

Ideal For The Production, Test and Alignment Of ATSC Compliant Tuners And Receivers/STBs.



ATSC

SCTE



Shown with Option 71



LG 3803 (S1 version) 8VSB/QAM SIGNAL GENERATOR

GENERAL

Designed to address the challenges of DTV tuner testing, the LG 3803(S1 version) 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 50 MHz to 900 MHz covering the entire VHF and UHF spectrum. Output level ranges from -100 to +13 dBm (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 (3 built in test patterns; color bars and monoscope) or can be externally modulated (DVB-ASI or SPI input).

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.

■ LG 3803(S1 version) Rear Panel



Shown with Option 71

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(S1 version) The Perfect Choice For Manufacturing And Service Applications.**
- **Out-Of-Band (OOB) Testing and BER Measurements Can Be Performed By Connecting The Optional LG 3803-01 Out-Of-Band Generator (sold separately).**

OPTION

Various factory options (LG 3803 S1 version only)

The following factory options are available:

- OP 71: USB STORAGE Option (factory option)
The TS can be played back from the HDD drive connected via the USB, or internal HDD drive.
- OP 72: Fading Option (factory option)
The Fading noise can be added to a mobile and portable receivers to check a ghost and multipass.

SPECIFICATIONS LG 3803 (S1 version)

Channel Coding Section

Broadcasting System:	Digital Terrestrial (ATSC A/53B) CATV (ITU-T J.83 annex B)
Modulation System:	8VSB/64QAM/256QAM

RF Signal Generator

Frequency	
Range:	50 to 900 MHz
Channel:	USA, KOREA
Accuracy:	$\pm 0.4 \times 10^{-6}$
Output	
Range:	-100 to +13 dBm (into 50 Ω)
Resolution:	0.1 dB
Impedance:	50 Ω
Level Accuracy:	± 1 dB (at 0 dBm, C/N off)
Connector:	N
Harmonics:	-30 dBc
Spurious:	-50 dBc

Input/Output Signal Sources

Internal Signal	
Pseudo Random Signal:	PN15/PN23
Still Picture Pattern	
Pattern:	Color bar, ramp, monoscope (*1)
Screen Size:	16:9 1920 x 1080i, 1280 x 720p, 704 x 480i (*1)
	4:3 704 x 480i (*1)
Sound (Tone):	1 kHz (LR), 400 Hz (LR), 1 kHz (L) + 400 Hz (R) (*1)
	*1: Specifications are subject to change without notice.

DVB-ASI Input

Input Connector:	BNC
Input Impedance:	75 Ω
Input Level:	0.8 Vp-p
Baud Rate:	270 Mbps

DVB-SPI Input

Input Connector:	25-pin D-sub
Input Impedance:	100 Ω differential input
Input Level:	LVDS
Input Format:	MPEG-2 TS or BER count input, auto- matic selection

ASI, SPI Input Specifications

Input Packet Format:	188, 204 bytes
Applicable Stream:	MPEG-2 TS (ISO/IEC 13818-1) Broadcasting TS (ARIB STD-B31)

FREQ STD Input

Input Connector:	BNC
Input Impedance:	50 Ω
Input Level:	0.8 Vp-p
Input Frequency:	10 MHz

FREQ STD Output

Output Connector:	BNC
Output Impedance:	50 Ω
Output Frequency:	10 MHz

4-Wire Serial BER Input

Input Connector:	BNC
Input Level:	LVTTL 3.3 V
Input Signal:	SYNC, VALID, CLOCK, DATA

TS Clock Output

Output Connector:	BNC
Output Impedance:	50 Ω
Output Level:	TTL
Output Frequency:	8VSB 2.424083 MHz 64QAM 3.371294 MHz 256QAM 4.851338 MHz

BER Counter Section

Input Section

Packet Length:	188,204 bytes
Input Connector:	DVB-SPI connector, serial input

GO/NO-GO Function

Threshold Settings:	Upper and lower limits of BER
GO/NO-GO Indication:	Displays GO/NO-GO on the screen.

C/N Generator Section

C/N Variable Range:	0 to 31 dB
Setting Resolution:	0.1 dB
On/Off:	Selectable

External Interface

Memory Card Interface

Memory Card:	Compact flash card (CFA TYPE-I)
---------------------	---------------------------------

ETHER Interface

Specifications:	10BASE-T, 100BASE-TX
------------------------	----------------------

USB Interface

Specifications:	USB1.1
------------------------	--------

GPIO

Connector:	24-pin, square
Specifications:	ANSI/IEEE Std 488.1-1987.

Remote Control

Connector:	24-pin, square 57LE-30240 (Amphenol)
Controllable Mode:	Recalling preset data from memory (INC/DEC)
Input Level:	TTL

Display Panel

LCD:	5.7" QVGA (320 x 240) TFT color
-------------	---------------------------------

Environmental Conditions

Operating Temperature:	0 to 40 $^{\circ}$ C
Operating Humidity:	$\leq 85\%$ RH (without condensation)
Spec-Guaranteed Temperature:	10 to 35 $^{\circ}$ C
Spec-Guaranteed Humidity:	$\leq 85\%$ RH (without condensation)
Operating Environment:	Indoor use
Operating Altitude:	Up to 2000 m
Overvoltage Category:	II
Pollution Degree:	2

Power Requirements

Voltage:	90 to 250 VAC, 50/60 Hz
Power Consumption:	140 W max.

Dimensions, Weight

	426 (W) x 150 (H) x 450 (D) mm 14 kg approx.
--	---

Accessories

Power cord.....	1
Instruction manual.....	1



ATSC

SIGNAL GENERATOR

Ideal For The Production, Test and Alignment Of ATSC Compliant Tuners And Receivers/STBs.

GENERAL

Designed to address the challenges of DTV tuner testing, the LG 3803(S1 version) 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 50 MHz to 900 MHz covering the entire VHF and UHF spectrum. Output level ranges from -100 to +13 dBm (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 (3 built in test patterns; color bars and monoscope) or can be externally modulated (DVB-ASI or SPI input).

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.
- Out-Of-Band (OOB) Testing and BER Measurements Can Be Performed By Connecting The Optional LG 3803-01 Out-Of-Band Generator (sold separately).



Shown with Option 71

+ Option Various factory options

*LG 3803 (S1 version) only

OP71 USB STORAGE Option

The TS can be played back from the HDD drive connected via the USB, or internal HDD drive.

HDD Capacity:	80 GB
USB Specification:	USB2.0
Function:	To connect an external HDD applicable to USB2.0, or internal HDD drive
Play Back	
Loop Playback:	Possible (not applicable to seamless)
Memory Playback:	Possible (ON/OFF Selectable)
Playback Range:	Possible (settable in time)

OP72 Fading Option

The Fading noise can be added to a mobile and portable receivers to check a ghost and multipass.

Fading Generator	Path State
Settable Fading Mode (Fading mode): Normal mode(Off), 6 Path mode(6 Path), 12 Path mode(12 Path)	(Path State): Each path can be respectively set on/off.
Speed of Mobile Object (Speed): 0 to 999.9 km/h, in 0.1 km/h steps (common to each path)	Modulated Fading Type (Fading Type): Rayleigh fading, Rician fading, Frequency shift, Phase shift, Path through
Maximum Doppler Frequency (Doppler): 0.1 to 200 Hz, in 0.1 Hz resolution (common to each path)	Relative Delay Time (Delay): 0 to 800 μ s, in \approx 0.1 μ s
	Relative Path Loss (Loss): -30.0 to 0 dB