



# gray code technologies

butch rovan: reeds + live electronics  
kevin patton: guitar + live electronics  
fred kennedy: percussion

[www.graycode.org](http://www.graycode.org)

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Gray Code uses two custom-designed wireless sensor systems in performance. These systems allow Rován and Patton to control the computer processing of their instruments via the movement of the instruments through space and/or the direct manipulation of sensors.

## **hornZILLA: wireless augmentation system for acoustic instruments**



**hornZILLA** is a system designed by Butch Rován that augments acoustic instruments with wireless sensors. The system allows the performer to control real-time processing of the acoustic sound via three-dimensional motion of the horn; in addition, sensors attached to the body of the instrument allow direct access to processing parameters while playing. At present, Rován's alto clarinet hosts a hornZILLA system, and he uses it to modify, capture, and mutate the alto clarinet sounds during performance. In addition, hornZILLA acts as a controller

that Rován uses to direct processing of Patton's guitar and Kennedy's percussion instruments.

## TaurEx: sensor extension for electric guitar



The **TaurEx** is a sensor extension designed and built by Kevin Patton that connects to an electric guitar and tracks motion and performance gestures. The device seamlessly provides wireless, real-time control of computer effects and sampling in an intuitive way. The TaurEx is designed to capture information about the gestural qualities of guitar playing, such as picking, left-hand position, and the movement of the guitar in space. The smooth interface of the TaurEx allows Patton to control an array of computer effects and processing—including delay,

harmonization, granulation, and sampling—with subtlety and ease. The TaurEx also includes independent force sensors that can be assigned to directly control any other aspect of the computer that the user wishes.



