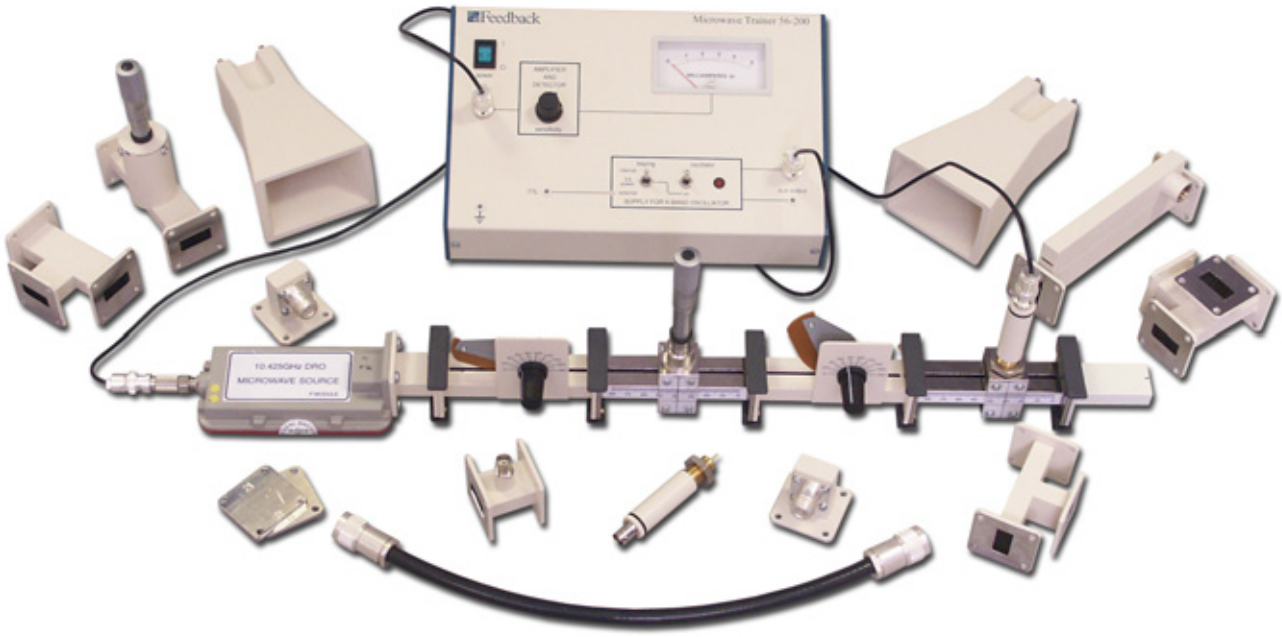
Microwave Trainer 56-200



Features

- **Low cost**
- **No further ancillary equipment required**
- **Simple, robust stands for antenna studies**
- **Modulated 10.425GHz solid state DRO source**
- **Can be used with MIDE Design Software**
- **Modules conveniently packed for inventory control**
- **Modules available as individual items**
- **Each component identified with an inscribed reference number**

Description

The Feedback Microwave Trainer 56-200 is a basic trainer that has been designed to enable students to investigate the principles of microwave transmission systems, such as those used in radar and communication links. It is a precision made, bench-top microwave system that uses standard type WG16 (WR90) waveguide components to illustrate the essential elements in this field of study.

The equipment has a selection of waveguide components and an electronic supply console which contains the power supply for a modulated, solid-state Dielectric Resonance Oscillator (DRO) X-band microwave source, a demodulation circuit and a meter which monitors the detector output. The trainer is supplied in a dedicated, protective, carrying case, is completely self-contained and provides the means to allow students to carry-out realistic practical work at extremely low cost per workstation.

It is suitable for use in courses ranging from technician studies to degree level. A comprehensive manual containing extensive microwave theory and a progressive series of assignments is supplied with the Trainer.

The Trainer is also available with a MIDE Design Software option. The software enables the student to investigate the principles of Microwave transmission in greater depth and can also be used for component design (see Ordering Information for details).

Specification

Curriculum Contents

An outline of simple transmission line theory as an introduction to waveguide principles, which are illustrated by nine assignments:

Introduction to a microwave waveguide bench and measurement of:

(a) source frequency (b) guide wavelength

Measurement of voltage standing wave ratio (VSWR)

Measurement of diode detector law

Measurement of impedance and impedance matching

Measurement of radiation diagram of a horn antenna

Use of directional couplers in power transmission and reflection measurement

Series, shunt & hybrid tee waveguide junctions

Waveguide-to-coaxial transformers

Microwave radio link investigations

In addition, there are appendices covering: general, RF and microwave data and tables; a review of transmission line theory and the Smith Chart and its applications.

Control Console

Power Supply: 200-250V, 50Hz
Fuse rating: 315mA
Modulator bandwidth: 10kHz min
Oscillator power supply: +18V nom

Dimensions and Weight (in protective case)

Height: 370mm (14.6in), **Width**: 518mm (20.4 in), **Depth**: 121mm (4.75), **Weight**: 9.1kg (20lb)

The trainer is supplied in a protective, carrying case and is completely self-contained.

Waveguide Components

Nickel plated and painted brass, type WG16 (WR90) waveguide and flanges. Component identifying letter on flange:

Variable Attenuator (2 off) - rotating Vane type

Slotted line - sliding detector probe carriage

Slotted Line - sliding screw tuner

Frequency Meter (uncalibrated) - absorbtion cavity type

Shunt Tee

Directional Coupler

Series Tee

Hybrid Tee

Probe Detector Assembly

Waveguide to Coaxial Adapter (2 off)

Resistive Terminator

Diode Detector - Fixed in waveguide section

Horn Antennas (2 off)

Solid-state X-band Oscillator
Frequency: 10.425 GHz nom
Output Power: 10mW min

Blank Ends (2 off)

Ancillary Equipment - non required

Tender Specification

Microwave Trainer operating in the X-band, comprising standard WG16 waveguides components, a solid state DRO source and a supply console providing all necessary power supplies, modulating facilities and metering, plus a tutorial text containing at least nine assignments.

Ordering Information

Microwave Trainer	56-200

Ordering Information with MIDE Software options

MIDE Microwave (includes Microwave Trainer and MIDE Design Software)	56-002
MIDE Microwave Design Software	56-901

Feedback
Feedback Instruments Limited
Park Rd, Crowborough, East Sussex,
TN6 2QR, England.
Tel: +44 (0) 1892 653322
Fax: +44 (0) 1892 663719
E-mail: feedback@fdbk.co.uk
Website: www.fbk.com

For further information on Feedback equipment please contact: . . . . . .

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