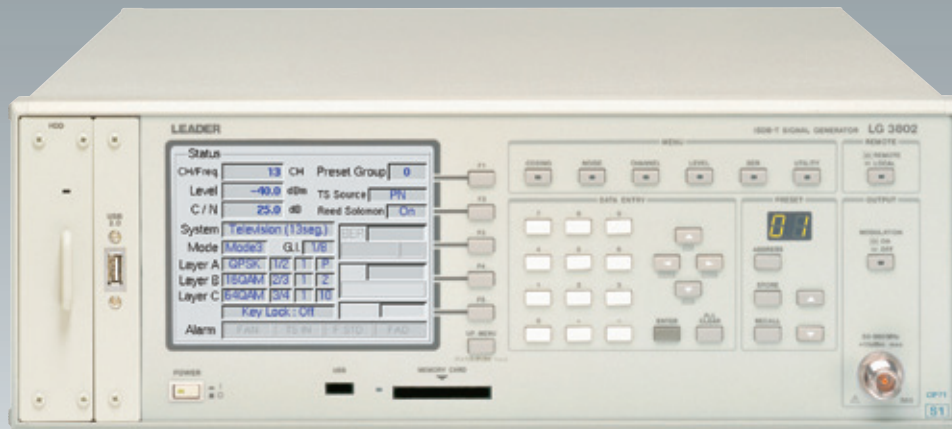


Suitable for Inspection on Production Applications of Integrated Services Digital Broadcasting-Terrestrial (ISDB-T) Tuner and TV



Shown with Option 71

ISDB-T

ISDB-Tsb

**SBTVD-T
Option**



LG 3802 (S1 version) ISDB-T SIGNAL GENERATOR

GENERAL

The LG 3802(S1 version) ISDB-T Signal Generator with the OFDM capability conforms to Integrated Services Digital Broadcasting-Terrestrial (ISDB-T) standards for digital terrestrial TV system in Japan. This instrument features a channel coding/modulation, C/N generator, and up converter in a single package.

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.

■ LG 3802(S1 version) 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. In addition to the digital terrestrial TV broadcasting, this instrument can also be used for the connected segment transmission of 1, 3, and 8 segments in digital terrestrial audio broadcasting.

■ 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. In addition to the MPEG-2 TS, broadcasting TS prescribed in the ARIB standards can also be used.

■ 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 factory options(LG 3802 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.
- OP72A: Fading Option (factory option)
The Fading noise can be added to a mobile and portable receivers to check a ghost and multipass.

SPECIFICATIONS LG 3802 (S1 version)

Channel Coding Section

Broadcasting system

Digital Terrestrial TV: ARIB STD-B31

Digital Terrestrial Audio: ARIB STD-B29

Transmission Parameter

Hierarchical layer: TV: 3 layers max.
Audio 3 segment: 2 layers max.
Audio 1 segment: 1 layer only

Mode: MODE 1, MODE 2, MODE 3

Guard Interval: 1/4, 1/8, 1/16, 1/32

Carrier Modulation: DQPSK, QPSK, 16QAM, 64QAM

Convolution Coding Rate: 1/2, 2/3, 3/4, 5/6, 7/8

Time Interleave Length: 0 to 32 (depends on broadcasting system and MODE)

Number of Segments: TV: 13, each layer can arbitrary be set.
Audio 3 segment: 3, each layer can arbitrary be set.
Audio 1 segment: 1

Connected Segment Transmission: Settable

Partial Reception: Settable (*1)

Reed-Solomon Code: ON/OFF, selectable

*1: For the TS not independent of PCR packet, the PCR of partial reception section cannot be updated.

RF Signal Generator Section

Frequency

Range: 50 to 860 MHz

Output

Range: -100 to +13 dBm (into 50Ω)

Resolution: 0.1 dB

Impedance: 50 Ω

Input/Output Signal Sources

Internal Signal

Pseudo Random Signal: PN23

Still Picture Pattern

Pattern: Color bar, ramp, monoscope (*2)

Screen Size: 16:9 1920 x 1080i, 1440 x 1080i,
720 x 480i (*2)

4:3 720 x 480i (*2)

Sound (Tone): 1 kHz (LR), 400 Hz (LR),
1 kHz (L) + 400 Hz (R) (*2)

*2: Specifications are subject to change without notice.

DVB-ASI Signal Input

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)

Input Data Rate: TV: 23.2347 Mbps max. (*3)

Audio 3 segment: 5.3618 Mbps max. (*3)

Audio 1 segment: 1.7872 Mbps max. (*3)

Update Parameter: PCR (8 max.)

*3: Maximum number of segments is obtained under the conditions below:

Guard interval 1/32

Carrier modulation 64QAM

Coding rate 7/8

The Maximum number of input data rate depends on the modulation parameter.

External REF Input

Input Connector: BNC

Input Impedance: 50 Ω

Input Level: 0.8 Vp-p

Input Frequency: 10 MHz

REF Output

Output Connector: BNC

Output Impedance: 50 Ω

Output Level: 0 dBm

Output Frequency: 10 MHz

BER Counter Section

Input Section

Packet Length: 204 bytes (including 16-byte Reed-Solomon code)

Input Connector: DVB-SPI INPUT connector is 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 30 dB

Setting Resolution: 0.1 dB

Additional Controller: ON/OFF, selectable

External Interface

Memory Card Interface

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

ETHER Interface

Specifications: 10BASE-T/100BASE-TX

USB Interface

Specifications: USB1.1

GPIO

Connector: 24-pin square connector

Specifications: Conforms to ANSI/IEEE Std. 488.1-1987.

Remote Control

Connector: 24-pin square connector

57LE-30240 (Amphenol)

Remote Mode: Recalling preset memory (INC/DEC)

Input Level: TTL

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
140 Wmax.

Dimensions, Weight

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

Accessories

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

■ LG 3802-01 (Sold Separately) SERIAL PARALLEL CONVERTER



Converts the TS serial data output into parallel output



ISDB-T

SIGNAL GENERATOR

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Shown with Option 71

+ Option Various factory options

*LG 3802 (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)

OP72A 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	(Path State): Each path can be respectively set on/off.
(Fading mode): Normal mode(Off), 6 Path mode(6 Path), 12 Path mode(12 Path)	Modulated Fading Type
Speed of Mobile Object	(Fading Type): Rayleigh fading, Rician fading, Frequency Shift, Phase shift, Path through
(Speed): Settable in the range converted from output frequency and maximum Doppler frequency In 0.01 km/h steps (common to each path)	Relative Delay Time
Maximum Doppler Frequency	(Delay): 0 to 800 μ s, in \approx 0.1 μ s
(Doppler): 0.1 to 200 Hz, in 0.1 Hz resolution (common to each path)	Relative Path Loss
	(Loss): -30.0 to 0 dB

Option Low Phase Noise