil-Bouteilles,
Le 18/12/2014.

Dear Sir,

Considering the technical capacities of INTE, the proven design capability and the quality of the installations already achieved, we are glad to confirm that INTE is an approved SERAPID LinkLift designer and installer for entertainment applications. That includes all venues in theatres, operas, museums, universities, cultural centres...

Best regards


Eric MICHAUT
 Project manager-Theatre-

INAVATION AWARDS 2015

Distributor of the Year

Winner: **publitec GmbH**

Last year the InAVation Awards added Distributor of the Year to the event line-up and after a popular start it returned in 2015. This year German company publitec saw off rivals to snap up the award designed to reward distributors that support AV integrators and promote the effective use of AV technologies.

In its entry publitec clearly positioned itself as going beyond "box-moving" to demonstrate how it added value and delivered knowledge to its customers.

The company presented its "visualounge experience" events that are held six times a year, with each iteration focusing on a particular technology area. Through workshops and visits to locations where technology has been applied, the company encourages hands-on learning and two-way discussion.

In a flagship event called "visualounge onstage" publitec brings together partners and "opinion leaders" with its suppliers to network and generate fresh ideas and visions for business plans. Speeches, presentations and workshops are combined with product demonstrations. Topics range beyond technology to encompass subjects such as employee motivation or legal considerations.

The company also places an emphasis on training through "publitec Academy". The company's training programme looks to develop specific skills (such as how to operate seamless switchers) as well as covering topics such as communication issues and management skills. Only certified engineers deliver the training sessions and publitec has standardised the programme so it is the same in each region.



Sponsored by: **CHRISTIE**

Finalists: CIE-Group | Exertis | Midwich Ltd | Prase Engineering | PSCo

Consultant or Project Manager of the Year

Winner: **Sami Nazzal, International New Technical Est (INTE)**

This year the InAVation Award for Project Management goes to Sami Nazzal of INTE for his work at the Ramallah Theatre in the West Bank.

Judges noted Nazzal's effort and dedication in creating a useful resource for a charity as well as a leisure facility for people in a troubled region. However, the panel made their final decision based on Nazzal's skill in overcoming some serious project management challenges.

Import and logistics issues plagued the project and Nazzal responded with persistence and the flexibility required to adapt some specifications that could not be met with the technology that was originally intended for the job.

Furthermore, Nazzal had to operate without his usual team of engineers from Jordan, where INTE is based. Due to visa restrictions they could not travel to the site so Nazzal co-ordinated local teams as well as, in certain cases, utilising assistance from manufacturers of the products he was installing.

"The market in Palestine is very small so finding skilled people and professional technicians was a challenge," Nazzal recently told InAVate magazine. "There are skilled engineers but not in the AV field. Somebody with a background in electronics does not necessarily know how to install a sound or media system. You need experience of doing this and with few projects in the region that experience is hard to gain."



Sponsored by: **AMX**

Finalists: Ingo Aicher, Jones AV | Rhythm Arora, Qubix | Matt Hunt, Reflex

Palestine Red Crescent Society



جمعية الهلال الأحمر الفلسطيني

Date: 11/11/2014

Ref.No: 25/ad/2014

Subject: PRCS Theater

Dear Mr. Nazzal,

On behalf of Palestine Red Crescent Society (PRCS), I would like to send you our thanks and appreciation for working with us on the PRCS theater in our headquarter building, Ramallah, Palestine. We were glad to learn about your company after a long search for theater specialist inside Palestine and in the region. Your design for all specialty systems met our highest expectation and came out to be exactly what we needed.

The very tight timeline in both design and installation stages were not the only challenges the project faced, the challenges were much bigger due to the occupation in Palestine that provided untraditional problems that only people in Palestine face. The free movement of people and goods, absence of clear fair laws and accountability certainly provided big problems for your work. We appreciate all your effort and dedication working on facing these problems and minimizing them by everything that was available in your power to do.

We are very pleased with the outcome of the work of many months. We take great pride of our theater that is catching the attention and admiration of almost all people that see it.

Sincerely yours

Eng. Ahmed Sowadeh



فلسطين / البيرة - شارع القدس الرئيسي - هاتف : 02-2978520 - فاكس : 02-2406518 - ص.ب : 3637 البيرة
Palestine \ Al-Bireh - Jerusalem Main St. - Tel : 02-2978520 - Fax : 02-2406518 - P.O.Box : 3637 Al-Bireh
E-mail: info@PalestineRCS.org www.PalestineRCS.org



Design, Manufacture And Installation Of Theatrical Equipment Worldwide

J.R. Clancy, Incorporated
7041 Interstate Island Road
Syracuse, New York USA 13209-9713

Telephone: (315) 451-3440
Facsimile: (315) 451-1766
www.jrclancy.com

ISO 9001:2008 Certified
Quality Management System

May 22, 2014

Mr. Ahmed Fawzy Khattab Madkour
Al Mudaidib Contracting
PO Box 9291
Jeddah 21413 Saudi Arabia

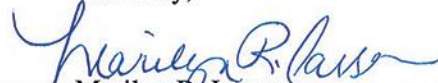
Reference: International New Technical Est. (INTE)
International Convention Center, Al Madinah

Dear Sir,

This letter serves as confirmation that INTE has been a preferred dealer of JR Clancy since 2006 and always has our support on their projects. On projects that they have completed with our equipment we have heard only good things about their work.

Please let me know if you have further questions.

Sincerely,


Marilyn R. Larsen
Coordinator

/mrl



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Telephone: (315) 451-3440
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www.jrclancy.com

ISO 9001:2008 Certified
Quality Management System

February 26, 2014

Reference: International New Technical Est. (INTE)

To Whom It May Concern:

This letter is to confirm that J.R. Clancy has been working with INTE on different projects in the Middle East and has been an authorized regional dealer since 2006.

If you have any questions or concerns regarding their capabilities, please don't hesitate to contact me.

Thank you.

Sincerely,

Michael S. Murphy

Michael S. Murphy
President

MSM/mrl

ULTRA EQUIPMENT ULTRA

Date: Apr 23, 2018

Reference: International New Technical Est.

To Whom It May Concern

This letter is to confirm that International New Technical Est (INTE); AV & Theater specialist company located in Amman, Jordan is our partner on different projects in Kenya.

INTE is providing us with engineering service for the following Three projects in Kenya:

- Aljamea University Theater.
All speciality system including ; Rigging System (JRCLANCY/Wenger),
Lighting System (Philips) ,and AV System .
- Nairobi Serena Hotel Ballroom.
AV System .
- Brookhouse school Auditorium .
AV & Lighting System .

We are very pleased to work with them.

ULTRA EQUIPMENT LTD.
P.O. Box 42391
00100 NAIROBI KENYA

ULTRA EQUIPMENT ULTRA

2nd Floor, Sound Plaza - Woodvale Grove, Westlands
P.O. Box 42391 - 00100 Nairobi, Kenya
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w. www.ultraeq.com



ARAB CONSTRUCTION & CONTRACTING COMPANY



Tel. 462 3367 / 463 8733 / 461 8328 / 461 8483 - Fax. 463 0447
P.O.Box 2277 - Amman 11181 Jordan - E-mail: accc@go.com.jo

Date: June 3, 2018

Reference: International New Technical Est.

To whom it may concern,

Please be informed that International New Technical Est is our subcontractor & Theater specialist for Amman Academy Theater project in Amman, Jordan which is under construction and planned to be finished in June, 2019.

INTE was awarded the contractor for a value of 1,406,316.60 \$

Best Regards,

Mostafa Rafiq Khader

Electromechanical Manager





THE THEATER SPECIALIST

258 Prince Mohammed Street, 2nd Floor, 3rd Circle, Jabal Amman

P.O.Box 925059 Amman 11190 Jordan

Tel: +(962)6 4615585

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