

# AI-00422 Arduino IR Remote + Relays

👤 Owner	Ⓜ Rigel Arcayan
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**Write an Arduino code for an IR Remote triggering an 8-channel relay board.**

ChatGPT

Certainly! Here's an example Arduino code for controlling an 8-channel relay board using an IR remote control. You'll need to install the IRremote library if you haven't already.

In this code, we first define the pins connected to the relay board and the IR remote control button codes. You can add more button codes and corresponding relay control as needed. The IRremote library is used to receive IR signals from the remote control.

```
#include <IRremote.h>

// Define the pins connected to the relay board
int relayPins[] = {2, 3, 4, 5, 6, 7, 8, 9};
int numRelays = 8;

// Define the IR remote control button codes
unsigned long remoteButton1 = 0xFFA25D;
unsigned long remoteButton2 = 0xFF629D;
unsigned long remoteButton3 = 0xFFE21D;
// Add more button codes as needed

IRrecv irrecv(11); // Define the IR receiver pin

decode_results results;

void setup()
{
  // Initialize the relay pins as OUTPUT
  for (int i = 0; i < numRelays; i++) {
```

```

    pinMode(relayPins[i], OUTPUT);
    digitalWrite(relayPins[i], LOW); // Set them to LOW (off) initially
}

irrecv.enableIRIn(); // Start the IR receiver
}

void loop()
{
    if (irrecv.decode(&results)) {
        // Check the received IR code
        if (results.value == remoteButton1) {
            toggleRelay(0); // Toggle the first relay
        } else if (results.value == remoteButton2) {
            toggleRelay(1); // Toggle the second relay
        } else if (results.value == remoteButton3) {
            toggleRelay(2); // Toggle the third relay
        }
        // Add more conditions for other buttons

        irrecv.resume(); // Receive the next value
    }
}

void toggleRelay(int relayNumber)
{
    if (relayNumber >= 0 && relayNumber < numRelays) {
        digitalWrite(relayPins[relayNumber], !digitalRead(relayPins[relayNumber])); // Toggle
the relay state
    }
}

```

In the `setup()` function, we set up the relay pins as OUTPUT and initialize them to LOW (off). We also enable the IR receiver.

In the `loop()` function, we continuously check for IR remote signals. When a valid signal is received, we check which button was pressed and call the `toggleRelay()` function to toggle the corresponding relay.

The `toggleRelay()` function takes the relay number as an argument and toggles the state of the relay (ON to OFF or OFF to ON) using `digitalWrite()`.

Make sure to wire your relay board and IR receiver correctly to match the pins defined in the code