

# New navigation system for airplanes modernizes old technology

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(Phys.org) —Research at Oregon State University has developed a new airplane navigation system based on concepts that were developed in the 1940s but are still popular and affordable, and it uses new technology to make the system even smaller, simpler and more accurate.

The new product is just one inch tall – half the size of other navigational systems on the market – and should be of special interest for the homebuilt airplane market, its designers say.

It was created by three OSU seniors in electrical and computer engineering and improves UHF-VHF [technology](#). Called the [NAV 2000](#), the system is the newest product for VAL Avionics, an Oregon company that already has several orders pending.

The [navigation system](#) receives and processes signals and a separate navigational indicator unit translates the information for the pilot. It's compatible with several indicator systems including the old-style needle display, and a more modern [video display](#) called an electronic flight instrument system.

According to the developers, this approach is more affordable than the use of newer and more expensive GPS technology.

"Much of the equipment that is out there still uses the old analog technology," said James MacInnes, one of the student designers. "As an aspiring electrical engineer, I felt that we should look at simplifying and

improving upon that technology to receive the UHF-VHF signal."

The system can direct pilots from point-to-point using signals broadcast by airport and other towers, and guide airplanes for landings with existing runway transmitters. The unit conveys both horizontal and vertical information which allows pilots to land even in poor visibility conditions.

"I'm incredibly impressed with how accurate the students have been able to make this system," said Jim Harr, president of VAL Avionics. "It's more accurate than anything I've seen."

Provided by Oregon State University

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