LG 3803

LG 3803 8VSB/QAM Signal Generator

Designed to address the challenges of DTV tuner testing, the LG 3803 provides all of the signal control necessary for testing the performance of ATSC compliant tuners and receivers.
The RF output can be set to emulate 8VSB, 64 and 256QAM modulation formats and the modulation frequency can be set from 50MHz to 900MHz covering the entire VHF and UHF spectrum. Output level ranges from -100 to +13dBm (50 Ohm) and it is settable with 0.1dB resolution; ideal for doing input sensitivity tests.
A pseudo-random (PN) generator and a BER counter are built into the instrument and facilitate easy BER measurements in a single unit.
The instrument can be modulated internally (2 built-in test patterns; color bars and ramp) or can be externally modulated (DVB-ASI or SPI input). An optional DVD drive is available to supply moving video playback for HD rates; an excellent way to test receivers in a "real life" simulation.

The QVGA display provides easy instrument control. The instrument can be Ethernet controlled. Remote control allows preset recall and increment; up to 100 presets can be set up and recalled aiding in the automatic testing process.

FEATURES

- **Ideal For The Production, Test And Alignment Of ATSC Compliant Tuners And Receivers/STBs.**
- **Includes 8VSB And 64QAM/256QAM Modulation Standards; Covers Both VHF And UHF Bands.**
- **Coding Modulator, C/N Generator And Upconverter Are Integrated In A Single Instrument.**
- **Built-in Pseudo-Random (PN) Signal Source And BER Counter Facilitate BER Measurements Using One Instrument.**
- **Real Time Coding And Modulation Provides Realistic Test Signals.**
- **Real Picture Playback Function Is Available As An Option**
- **Out-Of-Band Option Allows For CATV Return Path BER Evaluation**
- **Intuitive, Clear Display, 100 Presets And Ergonomic Design Make The LG 3803 The Perfect Choice For Manufacturing And Service Applications.**

LG 3803-01 Out-Of-Band Generator

The LG 3803-01 is a companion/accessory instrument for the LG 3803 8VSB/QAM Signal Generator. When the 2 instruments are connected, the LG 3803/3803-01 pair becomes capable of providing QPSK signals compliant to USA CATV Out-Of-Band Standard (ANSI/SCTE 55-1, 55-2). The testing features of the LG 3803 are extended to CATV Out of Band testing; for example, the built in C/N generator permits BER measurements while the variable output permits for sensitivity testing.

LG 3803 Rear Panel

LG 3803 8VSB/QAM SIGNAL GENERATOR SPECIFICATIONS

Broadcast System	
Terrestrial Digital TV Broadcast	ATSC A/53B
Cable TV Broadcast	ITU-T J.83 annex B
Modulation Format	8VSB/64QAM/256QAM
RF Signal Generator	
Frequency Range	50 to 900MHz
Output Range	-100 to +13dBm 50Ω terminator
Resolution	0.1dB
Impedance	50Ω
Input/Output Signal Source	
Pseudo Random Signal	PN23
Still Picture Pattern	color bar, ramp, monoscope
Screen Size	1920 x 1080i, 1280 x 720p (16:9), 720 x 480i (16:9), 720 x 480i (4:3)
Sound (tone)	1kHz (LR), 400Hz (LR), 1kHz (L) + 400Hz (R).
DVB-ASI Input	
Input Connector	BNC
Input Impedance	75Ω
Input Level	0.8 Vp-p
Transmission Rate	270Mbps
DVB-SPI Input	
Input Connector	D-sub 25-pin
Input Impedance	differential 100Ω
Input Level	LVDS
Input Format	MPEG2-TS, BER counter selectable
ASI, SPI Input Specification	
Input Packet Format	188Byte
Stream	MPEG2-TS (ISO/IEC13818-1)
Input Data Rate	Maximum 25Mbps
FREQ STD Input/Output	
Connector	BNC
Impedance	50Ω
Level	0.8 Vp-p
Frequency	10MHz
4-Line Serial BER Input	
Input Connector	BNC
Input Level	LVTTL 3.3V
Input Signal	SYNC, VALID, CLOCK, DATA
TS Clock Output	
Output Connector	BNC
Output Impedance	50Ω
Output Level	TTL
Output Frequency	2.424083MHz (8VSB), 3.371294MHz (64QAM), 4.851338MHz (256QAM)
BER Counter Input	
Packet Length	188Byte
Input Connector	DVB-SPI connector, serial
GO/NO-GO Judgment	
Judgment Value Setting	BER upper and lower limits settable
Judgment Display	GO/NO-GO indications displayed on the screen
C/N Generator Section	
C/N Adjustable Range	0 to 31dB
Setting Resolution	0.1dB
Additional Control	ON/OFF selectable
External Interface	
Memory Card Interface	
Memory Card	CFA TYPE-1 CF card
Ethernet Interface	10BASE-T/100BASE-TX
USB Interface	USB1.1
GP-IB	
Input Level	TTL
Connector	57LE-30240 (Amphenol)
Remote Function	Preset memory recall (INC/DEC)
Display	QVGA (320 x 240) 5.7 inch TFT color LCD

Environmental Conditions	
Operating Temperature	0 to 40 °C
Operating Humidity	≤85% RH (without condensation)
Spec-guaranteed Temperature	10 to 35 °C
Spec-guaranteed Humidity	≤85% RH (without condensation)
Operating Environment	Indoor use
Operating Altitude	Up to 2,000 m
Over Voltage Category	II
Pollution Degree	2
Power Requirements	90 to 250 VAC, 50/60 Hz, 140W Max
Dimensions and Weight	426(W) x 150(H) x 450(D) mm, Approx. 14kg 16.8(W) x 5.9(H) x 17.9(D) inch, Approx. 30.9 Lbs

LG 3803-01 OUT-OF-BAND (OOB) SPECIFICATIONS

Modulator Section	
Standard	ANSI/SCTE 55-1, 55-2
Modulation Format	QPSK
Symbol Rate	1.024Msps (ANSI/SCTE 55-1: Alternative) 0.772Msps (ANSI/SCTE 55-2:GRADE A) 1.544Msps (ANSI/SCTE 55-2:GRADE B)
RF SG Section	
Frequency Range	70 - 130MHz
Resolution	1kHz
Output Range	-100 - +13dBm 50Ω terminator
Resolution	0.1dB
Impedance	50Ω
Input/Output Signal Source	
Built-in Signal	
Pseudo Random Signal	PN23
BER Serial Input	
Input Connector	BNC
Input Level	LVTTL 3.3V
BER Counter Section	
Input Connetor	Serial input connector
GO/NO-GO Judgment	
Judge Limit Setting	BER upper and lower setting
Judgment Display	Display GO/NO-GO on the screen
C/N Generator Section	
C/N Variable Range	0-20dB
Resolution	0.1dB
Control	ON/OFF switch
External Interface	
Memory Card	CFA Type-1 CF card
Ethernet	10BASE-T, 100BASE-TX
Display	LCD
Display Contents	BER measurement value, GO/NO-GO judgment
Environmental Conditions	
Operating Temperature	0 to 40 °C
Operating Humidity	≤ 85% RH (without condensation)
Spec-guaranteed Temperature	10-35 °C
Spec-guaranteed Humidity	≤ 85% RH (without condensation)
Operating Environment	Indoor use
Operating Altitude	Up to 2,000 m
Over Voltage Category	II
Pollution Degree	2
Power Requirements	90 to 250 VAC, 50/60 Hz, Approx. 40W Max
Dimensions and Weight	426(W) x 99(H) x 450(D) mm, Approx. 7kg 16.8(W) x 3.9(H) x 17.9(D) inch, Approx. 15.5 Lbs