Bode 100
The solution for your measurement tasks from 1 Hz to 40 MHz

Transmission/Reflection
Characterize cables, filters, amplifiers and more. Measure S-parameters.

Complex Impedance
Analyze passive electronic components and active electronic circuits.

Frequency Response
Measure the complex transfer function (Gain/Phase) of electronic systems.

Resonance Frequency
Detect even very narrow, high-Q resonance peaks.

Stability Analysis
Analyze electronic control systems. Generate Bode & Nyquist plots.

Automated Measurements
Integrate the Bode 100 into measurement setups via its versatile Automation Interface.
Bode 100

The Bode 100 consists of hardware and software. The high quality hardware ensures accurate measurement results in the wide frequency range from 1 Hz to 40 MHz. Its portable and compact design enables you to test wherever you want. Due to the versatile system design, the Bode 100 works as three devices in one:

1. Vector Network Analyzer
The vector network analyzer function of the Bode 100 allows you to measure:
- Swept S-parameters in the 50 Ω system
- Reflection coefficient and return loss
- Insertion loss of filters
- Group delay characteristics
- Influence of termination on amplifiers

2. Frequency Response Analyzer
The Bode 100 serves as a Gain/Phase meter and is ideally suited to measure:
- Transfer functions of electronic circuits
- Stability of control systems such as DC/DC converters
- Power Supply Rejection Ratio (PSRR) respectively Audio Susceptibility

3. Impedance Analyzer
The Bode 100 offers you a high variety of impedance measurement possibilities to easily analyze:
- Electromagnetic devices such as transformers and inductors
- Capacitors and their parasitics
- Ultrasonic and piezo electric components or systems
- Very high Q-circuits such as quartz crystals and oscillators
- Input- and output impedance of electronic circuits

Your benefits:
- One device for multiple applications
- Accurate measurement results
- Simple setup - fast results
- Easy data processing
Bode Analyzer Suite

You can fully control the Bode 100 via the Bode Analyzer Suite (BAS). The BAS is an easy to use, intuitive user interface, which is included in the Bode 100 delivery. It allows you to control the Bode 100 hardware from your Windows® PC. The BAS helps you to quickly measure and analyze your device under test. In addition, it offers great functions to document and share your measurement results.

Measurement
Pre-defined measurement modes allow you to switch quickly between different measurements and ensure that the hardware is always preset correctly.

Analysis
To understand and optimize your system under test, the BAS offers all kind of chart formats, like Smith, Polar, Nyquist and Bode plots. You can extract all required results and parameters from your measurements using a great variety of analysis features.

Documentation
The BAS help you to easily extract the measurement results for your documentation. You can share and archive your results by:
- Copying and pasting the results, charts and settings into your documents.
- Generating a print report containing all measurement graphs and device settings.
- Saving your entire measurement including the device settings to a *.bodex file which can be viewed on any Windows® PC having the Bode Analyzer Suite installed.

Integration & Automation
Easily automate your measurements by controlling the Bode 100 via its Automation Interface using:
- OLE compliant controllers such as VBA (e.g. Excel®), Matlab®2, LabVIEW®3, ...
- Programming languages like Visual Basic®, C#®, C++ or any other COM+ compatible system/language
### Technical Data

#### Signal Source
- **Frequency range:** 1 Hz to 40 MHz
- **Output impedance:** 50 Ω
- **Waveform:** Sinusoidal signal
- **Signal level:** -27 dBm to 13 dBm (at 50 Ω load)
- **Connector:** BNC

#### Inputs: CH1, CH2
- **Input impedance:** 50 Ω or 1 MΩ // 50 pF (software selectable)
- **Receiver bandwidth:** 1 Hz to 3 kHz
- **Input attenuator:** 0 dB, 10 dB, 20 dB, 30 dB, 40 dB
- **Input sensitivity:** 100 mV RMS full scale (for 0 dB input attenuator)
- **Dynamic range:** > 100 dB
- **Gain error:** < 0.1 dB (calibrated)
- **Phase error:** < 0.5° (calibrated)
- **Connector:** BNC

#### PC Requirements
- **Interface:** USB
- **Operating system:** Windows® XP SP3 (32 bit), Vista, 7, 8
- **Processor:** Pentium 1GHz (minimum), Pentium 2.5 GHz (recommended)
- **Memory:** 512 MB RAM (minimum), 1 GB RAM (recommended)

#### General
- **Weight Bode 100:** < 2 kg / 4.4 lbs
- **Weight Accessories:** < 0.5 kg / 1.1 lbs
- **Dimensions:** 26 x 5 x 26.5 cm (10.25 x 2 x 10.5 inch)
- **DC power supply:** 10 V - 24 V / 10 W
- **AC power supply:** 100 V - 240 V / 47 Hz - 63 Hz

#### Delivery Includes
- Bode 100 Vector Network Analyzer
- Bode Analyzer Suite on CD
- User Manual (English)
- Wide range power supply
- USB cable
- 4 x BNC cable 50 Ω (m - m)
- 1 x BNC T-adapter (f - f - f)
- 1 x BNC straight adapter (f - f)
- 1 x BNC 50 Ω load (m)
- 1 x BNC short circuit (m)
- Test objects: quartz filter and IF filter on a PCB

#### Order number: OL000100

### Additional Accessories

#### B-WIT 100
Wideband injection transformer for the signal insertion into control loops

**Order number:** OL000151

#### B-SMC
Impedance test adapter for surface mount components

**Order number:** OL000152

#### B-WIC
Impedance test adapter for through-hole type components

**Order number:** OL000153

---

1. Excel, C#, Visual Basic and Windows are registered trademarks of the Microsoft Corporation
2. MATLAB is a registered trademark of the MathWorks, Inc.
3. LabVIEW is a registered trademark of the National Instruments Corporation

Product specifications and descriptions in this document are subject to change without notice.

© OMICRON Lab V5 - 1410

---

www.omicron-lab.com info@omicron-lab.com