



# Scalable by Design

**G**ood Charlotte is one of the more exciting new rock bands to hit the live concert scene in recent memory. The band has been on the road almost non-stop since their album, "The Young & The Hopeless," which has sold over two million copies, entered the market a little over a year ago.

Closing out 2003 with a final run through U.S. theaters and arenas, the band then headed to Europe in December for a handful of gigs before returning to the studio to record the follow-up album. With the U.S. tour taking in venues of

## A wide range of venues for Good Charlotte on tour

various sizes, Eighth Day Sound, based in Highland Heights, Ohio, assembled a loudspeaker system that could be easily scaled up or down as required. That included a turnkey d&b audiotechnik rig with additional processing provided by Lake Technology's Contour DSP loudspeaker controller.

Eighth Day Sound has never been a company to purchase equipment simply because it's on tech riders, choosing instead to adopt the best of the available new technology, even if it comes from just outside the mainstream. "We're the largest owner of d&b in the Americas, and the largest owner of V-DOSC in the United States, and we've got a boatload of Turbosound too," observes Jack Boessneck, the company's executive vice president.



*By Steve Harvey*

## A NEUTRAL SOUND

Veteran mixer/systems guru Doug Fowler, serving as Eighth Day's front-of-house tech for Good Charlotte, has found the German-made d&b audiotechnik system to be a good fit for the needs of this particular tour. "It scales wonderfully," he explains. "We can do full-bore arenas down to theaters and cover it properly. I'm not mixing on this tour, but I've found the C4 system very easy to mix on as it is neutral sounding, with no real characteristic sound of its own."

In Orlando, for example, the system was configured two boxes wide. "While a line array may be indicated in that situation, 90 degrees of horizontal coverage is too much," Fowler points



*Linked buddies: Contour and SMAART, working together.*



*The two-wide array configuration that's proven a hit for the needs of this tour.*

out. "The two-wide configuration got us exactly the horizontal coverage required, with some ground stack support. So far this has been our favorite configuration."

In addition to a total of 40 C4-Tops and 40 C4-Subs, only four d&b B2 subwoofers are in use per side on the tour, with all powered by d&b A1 amplifiers, outfitted with associated controller cards. "The C4-Top incorporates a passive crossover network, which surprises some," he adds. "The C4-Sub, which is really the low-frequency component of the two-box system, is actively crossed over near 150 Hz. The two-box system allows users to build arrays specific to the venue."

Fowler notes that he's now looking forward to trying the next generation of amplification from the company. "The new D12 switch-mode power supply amplifier incorporates all d&b loudspeaker settings into a DSP front end, with both analog and digital inputs. I'm looking forward to testing it. Control and monitoring are also built into the front end, so it appears to be a well-

rounded package." Although not implemented on this tour, d&b electronics offers remote control interfaces and monitoring of the health of the entire system.

The d&b electronics are supplemented with Lake Contour, from Australia's Lake Technology, which incorporates DSP-based equalization and processing tools, including crossovers, dynamics and delays. "I'm using Contour in 'EQ Only' mode, since the d&b system is turnkey," notes Fowler. "I use it to set delay times for various zones – front fill, side fill, and so on – and to set levels in real time for each zone. Currently, I'm also beta testing the (SIA) SMAART/Contour interface and expect it to be a powerful tool."

He continues, "The monitor rig is loud. Vince (Buller, monitor engineer) is running a loud stage and it sounds great up there. I align the main PA to the drum fills and delay the subs accordingly. The main problem is of course low-mid/high-bass wash off the stage. The alignment helps compensate for it, but it is still a factor."

## SUM OF ALL CURVES

Fowler relates that he has found Contour's Mesa and brick wall filters of particular use. The asymmetrical shape of the Contour Mesa filter is well-suited for correcting the complex

response of loudspeaker systems. Using the system's EQ Overlays facility, which offers graphic and parametric capabilities, additional equalization curves may be applied to further optimize or adjust to taste. The sum of the various frequency curves is then applied to the speakers.

The Contour system is controlled from a wireless tablet touch screen. That frees the engineer from having to stand at the FOH console and radio changes to an assistant, or to continually run backwards and forwards between the FOH position and the various audience sections.

"The ability to quickly move about each zone and hear the results of potential EQ choices for each is a revelation," Fowler admits. "To do this in the 'traditional' fashion requires quite a few trips around the venue and is a slow process. This really speeds things up."

Noting that Eighth Day has made a commitment to the new Lake Contour system, Boessneck agrees that the wireless interface, allowing the engineer to adjust the sound system from anywhere in the venue, is indeed convenient. "It

doesn't chain an engineer to the desk any more," he says. "It's an added tool in the toolbox for mixing engineers."

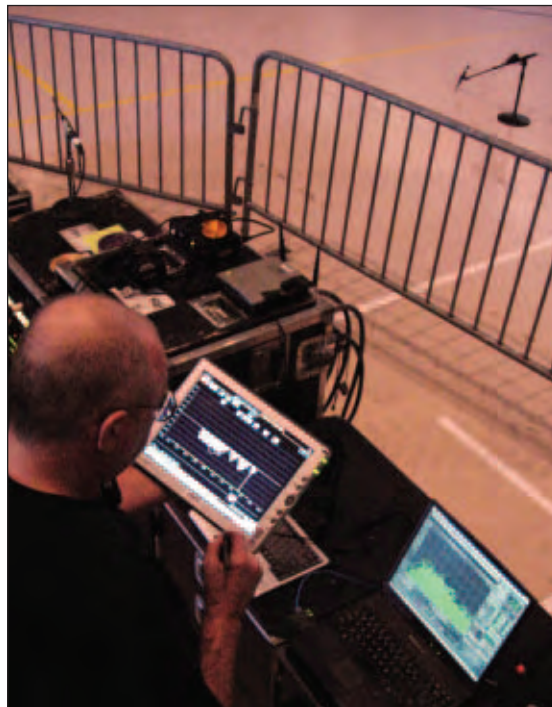
Buller, on his first tour with Good Charlotte, has worked as a monitor engineer and monitor tech for Eighth Day for seven years, with clients such as Bjork, Tracy Chapman and the Black Crowes. The Englishman has also worked in the past for Morrissey, The Smiths, Erasure, and Laurie Line.

Mixing monitors for Good Charlotte and one of the opening acts on the tour makes for a long day, says Buller. "The trucks roll in at 9 o'clock, and by the time the sound truck unloads it's 9:30. Depends on how accomplished your riggers are, but it's usually 1:30 to 2 o'clock when I get lunch. After lunch I come back and fiddle with the EQ and we're ready to go at 3 o'clock with the soundcheck. Then we deal with the opening acts. It's a fairly hectic day, with two opening acts as well – it takes up the whole afternoon sometimes."

Buller, who is using the same Yamaha PM4000M console that he took out with Tracy Chapman, reports that there are no in-ear personal monitoring (IEM) systems on this tour. "It's all d&b M2 wedges. I've got four mixes across the front, in pairs of wedges, and flown sidefills. I have what I class as a 'butt mix' positioned in front of the drum riser, plus 'Texas headphones' for the drummer – a d&b each side of his head. Then, I do two mixes onstage left and one stage right for the guitar techs."

### A REALLY LOUD BAND

Lead singer Joel Madden uses the sole wireless microphone system, an Audio-Technica



Mr. Fowler and his mobile Lake touch screen.

T3300 transmitter with AEW R5200 Artist Elite Series receiver (the band is endorsed by the microphone manufacturer). "He (Madden) doesn't stand still for 30 seconds!" laughs Buller. "Hence the flown sidefills. If the sidefills were down on the stage there's no way that I could stop him from feeding back. Because it's loud on stage – they're a loud band."

He elaborates, "They've got two stacks of four bass cabinets each side of the stage, four stacks of Randall, four stacks of Mesa, a couple of Top Cats, a Buddah, and they're all blaring. My stage volume is extremely loud."

Which may well be necessary, given the typical Good Charlotte audience. "They play to an audience of 14-year-old girls who SCREAM from the minute they start until the end," Buller relates. "So I'm competing with the audience as well. You get a 14-year-old girl and 2.5 kHz is deafening coming out of her! You get 10,000 of them, all basically doing it at the same time, and it makes your eardrums ring."

But the monitor speakers easily cut through the noise, he allows. "The M2 wedge, which is the latest d&b wedge, is almost flat. There's not a lot that you have to do to it. There's just a little preference according to what the artist likes to hear, or their voice. I don't have to spend many hours trying to EQ them."

Like the FOH system, the monitor



Measurement mic in position and linked via EV wireless system to SMAART.

systems utilize proprietary d&b processing. "All my monitors are run off the d&b amp with the processors inside. They pass information backwards and forwards to each other."

Guitarist Benji Madden, twin brother of singer Joel, is the only other singer in Good Charlotte, making use of an A-T AE6100. His guitar rig, like that of other guitarist Billy Martin, utilizes an A-T TM25, a Shure 57, and a Sennheiser 609. The drums are entirely miked with A-Ts, including AE300s (snare top and bottom), TM25s (toms), a 4041 on hi-hat, and 4050 overheads. A dual-capsule AE 2500 is on the kick drum.

At FOH, band mixer Gary Ferenchak's Midas XL4 is interfaced to relatively little outboard processing. "There's nothing fancy going on," explains Fowler. "Gary uses a pair of Summit DCL-200 compressors as subgroup inserts, and there are a number of dbx 160A for general channel insert duty. BSS and Drawmer gates reside in the insert rack. In the effects rack there

is a pair of Yamaha SPX990 reverbs, a t.c electronic 2290, and a t.c. D2. That's all."

As if the band's engineer doesn't have enough to do mixing the band, shows are recorded wherever possible. Ferenchak is given a second split and he takes some channels direct off the XL4, as well as a couple of ambient room microphones, for a Digi-design Pro Tools recording setup. Rather than mouse control, Gary is using the Digidesign/Focusrite Control 24 control surface. No audio passes through it, and it offers full Pro Tools control with a console interface.

There are 48 channels on disk available, sampling at 96 kHz. A Glyph drive is used for tracking and archive. To Ferenchak's credit, he took everything out of the boxes on the second day of production rehearsals and turned it into a respectable package, racking it up and cabling it.



Wedges in position on the Good Charlotte stage.

Fowler is quick to credit his Eighth Day colleagues. "I'd like to make sure Vince Buller and [system tech] Marty Tarle get the credit they are due. They are the best crew I've ever worked with."

*Steve Harvey is a regular contributor to Live Sound, covering a wide range of professional audio topics and applications. He can be reached at [s-havey@pacbell.net](mailto:s-havey@pacbell.net)*



System tech Marty Tarle tweaking on the XL4.