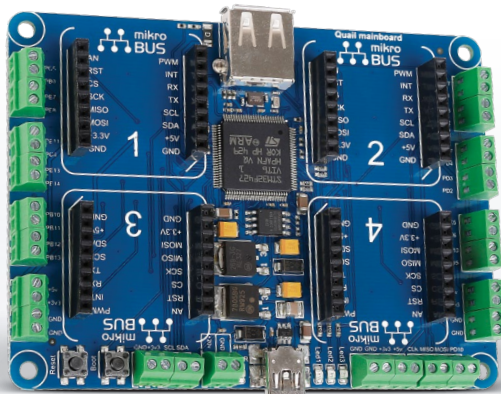
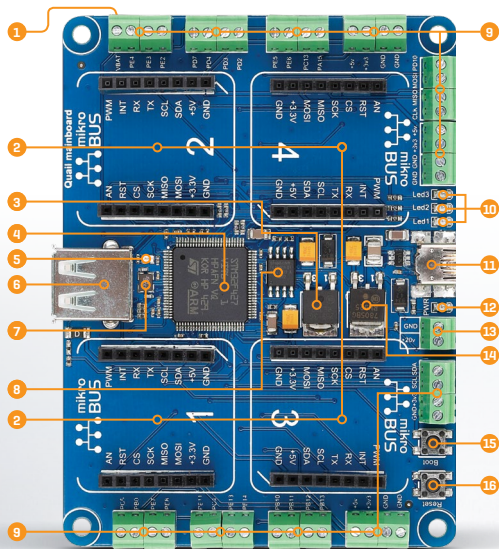


# QUAIL

click™ boards meet .NET Micro framework



## What's on board



- 1 RTC battery connector
- 2 mikroBUS™ sockets 1, 2, 3 and 4
- 3 3.3V voltage regulator
- 4 100pin STM32F427 MCU
- 5 32.768 KHz crystal oscillator
- 6 USB A connector
- 7 12 MHz crystal oscillator
- 8 Flash memory (64 Mbit)
- 9 Connecting terminals
- 10 Additional indication LEDs
- 11 USB Mini-B connector
- 12 Power indication LED
- 13 External power supply [+20V max]
- 14 5V voltage regulator
- 15 BOOT button
- 16 RESET button

## System specification



**power supply**  
via USB cable  
[5V DC]



**board dimensions**  
72 x 97 mm  
[2.83 x 3.82 inch]



**weight**  
= 50g



**mikroBUS™**  
4 sockets  
available

## What is the Quail board?

Quail is a hardware development board equipped with four mikroBUS™ sockets and a 32-bit ARM® Cortex®-M4 STM32 microcontroller. The edges of the board are lined with screw terminals and USB ports for additional connectivity.

## What's it for?

Quail offers a simplified way of developing hardware prototypes with C# managed code. It brings together MikroElektronika click™ boards and Microsoft's .NET Micro Framework for embedded devices (NETMF). MikroElektronika is constantly expanding the range of click™ boards to include all sorts of sensors, transceivers, displays... and the MikroBUS.NET team is supporting them with high-quality drivers to make them compatible with NETMF and the Microsoft Visual Studio IDE.



## 1. Install the required software

To start using Quail, download the following three pieces of software:

### The Microsoft .NET Micro Framework

Open source platform that enables you to write managed C# code for embedded applications.

[www.netmf.com](http://www.netmf.com)

### Visual Studio Community 2013

A full-featured free cross-platform IDE from Microsoft.

[www.visualstudio.com](http://www.visualstudio.com)

### MBN Core Assembly

[www.mikrobustnet.org/downloads-2](http://www.mikrobustnet.org/downloads-2)

```
120 // Board's blue led
121 // <summary>
122 public OutputPort LedB;
123
124 private I2C3_clear;
125 private I2C3_red;
126 private I2C3_green;
127 private I2C3_blue;
128
129 private Gains_gain = Gains.v1;
130
131 // <summary>
132 // Initializes a new instance of the class cref="ColorClick"/> class.
133 // <summary>
134 // <param name="socket">The socket on which the Color Click board is plugged on mikroBUS.NET boards/params
135 // <param name="address">The address of the display. Default is 0x3C/<param
136 // <param name="clockRate">The clock rate of the I2C device. Default is ClockRatesI2C.Clock100KHz. can also cref="ClockRate
137 // <param name="clockRate">The clock rate of the I2C device. Default is ClockRatesI2C.Clock100KHz. can also cref="ClockRate
138 public ColorClick(Hardware.Socket socket, byte address = 0x3C, ClockRatesI2C.ClockRateRate = ClockRatesI2C.Clock100KHz)
139 {
140     Hardware.CheckI2C(socket, socket.Int, socket.An, socket.Cs, socket.Pwr);
141
142     _config = new I2CDevice.Configuration(address, (int)clockRate);
143
144     Init();
145     LedB = new OutputPort(socket.An, false);
146     LedG = new OutputPort(socket.Cs, false);
147     LedR = new OutputPort(socket.Pwr, false);
148     var dataReady = new InterruptPort(socket.Int, false, Port.ResistorMode.Disabled, Port.InterruptMode.InterruptEdgeHigh);
149 }
```

Visual Studio Community 2013

## 2. Get the click™ boards and corresponding drivers

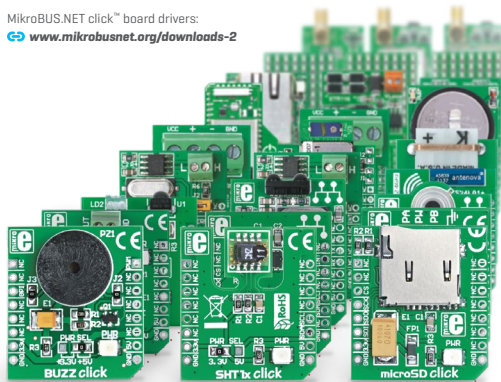
Buzzer, Relays, WiFi, RFid, OLED, Speech recognition - **you name it, we got it!** There are more than a hundred click™ boards available. About 50 are supported so far with mikroBUS.NET drivers. More drivers are coming up all the time but if you're in a hurry instructions for building your own drivers are also available.

All available click™ boards:

[www.mikroe.com/click](http://www.mikroe.com/click)

MikroBUS.NET click™ board drivers:

[www.mikrobussenet.org/downloads-2](http://www.mikrobussenet.org/downloads-2)



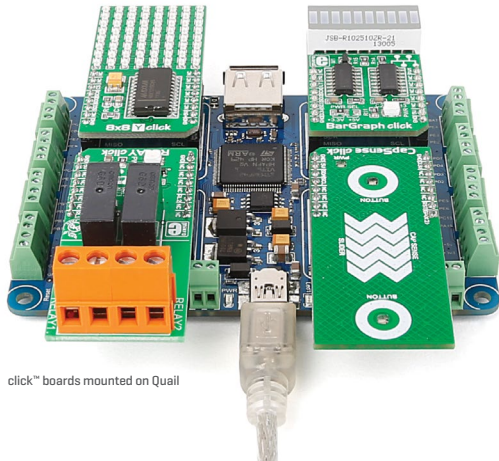
click™ add-on boards

## 3. Building your first application

After you're done setting up the development environment with steps 1 and 2, you are ready to start building your first application.

A detailed walkthrough on how to start a project in Visual Studio, include the necessary drivers and reference the needed assemblies in your source code is available at:

[www.mikrobussenet.org/getting-started/writing-an-application](http://www.mikrobussenet.org/getting-started/writing-an-application)



click™ boards mounted on Quail



**MikroBUS**  
**NET**

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If you want to learn more about our products, please visit our web site at **[www.mikroe.com](http://www.mikroe.com)**.

If you are experiencing some problems with any of our products or just need additional information, please place your ticket at **[www.mikroe.com/support](http://www.mikroe.com/support)**.

If you have any questions, comments or business proposals, do not hesitate to contact us at **[office@mikroe.com](mailto:office@mikroe.com)**

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For more information and Quail-related updates directly from the MikroBUS.NET team, visit: **[www.mikrobusnet.org/project/quail](http://www.mikrobusnet.org/project/quail)**

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Quail Board manual  
ver 2.00



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