TITLE MATCH

Arcade Fire's *Infinite Content Tour*
opts for an in-the-round
boxing-ring configuration

By: Sharon Stancavage

The current Arcade Fire tour, titled *Infinite Content*, isn't, in fact, based on the concept of content. Instead, Arcade Fire's Win Butler wanted to explore the idea of performing in-the-round to create a feeling of proximity to the audience. "He had this vision of a boxing ring, and it started with that," explains creative director Tarik Mikou, of Montréal-based Moment Factory.

Butler wasn't the only member of Arcade Fire to weigh in on the production. "We worked directly with the band, and they're very creative," says Moment Factory producer Daniel Jean. "Every member likes to have input, and it's greatly appreciated; nobody is in a better position to comment, because they're the ones onstage."

The boxing ring stage, located in the center of the arena, was fabricated by Las Vegas-based SGPS Show Rig; it's 24' by 24', 6' high, and includes boxing ropes. "We have four posts at the corners of the ring," Mikou says. "During the fourth song, 'Here Comes the Night Time,' the technical team removes the boxing ropes. We didn't want the audience to focus on it too much, so it's part of the performance. It gives a festive, chaotic feel; some people don't even realize the ropes aren't there anymore." When asked how the ropes are removed, Jean says, smiling, "It's magic." Offering a more detailed explanation, production manager Brian "Bob" O'Brien says, "The ropes are attached to four corner poles, like you'd have in a traditional boxing-ring setup. Two poles have crank jacks attached to them, to bring ten-

sion to the ropes. The ropes, in turn, are attached to the poles by way of carabiner clips. This facilitates an easy setup and striking of all elements during the set." The boxing-ring elements were provided by Scène Éthique, Version Image Plus, Barry Cordage Ltd, and Canvas M.J. Inc., all based in Québec.

Onstage, notes O'Brien, "There is one central riser that measures 14' by 14' and is 1' high; it also houses a rotating drum riser measuring 11' in diameter." Mikou adds, "We have a few stations onstage that allow Win and other members of the band to perform on higher levels; it brings interesting connections with the crowd on all sides of the stage."

Video

Above the boxing ring stage is a 35'-wide by 9.8'-high ROE Visual MC-7 7mm LED wall, nicknamed the Jumbotron. "The screen format is wider than a standard ratio, making the IMAG trickier for framing on certain songs," Mikou says. "At the same time, this also gives the overall video composition a quite unique feel."

Moment Factory created the production's content. "We use video on all the songs, but we use it differently each time," Mikou says. "Most of the songs either have video content, IMAG, or both, but we also made sure to work on moments where video is minimal. In a two-hour show, you don't want people to be distracted; you want them to focus on the performance, and we want to augment the fans' experience when possible. We rarely use only video

Above: The free-hanging towers are stabilized by the use of RSC Lightlocks. Opposite: There are nine Kliegl Brothers vintage scoops, sourced from the Moment Factory office, in the center of the rig.

content; very often, IMAG is mixed into the final result."

Treated IMAG is created using TouchDesigner, a visual development production platform manufactured by the firm known as Derivative, which has offices in Toronto and Los Angeles. Jean says, "We designed directly in TouchDesigner to make sure that we had optimal looks with the lighting; obviously, it's live effects, so lighting plays a big part of that. A couple of weeks before the show, we spent a lot of time designing all the looks in terms of live IMAG effects. Moment Factory provided the TouchDesigner system solution, with all its effects, and we tapped into a [d3 Technologies] system for the playback. The main playback system is d3 [with a live backup], which all the files are ingested into, and the IMAG treatment goes through TouchDesigner." Technical director James Richardson adds, "We have two d3 4x4 pros, but with one DVI VFC card and one DP output, which means five outputs plus GUI."

The video walls and 17-camera IMAG system [manned, robotic, and mini cams] are provided by PRG Nocturne [Mark O'Herlihy], based in Los Angeles.

Lighting
Moment Factory collaborated with lighting designer Christopher Bushell, who worked on Arcade Fire's 2014 *Reflektor Tour*. "The lighting design falls very much in line

with the overall show design," he says. "It was important that the main lighting elements were built into, and formed a major part of the scenography. Moment Factory and Arcade Fire developed the show design together, and the lighting design progressed in line with that process."

> "With the feel of the show, venue and audience differing slightly from night to night, it's important to have something more readily adjustable on the go. I've no interest in being locked into cue-stacks or time code, etc., so an Avolites control surface really is the best way to light a show live." — Bushell

Mikou says, "One goal was to create proximity, so we worked on lighting looks that reached out into the audience, bringing an immersive feel to the show. Artistically, we tried to design a lighting plot that was really simple and used nice geometric possibilities. In terms of artistic approach, we wanted to make sure we had structural lights that allowed us to create simple, yet impactful,

changes during the performance. Our design also allowed us to deploy the right amount of chaos when needed."

Most of the lighting rig is contained within the LED wall above the boxing ring. "On the whole," Bushell says, "we wanted the fixtures as hidden as possible within the ceiling of the Jumbotron; we wanted to make the rig and video feel as one solid structure."

Nestled within the hidden rig is a plethora of fixtures, Bushell notes: "I wanted to create solid curtains of light with GLP impression X4 Bars [both X4 Bar 10s and X4 Bar 20s] and vertical cages from the Claypaky Sharpy Washes and PRG Icon Edges and Beams. As an LED wash source, I chose to use the new JDC1 from GLP, to satisfy the strobe requirement but also as a nice flood alternative to the usual LED wash fixture; some [of the JDC1s] are facing upwards to create an aura within and around the top of the structure." The automated JDC1 strobe hybrid features a single cool white tube for the strobe and a full-face RGB LED; both can be divided into 12 sections. The tube and full face features can be used separately or together, and can be pixel-mapped.

In the center of the rig is a large nine-unit automated lighting pod. "We wanted these fixtures to be tungsten, to fit in with the vintage boxing ring lighting vibes that were being developed," Bushell explains.

Finding the correct fixture for the pod turned into a challenge. Mikou notes: "We weren't satisfied with the look for our vintage cluster, so, in the last week of rehearsals in Quebec, we decided to dismantle a couple of fixtures from our Moment Factory studio. Finally, we were glad we did; we're happy with how they turned out." The automation of the nine Kliegl Brothers vintage scoops "is controlled via an SGPS FTSI Navigator motion control system," O'Brien says.

Bushell continues: "Outside of the Jumbotron, we have four moving vertical towers on motion control; they form a horizontal cage of light around the stage. These lower in to create a really immersive experience for the audience, both inside and outside of the cage." Each 20'-tall tower features six PRG Icon Beams and two JDC1s. "Metaphorically, our four towers of light give us the possibility to recreate our boxing ropes," Mikou says.

Since the four towers are free-hanging, "We needed to find a way keep the light beams straight and perfectly
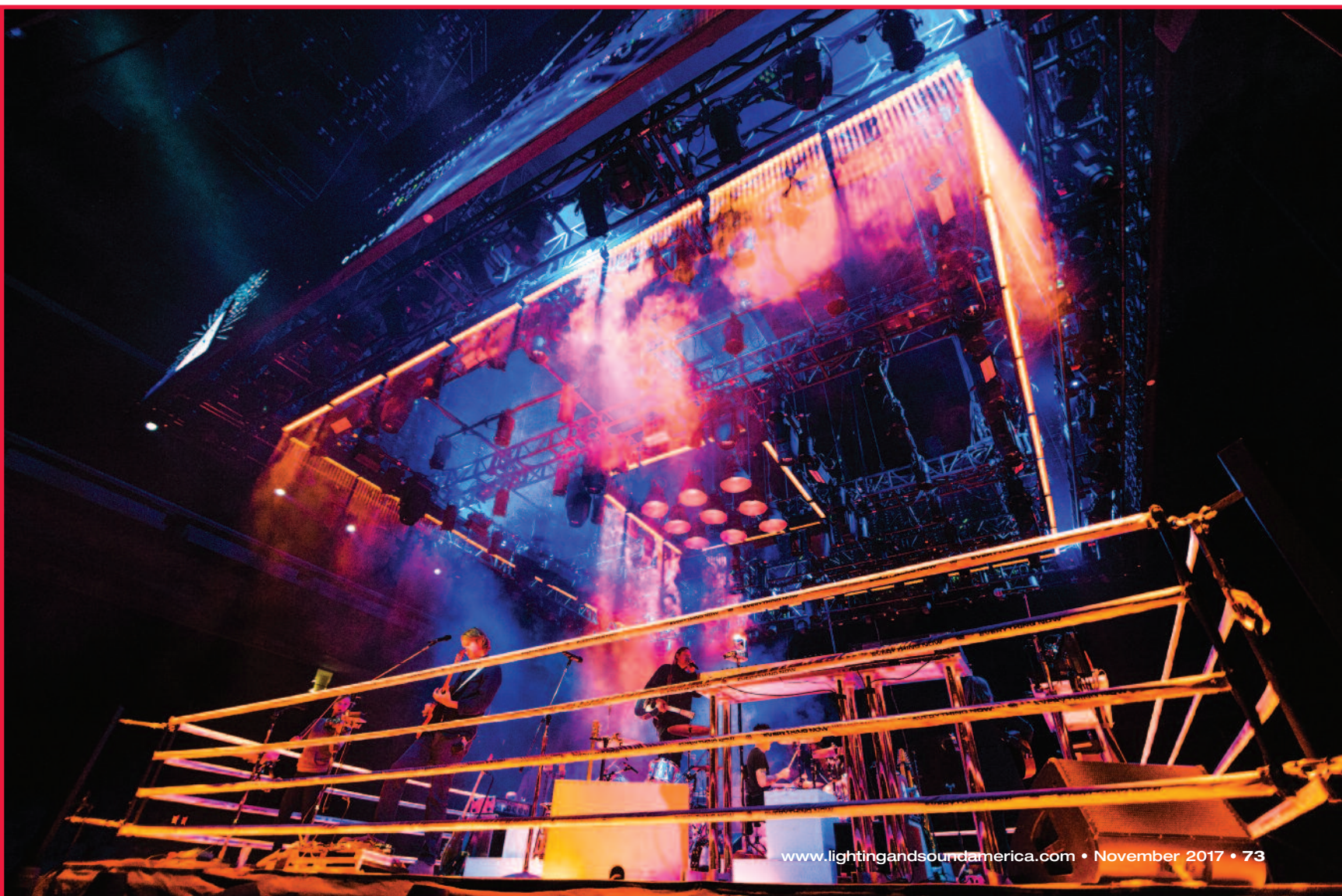
The IMAG for the 35'-wide by 9.8'-high video wall is effected using Derivative's TouchDesigner.

aligned to maintain the clean lines of the design," notes Richardson. To stop the movement, there are three RSC Lightlocks on each tower. (Developed at Royal Shakespeare Company, Lightlocks provide motion-dampening for moving lights.) "The Lightlocks counterbalance the moving light swing almost perfectly," Richardson says.

With nine musicians onstage and, Bushell says, "With a fantastic array of backline, floor lighting is minimal. We have a few shelves built onto the perimeter of the stage that are arranged around stair access, backline crew stations, audio cabs, and monitor world. We have as many PRG Icon Beams as we can, arranged so when focused straight up, they create a giant column of beams up through and beyond the video structure above."

For key light, Bushell uses Sharpy Washes on four perimeter trusses. He admits, "The Sharpy Washes probably weren't designed to do that but they're definitely my favorite fixture for it." Two house spotlights are used, but "they don't get used much on stage, more for special pickups on the arena floor," he adds.

Within the lighting rig—provided by PRG's Las Vegas office—there isn't a workhorse. "The rig is so versatile, we get plenty of variety from everything and I think everything gets used in a very considered manner," Bushell says. Still, he adds: "The Icon Beams that form the cage and the curtain of light formed by the X-Bars are definitely everyone's favorites." The lighting rig also includes PAR 64s, Molefay eight-lamp units, Le Maitre G300 smoke machines, MDG's TheOne atmospheric generators, and two 48" mirror balls.

Bushell operates the show on an Avolites Sapphire Touch console with TitanNet Processing. He notes, "Avolites have always supported me from the beginning and the Titan software goes from strength to strength, always allowing me to achieve everything I want to. The band is 100% live, and working for such artists appears to be my niche. With the feel of the show, venue, and audience differing slightly from night to night, it's important to have something more readily adjustable on the go. I've no interest in being locked into cue stacks or time code, etc., so an Avolites control surface really is the best way to light a show live.

"I programmed the lighting in such a way that I can change moments on the go, depending on the vibe of the show. The looks, basic structure, and fancy cues are in there, but I keep them as an open palette that I can pick and choose from. It's not like there's a stack of 40 cues for

one song, but I have a list of moments in my head that it's important for me to accent and change through." Some of the more cue-heavy songs include "Reflektor," "Here Comes the Night Time," "Power Out," and "Wake Up."

"The big difference, in terms of operation, between the Venue and the S6L is that I can have a much higher channel count. I'd been avoiding doing certain things that would eat up channels on the Venue, because I knew I wouldn't have any spares, and, suddenly, I didn't have to worry about that because I had plenty of everything." — Warren

Working in-the-round has been Bushell's biggest challenge on the project: "I've never lit a show in-the-round before, let alone this many people in-the-round, as well as for camera IMAG. And the nature of this design means I can't really update any positions or check any cues until every final piece of lighting and automation is in and ready. This makes for a frantic focusing session with a lot of beam fixtures that have to be really precise."

Rigging

"For the most part, having to rig around the scoreboard is the obvious obstacle and this takes longer than an end-on configuration," O'Brien says. "We hit venues where the scoreboard fully retracts, and this certainly makes for an easier day all-around. In venues where the scoreboard does not retract or suck up in the roof, then we have to look at a longer rigging call with, quite often, a larger top rigging package in order to get under and around the scoreboard. This, in turn, lowers the trim of the show, which suits some venues but not all." In an ideal situation, the trim height of the 54'-by-54' mother grid is 50' to the underside; however, it can lower to 35'. He notes: "Weight is definitely the main challenge, and being able to hang the show. The show weighs a total of 115,000lb and, although far from the heaviest show seen in arenas, we do have a challenge in some of the smaller arenas. A number of venues we are doing cannot support this weight and in turn, we have to re-address what elements of the show we can achieve on a venue-per-venue basis." In such situations, the lighting towers and certain trussing elements are reduced to suit these restrictions.

A wide variety of atmosphere types is used on stage, most notably for "Creature Comfort."

Teamwork is always key. "Our tour manager, Rebecca Travis, has been a vital element of putting all of this together in a very short space of time," O'Brien says. "She gave us huge support in all areas, since we had to achieve in a matter of weeks what would usually have a number of months to put together."

Audio

This is the third time that the front-of-house audio engineer Jim Warren has been on tour with Arcade Fire. He says the band is "great fun to mix; they're spirited, they're great musicians and they know how to get the audience going, so there's always a great atmosphere."

Warren is using an L-Acoustics K1/K2 PA, provided by Montréal-based Solotech. "I've worked with L-Acoustic cabinets for years," he says. "To me, it delivers the best results overall. I tend to work with very dynamic bands, and I think it's a system that works well with them."

For the 360° configuration, there are eight corner hangs of 12 L-Acoustics K1 and four K2 cabinets, and four side hangs comprised of 16 K2s. "The sub hang is eight L-Acoustics KS28s, with the middle two reversed to do cardioid; on the floor; we have six KS28s per corner in cardioid as well," explains system engineer Marc-Olivier Germain. There are also eight L-Acoustics ARCS WIDE and eight L-Acoustics X8s used for front fills. As for amplification, he says, "In each corner we have a flown amp rack consisting of 20 L-Acoustics LA12X amplifiers." There are an additional 12 L-Acoustics LA12X amps under the stage for the floor subs.

Germain says, "All the signal distribution is done via AVB [Audio Video Bridging] from a Meyer Sound [Galileo] GALAXY at the front of house. We are relying on Extreme network switches as well. The Galaxy gives me the opportunity to do the whole distribution in AVB from the front of house since the L-Acoustics P1 [audio processor, previewed last spring at Prolight + Sound] was not yet available. I've been using Meyer Sound's Galileo and Calisto for years, so I am very comfortable with the interface; it's a great-sounding and really reliable product. It also gives me access to high-pass and low-pass filters, which are not present in the amplifiers' DSP." In the beginning, he says, "The biggest challenge was to make sure the whole AVB setup worked! We are the first to put a system that big on the road. I had great support from L-Acoustics and Solotech to achieve it all."

Warren mixes the show on an Avid VENUE S6L console; he has a spare and a live backup. He's also a long-time user of the original Venue, and regularly maxed out the channels on the earlier model. Warren notes: "The big difference, in terms of operation, between the Venue and the S6L is that I can have a much higher channel count. I'd been avoiding doing certain things that would eat up channels on the Venue because I knew I wouldn't have

any spares, and, suddenly, I didn't have to worry about that because I had plenty of everything."

He adds: "I'd never had a problem with the sound of the Venue, but when I started using the S6L I was instantly

The combination of Icon Beams on the stage shelves and mirror balls takes the lighting into the far reaches of the audience.

struck by how good it sounded. In terms of sound quality, it's probably as close as you're going to get to a top-of-the-range analog console in terms of sonic purity, but with all of that other power and flexibility."

Warren is especially fond of the 6SL's layouts feature, "where I can decide what is on the surface of the console at any given time; it can be a mixture of inputs, outputs, or anything else, and I can attach that to the snapshot for the
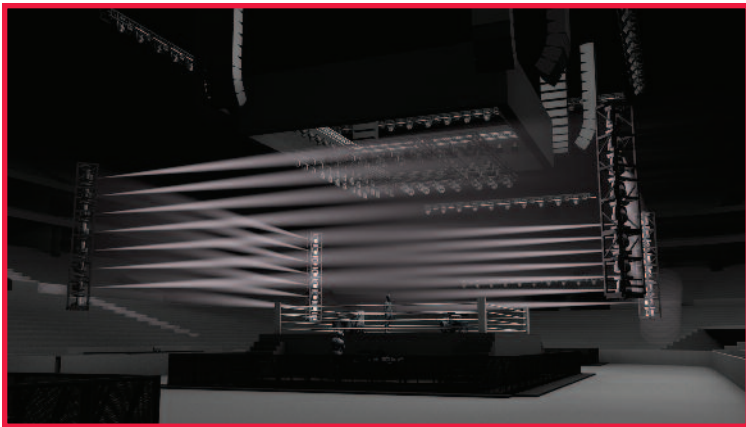
A render visualizing the boxing ring ropes and the horizontal lighting from the towers.
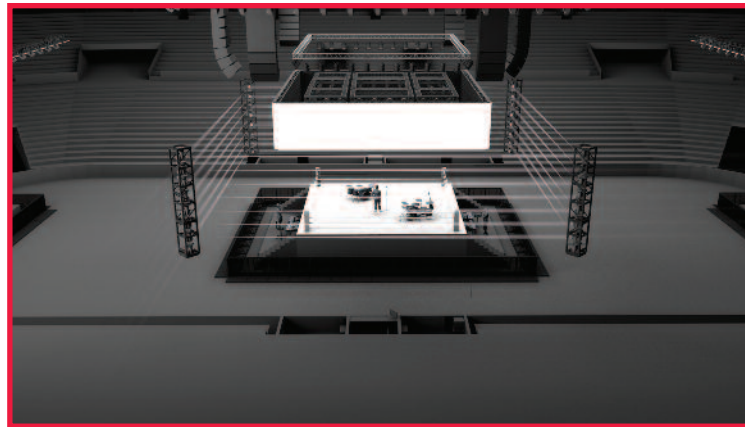
At 24' by 24', the SGPS stage is only somewhat larger than an actual boxing ring.

song. Basically, it means that in spite of the fact that I have a massive channel count, I can have just the channels I need for the song that is actually playing at the moment on the top of the console and accessible to me automatically."

> **"All these digital consoles have snapshots, and I'm boggled by the number of people who don't use snapshots at all. It is the single most powerful tool that these consoles possess. People seem to think that using snapshots means that the console will suddenly take charge of what you're doing, but they can be used to control just a few parameters to start with, and once you get comfortable with them, more stuff can be added in. The technology is very reliable. For the most part, if things go wrong, it's because you've told them to go wrong."** — Warren

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comfortable with them, more stuff can be added in. The technology is very reliable. For the most part, if things go wrong, it's because you've told them to go wrong."

He uses many of the S6L's onboard compressors and EQs, and very few plug-ins: "I'm using my old faithful [Tech21] SansAmp PSA 1 and a lot of the basic Avid plug-ins; I'm also using some of the Bomb Factory plug-ins that come part of the standard Avid kit."

In the past, Warren employed the Line 6 Echo Farm plug-in; unfortunately, it's not compatible with the S6L. He admits, "I struggled with various other plug-ins that weren't quite doing the job for me." Eventually, he ran across the Line 6 Echo Pro, "which is, literally, the same thing, but in a box."

He also uses a TC-Helicon Voice Pro vocal processor for some vocal bits. "When I first listened to the new album, I thought, Oh my God, how am I going to do that? There's some very dense layering of the female vocals. I had a look around and found the TC. I thought it looked good, and it's worked out really well for fattening up the female vocal parts."

Moog also has a presence at the front of house and onstage. "I have a Moogerfooger MF 104 analog delay," Warren says. "It mirrors the one Win has on stage for his vocals, which he dubs up quite liberally during the show. Last time on tour, he decided that he couldn't dedicate one hand to doing effects all the time when he was busy performing, and he told me to take care of it for him." However, much of what Butler does is extemporaneous, which makes it impossible for Warren to predict. "The moments that are part of the songs, I can take care of, and I do; Win does the rest. The unit I have at the moment is fairly vintage, and it sounds like nothing else I've ever come across."

Onstage, he adds, "The rotating center section has the two drum kits on it, leaving [the band members with] about

Mics were chosen in part for their size, to avoid damage in the set's close quarters.

4' of walking space between the wedges and edge of the stage; their amps that are in the central square." In other words, there is not a lot of extra room on stage. Consequently, "The microphone choices are very much based on how big they are." Also, "Where you put a microphone is far more important than which microphone it is. Having walked around the stage and seeing all these mics sticking out, I thought to myself, There's no point in having a microphone there if it's going to get kicked out of the way, so we replaced some mics with smaller ones."

For vocals, Warren has "a [Shure AXT200/SM] 58 wireless, Sennheiser [MD] 431s, and a Shure Beta 54 headset microphone." Multiple vocal mics were not Warren's original plan. He explains: "At the start of this leg, I did try to make them all the same. For consistency, I wanted to settle on one and use it in all the vocal positions. And we couldn't. They get used to different things; Win's vocal mic gets used as a hammer a lot of the time, and we decided we couldn't find a better microphone than a SM58 to be used for that. Régine [Chassagne, vocals and various instruments] decided to use a headset mic, which has worked out very well, and, with so many open backing

vocal mics, we kept as many MD 431s as possible to reduce spill." The microphone package also includes DPA d:screet 4061s, Audio-Technica ATM350s, and Rode M5s; DIs are from Radial Engineering.

While some have issues working in-the-round, it's been a positive experience for Warren and his team: "I've tried all sorts of things to make arenas sound anything other than terrible. On this tour, quite a few of the places we have played have had the top section closed, but we're playing in the round, so we're still playing to the same number of people in an arena. Although we're flying the system at the same height, we're angling down straight into the seats rather than pointing up almost into the roof to hit the very top corners. Also, we're not throwing as far, because the stage is in the middle of the arena floor, so the throw to the back wall is probably 60' shorter than it would normally be. All of that helps, and a lot these shows have been very pleasing-sounding really, compared to doing the same venues end-on."

Arcade Fire's *Infinite Content Tour* wrapped up the North American leg in Toronto earlier this month; it then moves to Mexico and South America. 🔊