7708A-001

BER TESTER

General

This unit is error rate measuring device to measure bit error rate from TS packet of various digital broadcasting.

Features

- Corresponding to measuring rate of max. 90Mbits/s.
- Possible to measure SPI input or serial input.
- For TS packet length of SPI input, 188bytes or 204bytes is recognized automatically.
- By using built-in PRBS of Eiden's OFDM Modulator "3511B", BER measurement in OFDM demodulator, that has no output function for TS output per each layer, is possible.
- Switching indication of various measurement information is possible.
- Null packet filtering function is equipped.
- Judging function by threshold value is equipped.
- Selection of measuring condition is possible.
- Control function by GP-IB interface is equipped.
- Compact design not taking space.

Composition

Main Unit ·····1

Dimensions 215(W)×76(H)×280(D) mm (Excluding projections)
Weight Approx. 2 kg

Accessories

Power Cable (Including 3pin→2pin converter) ·····1
Communication Specifications ·····1

Power Source

Input Voltage Range : AC100V～AC240V (50Hz/60Hz)
Input Voltage Allowable Range : AC90V～AC250V (50Hz/60Hz)
Power Connector : Rectanglar 3P (With ground)
Power Conssumption : Less than 14VA (At 100V)

Operating Environment

Temperature : +5℃～+ 40℃ (Limited to in-door use)
Humidity : 25％～85％RH (No dew generation)

Rating

• SPI Input

Connector : Dsub-25 (Female), 4-#40UNC, Inch screw
Interface : Conforming to DVB-SPI specifications
Signal Level : LVDS (Conforming to TIA/EIA-644)
Signal Rate : 31.25Kbytes/s ～11.25Mbytes/s

• SER CLK Input

Connector : BNC-R
Signal Level : TTL (50Ω)
Frequency : 250KHz～90MH

• SER DATA Input

Connector : BNC-R
Signal Level : TTL (50Ω)
Signal Rate : 250KBits/s～90MBits/s

• SER ENABLE Input

Connector : BNC-R
Signal Level : TTL (50Ω)
Signal Rote : 250KBits/s～90MBits/s

• GP-IB Interface

Connector : GP-IB connector
Interface : GP-IB (Conforming to IEEE488.2)

• Input TS Condition (Common for SPI input and SER input)

<TS DATA>

Connection with Eiden's ISDB Signal Generator "3511B (PRBS MODE)" and etc.
SYNC (1Byte) + PRBS23 or PRBS15 (187Bytes)
SYNC (1Byte) + PRBS23 or PRBS15 (187Bytes) + DUMMY (16 Bytes)

＊For measurement of ISDB-S using "3511B", following setting is made.
Meauring condition is to be following 2 kinds.
・ 48 SLOT 8PSK
・ 48 SLOT QPSK 3/4

<CONSTANT DATA>

Connection with Eiden's ISDB Signal Generator "3511B (CONSTANT MODE) and etc.
HEADER (4Bytes) + CONSTANT (184Bytes)
HEADER (4Bytes) + CONSTNAT (184Bytes)+DUMMY (16 Bytes)

＊For BER measurement with OFDM demodulator, that has no function of TS output per layer, setting is made to this mode.

＊ In case of "3511B", BER of A layer, 1 segment (Partial reception) is measured.

Transmission Mode	: MODE 3
Guard Interval Rate	: 1/8
A Layer	: 1 segment (Partial reception)
Carrier Modulation Scheme	: QPSK
Convolution Coding Rate	: 1/2
Time Interleave Length	: 2
B Layer	: 12 segments
Carrier Modulation Scheme	: 64 QAM
Convolution Coding Rate	: 3/4
Time Interleave Length	: 2

<PRBS DATA>

Connection with general signal generator.
Following 2 kinds can be selected.
・ 23^{rd} M-sequence pseudo random signal (Generating polynomial = $\overline{X^{23}+X^{18}+1}$)
・ 15^{th} M-sequence pseudo random signal (Generating polynomial = $X^{15}+X^{14}+1$)

• NULL Packet Filtering

Function

In case that NULL packets are existed in input TS, they are excepted and put out of measurement.

Condition

At the time of TS mode, pay load part of NULL packet is to be ALL "H" or ALL "L".

Issue of Alarm Sound

Alarm sound can be issued at the time of following condition.
Single tone is issued at every approx 0.5 sec. under condition.
・ In case that bit error is occurred during measurement.
・ In case that judgment "GO/NO GO" during measurement becomes "NO GO" (LED : Red).

Error Rate Measuring Range

Less than 1.00E-1
※In case of SYNC LOCK condition.

Renewal of Measuring Value Indication

Even during measurement, each measuring data can be confirmed.
Indication during measurement is renewed in every approx. 0.5sec.

Measuring Mode

Measured value can be obtained by changing measuring condition.

a) CONTINUATION

Renewal is made in every approx. 0.5sec. during measurement.
During stop condition, condition of last measured value is kept and indicated.

b) SYNC LOCK

During measurement, measurement is made only in time of SYNC LOCK taken and renewal is made in every approx. 0.5 sec.

If SYNC LOCK is not taken during measurement, measured data for such period are all cleared.
At the time of stop condition, same condition as clear is indicated.

※ Specifications and contents of description are changed without any prior notice.