

Feature Story

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Innovative Dynacord® Cobra™ Line Arrays Ignite Fourth of July Concert Sound

Dynacord® Cobra™ Provides Real Audio Solutions to Complex Orchestra Application

Plymouth, MN (July 2003): For 31 years, the Twin Cities suburb of Plymouth, Minnesota has celebrated Independence Day with an outdoor concert by the Minnesota Orchestra and other musical groups. This year, as people danced to salsa and 50's rock 'n' roll bands, probably no one in the crowd of 23,000 realized that they were listening to a revolutionary new sound system: **Dynacord® Cobra compact line array**. Presided over by the qualified crew of twin cities-based sound and production company, Urban Communications, the event was a resounding success.



Cobra Mains Stacked at Each Side of the Plymouth Amphitheater

“You’ll notice as you walk around the venue that it sounds amazingly consistent, no matter where you go,” said Greg Ecklund of Urban Communications. “As you get closer to the speaker stacks, it doesn’t get as loud as you’d expect with most systems. With the ultra-wide horizontal dispersion, everyone in the listening area is covered very well from a minimal amount of speakers also.”



Cobra Mains and Delay Towers Provide Consistent and Even Coverage for Crowd of 23,000 Concert-goers

Jeff Taylor, Dynacord Product Manager for the Americas said that Cobra is the first portable, compact line array system designed for quick, easy, non-technical setup and teardown. Unlike huge concert tour line arrays, such as the Electro-Voice® X-Line™ and XLC™ systems, Cobra is ideal for sound companies and rental shops whose applications range from small to several thousand people.

“Cobra delivers line array benefits for 90 percent of the sound reinforcement work that goes on,” Taylor said. “The large arena-concert line arrays are great but let’s face it, most sound companies don’t have the kind of work to make those boxes useful. Time and staff are very big expenditures for them. Instead of three qualified techs taking a whole day to set up a system, they could send one tech and one hand to set up a Cobra system in a fraction of the time and cost.”

The concert in Plymouth’s outdoor amphitheater was a challenge for our previous sound system,” Ecklund said. “A lot of horn-loaded systems are easily affected by wind. Their sound really suffers. Line arrays tend to be more impervious. We were playing music here through the main stacks during setup and it was clear as a bell, even with the wind.”

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(l-r) Brent Alwin (Independent Engineer), Terry Tilley (MN Orchestra engineer), Greg Ecklund (President/Engineer Urban Communications) with Midas Legend 3000 and Klark Teknik Helix EQ

“Cobra produces super-wide horizontal output and very focused, shallow vertical output so you get super coverage and enormous efficiency in every application. That takes out a bunch of setup problems because all you do is stack the Cobra boxes in a line. You don’t have to worry about splaying them, or coverage front-to-back or side-to-side. There are no hot spots or dead spots. Cobra gives you clean, clear sound at any volume anywhere in the listening area.”

For the Plymouth concert, Taylor and Urban Communications covered the venue with Cobra-4 main speaker stacks left and right of the band shell stage, and two delay speaker stacks about 180 feet out into the grassy, gently sloping seating area. The main stacks consisted of four Cobra PWH subwoofer cabinets, stacked two-by-two, with two Cobra-4 Top three-way line array cabinets on the subs, and a long-throw Cobra-4 Far line array cabinet capping the stack. The delay stacks used the same line array boxes, but only two subwoofers.

Each speaker stack was driven by its own amplifier rack; a factory-built rack that’s the key to the Cobra system’s simplified setup. Each rack was configured with two Dynacord L2400 2x1200-watt amplifiers, a Dynacord DSP244 digital speaker processor, and a custom patch panel.

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Factory-built Cobra Amplifier and Processing Rack

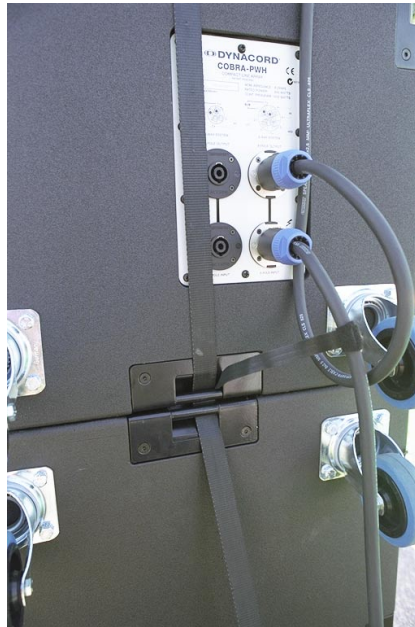
Taylor explained that all a technician has to do is send a signal from the mixer to one of the inputs on the patch panel, run a line from the output jack to any cabinet in the speaker stack, then daisy-chain the other speakers together. The Cobra amp rack and speaker cabinets are pre-wired with multi-pin Speakon® connectors that automatically route the right signal to the right speaker components.

“It’s just one cable in, one cable out, then chain everything else together,” Taylor said. “Anybody’s who’s hooked up a home stereo can figure it out. That’s why this is so attractive to rental companies. The union stagehands here have never seen a Cobra system before, but they set up the main stacks by themselves with practically no direction. The entire system only took a couple of hours to set up.”

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Ecklund added that, for the Plymouth concert, there were actually two lines running to each amplifier rack. One carried the audio signal, the other carried digital commands for each rack's 24-bit, four-channel speaker processor.

“In an application like this where you have multiple amp racks, you don't want to run around to each one to change the processor settings,” Ecklund said. “We just use regular mic cables with XLR connectors and daisy-chain all the processors together.”

“Having a real digital speaker processor in each amp rack gives you the ability to tweak things, like delay in this particular application. We don't have to bring separate delay units for the delay stacks —it's already in the processor in the rack. I can just sit with my laptop PC at front of house and control the delay settings or anything else without carrying any additional equipment.”

Taylor said that Cobra offers the best of both worlds: a traditional amp rack-style speaker system with the easy setup of an active speaker system. “Anybody can set this up. But professionals who depend on the flexibility of a traditional system can still go in and make adjustments to fit the application.”

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Dynacord® is a professional audio brand of Telex Communications, Inc., a leader in the design, manufacture and marketing of sophisticated audio, wireless, multimedia, aircraft, broadcast and communications equipment for commercial, professional and industrial customers. Telex Communications markets its products in more than 80 countries under the brands EV®, Telex®, RTS™, Dynacord®, Midas®, Klark Teknik®, University® and others.

For more information on the Cobra, please visit www.dynacord.com, e-mail jeff.taylor@dynacord.com or call (800) 392-3497.

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