






1 - Radio Communications

Added libraries:   **Radio**  **Scrolling**

Radio blocks let two or more micro:bits communicate without wires!

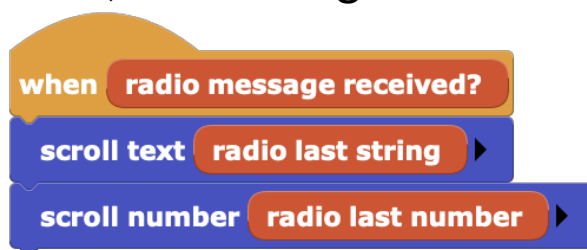


Put all these scripts on two micro:bits to allow you to send and receive in both directions. (Feel free to change the string and number values.)

When pressing A, B, or both A+B on one micro:bit you will send a message. Be prepared to quickly look at the other to see if it arrived.



The receiver script is always listening for an incoming message. When data are received, the message will be scrolled across the LED display.



You can also send numbers as “codes” from one micro:bit to trigger actions on another. For example, send a “1” to show an LED matrix pattern, and a “0” to clear it. The sender acts like a remote control.

Challenge: How far does the radio reach? Is it blocked by walls or your body? How many letters can you send with the “radio send string” block?



2 - Radio Texting

From the File menu, open the **RadioTexting** example in the “by Board” then “micro:bit and Calliope” folders. Get together in pairs or small groups and set the same group number (different from others.)

when started

radio set group 10

Your challenge is to understand how the example works, then try it. As usual, don't forget to click the green “start” button. ▶

The screenshot shows the Microblocks editor interface. On the left, there are buttons for 'Add a variable', 'Delete a variable', 'alphabet', 'letter', 'msg2send', and 'sending-flag'. The main workspace contains a 'define' block for 'letters' with the value 'ABCDEFGHIJKLMNOPQRSTUVWXYZ.!?:()&#+-*/=0123456789'. A speech bubble above it says 'HI ROSA!'.

Some hints...

- Hold Button A and tilt to select a letter from the alphabet.
- Button B adds the selected letter to your message.
 - What do B double and long presses do?
- Pressing A+B sends your message.
- Shaking clears your message.
- If the LED is blinking, you received a message from someone else. Tilt down then up to read it.

The screenshot shows two event-driven code blocks. The first block is 'when acceleration > 280', which includes a comment 'Shake hard to clear message to send', a 'set msg2send to' block, and a 'display' block. The second block is 'when radio message received?', which includes a 'clear display' block, a comment 'blink = msg received tilt face down a little to display it on LEDs', a 'repeat until tilt z < -20' block, and a 'scroll text radio last string' block.