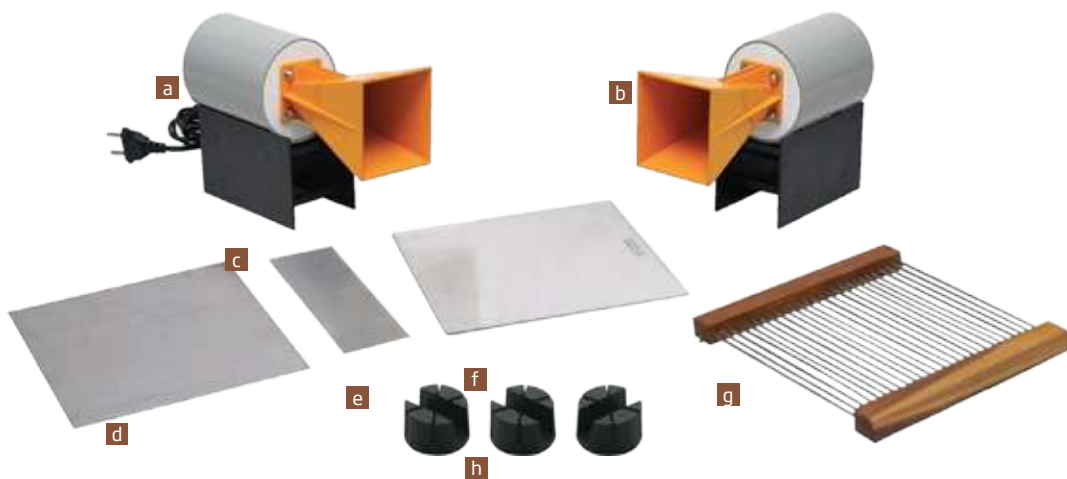


Microwave

Senior
High
School

ESP60312

- + Microwave apparatus is a set of tools which are used to learn the electromagnetic wave.
- + Diffraction and interference experiment on the electromagnetic wave are very difficult to perform on the visible light wave length. With this apparatus, those characteristics can be easily observed.
- + Reflection law experiment, diffraction on single slit, interference on double slits, polarization and Michelson interferometer can be performed by this apparatus.



Component List

Cat. code	Component	Description	Qty	
a	ESP 50/01	Transmitter	3 cm micro wave transmitter is a device that transmit radio wave (electromagnetic wave) at wave length $\lambda = 3$ cm. The wave characteristic is made in such way to make it looks like the characteristic of a light beam, thus this radio wave is propagate in straight line.	1 pc
b	ESP 50/02	Receiver	This 3 cm micro wave receiver is a device that able to detect the presence of radio wave's shape which is transmitted by a transmitter.	1 pc
c	ESP 50/03	Transmitter & Receiver Stand Base	This is the transmitter and receiver seats.	2 pcs
d	ESP 50/04	Aluminium Sheet 210 × 210 mm	This component is used in double slits, together with the larger aluminum sheet.	1 pc
e	ESP 50/05	Aluminium Sheet 60 × 210 mm	This component is used in reflection and the diffraction of single slit experiment.	1 pc
f	ESP 50/06	Plastic Sheet	This component is used in the interference and Michelson interferometer experiments.	1 pc
g	ESP 50/07	Wire-grid Polarizer	This component is used in polarization experiment.	1 pc
h	ESP 50/08	Plate Stand Base	This component is used to support the aluminum, plastic sheet, and polarizer.	3 pcs



ESP60312

• Transmitter

In the form of funnel, it is using a Gunn diode which works in 10.7 GHz frequency, transmitting polarized electromagnetic wave with 2.8 cm wave length; internal modulated output (1 kHz and 100 Hz) or external (20 Hz – 20 kHz); input source: 220 volt AC.

• Receiver

The receiver is the shape of a funnel and resonator is hollow that contained the diode detector which is mounted on an indicator meter. Receiver can be connected to a micro ammeter through 4 mm socket. To hear the modulated audio frequency, the receiver should be connected to an audio frequency amplifier and a loud speaker.



Supporting Tools

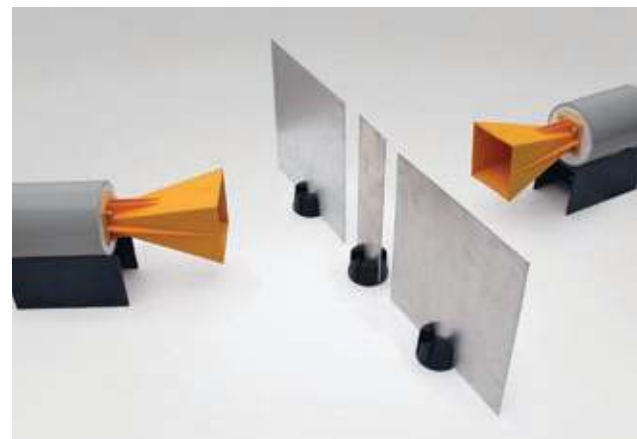
→ For detailed information, please refer to ES Catalogue.

Cat. code	Tool	Qty
ESP60296	Audio Frequency Generator	1 pc
ESP60600	Oscilloscope 20 MHz, EOS 620G	1 pc
ESP AFA 55	Audio Frequency Amplifier	1 pc
ESP60305	Loudspeaker	1 pc

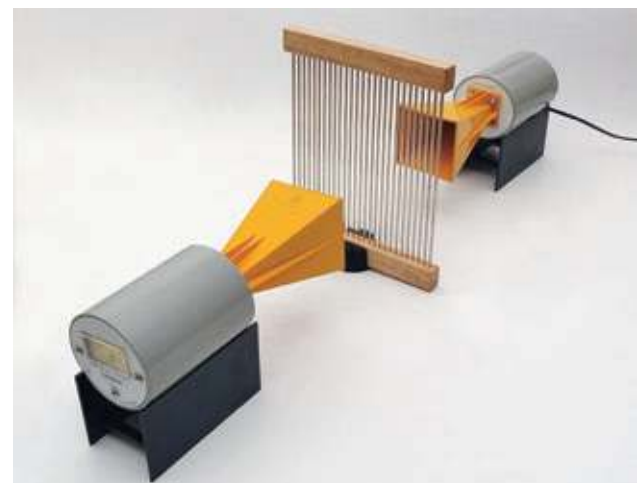
Experiment Topics

- Reflection
- Interference
- Diffraction
- Polarization

📖 Microwave Apparatus experiment guide in English (LPC 201E).



Interference



Polarization

