Model: 3256A

For 4K・8K

ADVANCED BS DIGITAL SIGNAL GENERATOR (ISDB-S3)

General

This device is a signal generator corresponding to ARIB standard "Transmission System for Advanced Wideband Digital Satellite Broadcasting STD-B44 2.0 Revised version". The modulator and the RF converter are incorporated into one body.

In addition, a simulation function simulating the satellite transmission route is equipped and the influence of the nonlinear characteristics under the APSK modulation that is predicted at the actual operation can be confirmed. Thus, this device can generate a signal needed for the receiver evaluation.

When connecting this device and the 7709B BER Tester, Eiden provides the most suitable solution for developments of receivers.

Features

- This device is equips with the simulator. The following condition can be simulated.
  - ・Non Liner : Non-liner assumed the satellite repeater
  - ・AWGN : C/N assumed the rain attenuation
  - ・Phase Noise : Phase noise assumed the LNB
  - ・Frequency Drift : Frequency drift assumed the LNB
  - ・Echo : Reflection by the reception wiring and so on
- Possible to output signal corresponding to advanced BS and CS digital (950MHz ～ 3300MHz) .
- The MPEG-2 TS and the TLV (Type Length Value) can be transmitted.
- A seven-inches WVGA touch-panel is equipped. Thus, an excellent operation ability is provided.
- The remote control through the Ethernet is possible.

Function Specifications

・ Specifications of Input/Output

INPUT		
TS INUPT	BNC-R (75-ohm)	ASI ×4 routes
TLV INPUT	RJ-45	1000Base-T *TBD
RF INPUT	N-R (50-ohm)	For the impedance convertor
Ref. INPUT	BNC-R (0dBm/50-ohm)	The reference clock input(10MHz)
OUTPUT		
IQ OUTPUT	BNC-R (-10dBm/50-ohm)	One route in both I and Q
RF OUTPUT (Rear panel)	N-R (50-ohm)	
RF OUTPUT (Front panel)	BNC-R (75-ohm)	For the impedance convertor
SYMBOL CLK OUTPUT	BNC-R (TTL/50-ohm)	
Ref. OUTPUT	BNC-R (0dBm/50-ohm)	The reference clock input(10MHz)
OTHERS		
Remote	RJ-45	LAN (10Base-T/100Base-TX)
USB Port	Type-A	2 route

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Ver.1.1

・ Specifications of Functions

Signal Specifications		
Symbol Rate	33.7561MBaud	Variation range±1000ppm (1Baud step)
Waveform Shaping	α=0.03: Square Root Raised Cosine	
Coding and Modulation	Corresponding to Transmission System for Advanced Wideband Digital Satellite Broadcasting STD-B44 2.0 Revised version	
	Modulation Scheme: π/2SBPSK, QPSK, 8PSK, 16APSK, 32APSK	
	Coding Rate : 1/3 ,2/5, 1/2, 3/5, 2/3, 3/4, 7/9, 4/5, 5/6, 7/8, 9/10	
Basic Function		
Input/Output Data Source	These are possible to be arranged to each relational stream number	
	TS external Input × 4 routes	
	TS internal PRBS DATA	ITU-T0.151 $2^{23}-1$
	TS internal GEN × 2 routes	
	TLV external input (Up to 4 route can be arranged)	
	TLV internal test data	
RF OUTPUT (Rear panel)	Output requency: 950MHz～3300MHz (1kHz step)	
	Output Level: +10dBm～-80dBm (0.1dB step)	
	※ -10 dBm max when the AWGN is ON	
Frequency Reference	10MHz	Internal/External
IQ Output	Analog I and Q signals are sent out	
IQ Polarity	I and Q can be switched	Normal/Invert
Modulation	ON/OFF	CW or 2CW can be generated
Simulation Function of BS Transmission route		
AWGN	ON/OFF	
	C/N value is set: -5dB～30dB (0.05dB step)	
Non Linear	ON/OFF	
	The AM-AM and the AM-PM characteristics of TWTA and the MUX filter characteristics are set	
Phase Noise	ON/OFF	
	The amount of the phase noise at the frequency offset points is set	
Frequency Drift	Triangler Wave/Sine Wave/OFF	
	The maximum frequency drift and the reception time are set	
Echo	ON/OFF	
	One wave on the Static condition can be added	
Main Body		
External Dimensions	425mm(W)×149mm(H)×530mm(D)	※Excluding projections
Weight	Approximately 15kg	

➢ Basing on the engineering guidance by NHK Science & Technology Research Laboratories, this device is manufactured.

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