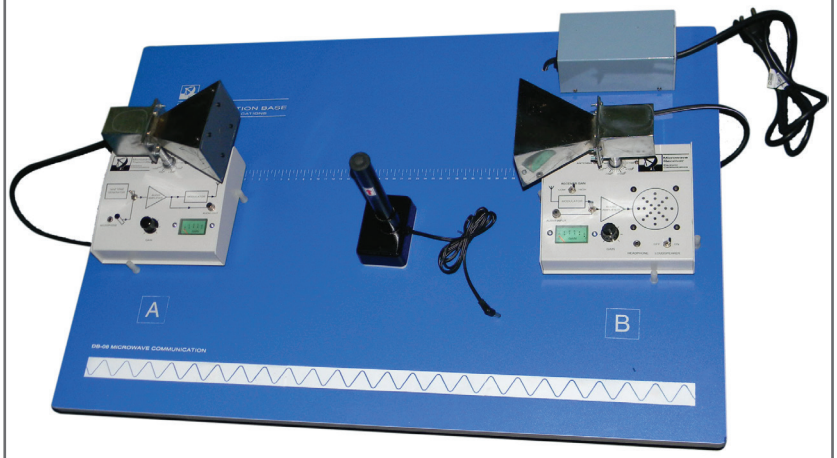
db-tech

MICROWAVE COMMUNICATIONS DB-08

DB-08



The DB-08 teaching set introduces students to the fundamental principles of microwave communications through a wide range of practical activities.

The teaching set includes a laboratory manual and a microwave communications training system.

When used in conjunction with a student personal computer (PC), the laboratory manual is fully compatible with the ClassAct computer managed learning system.

The laboratory manual is divided into a series of chapters. Each covers a specific topic area and provides background theory, practical activities and student assessment questions.

Each chapter is designed around a list of performance objectives. These objectives are used by the ClassAct management system to generate a student competency report.

An instructor's solutions book is included, providing solutions to all of the questions and practical activities contained in the laboratory manual.

Typical topic areas include:

- Introduction to Microwaves.
- Measuring the microwave signal.
- Polarization of Microwaves.
- Reflection of Microwaves.
- Radar and Radio Propagation.
- Penetration Properties of Materials.
- The Polarization Grille.
- Standing Wave Measurement.
- Diffraction.
- Interference.
- An Introduction to Waveguide.
- Waveguide Experiment.
- Behavior in a Dielectric.

Typical activities include:

- Investigate the transmission and detection of plane polarized microwaves.
- Relate the concept of microwave reflection to specific materials.
- Investigate the direction finding aspect of Radar.
- Investigate the attenuation of microwaves and the wire link system.
- Investigate the plane polarization of a microwave signal.
- Investigate standing waves and measure the wavelength of microwaves.
- Investigate microwave interference patterns.
- Recognize how signal cancellation can be removed by using waveguide.

Typical activities include:

Continued ...

- Identify the cut-off frequencies and the stable band of TE modes.
- Calculate the wavelength of a microwave beam.
- Investigate the effect of a dielectric on a microwave signal.

The DB-08 teaching set comprises:

- CT60 Microwave communications training system (includes laboratory manual).
- CT60 IS Instructor's solutions book

Additional items required:

- Tape measure

If the study module is to be used in a ClassAct computer managed learning environment, then a student PC will also be required.

Typical Topic areas:

- Introduction to microwaves.
- Measuring the microwave signal.
- Polarization of microwaves.
- Reflection of microwaves
- Radar and radio signal propagation.
- Penetration properties of materials.
- The polarization grille.
- Standing wave measurement.
- Diffraction of microwaves.
- The effects of interference on microwave transmissions.
- The advantages of using waveguide.
- Waveguide experiment.
- Microwave behavior ina dielectric.

Module Facts

DB-08 Microwave Communications

	No.	Average time
Chapters	13	90 minutes
	Total	19.5 hours

Domino Technical Resources