Serial data stream of WeatherDuino

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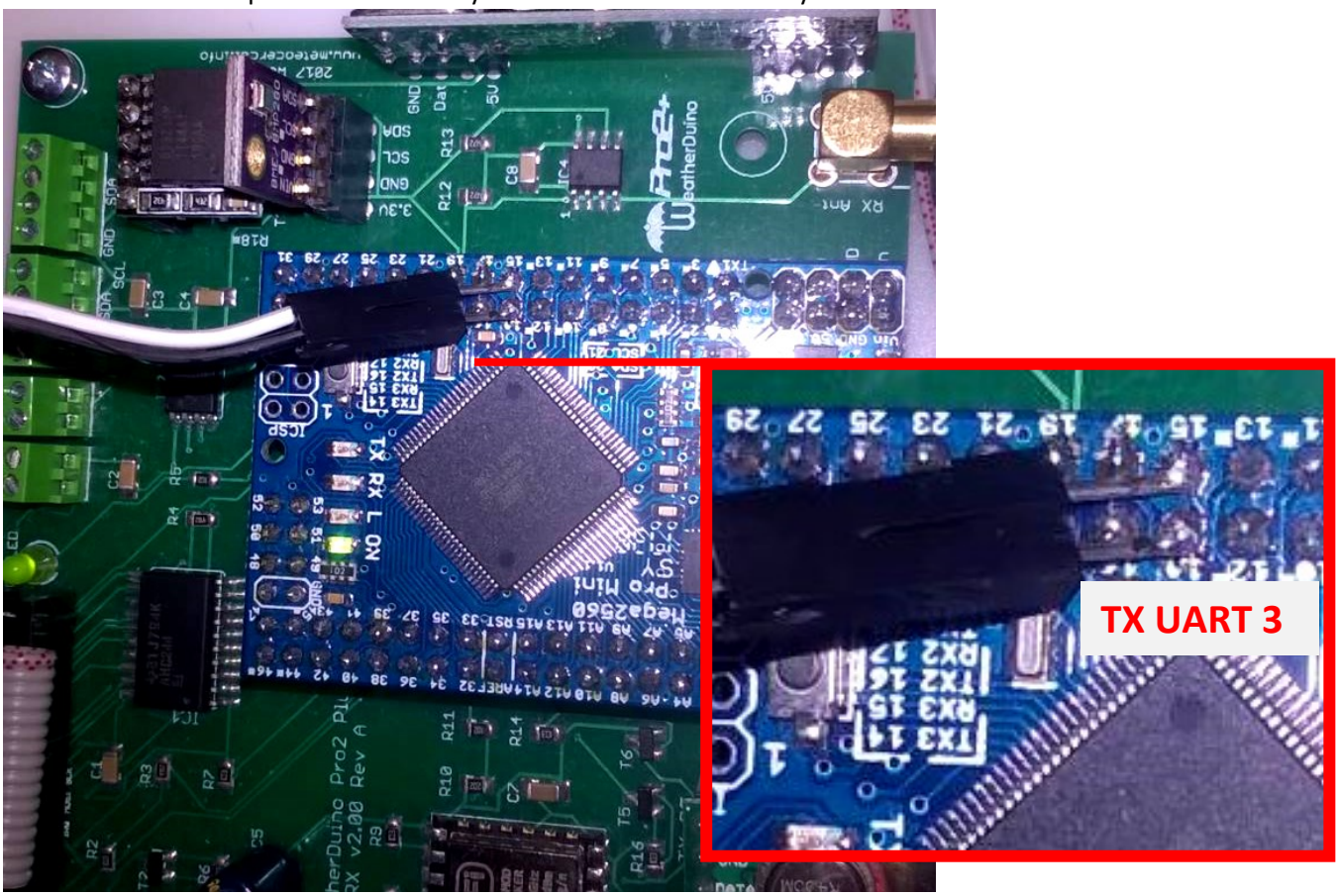
The idea is to provide all of the data captured by the WeatherDuino system and its modules to an additional serial interface with full precision.

Hardware setup

First, the communication wire has to be soldered to the pins of the UART3. Especially the wire of the transmission line on pin 14 is mandatory since this will be a one-way communication.



Be aware that the output level is at 5V and hence not suitable for direct communication with a PC or a Raspberry Pi.

The baud rate of the receiving device has to be set to 115200. Data bits 8, stop bit 1 and parity none.

Software setup

The original WeatherDuino source code has to be modified as followed in order to retrieve all the stored sensor data each minute.

In WeatherDuino_P2AT2560_RX_[Version].ino find:

```
//-------------------------------------------------------
//    Setup Things
//-------------------------------------------------------
void setup()
{
  Serial.begin(19200);
```

Change to:

```
//-------------------------------------------------------
//    Setup Things
//-------------------------------------------------------
void setup()
{
  Serial.begin(19200);
  Serial3.begin(115200);
```

In Routines.ino find:

```
  // --- Run GPIO tasks
#if (USE_GPIO == 1)
  GPIO_tasks();
#endif
}
```

Change to:

```
  // --- Run GPIO tasks
#if (USE_GPIO == 1)
  GPIO_tasks();
#endif

  // --- Transmit raw data via Serial 3
  Com_Transmit();
}
```

Finally copy the new provided file “COM_Transmit.ino” into the project folder. This file contains the sending function that starts a data stream according to the enclosed pattern. The data layout can be found in the file “Transmission_Layout”.