

1906A

C/N GENERATOR

Digital TV development & production facilities



General

This unit is generator to be able to set wide range of bit rate and possible to set system BW and to be able to input value of C/N or Eb/No directly. By combining with Eiden's various digital signal generators and Digital Transmission Tester, and configuring digital modulation measuring system, various measurements, such as BER measurement, reception characteristic of layer transmission and etc., become possible.

Features

- Noise added signal to input signal of designated frequency of 20MHz ~ 200MHz is output.
- Setting of C/N or Eb/No can be made easily.
- AGC function, that sets output signal level constant without varying C/N, Eb/No of output for input signal variation, is provided.
- For input signal, at the time of C/N setting, setting in step of 0.1dB for C/N and in step of 0.01MHz for system BW are possible, and corresponding to following range.
C/N : - 5dB ~ + 30dB
System BW : 0.5MHz ~ 55MHz
- For input signal, at the time of Eb/No setting, setting in step of 0.1dB for Eb/No and in step of 0.01Mbps for bit rate are possible, and corresponding to following range.
Eb/No : - 5dB ~ + 30dB
Bit Rate : 0.5Mbps ~ 100Mbps
- Operation is done easily by liquid crystal display on front panel.
- GP-IB interface for controlling is equipped as the standard.

Composition

Main Unit1
Dimensions	425(W) × 99(H) × 480(D) mm (Excluding projections)
Weight	Approx. 10 kg
Accessories	
Power Cable (Including 3pin 2pin converter)1
Rack Mount Adapter1set
Instruction Manual and Test Result Sheet1
Power Source	
Input Voltage Allowable Range	: AC90V ~ AC250V (50Hz/60Hz)
Power Consumption	: Approx. 50VA
Operating Environment	
Temperature	: +5 ~ + 40
Humidity	: 45% ~ 85%RH (No dew generation)

Rating

Input/Output Signal Route

Input/Output Connector	BNC-R 1 route
Frequency Range	20 ~ 200MHz
Input Level	- 10dBm ± 3dB/50
Output Level	- 10dBm/50
Flatness	± 0.2dB (fo ± 20MHz) (@50MHz ~ 140MHz)
Input/Output Impedance	50
AGC Function	Average
Intercept Point	IP > + 29dBm

Noise Adding Route

Noise Output	ON/OFF switching is possible
C/N, Eb/No Setting Range	- 5 ~ + 30dB
Accuracy	± 0.5dB max. ± 0.1dB typ. (@25 : C/N, Eb/No = - 3dB ~ 17dB)
Setting Resolution	0.1dB

System BW Setting Range	0.5MHz ~ 55MHz
Setting Resolution	0.01MHz
Bit Rate Setting Range	0.5Mbps ~ 100Mbps
Setting Resolution	0.01Mbps
Noise Flatness	± 0.2dB (fo ± 20MHz) (@50MHz ~ 140MHz)

Noise Bandwidth :

Eb/No Mode :	18MHz typ.	@BR Eb/No < 4Mbps
	20-200MHz typ.	@BR Eb/No 4Mbps

BR Eb/No is calculated by following list.

Mode	BR Eb/No
CS	$2 \times SR \times R \times if$
8PSK	$3 \times SR \times (2/3)$
QPSK	$2 \times SR \times R$
BPSK	$2 \times SR \times (1/2) \times (1/2)$

BR Eb/No : Converting bit rate to be applied in case of calculating Eb/No.

SR : Symbol rate

R : Coding rate (1/2, 2/3, 3/4, 5/6, 7/8)

if : Interface format (187/204, 184/204)

(Valid data ratio in packet)

C/N mode :	18MHz typ.	@System BW < 4MHz
	20-200MHz typ.	@System BW 4MHz

Output Level Variation (To be option)

Output Signal Level Setting Range	- 10dBm ~ - 85dBm (At the time of optional ATT is added)
-----------------------------------	--

Setting Resolution	1.0dB
Output Level Setting ATT Accuracy	± 2% ± 0.2dB

GP-IB

GP-IB connector 1 route Conforming to IEEE 488

- In mode of Eb/No < 4Mbps and system BW < 4MHz, built-in BPF is put automatically.

At this time, frequency range to be able to measure becomes only 140MHz.