

# Kraftwerk by Numbers:

d&b audiotechnik at a Concert Event at Museum of Modern Art

In what became one of the most talked-about events of the spring in New York, Kraftwerk, the legendary and deeply influential German electronic music band, played eight consecutive nights at the Museum of Modern Art. Under the umbrella title *Kraftwerk 1, 2, 3, 4, 5, 6, 7, 8*, the group presented a retrospective of its complete repertoire, performing one of its albums each night, accompanied by 3D video projections. Does it sound like a slightly arcane project? Consider this: Within minutes of going on sale, MOMA's ticketing system crashed, due to the demand. Tens of thousands of people tried to buy tickets for concerts that could accommodate only 450 (standing room only) each night.

The atrium at MOMA, with its proliferation of hard surfaces, is hardly the most felicitous place to hold any kind of concert, but, thanks to a sound system provided by d&b audiotechnik through its New York sales partner, Specialized Audio Visual, Inc. (SAVI), of Clifton Park, New York, in association with TimberTech Inc., the concerts proved memorable "The sound in the MOMA atrium was absolutely impeccable," wrote Mike Rubin in *Rolling Stone*.

Based on the design presented by Kraftwerk and Sven Duske, of d&b audiotechnik, SAVI provided a rig centered around d&b's new V-Series loudspeaker system. According to Werner "Vier" Bayer, of d&b, the V-Series is said to combine the flexibility of the company's Q-Series boxes with the tourability of its J-Series gear. It is meant to serve as a companion to the J-Series, but in a more compact format. This was a key feature for the Kraftwerk concerts, as a pillar on the stage-right side of the room prevented the hanging of anything but the most compact boxes.

The basic sound system made use of arrays consisting of V8 and V12s, both of which feature a three-way passive

design housing two 10" LF drivers, one horn-loaded 8" MF driver, and two 1.4" exit HF compression drivers with 2.5" voice coils mounted to a dedicated wave-shaping device. Providing the ample low end were four J-INFRA cardioid infra subwoofers and four J-SUBs, which feature an actively driven two-way bass-reflex design housing three long excursion neodymium 18" drivers—two drivers face to the front and one driver to the rear.

Winifred Blank, Kraftwerk's production manager, says the group, with three months to prepare the concerts, had many discussions with MOMA's tech staff. Blank says, "I told [Bayer] I wanted a loudspeaker the size of the Q-Series but with the sound of the J-Series." Bayer replied, "Let's talk in a few weeks." By then, the V-Series was available.

Serge Graefe, Kraftwerk's front-of-house engineer, notes that the group has had a long relationship with d&b. "They were the first to take out the Q-Series in 2002; it has been their tool of choice." He, too, notes how they were forced to contemplate the problem of putting a big sound system into a small, oddly shaped space with a pillar at stage right. (Bayer adds that acoustical curtains were added at the back of the room to soften reflections.)

Among the other challenges was the fact that the front fill speakers couldn't go in the obvious position, downstage front, because the space was taken up by a pair of LED strips. Instead, they were installed in towers at stage left and stage right. Normally, Graefe adds, the group likes to have two d&b Q-SUBs upstage, but that wouldn't work for MOMA, hence the placement of the subs under the stage. The group prefers having monitors rather than in-ears, so eight d&b M2s were placed on stage.

Graefe mixed the shows on an Avid VENUE console, which is his tool of choice. (He adds that when he began mixing for Kraftwerk several years ago, he used a Yamaha board, as chosen by his predecessor. The switchover to Avid came later.) He is particularly fond of the board's snapshot functions. "No other console does what this does, at this price," he says. For the MOMA show, he had Venue v.3.0 software, which allows him to record and play back from 32 Pro Tools channels. Another virtue of the latest version of Venue, he says, is, "If you get lost in the console, you can double-tap the channel select button and it brings you home." He adds that he uses Waves plug-ins, including the L3 multimaximizer multiband peak limiter and C4 multiband compressor on the vocals and vocoder.

The result was one of those only-in-New-York events, which had the town talking for weeks. It was so successful that speculation has begun about how and when Kraftwerk will return. 📶

