Roman Catholic Cathedral of St. John the Baptist
Savannah, GA

LOCATION: 222 East Harris Street, Savannah, GA 31401

SCOPE OF CONSULTING: Speech-reinforcement sound system design and general room acoustics

COMPLETION DATE: Designed 2000 / Installed 2001

ARCHITECT: DPK&A Architects, LLC (preservation & restoration architect)

LITURGICAL DESIGNER: Rohn Design Group

Clive Copping, project architect (215-627-2700)
Carl Doebley, architect partner-in-charge (215-627-2700)
Rolf Rohn, liturgical designer (412-561-1228)

DESCRIPTION: Restoration and upgrade of this splendid 19th century “plaster gothic” Catholic cathedral included refurbishment of the interior and exterior, new and reconstituted liturgical furnishings in a historically idiomatic style, plus replacement of all electrical and mechanical infrastructure, including new sound systems. The cathedral, seating 1200, was originally built in 1874, rebuilt in 1899 after near destruction by fire the year before, with subsequent changes to the interior decoration in 1912, 1961 and again in 2000. The 6-second reverberation time has made intelligible speech, whether amplified or not, almost impossible since the first mass over 125 years ago. The natural, lively acoustics provide excellent support of a fine pipe organ by Fritz Noack (1987) and the cathedral’s choirs, but rendered the spoken word unintelligible.

A new speech-reinforcement sound system was designed to address this shortcoming. Digitally-controlled steerable line-array loudspeakers were recommended as the better of two realistic loudspeaker system designs, and selected by the cathedral authorities as the most cost-effective and least visually-intrusive solution. Two 16'-tall high-resolution line-array loudspeakers are mounted on the chancel-crossing piers (adjacent to the pulpit and cantor’s lectern) to cover the nave and transepts, and two supplementary 6'-tall low-resolution loudspeakers cover the large chancel. Both pair of line-array loudspeakers were left undecorated except for custom paint, blending them into the background. Other sound system features include a “hands-free” mixing system for masses and special events, a supplementary monitor loudspeaker system for the rear balcony choir, an independent sound system at the rear of the nave for reinforcement of a choir soloist in the balcony, program monitor loudspeakers for ancillary & support areas, press-feed outputs for television and radio broadcast of important cathedral events, assisted-listening system for the hearing impaired, modest speech & music recording system for archive use or cassette tape distribution to the home-bound, and permanent wiring for future professional recording.

Acoustics advice included consideration of existing materials and finishes related to support of choir and organ sound in the rear balcony, removal of sound absorbing materials unfortunately required by the previous poorly-designed sound systems, exclusion of pew cushions, and reduction in noise produced by the new baptismal font. In addition, our role on behalf of the owner was one of “acoustics preservation;” specifically to not alter the marvelous sanctuary acoustics to accommodate a new speech-reinforcement sound system, but to design the system to properly match the room. We succeeded on all accounts, and the result has been a smashing success.
NAVE, CROSSING, TRANSEPTS, CHANCEL AND SIDE CHAPELS – VIEW FROM REAR BALCONY