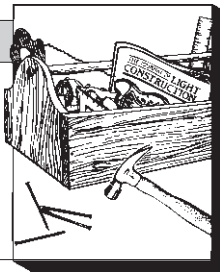


# Silicon Valley Framing Tool

by Clayton DeKorne



When most of us think of a framer's tools, we imagine long-handled hammers, saws without guards, and top-heavy nail guns. When we think of calculators, we're more likely to imagine Cal-Tech, theoretical physicists, and Revenge of the Nerds.

But whether you cut roofs in the tracts or build high-end custom homes, there is a calculator that can significantly improve your speed and efficiency as a framer. And that kind of result goes straight to the bottom line. It is appropriately named the Construction Master II.

Originally developed in the early 1980s, the Construction Master traded on its ability to work in feet, inches, and their fractions, and to convert these to yards, square feet, cubic feet, and board feet.

Subsequent improvements concentrated on shortcuts across typical construction math: algebra, geometry, and trigonometry. The Construction Master II allows you to easily calculate the area of a circle, square any number, and derive square roots all in feet and inches. Two other nice additions are the fraction set key, which allows you to set the increment you want to work in (I do my figuring in 16ths, but you can set it as high as 64ths), and the ability to convert to metric equivalents - meters, centimeters, and millimeters.

## New Key Function

The function that really pays for itself as far as I'm concerned is right-angle solutions. Using the pitch, rise, run, diagonal, and hip/valley keys, I can square up layouts, calculate the length of rake wall studs to razor accuracy, and cut roofs without pouring over rafter tables, span charts, and shortening allowances. The following are some examples of what it can do.

**Squaring up a subfloor.** First, establish a rough right angle by running strings to represent the inside edges of two perpendicular exterior walls. Then measure down each string equally - the dimension doesn't matter - and make a mark at each point on the floor as close to the string as possible. Then enter these two dimensions as rise and run. Now press diagonal on the calculator, and adjust one of the strings so that the distance between them at the marks equals the number on the calculator's display.

**Planing in a roof.** Sometimes plans call for the roof on the lower story to plane in with the upper roof. In order to make this a perfect transition, the run of the lower roof must be very precise. Generally you can't adjust your rise as the joists, sheathing, and upstairs wall heights are pretty much a given. The only area of adjustment is the run of the wall under the lower roof. Hopefully the designer has done his homework and has correctly figured the run. But don't count on it. You can do it on the calculator by entering the rise (say an 8-foot first floor wall, plus joists and sheathing for a total of 9 feet 1-3/16 inches) and

the pitch (say a 9 in 12), and then pressing the run key. Answer: 12 feet 1-9/16 inches. Use this figure and your roofs should plane in perfectly.

**Jack calculations.** Let's say you are nailing in jacks on a valley and want to find a point that is 2 feet on-center from your last jack to measure for a "special." Enter 2 feet as the run, key in the pitch of the roof and hit hip/valley. The answer is the distance you need to measure along the valley to establish that next jack.



Using feet-inch measurements and a host of advanced functions, the Construction Master II can improve a framer's efficiency, both in the tracts and on custom houses.

## But Still Not Perfect

There are two things I'd like to see improved. The first is the sensitivity of the on/off key. The Construction Master II is a tool that belongs in your nail bags, but carrying it around, you end up activating the calculator inadvertently. The same thing happens if it's laying flat and plans are accidentally tossed on top of it. Both Calculated Industries and Occidental Leather make cases for the calculator, but I don't like the idea of having to "unwrap" it each time I want to check something.

My other complaint is actually a suggestion for a new function. I'd like to see a degree readout along with the pitch. This could be very helpful when dealing with irregular hips and obscure angles.

The Construction Master II costs about \$80 and can be ordered directly from Calculated Industries, 22720 Savi Ranch Parkway, Yorba Linda, CA 92686; 800/854-8075. This is a bit more than you might expect to pay for a calculator, but then again this is no ordinary calculator. For me, it has more than paid for itself in the time it has saved me in figuring complex roofs. ■

*Guest columnist Don Dunkley runs a custom building company in Cool, Calif. (no joke), and has extensive experience as a production framer. Next month, our regular tool reviewer, Clayton DeKorne, will return.*