

BlueConnect Theory of Operation

The BlueConnect module is a hands-free interface to Bluetooth enabled devices. The stand-alone version uses a separate user interface board containing a button-pad, speaker, microphone and lighting elements. The stand-alone version can be operated independently of the vehicle, though it is expressly only intended for fitment into automobiles.

A voice recognition engine allows the user to control the system throughout a variety of functions. Interaction with the voice recognizer is accomplished via a microphone mounted in a manufacturer-chosen location. Further user interface (switches and voice recognizer) details are specific to the manufacturer's preference.

The primary processor of the system runs the voice recognizer as well as general function manager. The general function manager calls other functions as necessary based upon feedback from the vehicle bus, the user (via voice recognition and/or the button interface), or Bluetooth and the connected Bluetooth device(s).

Memory, composed of separate RAM and FLASH, allow for reprogramming and upgrades of the system as new features are developed. The memory is also used for voice recognition libraries and other Bluetooth devices that have been paired to the system. Other user-specific features and configurations are saved here as well.

A Bluetooth link to paired devices is used for the audio gateway through the system. By using the Bluetooth protocol, the module is able to connect to several different devices and route the audio out to the vehicle radio. The interface to the vehicle radio is configurable for single-ended audio, differential audio, or stereo versions of either configuration.