

# How to use a handheld BERT bit error rate meter



## Article Overview

A handheld BERT meter measures the bit error rate by sending a known data pattern through a system and comparing the received bits to detect errors, providing a direct assessment of signal integrity.

### Step 1: Connect the BERT Meter

- Transmitter connection: Connect the output of the BERT meter, which generates a Pseudorandom Binary Sequence (PRBS), to the input of the device or link under test. For optical systems, use SFP ports; for electrical systems, use SMA or other appropriate connectors .
- Receiver connection: Connect the output of the device under test back to the BERT meter's input. This allows the meter to compare transmitted and received sequences .

### Step 2: Configure the Test Parameters

- Select data rate: Set the BERT to match the system's operating speed (e.g., 1.25Gbps to 29Gbps for Eye-BERT Gen3), .
- Choose the test pattern: Common patterns include PRBS7, PRBS15, or user-defined sequences. The pattern should stress the system to reveal potential errors .
- Set modulation and signal levels: Adjust according to the system specifications to ensure accurate measurement ....

## Article Content

Jul 25, 2025

### Bit Error Rate Testing (BERT) Reference Example

Testing for BERT requires a bit generator or a test pattern generator, and a receiver, which is used to compare that

Nov 12, 2025

### 100G-Bit-Error-RateTester\_iBERT-X1-mini

The user interface allows you to individually monitor bit error rate, error count and timer by connecting to PC via USB cable. The

Oct 13, 2025

### The Importance of Bit Error Rate Testing to Fiber Optic Channels

As part of the testing procedure, a known bit sequence is sent that compares the received bits against the transmitted bits with a

Aug 21, 2025

### What is a Bit Error Ratio Tester (BERT)?

What Does a BERT Measure? When you transmit data from one location to another, there are errors introduced due

Oct 23, 2025

### Performing Digital Bit Error Rate Measurements | Keysight

This app note describes how to use Keysight instruments and Advanced Design System EDA software to verify RF performance for

Aug 23, 2025

### Bit-Error-Rate Testers – Optellent

OptoBERT™: Electrical and Optical & Bit-Error-Rate Testers (BERTs) The OptoBERT family of BERTs offers the best value in the

Jan 10, 2026

### BERT Fundamentals | Keysight

This webinar will review bit error rate tester (BERT) basics. Learn how to use your BERT to its fullest potential.

Oct 11, 2025

## How to Use the Bit-Error-Rate Tester (BERT) on the DS2652x STCs

Abstract This application note explains how to configure the bit-error-rate tester (BERT) in the DS2652x single-chip transceivers

Jun 04, 2026

## What is a Bit Error Rate Tester (BERT)?

Learn what a Bit Error Rate Tester is and how it's used to test the end to end performance of signal transmission.

Dec 06, 2025

## What is a Bit Error Ratio Tester (BERT)? | Keysight

A Bit Error Ratio Tester (BERT) is a piece of electronic test equipment used to measure BER in a data transmission system. Learn

Mar 06, 2026

## How to Measure Bit Error Rate (BER): A Complete Guide

Learn how to measure Bit Error Rate (BER) with our complete guide. Explore methods, formulas, and best practices

Jan 28, 2026

## How to Measure BER | Keysight

Accurate Bit Error Rate (BER) test results are important to understand your transmitter or receiver performance. Learn how to

Nov 25, 2025

## T-BERD/MTS-5800 Ethernet Bit Error Rate Testing (BERT)

This document outlines how to configure and run an Ethernet Bit Error Rate Test (BERT). Bit Error Rate Testing is only

Aug 11, 2025

## BERT (Bit Error Rate Tester) and Its Role in High-Speed Digital ...

Conclusion Using a BERT for testing is essential for validating the performance and reliability of high-speed digital

Mar 14, 2026

## Test Equipment

58 Gbps depending on the BERT model and physical interface in use. Using an externally supplied transmit clock the BERT can

Mar 21, 2026

### Bit Error Rate (BER) Test and Measurement Using BER Meter

Explore bit error rate (BER) testing using a BER meter, including setup and alternative methods like XOR and FPGA, for digital

Apr 13, 2026

### Bit Error Rate Testers (BER, BERT, BERTS)

Bit Error Rate Testers (BERT) test end-to-end integrity of digital communications channel by logging data errors. Buy or rent BERTS

Apr 14, 2026

### R&S®SMBV100B Bit Error Rate Tester user manual

Describes the specific functions of the application, including the remote control commands with programming examples.

Jan 27, 2026

### iBERT X1 mini: 0.1G~100Gbps Bit Error Rate Tester (BERT)

User interface can individually monitor bit error rate, error count and testing type setting (timer or free run) via USB cable to connect

Mar 27, 2026

### Bit Error Rate Tester

See how a Tektronix Bit Error Rate Tester helps you perform comprehensive bit error rate analysis to reduce development cycles

## Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.chromadecksigns-eastrand.co.za>

Email: [sales@chromadecksigns-eastrand.co.za](mailto:sales@chromadecksigns-eastrand.co.za)

Phone: +32 2 318 5792

Address: Avenue Louise 500, 1050 Brussels, Belgium

This document is for informational purposes only. Specifications subject to change without notice.

