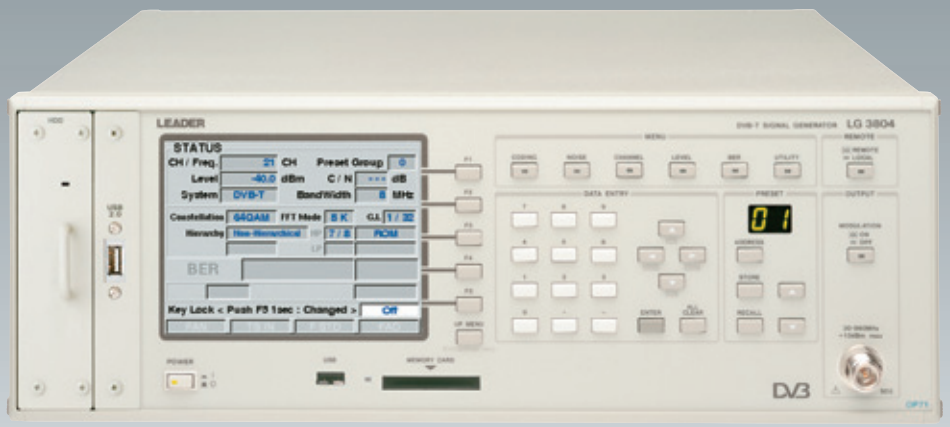
SIGNAL GENERATOR

DVB-T SIGNAL GENERATOR

Ideal For The Production, Test and Alignment Of DVB-T Compliant Tuners And Receivers/STBs

CE
Upon request



DVB-T

DVB-H
Option

DVB-C
Option

Shown with Option 71

GPIB

LG 3804 DVB-T SIGNAL GENERATOR

GENERAL

Designed to address the challenges of DTV tuner testing, the LG 3804 provides all of the signal control necessary for testing the performance of DVB-T compliant tuners and receivers.
Consequently, the modulated signal covering VHF and UHF channels can be output.
Since a pseudo random signal source (PN) and BER counter are provided, the BER measurement of a TV set and tuner can be performed with this model only.
In addition to the internal TS signal, the MPEG-2 TS can be externally applied. Therefore, the receiver can be checked visually and acoustically by using the existing TS. With such versatile capabilities, overall functions of the reception system can be tested.
This basic model can expand applicable capabilities to DVB-C and DVB-H with various Options.

■ LG 3804 Rear Panel

Shown with Option 71

FEATURES

■ All-in-one

This instrument features the signal generator capability and BER measurement capability in a single package. The BER function is used to measure the front-end section, the MPEG-2 TS function is used to visually check entire system. Also, such features are ideal for the production line of STB and tuners.

■ Arbitrary transmission parameter settings

The transmission parameter can be arbitrary set via the front panel controls. The QVGA LCD graphically displays the setting conditions.

■ MPEG-2 TS encoding/modulation in realtime

The MPEG-2 TS applied from the DVB-ASI or DVB-SPI connector can be encoded/modulated in realtime.

■ 100 preset conditions

Up to 100 preset conditions can be stored in the memory. Since the stored contents can be categorized into 10 groups, the preset mode is convenient for inspection applications.

OPTION

Various options
The following 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.
- OP 73: DVB-H ADD-IN SOFTWARE
  This add-in software adds the DVB-H capability to the Model 3804.
- OP 74: DVB-C ADD-IN SOFTWARE
  This add-in software adds the DVB-C capability to the Model 3804.

SPECIFICATIONS LG 3804

Channel Coding Section

Broadcasting system:	Digital Terrestrial (DVB-T)
Band Width:	6 MHz/7 MHz/8 MHz
Carrier Modulation:	COFDM QPSK, 16QAM, 64QAM
Convolution Coding Rate:	1/2, 2/3, 3/4, 5/6, 7/8
FFT Mode:	2K, 8K
Guard Interval:	1/4, 1/8, 1/16, 1/32

RF Signal Generator Section

Frequency	
Range:	30 to 960 MHz
Output	
Range:	-100 to +13 dBm (into 50 Ω), ON/OFF Selectable
Resolution:	0.1 dB
Impedance:	50 Ω
Output Connector:	N type

Input/Output Signal Sources

Internal Signal	
Pseudo Random Signal:	PN15/PN23
Still Picture Pattern:	Color bar, ramp, monoscope seamless Play (*1)
Screen Size:	16:9 (HD), 4:3(SD) (*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 Signal Input	
Input:	HP, LP
Input Connector:	BNC
Input Impedance:	75 Ω
Input Level:	0.8 Vp-p
Baud Rate:	270 Mbps
DVB-SPI Signal 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, selectable
ASI, SPI Input Specifications	
Input Packet Format:	188, 204 bytes
Applicable Stream:	MPEG-2 TS (ISO/IEC 13818-1)
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
TS Out	
Output:	BNC
Output Impedance:	75 Ω
Output Format:	MPEG-2 TS
IF Signal Output	
Output Connector:	BNC
Output Impedance:	50 Ω
Output Frequency:	140 MHz
4-Wire Serial BER Input	
Input Connector:	BNC
Input Level:	LVTTL 3.3 V
Input Signal:	CLOCK, DATA, VALID, SYNC

BER Counter Section

Input Section	
Packet Length:	188, 204 bytes
Input Connector:	DVB-SPI INPUT connector and serial input connector are used.
GO/NO-GO Function	
Limit Settings:	Upper and lower limits of BER can be set.
GO/NO-GO Indication:	Displays GO/NO-GO on the screen.

C/N Generator Section

C/N Variable Range:	0 to 40 dB
Setting Resolution:	0.1 dB
Additional Controller:	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
GPIB	
Connector:	24-pin square connector
Specifications:	Conforms to ANSI/IEEE Std. 488.1-1987.
Display	
LCD :	5.7" QVGA (320 x 240) TFT color

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 2000 m
Overvoltage Category:	II
Pollution Degree:	2

Power Requirements

90 to 250 VAC universal, 50/60 Hz

Power Consumption

150 W max.

Dimensions, Weight

426 (W) X 150 (H) X 450 (D) mm
(excluding projections), 14 kg

Accessories

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

OPTION

OP71: USB STORAGE Option

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 (factory option)

OP73: DVB-H ADD-IN SOFTWARE

OP74: DVB-C ADD-IN SOFTWARE

* License
This add-in software can only be used for a single LG 3804 main frame; not for multiple main frames.

DVB
SIGNAL GENERATOR

Ideal For The Production, Test and Alignment Of DVB-T Compliant Tuners And Receivers/STBs

GENERAL

Designed to address the challenges of DTV tuner testing, the LG 3804 provides all of the signal control necessary for testing the performance of DVB-T compliant tuners and receivers.
Consequently, the modulated signal covering VHF and UHF channels can be output.
Since a pseudo random signal source (PN) and BER counter are provided, the BER measurement of a TV set and tuner can be performed with this model only.
In addition to the internal TS signal, the MPEG-2 TS can be externally applied. Therefore, the receiver can be checked visually and acoustically by using the existing TS. With such versatile capabilities, overall functions of the reception system can be tested.
This basic model can expand applicable capabilities to DVB-C and DVB-H with various Options.

FEATURES

All-in-one

This instrument features the signal generator capability and BER measurement capability in a single package. The BER function is used to measure the front-end section, the MPEG-2 TS function is used to visually check entire system. Also, such features are ideal for the production line of STB and tuners.

Arbitrary transmission parameter settings

The transmission parameter can be arbitrary set via the front panel controls. The QVGA LCD graphically displays the setting conditions.

MPEG-2 TS encoding/modulation in realtime

The MPEG-2 TS applied from the DVB-ASI or DVB-SPI connector can be encoded/modulated in realtime.

100 preset conditions

Up to 100 preset conditions can be stored in the memory. Since the stored contents can be categorized into 10 groups, the preset mode is convenient for inspection applications.

+ Option Various options

OP71 USB STORAGE Option (factory 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 (factory option)

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

Fading Generator
Settable Fading Mode
(Fading mode): Normal mode(Off), 6 Path mode(6 Path), 12 Path mode(12 Path)
Speed of Mobile Object
(Speed): Settable in the range converted from output frequency and maximum Doppler frequency In 0.01 km/h steps (common to each path)
Maximum Doppler Frequency
(Doppler): 0.1 to 200 Hz, in 0.1 Hz resolution (common to each path)

Path State
(Path State): Each path can be respectively set on/off.
Modulated Fading Type
(Fading Type): Rayleigh fading, Rician fading, Frequency Shift, Phase shift, Path through
Relative Delay Time
(Delay): 0 to 800 μs, in ≈ 0.1 μs
Relative Path Loss
(Loss): -30.0 to 0 dB

OP73 DVB-H ADD-IN SOFTWARE

This add-in software adds the DVB-H capability to the Model 3804.

Channel Coding Section
Broadcasting System
Moblie Broadcasting: DVB-H
Modulation Method: COFDM 16QAM, 32QAM, 64QAM
Bandwidth: 5 MHz, 6 MHz, 7 MHz, 8 MHz
Coding Rate: 1/2, 2/3, 3/4, 5/6, 7/8
FFT Mode: 2k, 4k, 8k
Guard Interval: 1/4, 1/8, 1/16, 1/32
License
This add-in software can only be used for a single LG 3804 main frame; not for multiple main frames.

OP74 DVB-C ADD-IN SOFTWARE

This add-in software adds the DVB-C capability to the Model 3804.

Channel Coding Section
Broadcasting System
CATV Digital Broadcating Specifications: DVB-C
Modulation Method: 16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Symbol Rate: 1.000 Msps to 8.000 Msps
License
This add-in software can only be used for a single LG 3804 main frame; not for multiple main frames.