

RC Servo Control for Robotics: Scon, PICs, AVR's Etc..

What's the difference ???

The options available for controlling servos can seem overwhelming. This paper explains the difference between Scon products and other controllers.

Often people purchase controllers to build projects with RC servos and are never able to make the first servo movement. This won't happen with Scon SB's; as soon as it is powered up it generates the signals necessary for servo operation.

Most processor modules are supplied bare, able to do almost anything – as soon as they are programmed. You must program the processor itself, including the pulse generating routines that make your servos function. Utilities may be provided to generate servo control signals but you will have to figure out what to include based on what you are attempting to do.

Scon SB products are different. They are designed with the sole purpose of controlling RC servos. You don't program the processor at all, you write a simple logical basic-like program that is similar to industrial robotic programming languages. Once this is done you download it into the on board separate program storage space, its not stored in the processor or your PC. The primary movement instruction is "Move".

You store the servo positions in memory then use the Move instruction to cause the servos to move between the positions. The stored positions are not just for one servo, they are for as many as 8 servos. When you "Move" to any position, up to all 8 servos will move to the positions you have set, at the speed you want them to move.

Making positions is easy too. You can use the included PC program, PScon, to manually move the servos to the positions you would like. Once this is done simply store the positions by clicking the store position button. The position is stored in the on-board memory, and when you refer to it with a move instruction, the servos will move to the same positions you manually set. Scon versions SB017, SB018, SB020 are capable of storing over 30,000 positions. Walking movements can easily be made by setting positions for each part of the step. Head and arm movements are easily programmed too.

There are many other powerful functions, including subroutine support, speed change while in operation, input monitoring and auxiliary output support.

Scon SB devices will also function as "dumb" servo drivers. This allows a separate control board to use the servo driver capabilities of Scon, relieving the separate control board or PC of pulse generation duties.

For further information refer to the Long Manual, Controlling Rate in SconScript, and the examples document in the Resources page on www.sconcon.com