

**Marmitek and wireless signals**

Marmitek products use different types of signals. Most Marmitek products even use different types of signals at the same time.

Here you can find more information on:

[IR - Infrared](#)

[RF - High frequency 433MHz](#)

[RF - High frequency 2.4GHz](#)

[X-10 Mains signal](#)

[X-10 Remote controls](#)

**IR - Infrared**

Infrared is a light signal that is not visible to the human eye. Infrared signals are often used in (standard) remote controls. Because light cannot travel through walls and ceilings, infrared can only be used when the equipment you want to control, is within sight. To let IR remote control commands travel through walls and ceilings, Marmitek has developed products that convert the IR signal to a high-frequency (RF) signal. This signal can travel through walls and ceilings.

The infrared signal transmits coded commands to control your devices. This coding can be done with different speeds (frequencies). The standard frequency is about 40kHz. Some brands use a frequency of 455kHz (such as Bang & Olufsen). Marmitek products can process frequencies up to 100kHz.

Technical information on infrared signals:

Range free field: max. 8m.

Range through floors and walls: none.

Capacity: negligible.

Infrared wavelength: 850-950nm.

Application: remote controls for equipment within sight.

**RF - high frequency 433Mhz**

A high-frequency signal can travel through walls and ceilings. Marmitek uses 433MHz high-frequency signals in several situations:

1. To transport IR remote control commands through walls and ceilings. The infrared signal is converted to a 433MHz signal. When the signal arrives in the other room, it is converted back to the original IR signal.
2. For wireless control of e.g. dimmers and switches.
3. To communicate between sensors and surveillance systems (coded signal).

Technical information 433MHz high-frequent signal:

Range free field: max. 100m

Range through floors and walls: 10 - 20m

Capacity: max. 10mW

Frequency: 433.92MHz

Application: To transmit signals through floors and walls