AN-857
APPLICATION NOTE

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Introduction to AD7142 Host Software Requirements
by Wayne Palmer

INTRODUCTION

This document describes the AD7142 host processor software requirements to support the capacitance sensor interfaces listed in Table 1.

AD7142 OPERATION WITH HOST PROCESSOR

The AD7142 capacitance sensor solution consists of a sensor board equipped with the AD7142 device, including the capacitance sensors. This sensor board connects to the host processor as shown in Figure 1.
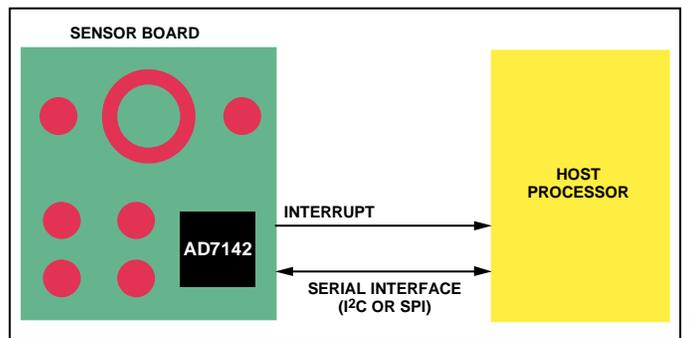

Figure 1. AD7142 System Block Diagram

Table 1. AD7142 Host Software Requirements by Interface Type

Interface Type	Host Processor Software Requirements	Application Note	Software Code
Sensor Buttons	Serial interface Recalibration algorithm Optional RF interference algorithm available	AN-856	Example code Click on link (above) for example code
8-Way Switch	Serial Interface Recalibration algorithm Optional RF interference algorithm available	Under development	Example code Click on link (above) for example code
Key Pad	Serial Interface Recalibration algorithm Optional RF interference algorithm available	Under development	Under development
Touch Pad	Serial interface Recalibration algorithm Optional RF interference algorithm available	Under development	Under development
Scroll Wheel	Serial interface Recalibration algorithm Optional RF interference algorithm available Positional algorithm (9.9 kB of code memory and 500 bytes of data memory)	Application Note available once licenses agreement has been signed	License required Click on link (above) to request a software license
Linear Slider	Serial interface Recalibration algorithm Optional RF interference algorithm available Positional algorithm (8 kB of code memory and 500 bytes of data memory)	Under development	License required Click on link (above) to request a software license

When referring to Table 1, note the following points:

- The serial interface is required to configure the AD7142 at start up and to read back the Interrupt Status registers for button sensor applications.

- Positional algorithms are provided, free of charge or royalties, by Analog Devices, Inc. Software information is provided upon receipt of a signed software license agreement.

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