

# The Power of THE ONE

A dazzling new revue  
opens in Berlin

By: Sharon Stancavage

Photo: Sven Danner



"We create world premieres that we design just for our theatre, and we want to perform them for two years; at the same time, it takes us two years to develop a new production," explains Oliver Hoppmann, creative director of Berlin's historic Friedrichstadt-Palast Theatre. The theatre is acknowledged as one of the most technologically advanced in Europe, and features a hydraulic system, a massive pool [unused for this production], and a storage area three stories below.

The author and director of *THE ONE Grand Show* is Roland Welke, the Palast's former creative director. He says, "When I started working on this project, I only had a few visions in my mind, ideas of moments or scenes. It felt like a dream. That was the moment when I found out that I should link all these concepts with the idea of a dream.

"A second inspiration was a photo I saw many years ago, hanging on the wall in my office. It was of the destroyed Michigan Theatre, in Detroit. I was very impressed by the aura it still had, of the glamorous old days. Finally, I linked these two aspects to the story of a show: an old theatre, a so-called 'lost place,' where an underground party happens."

Thus begins the story of *THE ONE Grand Show*; it's

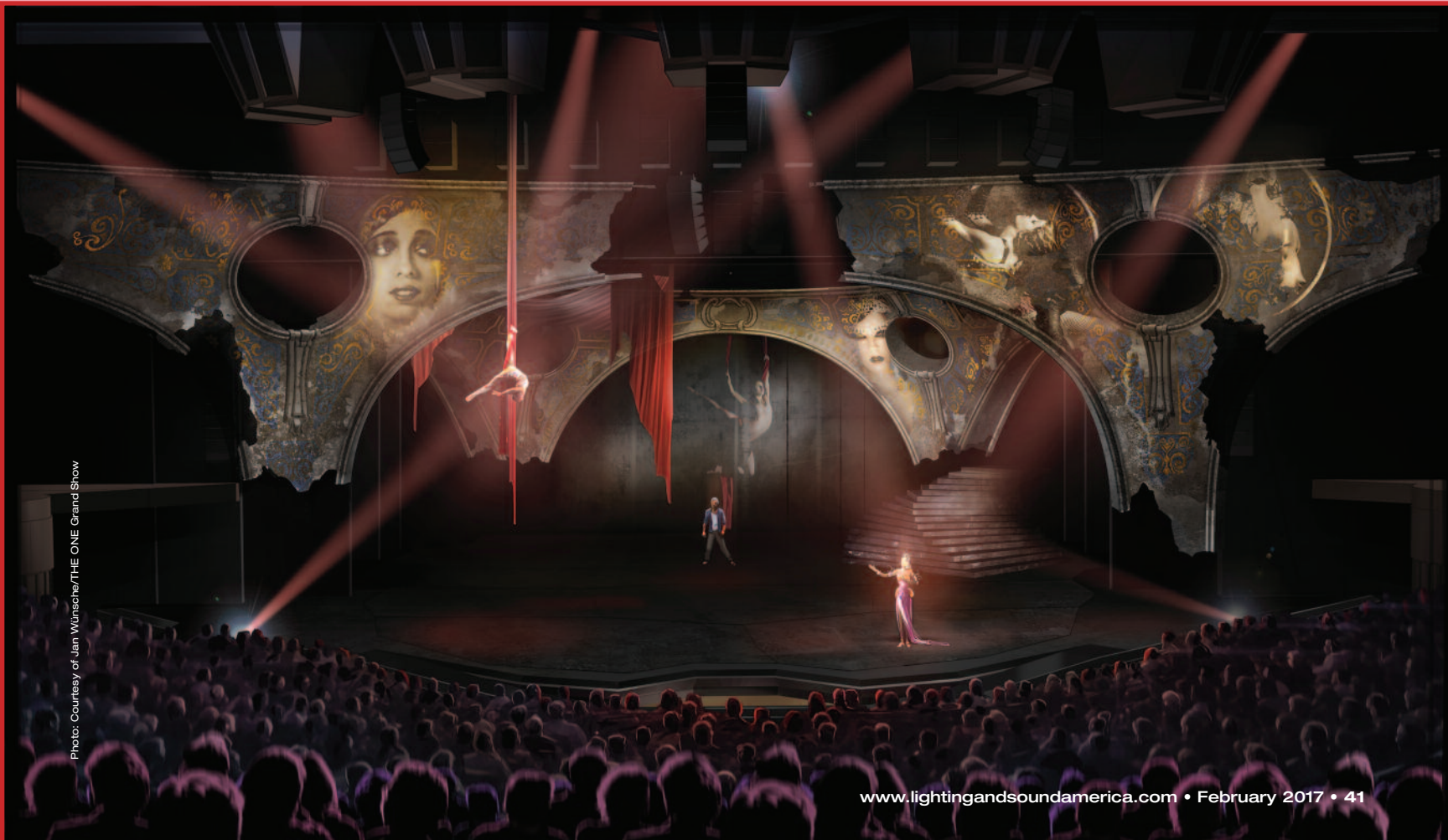
filled with color, dance, acrobatics, effects, and mind-blowing costumes, designed by Jean-Paul Gaultier. In it, a young man wanders into a place where he doesn't belong, an underground rave in a decaying theatre. "Step by step," Welke says, "he sinks into his own thoughts and suddenly the party is gone and he is completely alone. The history of the old theatre enters and our young visitor is confused. Finally, he meets the former head of the theatre, an older lady, who welcomes him to his own imagination. From then on, we are with him in his mind."

The young man falls in love with a girl who disappears; he tries to follow her, to no avail. "Nothing stays at it was before; everything changes and morphs, permanently," Welke says. "The room moves and changes, the floor breaks, and the entire second act is played on single floats in fluorescent water. Everything is surrealistic and dreamy; finally, he finds his love, but he cannot hold her."

The initial concept for the set design came from Welke, who says, "It was very clear that the pieces of the old theatre should be modifiable in their appearance during the show. I start from a demolished state, get back their glamour; finally, I dissolve the shape of these pieces."

Welke worked with illustrator Jan Wünsche, who was later hired as production designer. "Set designers know a lot about technology or building processes, so they limit

Below: This render shows how projections are seen on the proscenium arches.



themselves,” says Hoppmann. “They will never design something if they think that the physics don’t work. The problem is that they’re thinking in their own dimension, and don’t consider that maybe someone else knows how to solve this. Jan did not limit himself in terms of ‘the physics do not work,’ or ‘gravity is not going to allow that.’ It was a really inspiring collaboration of Roland and Jan and I enjoyed seeing us defying gravity.”

## Scenery

To create a decrepit theatre inside the Palast, Welke envisioned two sets of proscenium arches: one upstage and one downstage. The arches, he notes, are transparent. “The surface is made of metal mesh. It keeps the shape, and with backlight we can look through it. The entire architecture becomes transparent and, in a certain way, dissolves. Even the structure behind is visible, and most of that is doubled by thin light lines.”

Also, Welke says, “The two upstage proscenium arches over the main stage can be moved down to the ground level. This changes the look of the stage completely. And it’s impressive when these big pieces, with a weight of quite a few tons, move. When it happens in the middle of the second act, the audience is really surprised.” Each upstage arch has three motor points; the arches move up and down as well as forward, thanks to the automation system.

Welke notes, “When I tell a dream story, I need to take away the floor, and that happens right before the intermission. The floor cracks into 11 pieces that float away. Then the act starts with a flood of colored water. Everything takes place on these 11 floats, which I combine in several arrangements, making the stage always looking different and new.”

The movement of the stage floats came about in an unconventional way, Hoppmann says: “It was Roland himself who took a blank sheet of paper and scissors and started cutting these floats. He said, ‘This is our stage; let’s cut it in pieces and look at how it is going to move.’ We took our ground plan of the theatre and started with the first design of the floats, which was quite close to cutout pieces of paper, and placed it in Keynote, the presentation program by Apple. Being creative, rather than technical guys, we thought it would help us to be fast in creating forms and angles, and moving them really quickly, like you do in a presentation. We did all this work to solve this geometry problem, and we decided not to solve it in a CAD program.” Once the details were worked out in Keynote, it went into CAD and, later, into Excel for programming purposes.

Citing a major concern, Welke says, “Nobody knew if the timing of the music would really fit the movements of the set, but we couldn’t wait to start writing music until we had the set; that would have been too late. So we all were

prepared to adjust, if necessary. Of course, there was another big challenge: the large water basin and the floats inside. Three big issues had to be solved: the flood, the draining, and the fact that we just needed water at the center, not side-stage left and right.”

For technical assistance in making their creative vision a reality, the team turned to Stage One, based in the English city of York. The first meeting with the technical consultants at Stage One was not what Welke expected: “Very often in my career, I have heard the question, ‘How do you want to do this?’ This time, the questions were the complete opposite: ‘What do you want to achieve?’ I felt completely free to share all my thoughts and ideas, even if they were just ideas and the show was not complete yet. However, there was a special climate—they wanted to make the impossible possible. Today, I would say, without Stage One the show wouldn’t be on stage as it is and as I wanted. Stage One showed that it was possible.”

Tim Leigh, sales and marketing director at Stage One, says, “As a business, we are used to dealing with artists and what we consider artistic or design intent. I think it’s one of our skills to be able to take that and say, ‘This is what you’re trying to achieve, now we need to understand budget, now we need to ascertain the physics, and now we need to understand your time line.’”

There are 11 winch-driven floats on stage; an additional float is never seen by the audience and is used for moving set pieces. “We have a water basin which was built for this production, and it’s included in the show deck.”



The show’s aerialists are lit spectacularly in “Oscillation.”

Hoppmann says. “The water is stored in several tanks, which are underneath the stage. At the end of the first act, you see the floats break apart. You don’t see any water; there’s just the breaking of the floats. It’s pretty much our





One reason Morse needed side trums was to provide sidelighting for the aerial acts.

cliffhanger; we show everything in the first act. Everything is moving and fun and theatrical. The end of the first act shows that there's more to come." The scene is titled "Breaking the Floor," and the stage itself transformed into broken ice floes.

"The trucking staging units [the floats] are configured to move around the stage and to be winched," Leigh says. "They move to reveal a waterproof liner, which fills with water. We came up with the methodology to allow the floats to move and not interfere with one another." The water appears during the scene called "The Flood." "We let the water flow in and it rises up to 1.5", so it's not really deep," Hoppmann says. "However, as we have a specifically colored dye in that water, as well as a black stage floor, you get the illusion of a really deep basin. We show how the water runs in; Roland had the idea of a flood rushing into the stage, it starts in little creeks, but then becomes a flow of water running from upstage to downstage." The motion of the floats is accomplished through manual cueing as well as time code.

"Haze and fog come out from between the cracks,"

explains lighting programmer Benny Kirkham. "We have some small LED fixtures in the cracks that give you the feel that there's an internal glowing energy that's shining up from between the cracks. The edges of the moving floats have LEDs built in as a light box, so you can see the edge of each float as they're separated and moving, but also a thin line of LEDs, with a smaller beam spread, shooting more or less straight up. This makes the scene very dramatic." The LEDs were specified by the props department, and the floats were fabricated by several firms, including Bader Maschinenbau, based in Geretsried, Germany. The hazers and foggers are part of the Palast inventory.

There are numerous other scenic pieces in the set, most notably a grand staircase informally entitled "The Roland Staircase," which was used on one of Welke's previous shows. Hoppmann explains, "The form is created with rectangles, which are getting smaller and smaller to the top, and are then tilted a bit and placed to the back." The staircase is beautiful, but weighty. "We also collaborated on the stairs, which floats down the stage; it is independently driven and battery-operated," Leigh says. The staircase was









Photo: Ralph Lammann

rebuilt by Studio Hamburg. "In the second act, we reduce the staircase by one step, which holds the motion control to pin the staircase onto one of the floats. We pin it down to perfectly turn it 360°," Hoppmann notes.

Hoppmann explains: "We have a live show band of 17 musicians, including the conductor. We wanted to show them at the end of the show, and the only way to do it was with a 79'-wide bridge behind the rear projection. The bridge is the home to the rhythm section and the string section, the brass section sits in a box on the left side of the auditorium. While playing and performing on the bridge, the floats are actually driving underneath them."

### Projection

Both proscenium arches—as well as the upstage drops—transform throughout the show, thanks to the work of video designer Marc Vidal, of Spectre Lab, based in Montreuil, France. Vidal and the firm did the content for the previous show at the Palast, *THE WYLD*. "Unlike *THE WYLD*, where we made animations mainly projected on a simple screen in the background, we used mapping technology for *THE ONE Grand Show*," he says.

"We had to work remotely, at least at the beginning of the project," Vidal says. "We therefore used the 3-D technologies that are used on our own shows, especially those that are played on architecture. The study of the space, and of the set design, in Cinema 4D was therefore indispensable to implement the bases of the mapping."

Balancing the use of projected imagery was another challenge. Vidal explains, "We had to keep in mind that our creation must absolutely fit into a whole, composed of actors, dancers, sets, costumes, and sound and light, obviously. I think sometimes that the audience does not even realize that what they are seeing is not a light effect, but a projection. We intervene regularly in the course of the show, to emphasize the architecture of the arches with video effects that the light can't do. We also use the surfaces of projection to tell a story, to evoke a memory of what this place might have been, and also to help the story by transforming the set, creating a movement."

Nine projectors are used in the production, all part of the existing inventory at the Palast. "We have two Barco HDF-W26 projectors for the proscenium arches, two Panasonic 21K projectors for the background arches, and one other Barco HDF-W26 for back projection," Vidal says. "We placed the video projectors partially in the audience room, and partly on the stage, so that they are in front of the arches, to have the least deformation possible."

Precise mapping was extremely important, Vidal notes: "It was necessary to fit perfectly on the set design, in order to better play with it and sometimes to transform it. We usually use After Effects for the motion design, and Cinema 4D, which serves as technical software, allowing



us to find the right places for projectors in the theatre, and also to create 3-D effects.”

Mapping was done via the in-house Catalyst media servers. Vidal remarks, “It is easy for the technicians to use every day, it easily synchronizes with the lighting, with the soundtrack and obviously the general time code.” In addition, images are rear-projected on the upstage drops. Discussing the challenges of programming the show, Vidal says: “We had to find the precise settings on the set design installed late in the theatre. We had 3-D models of the place, the set design, but for such precision we had to check on site once the scenery was installed. Fortunately, we were not far from reality and there were not many changes on the spot. It was also necessary, during the rehearsals, to adapt the speeds of the animations, or to change the size of some elements to make them more readable.”

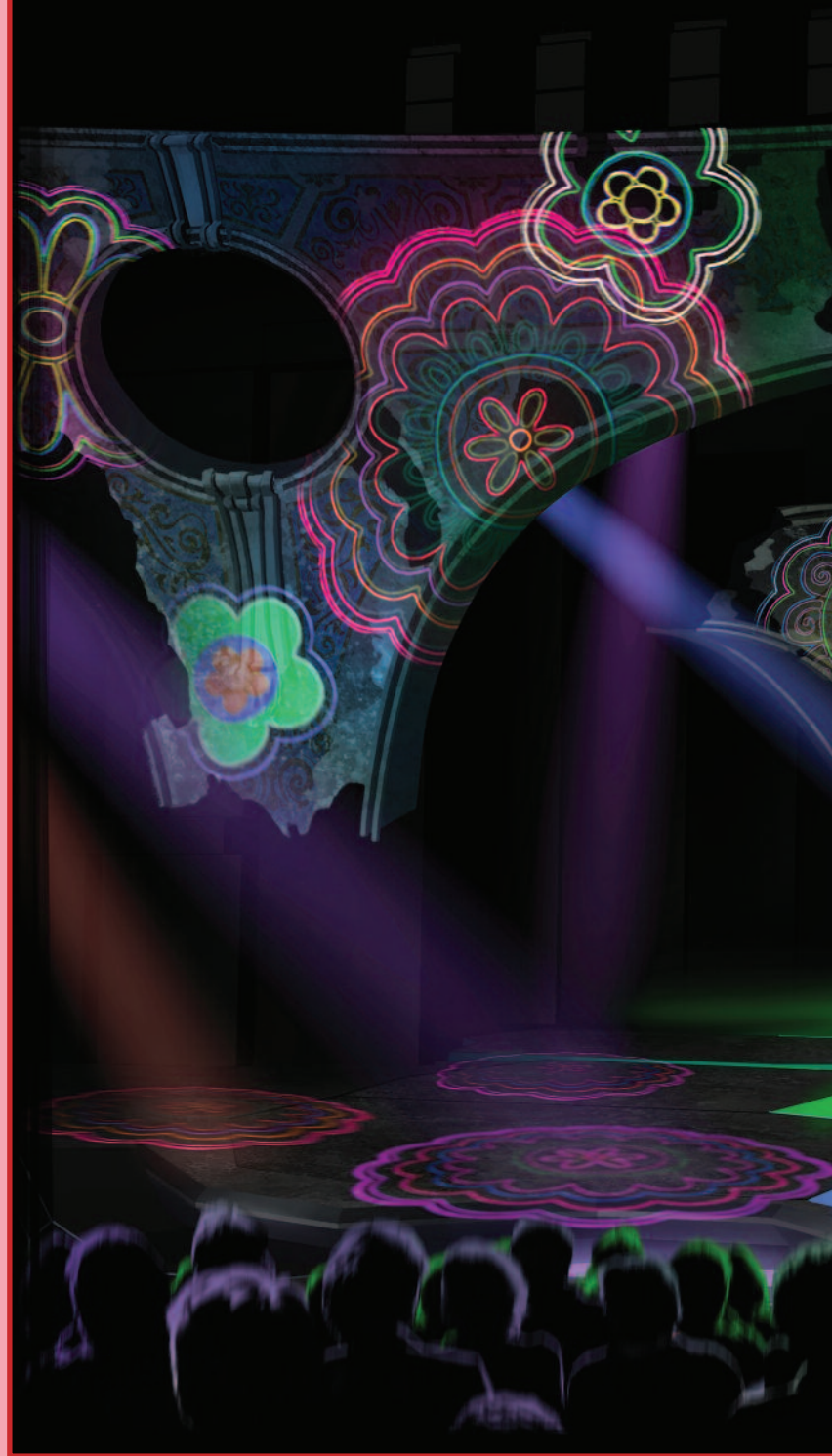
Vidal adds, “There was indeed another challenge that we meet regularly: to confront the luminous level of the projection with the level of light! On something like *THE ONE Grand Show*, the lighting design has a very important place! The scenes are huge, the dancers are numerous, so it is necessary that the light be powerful and that it occupy the whole stage. It is therefore sometimes difficult to cohabit the video projection, with this luminous power, when, at the same time, you want to project on a large surface of the set. In this challenge, working with the lighting team, we were able to find the perfect mix between moments when the image had to intervene and those where, on the contrary, it could explode in full light.”

## Lighting

One of Hoppmann’s duties was to put together the right creative team. He says, “I asked Roland who would be the perfect people, who are the ones who he always dreamed of working with? What was his dream? He started to point out people. He said, ‘If I could dream of someone to do the lighting, it would be Peter Morse’.”

Using social media, Hoppmann located Morse, who was intrigued by the production’s concept. The lighting designer says, “One thing led to another and, about two years ago, I flew into Germany for initial meetings with them, and from there it began. We looked at storyboards, made some decisions, and, on a semi-regular basis, I commuted, either physically or via Skype, to a number of production meetings.”

Checking out the house, Morse noted that the Palast has a wide variety of lighting positions, including multiple coves and box booms. “There are three or four full coves of lighting,” he says. “Over the thrust of the stage, there’s extensive trussing and linesets filled with electrics. Overall, the front-of-house positions are mainly front- and side-lighting. As we approach the stage, it’s more key lighting and feature lighting; lighting for specific focuses.”



The box booms are primarily comprised of conventional fixtures that are part of the Palast inventory. “What’s interesting is that the FOH conventionals are all 2K Lekos, specifically [Philips Strand Lighting] Alto Lekos,” Morse notes. “These fixtures were in such good condition, so well-focused, and so well-utilized for broad-wash applications that they were left intact, though with updated color options.” There are eighty 16” Alto 2K Lekos in the production; the vast majority are located in the house. Some Alto 2Ks have either Rainbow or Strand color-changers.





The rendering above shows the production's use of fluorescent water and floats.

The house is also home to ETC Source Four Zooms; there's also a significant quantity over the stage, both with and without color-changers. Morse adds, "Even given the vintage of many of these fixtures, their age never became an issue."

Morse installed five lighting forms on each side of the stage. He explains, "They haven't had a show in there that use forms, ladders, or sidelights. All the side illumination on stage was at a 50'-high trim running up and down-stage, hanging from the fly railing. I wanted sidelighting

towers and ladders that contained varied angles of illumination—from floor level to approximately 25' high; the theatre's reason for not having had traditional sidelighting positions in prior productions has to do with the constant movement of huge props and personnel."

Morse had a simple solution: "I said we could construct the side forms on square trusses, thereby allowing the units to fly out for scenery clearances, and then reset on the floor at predetermined positions and heights. In this way, all focuses would remain consistent." The solution





Morse's color palette includes a number of saturates.

was elegant and eminently workable, since the Palast is filled with automation. The truss features ETC Source Four 25°–50° Zooms, Claypaky Alpha Profile 800 STs, and Philips Vari\*Lite VL3000Q Spots. The designer notes, “There is a high concentration of floor-level—shin, kick, and eye-level—lighting. While I favor low-level sidelighting for highlighting dance, floor lighting also dramatically illuminates the aerial acts. The vertical space is often occupied and utilized in the show. A substantial number of the acrobatic performances take place 30' – 40' in the air. Besides the ground choreography, these aerial performances are some of the show's stronger moments.”

There are two curved half circle trusses over the stage; the upstage truss is comprised of eight Robe Robin Pointes alternating with seven VL3000Q Washes and two Wildfire UV LT-400(F) units with shutters. The downstage half circle is comprised of seven Claypaky Alpha Spot HPE 1500s and four High End SolaSpot Pro 1500s. “Most of the rest of the overhead is all straight trusses or straight pipes; it's a versatile plot—spot/wash/spot/wash,” explains Kirkham. Shining through the openings in the two sets of

proscenium arches are [Claypaky] A.leda B-EYE K-20s and Robe Pointes.

The Palast's previous show, *THE WYLD*, had purchased a number of automated fixtures, and there were some older automated fixtures in-house as well. This inventory includes a wide variety of gear from Claypaky [Stage Zoom 1200s, Alpha Spot HPE 300s, Alpha Profile 800 STs, Alpha Spot Profile HPE 1500s] as well as a healthy number of Philips Vari\*Lite luminaires [VL1000 TS/Ds, VL3000Q Spots, VL3000Q Washes, and VL3500Q Spots]. The lighting rig also includes six additional High End SolaSpot 1500s, eight Martin by Harman Atomic Strobes, 24 ETC Source Four PARs, and four Robert Juliat Victor followspots.

To fill out the lighting design, “We added Robe ColorStrobes [five units], JB-Lighting A12s [23], the JB-Lighting Spark 7 [24], Claypaky A.leda B-EYE K20s [12], Robe Robin Pointes [23], Claypaky Sharpy Washes [16], and Wildfire UV lights [22],” reports Kirkham. The JB-Lighting fixtures are a favorite of Morse's, and have a variety of duties on stage. Kirkham adds, “The JB-Lighting



A12s are a big part of our wash on stage, and the Sparks, which are the sidelight washes on the booms going up and downstage on the ladders are also footlights. They are integrated into the stage and probably stick up about 6" — 8". They're small little guys." The additional lighting was provided by AED Rent, Lightpower, Lokys Berlin, and POOLgroup.

Morse says, "There's a wide range of color palettes in this show, ranging from pastels to well-saturated; I basically light to reflect the tone of the video content, as well as the overall color of the costumes and, of course, the mood of the numbers and the story they're telling." Kirkham adds, "We use a lot of gold, just because a lot of [the show involves] evoking memories of a golden past in this theatre. Some scenes go very blue or green; we have one with fire that's red and amber."

Most of the programming was handled by Kirkham on an MA Lighting grandMA2. "Benny has worked with me for years; we have a shorthand," Morse says. "He understood what I wanted when he saw the plot, and he knew what to do. A lot of times, he'd jump in and start putting looks together without my input because he knows me well enough to know that if he lets me start dictating precisely, look-by-look and focus-by-focus, we would be working on the same number for several days! So he puts the basics together—along with timing, etc. I go through it with him and adjust where necessary." He adds, "There are at least 2,000, maybe 3,000 cues in the show. When you're building a show with time code, it's easy to have that many cues."

Programmer Gertjan Houben completed the process with Morse, since Kirkham had a previous commitment. "We had a few days overlap where I could show him the ropes and introduce him to everybody," Kirkham says. "Gertjan is a skilled programmer and designer. He added a few moments and smoothed some things out. He did some really nice work." Morse adds: "Gertjan's being multi-lingual definitely helped a lot with communicating some details with the crew—and for ordering at a few of the local eateries!"

## Sound

"In 2010, Daniel Behrens, with whom I had worked with on previous musical productions—*Jekyll & Hyde* and *Spamalot*—joined the Palast as musical director, and asked me to design the 2011 Christmas show," explains sound designer Cedric Beatty. The gig led to two more shows at the Palast, and an invitation back to design sound for *THE ONE Grand Show*. "The advantage of doing long-run shows—two years—in the same location is that it gives you the chance of continual improvement from one show to the next," Beatty says.

However, he says, "Each show inevitably means a new and massive set and new fly-in points for acrobats and

trapeze artists, all of which, in turn, means a rethink of the possible loudspeaker positions, particularly those in or around the proscenium. We try to keep the speaker systems as invisible as possible. Add to this the fact that the orchestra position and layout also change with each show. Because the Palast shows are revues, there is automatically a very powerful visual component to the productions and one of the most important goals of the sound design is to balance this out so that both eyes and ears are on the same page."

Welke also had some thoughts regarding the production's sound. "Roland had the idea that in particular parts of the show, the sound image should begin as a deep upstage focus and move towards and into the audience in order to underline and strengthen the visual aspects of what is happening onstage," Beatty says. "In the same way, there are also sound effects that start from behind the audience and end up on stage."

The Palast owns a variety of Meyer Sound cabinets; the production's Turbosound Flex Array units are rented from Feedback Show Systems & Service GmbH, located in Stolberg, Germany. "The owner, Bernd Schmitz, has provided all the extra equipment for the four productions I have done in the Palast," Beatty says. "We have worked together on many projects over the years, mostly musicals, including *Spamalot*, *Shrek*, and *Elisabeth*'."

The main PA's left and right hangs are comprised of 10 Turbosound TFA-600HWs for each side. Downstage, at left, center, and right are six Turbosound TFA-600HWs each. The center cluster is made up of three tightly rigged hangs, each with six Turbosound TFA-600s. The two outer hangs use TFA-600Hs and are panned half-left and half-right, while additional TFA-600HWs are rigged dead center. Twenty-four Meyer MM-4s make up the front-fill system. The flown sub line is comprised of 20 Turbosound TFA-600Ls; four Meyer HP-700s serve as deck subs. There are also Meyer CQ-2s as outfills, and a surround side system comprised of two hangs per side, each with six Meyer M'elodies and one 500-HP sub; for the surround rear, there are eight Meyer UPJ-1Ps and four hangs of Meyer CAL column array loudspeakers. The balcony delay is made up of eight Meyer UPJ-1Ps. Beatty says, "Past experience from previous shows, coupled with a continual better understanding of the room's acoustics, help us here. With *THE ONE Grand Show*, we're using a flown horizontal sub line; this is the first time this has been possible in the Palast. The sub line has made an immense improvement, both to the low-end punch and the fullness and warmth of, for example, the double-bass, cello, and timpani, etc., and with an amazingly even distribution. Another first is the use of the four side-surround M'elodie arrays. Because the house is so wide, they have helped enormously in improving distribution, especially to the center seats."

For control, there are two Stage Tec Aurus consoles,



part of the Palast's house inventory: one for the PA; the other for in-ear monitor mixes. "Input/output capability of the Aurus is huge," Beatty says. "It doesn't color the sound. It's very reliable and, if needed, the service center is located nearby in Berlin." The capabilities of the Aurus have also given Beatty a way to optimize the soundscape of the Palast. "Within the Aurus, a unique stereo orchestra/vocal mix is set up and routed, via a QSC Q-SYS matrix, to the center left-right arrays: mix left to center right, mix right to center left. In combination with the main PA, this produces a sweet stereo image for the audience sitting far off-center."

For plug-ins, Beatty uses Waves MultiRack, via a DiGiGrid MGO 128-channel MADI interface, and Waves H-Reverb and Abbey Road Plate for reverbs. Surround reverb is handled via H-Reverb and a hardware Lexicon PCM96. For vocal compression, he uses VoiceCentric, PuigTec EQ, and C4. Orchestra EQ and compression are managed using the API 550B EQ and API 2500 compression plug-ins.

"The house's reverb time, and how it changes dramatically in frequency and length between empty and full, is a real challenge," Beatty says. "Add to that the special shape, size, and layout of the seating area and forestage, plus an enormous stage area. During production and previews, we record the show in [Avid] Pro Tools, which

allows us the now-standard virtual sound check option. This is particularly helpful during early production; however, there is always a point when we get into the fine mix details and discover that we can only really hear these nuances when the house is full."

Beatty adds, "The orchestra plays 99% of the score; however, in some numbers recorded content is used but only where unavoidable, simply because the band can't play that particular part, because they're busy playing the rest of the score. We use some extra string parts, drum-loops, and beats, and the occasional SFX." The use of stems is limited. "They're used only where necessary, e.g., opting for a cello stem in certain passages, instead of leaving it in the stereo mix, in order to gain more control in the house mix." Playback is via Pro Tools 12.6. Beatty adds, "It is very reliable and fast. That said, we do run a backup in sync."

"Fortunately, the Palast boasts a large microphone selection," Beatty continues; on percussion are Rode NT5s, Beyer MC834s, and Shure Beta 57s. For the double bass, there's a DPA d:vote 4099 and Schertler STAT-C electrosonic transducer, while the brass section is miked using AKG C3000 Bs, an AKG C414, Rode NTK, and Rode NT 1000s. The strings are on DPA 4099s and an AKG C414, while keyboards and guitars all use DIs. Vocals are handled using Sennheiser SKM 5200 BK-D handheld



This view, looking out into the house, gives a sense of the stage's depth.





The deconstructed proscenium arches move throughout the production.

transmitters paired with Neumann KK 105-S capsule heads and Sennheiser SK 5212-A handheld transmitters paired with Countryman H6 headset mics. “My workhorses are the Audix range, the AKG C414, and, inevitably, Shure 57s and 58s,” he says.

Beatty concludes, “For me, sound design is a bit like being a football coach: You are totally dependent on your team! Therefore, I would like to thank all those involved, particularly the Palast sound crew and especially our production engineer Tobias Wallraff, our supplier and system engineer Bernd Schmitz, the Palast’s music director Daniel Behrens, and everybody at the Palast.”

*THE ONE Grand Show* is playing at the Friedrichstadt-Palast through the summer of 2018. “I try to create emotions on stage by using lights, colors, music, and choreography,” Welke says. “I am convinced that these ingredients together form a kind of an international language. I think that the advantage of our business is the fact that it’s suitable for foreign guests as well, without having to know the German language.” 📶

Photos: Ralph Larmann



Morse (left) and Kirkham at work.