

The Sabine Sacom DS8000 wireless microphone system consists of a receiver (DS88) and one or more transmitters (DS80T or DS80P or DS80H or DS80B). The DS80T is a “beltpack” transmitter that is designed to be worn by the user. The DS80P is a “podium” transmitter that is designed to be used with a gooseneck microphone. The DS80B is a tabletop boundary microphone transmitter that is designed to be placed on a conference room table. The DS80H is a handheld microphone transmitter that is designed to be held by a performer. The DS80T and DS80P do not contain a built-in microphone, but instead have connectors designed to accept various lavalier and gooseneck microphones. The DS80B has a microphone capsule built-in. These 4 transmitters have identical RF circuits.

The transmitters contain a microcontroller that drives the OLED display and handles the user interface functions, and an FPGA that handles the modulation and formatting of the digital audio data from the A/D converter. The data is sent using AES 256 bit encryption.

The transmitters use $\pi/4$ DQPSK modulation to encode the audio onto the 902-928 MHz carrier. The modulation bandwidth is 600 kHz. The RF power level is user selectable between 1mW, 10mW. The DS80H and DS80P use internal helical antennas. The DS80B uses an internal monopole antenna. The DS80T uses an external monopole antenna. The transmitters transmit on any one of 16 preset channels, selected by the user. These are 1.6 MHz apart and cover the range from 902.8 MHz to 927.2 MHz.

The transmitters are powered by 2 NiMH AA batteries and have a typical run time of approximately 6 hours on a full charge.