

Beat Gunner

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Beat Gunner is a shooting & rhythm game where the player fires at moving targets on a screen and is rewarded for hitting the targets in time with the beat of the music. The player wields a 'light gun', which is a toy gun which measures the light levels of the object it is pointed at. When the player fires, the game determines if the player has scored a hit by momentarily blacking out the screen and then illuminating the targets. If the light gun detects a sudden increase in brightness, the game confirms a hit.

The music for the game is provided externally via the analog input of the FPGA, and the game performs real-time beat-detection and displays the incoming beats as scrolling lines on the screen. It also delays the music playback by a second so that it can display incoming beats one second in advance.