Differences between the Reconfigurable Tactile Display (RTD) Control Surface and a Liquid Crystal Display (LCD) screen.

Many vehicles today employ Liquid Crystal Displays (LCD) to display GPS navigational maps, vehicle information, rear-view camera images and some conventional controls like the audio system. The LCD display typically appears above the stereo and heater on the vehicle's center stack.

Figure 1
The RTD vs. an LCD screen

- The RTD can be over four times as large
- The RTD can be curved; the LCD must remain flat.
- The RTD can incorporate physical knobs and buttons; the LCD cannot.

Whereas a conventional LCD display is a small screen fixed in the center-stack of a dashboard, the RTD, in effect, *is* the entire center-stack area of the instrument panel. The center stack and display within it become one and the same, whose texture, shape and appearance can be easily modified in software.

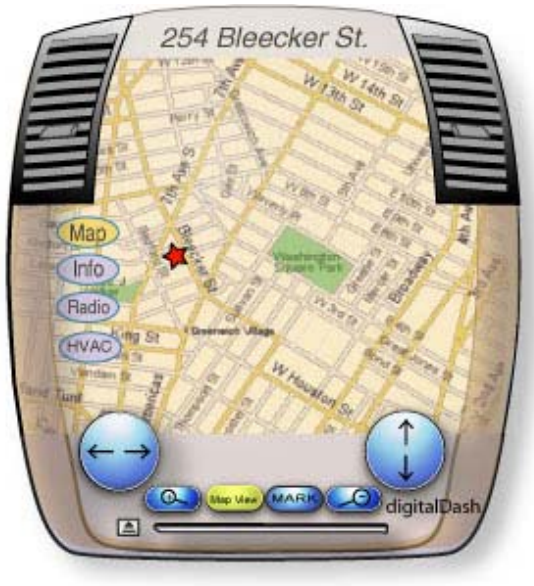
A revolutionary feature of the RTD is its incorporation of physical controls on the screen itself. An LCD screen cannot easily incorporate such controls, and no models have ever done this. The RTD can include knobs, buttons and sliders to control stereo functions, HVAC and video displays. It is also ideally suited to control and display any other functionality that may someday migrate to the car's interior.

The physical controls are a critical feature for ensuring that the RTD will remain familiar and intuitive for drivers of any age. In fact, the RTD can be designed to look and feel almost exactly like a conventional instrument panel of today, while incorporating all of the features mentioned above.

From a styling standpoint, the RTD represents a leap forward from conventional LCD screens. The RTD can be curved to the designer's wishes. The LCD screen must remain flat. Even the most conventional instrument panels have some degree of curvature. The LCD screen can therefore be only a small part of a typical dashboard, whereas the RTD can occupy the entire center-stack.

Compare the size of a typical NAV screen to the RTD in Map Mode. The RTD can display the result either in a split screen, or on its entire surface, or customized to any size, on any part of the screen. These pictures are shown to scale.

6” x 4.5”
Buttons on side of screen
Flat screen
No physical controls on screen
Flat touch screen-no tactile feedback



10” x 13”
Curved Display
Physical controls (buttons and knobs) directly on screen
Virtual touch control capability
Irregular shape-display curves around vents
Labels on buttons and knobs dynamically change depending on function