

# Installation Profile



## ASHLY AMPLIFIERS POWER STATE-OF-THE-ART NATIONAL FLIGHT ACADEMY IMMERSIVE LEARNING CENTER

PENSACOLA, FLORIDA – It's a fact that high school students in the United States are, on average, falling behind their international peers in the foundational subjects of science, technology, engineering and mathematics (STEM). Numerous initiatives are in place to address this ominous knowledge gap, but none are so viscerally appealing as the National Flight Academy (NFA). Set to "sail" in early 2012, NFA is an immersive, high-tech, aviation-inspired learning program on the grounds of the National Naval Aviation Museum in Pensacola, Florida. Its multi-story building uses state-of-the-art virtual reality and technological wizardry to replicate the experience and STEM-demanding missions of a U.S. aircraft carrier. Students commit to serve several days on the "carrier," during which they dramatically increase their STEM proficiency and, perhaps more importantly, enthusiasm. Ashly Audio amplifiers contribute to the convincing air of the NFA environment by providing 24/7-reliable power for sound effects and paging.

David Ebbert of Pensacola-based **Walthall & Associates** designed the sound system for NFA with an uncompromising view toward realism, reliability and user control. He was brought in at the project's earliest stages and, over the course of seven years, contributed substantially to its realization. It's safe to say that the installation benefited from Ebbert's input. "We initially suggested immersing students in the sounds of a real aircraft carrier," he said. "We wanted to bring the scenario to life. Every aspect should resonate the experience of what it would be like to be on a real aircraft carrier."

Brian Smith, operating out of the Pensacola office of **Pro Sound & Video**, oversaw system installation. Smith added, “The NFA officials want complete control over the sound effects, and they want them to be utterly convincing. Reliability is critical. Students will be traveling to NFA from all over the country, and there’s no way to offer up a ‘rain check’ in the event of malfunctions. So that means the NFA has to run with no system failures!”

The faux aircraft carrier is primarily comprised of a Ward Room, where meetings – complete with HD VTC – take place, together with a First Deck, Second Deck, Third Deck, and Hanger Bays, where the business of actually completing missions occurs. In general, the sound system is broken into two components, a background audio (BGA) component and a foreground audio component (1MC). The BGA is composed of multiple discreet audio tracks that are mixed and routed between full-range and very-low-frequency loudspeaker components in different zones of the facility. These sounds include the persistent rumble of the engine and the infrequent “catapult,” the loud device that launches fixed-wing aircraft off a carrier’s short runway. “All of the BGA loudspeakers and subwoofers had to be invisible,” said Ebbert. “Everyone agreed that a student should never be able to point out a BGA loudspeaker. Nevertheless, we still had to deliver even coverage.” The 1MC uses surface-mounted shipboard loudspeakers that reproduce the ship’s clock and alarms, and all announcements and pages.

Ashly amplifiers provide power to every loudspeaker and subwoofer in the system. A single Ashly TRA-2150 powers the in-ceiling subwoofer and six ceiling speakers in the Ward Room. A Crestron AV2 paired with an Apple iPad wi-fi remote provide a state-of-the-art user interface. Nine Ashly ne800 amplifiers provide low-impedance power on the three decks and hanger, while six Protea-enabled Ashly PE-800 amplifiers provide power plus supplemental DSP in the same areas. Six Ashly ne800.70 amplifiers deliver 70-volt power where needed.

“One of the huge advantages of going with these Ashly amplifiers is that they ship network-ready,” said Smith. “We set them up for IP-based control and monitoring. Faults report into the Crestron system seamlessly. Also, the installation went more smoothly with Ashly amplifiers because we could set levels from one place on the network. They integrated very nicely.” Ebbert agreed and added, “Ashly’s reputation for reliability was a critical factor. The last thing anyone needs to be doing is dealing with failed components. That said, this is the real world and things sometimes go wrong. In such rare instances, Ashly stands behind its products and makes things right with speedy, cooperative support.”

The installation needed all the help it could get. Pro Sound & Video was brought into the project after everything else was nearly complete. Therefore, they had to take extra care in pulling cables, mounting loudspeakers, and hiding subwoofers so as to maintain a transparent aesthetic. Anything that had to remain visible by necessity received a final coat of custom paint to match the ship’s appearance. “We were successful,” asserted Smith.

Today, Ebbert is designing phase two of the project with the same end in mind – to create a very realistic ship environment that is so powerful and realistic that it transports students from land to sea.”