

## Measurement Setup

1) Select Patterns

**Pattern Setup** 

**PRBS 2<sup>n</sup>-1:** The most commonly used pattern to simulate random data.  
**Mark Density PRBS:** Allows you to vary the ratio of logic 1's to 0's.  
**User Pattern:** Used for functional, alarm, and stress testing. Included examples mimic real data packets and standard stress patterns.

2) Select Bit Rate

**PG Setup** 

For bit rates > 3 Gb/s, select **External Clock Input**.


You can adjust the **Amplitude**, **Offset**, and **Data Out Delay** by using the front panel knobs with these labels.  
 You can manually select different terminations for custom logic levels.

Data Termination: 0V  
 Data Logic Level: SCFL  
 Clock Termination: 0V  
 Clock Logic Level: SCFL


3) Set PG Levels and Terminations

**PG Setup** 

In the **Data** and **Clock Logic Level** lists, select the logic families that are appropriate for your device. (The terminations will automatically be selected.)

  
 Choosing the wrong terminations can damage your device.  
 ESD can damage or destroy electronic components. Be sure to take all precautions.

4) Set ED Terminations

**ED Setup** 

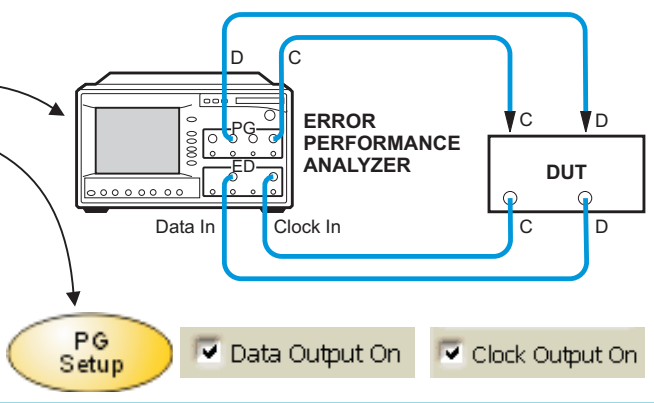
In the **Data** and **Clock Termination** lists, select the error detector terminations that are appropriate for the logic family of your device.

Data Termination: 0V SCFL  
 Clock Termination: 0V SCFL

5) Connect Your Device

See online Help for more information.

Connect your device (see example).  
 Turn on outputs.



6) Set Sampling Point

**Auto Align** or **ED Setup** **Clock/Data Center** and **0/1 Threshold Center**

Redo sampling point each time you change settings in steps 2 – 4, and each time you connect a device.

**Error Lights?**

Yes

**Troubleshoot**

**See Other Side**

No

7) Accumulate

**ED Setup**   
**Start Accum** starts accum. **Stop Accum** stops accum.

Select accum mode, period, and measurement log.

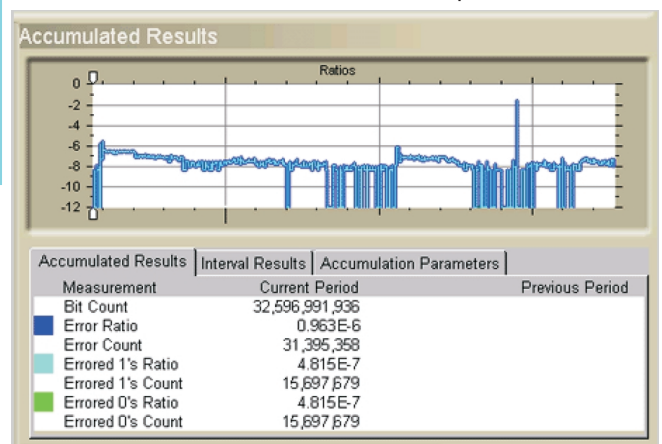
8) Analyze Results

**Results/Analysis** 

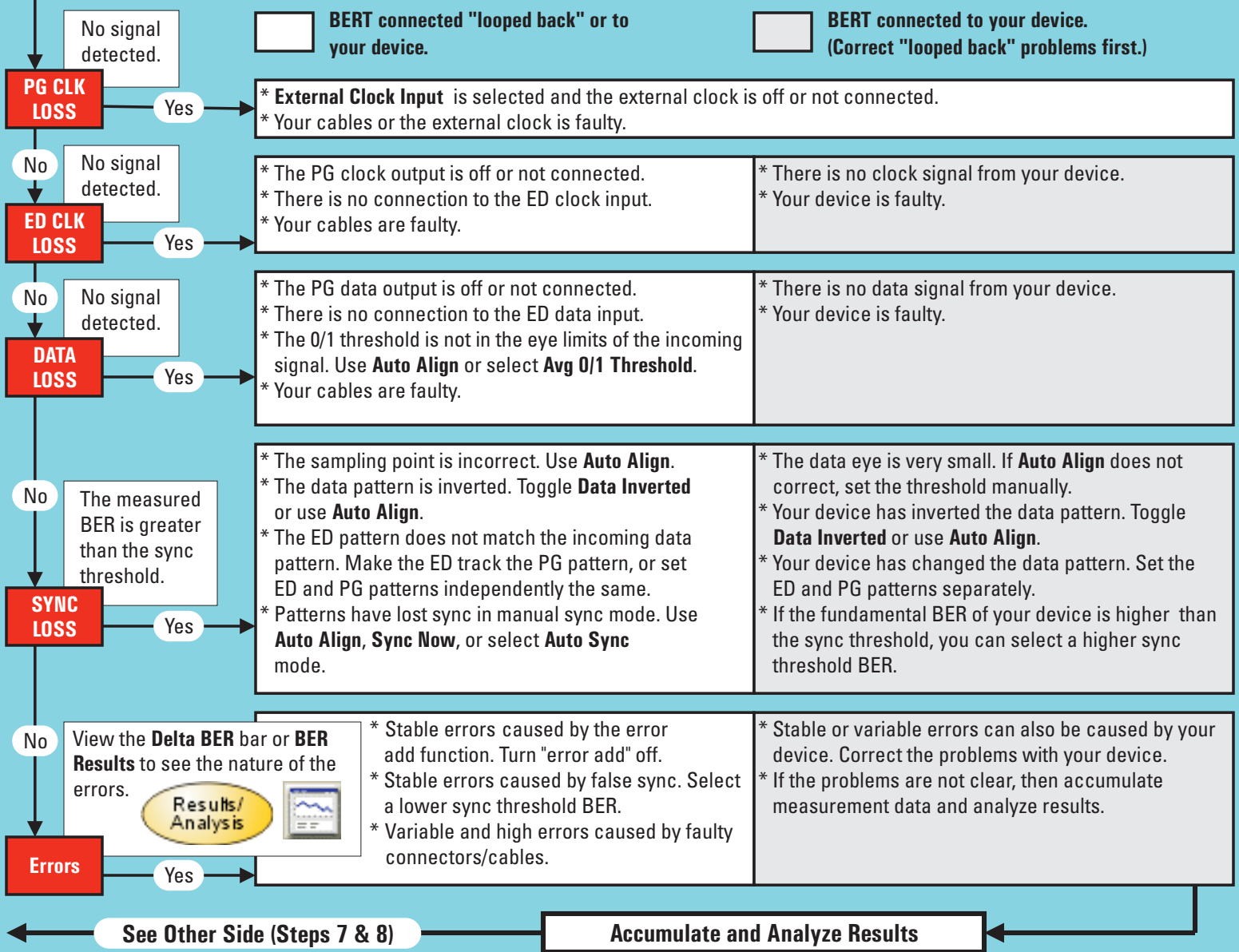
**Errored 1:** 1 measured as 0.  
**Errored 0:** 0 measured as 1.  
**Err 1's Ratio:** Err 1's/total bits.  
**Err 0's Ratio:** Err 0's/total bits.

Measurement logs are saved as CSV files. Import CSV files into a spreadsheet to see more information.  
 Location of log files: E:\BitAnalyzer\Measurement Data\

Zoom in to see more detail. See online Help for more info.



# Troubleshoot Setup Problems

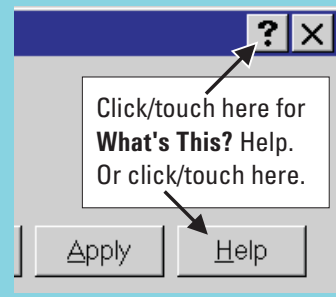
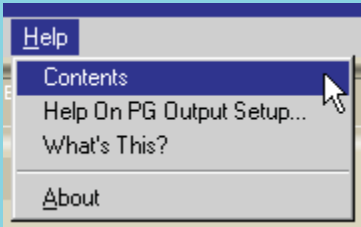


## See Online Help For More Information

Access Help from the **Help** menu or dialog boxes. **What's This?** or **?** allows you to click/touch any item to get Help on that item.

**Main Help Contents**

Getting Started	Test Setup	Making Measurements	If Something Goes Wrong
Concepts	Description of Functions	Utilities ...	Specifications



## Pattern Sync

**To access:**

Select sync mode and sync threshold BER. **Auto Sync** mode with BER 1E-3 is recommended.

## Bit Error Ratio or Bit Error Rate (BER)

**BER** = bit errors / total bits  
 1 error / 1000 bits = BER 1E-3  
 A higher BER is 1E-2.  
 A lower BER is 1E-4.