

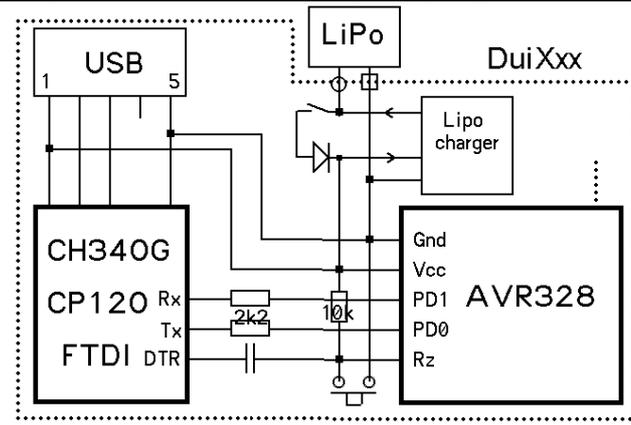


Gaia for the "Dui" Arduino 328 modules

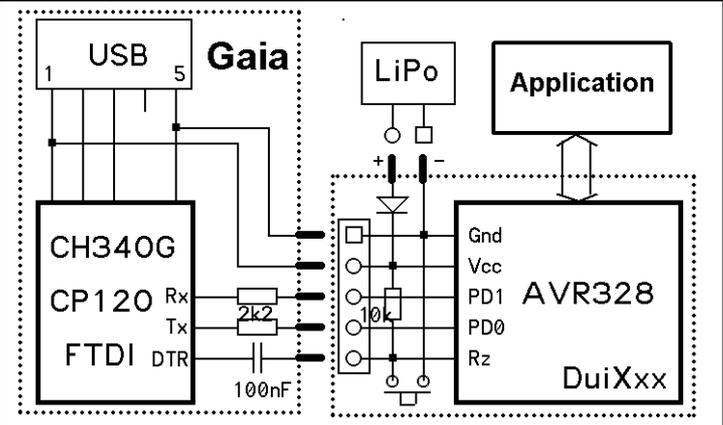
You may know the Arduino Mini, the Mini-Pro; Gaia follows that idea for even smaller cards. Didel has a family of "Dui" cards (e.g. Minos, Witty, Pegase, etc) having a discrete Gaia connector to be programmed through a Gaia or Pythie module.

Connect and set "duemilanove board"; and you have one more Arduino compatible board.

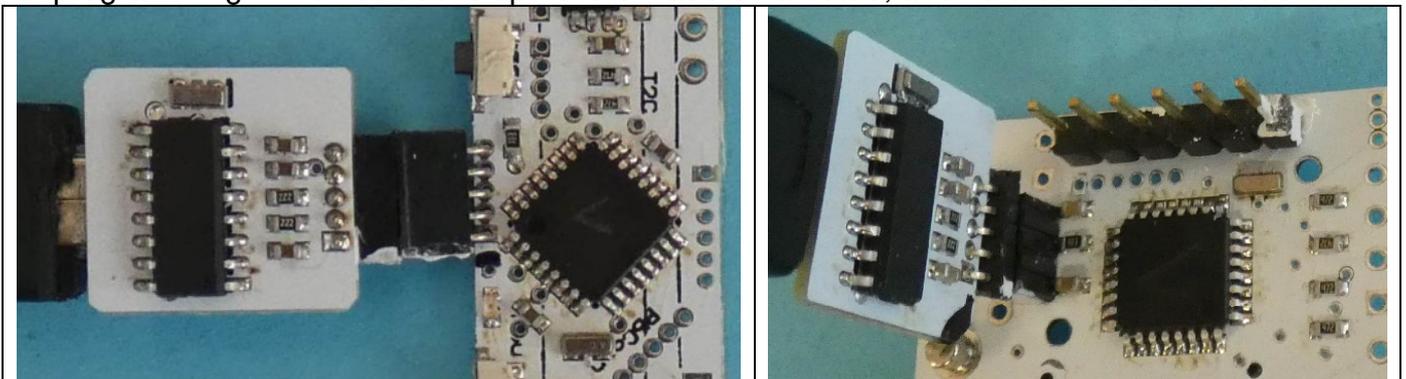
A typical Arduino board built around the AVR328 has a built-in USB to serial circuit required for downloading the program.



Arduino Mini separate the downloading circuit, usually not required when the application is running.



We do the same with Gaia and the Dui family. Gaia uses the easy CH30G USB driver and the pinout of the connector is well defined for 2.54mm strips and 1.27 connectors. Gaia always has a male connector. Dui boards do not have a connector, just the holes in which Gaia pins are inserted and maintained in such a way the good contacts are guaranteed for the short duration of programming. When soft development is made on a board, a female connector is soldered.



Do not be confused with Tx/Rx name. The name on the pin correspond of the function inside the chip. The connecting wire may have a different name at the other end of the wire. Always draw an arrow to show the direction of the signal.

1.27mm connectors

Pay attention if you search for 1.27mm connector. They are 5 pins, no problem if the pitch is 1.25 instead of 12.7mm. The problem is you have different pin shapes and material and the same for plugs. Connectors from different manufacturers may not match. Only tulip (PreciDip 853) are good and we associate them with straight pins strips, that can be bended. Female connector are bent; their pins can be unbended (no risk, bend/unbend up to 5 times).

Why not 2.54mm connectors on Gaia?

Duiboards are interesting for their small size. They are application oriented, programmed once and for updates. Development is made with larger boards, using Pythie having also a 2.54mm programming connector.

Schematics

Gaia advantage is to make the PCB routing easy, allowing more compact cards. The reset pull-up is required. The push button is not required if it is possible to cut the power supply for an instant. AVR328 processor runs down to 2V if the fuses are correctly set. Of course, the Dui card power must be removed while Gaia is connected, and if the card is powered at 3V and includes peripherals that does not accept 5V, special wiring is required.

