

IR Remote Control Overview

The **CoffeeTime** project includes an **Infrared (IR) remote control** for **user interaction and machine operation**. The system decodes IR signals and maps them to predefined functions.

Components & Pin Configuration

Component	Pin(s)	Function
IR Receiver	GPIO 1	Decodes IR remote signals

IR Signal Processing

The IR receiver captures and decodes **NEC protocol signals**, converting them into **commands** recognized by the system.

Function	Description
<code>init_ir_irq_receiver(gpio, callback)</code>	Initializes the IR receiver with an interrupt-based approach
<code>irq_callback(gpio, events)</code>	Interrupt handler that processes received IR signals
<code>process_ir_data(type)</code>	Decodes the NEC protocol command and validates the signal
<code>get_key_name(command)</code>	Maps received commands to predefined actions

IR Remote Control Functions

Button	Command	Function in System
POWER	0x00A2	Turns the machine ON/OFF
MENU	0x00E2	Accesses machine settings
PLAY	0x00A8	Starts coffee brewing
+	0x0002	Increases coffee strength
-	0x0098	Decreases coffee strength
C	0x00B0	Cancels brewing process
NEXT	0x0090	Navigates options forward
PREVIOUS	0x00E0	Navigates options backward

This section describes the **IR remote control integration** in **CoffeeTime**, allowing users to **operate the machine wirelessly**.