BER Measurement
Simple Operation Guide
(MG3710A-021/MG3740A-021)

Vector Signal Generator MG3710A
Analog Signal Generator MG3740A

This guide outlines operation procedures for the BER Measurement Function option for the Vector Signal Generator MG3710A and Analog Signal Generator MG3740A (with Digital Modulation option).
At actual measurement, it may be necessary to modify the settings in accordance with the specifications of the wireless DUT.

Read the following manuals for details of the functions, settings range and procedures.
MG3710A Vector Signal Generator MG3740A Analog Signal Generator Operation Manual Chapter 8 BER Measurement

- BER Measurement Setup

Vector Signal Generator MG3710A
Analog Signal Generator MG3740A

(Back Panel: AUX Connector)

DUT

RF Signal (Wanted Waveform)

Enable
Clock
Data

BER DATA
BER CLK
BER ENABLE

AUX Conversion Adapter J1539A

Labels
Procedure

① Press [Aux Fctn].
② Press [F2: BER].

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③ Select [F4: Measure Mode] (Ex. Continuous).
④ Select [F5: Count Mode] (Ex. Data, 1000 bit).
   *The BER result is displayed for each set bit count.
⑤ Select [F6: Data Type] (Ex. PN9).

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⑥ Press [F1: Resync Condition].
   (Ex. Auto Resync = On, Threshold X = 200 bit,
   Threshold Y = 500 bit, at Sync Loss = Clear)
   *Set as necessary.
   (Ex. Clock Edge = Rise, Data Polarity = Positive,
   Enable Active = Disable)

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⑧ Press [F1: Measure Start] to start measurement.
⑨ Press [F2: Measure Stop] to stop measurement.

Note: Clock Polarity (See diagram on right.)
When demodulated data is output at the DUT in synchrony with the clock Falling edge, the BER measurement is counted at the clock Rising edge.
Use an oscilloscope to confirm the data and clock output from the DUT.
**Useful Functions ①: Auto Restart**

1. **Procedure**
   1. Press [Aux Fctn].
   2. Press [F2: BER].

When the output level of the signal generator is switched when Auto Restart = On, the BER measurement result display is cleared automatically and measurement is restarted. This solves the problem of switching between the level and BER screens.

**Useful Functions ②: BER and Level Button Layout**

**BER Measurement Function**
- Start BER measurement
- Stop BER measurement

**Level Setting Function**
- Level Setting

The level setting button is on page 2 of the BER measurement function. However, the BER measurement Start/Stop buttons are on page 2 of the settings. This solves the problem of screen switching at BER measurement while changing the signal generator output level setting.