

# A Cool Log Home In The Woods

*Log homes are not built like most other types of homes or buildings. In fact, by definition log homes have solid exterior walls with some solid interior walls, too. So when it comes to installing central air conditioning, there is often very limited space for ductwork, returns, and other mechanical necessities. The problem gets more complicated when the home design has an open floor plan and even fewer walls.*

This was the case that K+K Builders faced when installing a central air conditioning system at the County Creek Log Home development in Chesterton, Indiana.

Country Creek Log Homes ([www.countrycreeklh.com](http://www.countrycreeklh.com)) is a residential development on a 40 acre parcel of land located in Northwest Indiana on the Southern shore of Lake Michigan. The log home community is divided into 17 lots ranging in size from 1¼ to 4¾ acres, and each of the elevated lots has a view of one of the property's two ponds. Rust and tan colored stone outcroppings, stone hedges, and graceful pines adorn the rustic country setting where deer, waterfowl, and other wildlife roam freely.

As any developer will tell you, the model home can be a critical element in the sales process. As such, nothing can be left to chance when it comes to the model home's amenities and me-

chanical systems. In the Country Creek development, the model is a two story 2,300 square foot show home with a larger, 2,600 square foot walk-out basement that also serves as the office for the development. All 4,900 square feet of space in the home and office is heated and air-conditioned.

"It was clear from the beginning that a conventional air-conditioning system would not be ideal for these properties," said Robert Grant, the developer. "I had known about SpacePak for some time and it was clear that this installation would require skills to make it work. It is not a plug and play environment, and SpacePak worked with us to make it successful."

SpacePak pioneered flexible central air conditioning nearly 40 years ago. The SpacePak system distributes conditioned air through a network of flexible, insulated two-inch diameter tubing.

When Country Creek Log Homes developer Robert Grant needed to install a central AC system in the development's model home, he turned to K+K Builders. K+K installed SpacePak – a flexible, non-invasive and space-saving system for the log home.





This flexible duct work can be installed inside existing 2 x 4 wall structures and around obstructions without requiring extensive construction or renovation to the property. A small air-handler is typically installed in the attic, basement, mechanical space, or recessed in the existing ceiling space.

***“The entire SpacePak team did a great job on this project,” said Grant. “They really wanted to work with us, and now have a beautiful showcase project that we can both be proud of.”***

Paul Knowles, owner of K+K Builders, was familiar with the SpacePak system and had some history with the product.

“One of the critical issues was where to hide the mini-duct work and the return since the log home does not have the ceiling heights or wall structure that a traditional home provides,” said Knowles. “In addition, the home does not have an attic for the plenum.”

The log home was designed with a chase that went from the basement through the second floor. Besides housing the chimney, the chase would become home for the main SpacePak plenum as well as for some of the flexible tube ductwork that branched out to individual spaces, and the return.

“One of the problems we encountered,” said Grant “was that the original design called for placing a second section of plenum – installed horizontally – under the first floor in the truss system, where we would feed the flexible tubing through the truss. However, the truss chase opening was not in the right location, so we had to turn the system perpendicular to what was originally planned. In the end, it did not make any difference to the system’s performance.”

The two-inch diameter insulated flexible tubing that distributes the high velocity air, was brought to the first floor from the basement. Outlets were strategically placed in the floors throughout the first level of the structure.

SpacePak systems are ultra quiet and nearly invisible once installed. All you see in each room is a small round air-outlet about the diameter of a CD. The outlets can be installed in floors, walls or ceilings, and can be painted or covered with wallpaper. Decorative wood, brass and other finishes are also available. The system does not require large ductwork systems that consume valuable space or the unsightly appearance of space air conditioners inside or outside of the building. Most important, with a SpacePak unit, there is no noisy, drafty operation, and no need to install, remove and store air conditioner units at the end of the season.



The home’s second floor posed more installation challenges. Because the second floor of the home was constructed with solid 6 x 8-inch beams, there are no joists or space between the floors to house the flexible tubing. Instead, the air distribution tubing was provided to the second floor through the central chase, and into individual rooms through the 2 x 4 interior walls.

“Placing the vents throughout the home was a challenge,” said Knowles. “The home features several different types of wood including hickory, cherry, walnut and maple, so each area had to have the matching wood-type outlet cover to keep them as inconspicuous as possible. In fact, one of the outlets was hidden in the stonework in the home’s kitchen.”

The 2.5 ton system consists of the air handler, condenser and duct work. The condenser is located outside of the building on a concrete pad. It took a two-man crew about one week to complete the project.

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