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What is the AR1000 series?

The AR1000 controller is a turnkey Analog Resistive touch controller designed to be flexible, easy to integrate and complete.

Does the AR1000 support gestures?

Currently, the AR1000 does not include gesture support. However, gestures can be handled via software within the customer's application.

Using the controller with the drivers offered by Touch Base will provide some gesture support.

Additionally, the AR1100 can be used with Win7 via USB Digitizer mode, which utilizes the included single-point gestures within Win7.

Does the AR1000 support multi-touch?

Analog Resistive technology does not support multiple inputs. This is restricted because of the nature of the technology. Multiple activation points on an analog resistive sensor will result in an averaged coordinate, or a mid-point activation.

How much does the AR1000 controller cost? Where is it available?

Please see current pricing and lead times on mDirect.

I'm using a(n) Atmel/TI/Burr Brown touch controller. Why would I want to switch?

The AR1000 requires NO ADDITIONAL FIRMWARE CODE to be developed. The controller is designed to work out of the box, with minimal additional user configuration. Most "touch controllers" are A/D converters with some open-sourced code that leaves the user to complete the design. The AR1000 includes all of the calibration and filtering algorithms in a black box option, granting the customer the freedom to choose whatever analog resistive sensor their project might require.

What package types are available?

Currently, both the AR1010 and the AR1020 are available in QFN, SSOP, and SOIC. Please see mDirect for pricing and packaging options.

What drivers are currently available for the AR1000 series?

We have just completed an open-sourced driver, supporting UART, I2C, and SPI communication for WinCE 6.0. We have also secured a license agreement with Touch Base to provide full software driver support at no additional cost.

Please see the mTouch design center for the complete offering of drivers.

[AR1000 DevKit Questions](#)

What are the system requirements for running the current AR1000 demo?

Currently, the demo can only be run on a Windows XP 32-bit machine.

What chip is mounted on the AR1000 Dev board?

The AR1020 is currently mounted on the AR1000 Dev board. This chip supports I2C and SPI communication only.

How do I use my own sensor with the DevKit?

There are various jumper settings for changing the communication protocol and the sensor of the DevKit. Please see the included DevKit documentation for further instructions.

What sensor comes with the DevKit?

Currently, the AR1000 DevKit includes a 7" AMT 4-wire resistive sensor. The sensor has a 1.1mm pitch FlatFlex cable. The appropriate header is included on the AR1000 DevKit board.

The AR1100 DevKit includes a 7" AMT 5-wire resistive sensor. The sensor mates with the .1" square post header included on the AR1100 board.

What sensor headers are included on the AR1000/AR1100 DevKit board?

The DevKit board includes a .1" square post header for 4-wire, 5-wire, and 8-wire sensors. There is also a 4-wire 1.1mm pitch FlatFlex header.

Can I use my own AR1000 PCB, PicKit Serial and cables instead of the DevKit?

Yes. However, there is a small update for the PicKit that is included in the AR1000 software bundle. Please be sure to also download the software which includes this update and free software demos.

AR1000 Feature Implementation**What is the function of the WAKE pin?**

The WAKE pin is best described as "touch wake-up and touch detection". It is responsible for waking up from a touch, touch detection, and measuring the sensor capacitance.

Is Debounce a configuration parameter?

The AR1000 does not require an analog debounce for the operation of the controller. This is handled by the controller's touch algorithms. The parameter responsible for adjusting the "untouch" event is called the "PenUpDelay".

What is the sampling rate? Is it configurable?

The AR1000 is specified with a typical touch coordinate report rate greater than 100 pts/second. This result was taken using a touch sensor measured at 20nF with 200 Ohm layers. The report rate can increase dramatically if using a smaller sensor. Registers SamplingFast and AccuracyFilterFast may be adjusted to fine-tune the report rate, but this will come with a trade-off for performance

What is the correct connection when the part is used as a UART?

On page 3 of the data sheet in Table 2, the SDO pin, pin 9, it states in the Pin Description to tie the SDO pin to VSS id used as a UART.

On page 10 of the data sheet in paragraph 7.7.3 titled UART, there is a sentence that states the pin should be left as a "no connect", not tied to VSS or VDD.

Section 7.7.3 UART is in error, and will corrected in the next version release of the datasheet. The error has been logged.

The "Table 2: Pin Description" is correct.

For the UART chip, AR1010, the SDO pin is to be connected to VSS.

Does the AR1000 series store the calibration internally?

Yes. The AR1000 series will store the calibration internally in the EEPROM, once a calibration routine is completed. This allows the controller to send filtered calibrated coordinates to the host, relieving the CPU of the processing overhead.