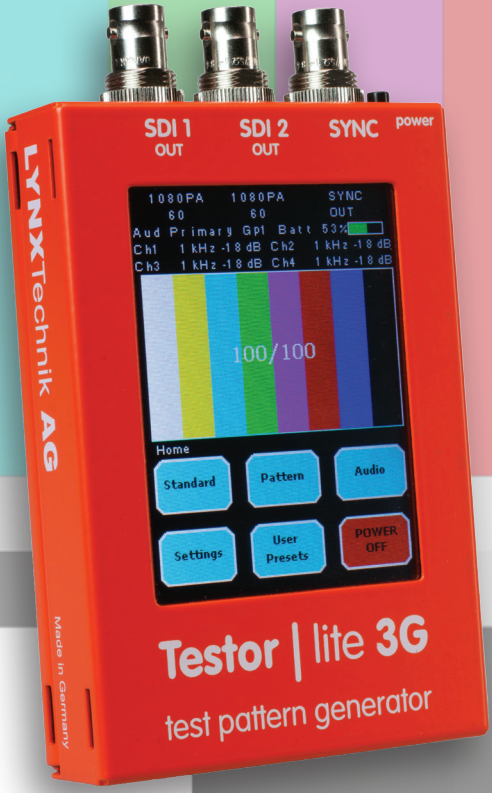
PTG 1802 Testor | lite 3G™

User Guide

Revision 1.1 Firmware 641 and above



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Connections / Layout

The image below shows the connections / controls and basic layout of the integrated touch-screen display.

What's in the Box

The Testor lite 3G is supplied with the following accessories: USB-DCP charger (plus a variety of regional AC plug adapters) a USB Cable and this User Guide.

We recommend you fully charge the unit when you first receive it. Please refer to the "Power and Charging" section of this guide for more details.

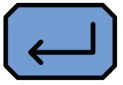
User Interface

The Testor lite 3G is equipped with a simple and intuitive user interface that is accessed with the integrated touch screen display. The lower half of the display is dedicated to the menu system which is used to operate the unit. The basic touch screen button functions are shown below:

This type of button triggers a function. i.e. if pressed the selected function will be set as a direct result.

This type of button shows when a selection is active. Pressing again will have no effect.

This is a menu navigation button, pressing it will navigate deeper into the menu system. As a result the buttons displayed will change to a new set of choices.



This is a "back" button and pressing this will navigate back to the previous menu screen.

To assist with the use of the menu system a navigation aid is provided after each feature or function's description, an example of the navigation aid is below:

Navigation: HOME > PATTERN > SDI (X) > COLOR BARS (make selection)

[button selections] [x=specific channel e.g. 1 or 2] [perform action]

Power / Charging

Charging

The Testor lite 3G uses the USB port for external power and charging. A USB DCP (dedicated charging port) charger and heavy gauge USB cable are provided to charge the Testor lite 3G. We recommend that you use the supplied accessories. Using an alternative USB cable may result in the unit not charging.

The Testor lite 3G can be connected to any standard USB 2.0 port (computer) to charge the battery. It will take significantly longer to charge this way (lower available charge current) and cannot be used while in operation. *(If the unit is powered using a PC USB port then no charging will take place and the Testor lite 3G will run on internal battery power)*

If using a USB DCP power source then the Testor lite 3G can be used and charged at the same time. The device automatically detects if a dedicated USB DCP charger is connected and will draw higher charge current.

Charge Times

When the battery is empty, the following approximate charge times are required to fully charge the battery:

- 120 min. from a USB-DCP supply when unit is turned OFF
- 180 min. from a USB DCP supply when unit is turned ON
- 360 min. from a computer USB 2.0 port when unit is turned OFF

A charge status indicator is always visible on the display. A full charge will provide approximately 4 hours use. When the battery is empty the Testor lite 3G will shut down automatically.

Battery life is approximately 500 charge cycles. A replacement battery is available when needed. Part: PTG-BATT

Note: The rechargeable battery is sealed inside the unit. It is not designed for frequent battery exchange using a spare charged battery. Only change the battery when the installed unit is no longer holding charge. Some disassembly is required. Refer to "Battery Replacement" section of this guide.

Power ON / OFF

Switching ON
When powered OFF, pressing the power button for 1 second or longer will power up the unit and it will be fully operational within 5 seconds. The unit will resume with the last used settings before the unit was shut down. *(Current settings are automatically stored on shutdown)*

The unit will power up automatically when connected to a USB-DCP charger. *(The unit can be manually switched OFF to facilitate faster charging)*

Switching OFF
There are two ways to manually switch the unit off, and both are designed to prevent accidental power down.

- When the device is powered ON, tapping POWER OFF on the home screen will ask for a confirmation before switching off.
- When the device is powered ON, pressing and holding the POWER button for 5 seconds or longer will also switch off the unit.

Automatic Shutdown
With no user activity (touch screen use) the unit will shut down automatically after a given time period to preserve battery life.

This can be preset to 5, 10 or 20 minutes or NEVER. Refer to the “Battery Timeout” settings in this guide to preset this function.

SDI Outputs

SD-SDI (270Mbit) and HD-SDI (1.5Gbit) SDI Operation
When the Testor lite 3G is configured for an SDTV video format (270Mbit) or an HDTV (1.5Gbit) video format, each SDI output is always the same video format but can have a different pattern assigned. Each SDI output can also have different embedded audio and the overlays switched ON or OFF independently (overlays are the same for both outputs)

3G-SDI (3Gbit) Operation

The 3G-SDI formats (1080p/50/59/60) can be streamed in one of three possible formats:

- Two individual 1.5G SDI streams, one per BNC connector. SMPTE 372 (Dual Link)
- Two individual 1.5G SDI streams multiplexed into one 3G-SDI stream. SMPTE 425 Level B (Dual Link)
- One real 3G-SDI stream. SMPTE 425 Level A (Direct Mapping)

The factory default setting is specified as “3G-SDI, SMPTE 425 Level A”

To set the 3G streaming modes:

Navigation: **HOME > STANDARD > 3G STREAMING FORMAT** (set mode)

Setting Video Format

The Testor lite 3G can be configured to provide test signals in the following formats/standards:

SMPTE 259M (SDTV):
525 (480i/59) / 625 (576i/50)

SMPTE 292M (1.5G HDTV)
[1080i 60], [1080i 59.94], [1080i 50], [1080p 30], [1080p 29.97], [1080p 25], [1080p 24], [1080psf 25], [1080psf 24], [1080psf 23.97], [720p 60], [720p 59.94], [720p 50], [720p 30], [720p 29.97], [720p 25], [720p 24], [720p 23.97]

SMPTE 424M (3G HDTV)
[1080p 60], [1080p 59.94], [1080p 50]

2 x SDI outputs are provided. The signal format and frequency is identical on both outputs but independent patterns can be selected for each output. (exeptions are dynamic patterns, which are on both outputs)

Navigation: **HOME > STANDARD** (select video format)

Selecting Test Patterns

The Testor lite 3G includes a wide variety of test patterns. Each SDI output can have a different static pattern assigned to it. (*Dynamic or moving patterns will be on both outputs*)

Static Color Bar Patterns:

- Full Field Color Bar 100/100
- Full Field Color Bar 100/75
- Split Color Bars 100/100
- Split Color Bars 100/75
- SMPTE 219 Bars

Navigation: **HOME > PATTERN > SDI (X)> COLORBARS** (select pattern)

Static Flat Field Patterns:

- Full Field Red
- Full Field Green
- Full Field Blue
- Full Field White
- Full Field Black

Navigation: **HOME > PATTERN > SDI (X)> FLAT FIELD** (select pattern)

Static Mono Patterns:

- Pluge
- Cross-Hatch
- 5-Step
- Valid Ramp
- Limit Ramp

Navigation: **HOME > PATTERN > SDI (X)> MONO** (select pattern)

Miscellaneous patterns

- Multi-burst
- Frequency Sweep
- Pathological EQ/PLL (split)
- Moving Boxes (Dynamic pattern)
- EBU AV Sync (Dynamic pattern)**

*(**Note:** leaving the EBU menu will cause the sequence to stop)*

Nav: **HOME > PATTERN > SDI (X)> MISCELLANEOUS** (select pattern)

***For a compressive guide on the use of the EBU AV sync test pattern, please visit our website for more information:*
www.lynx-technik.com/en/products/testor/ebu-av-sync-pattern

Using 3D (stereoscopic) Test Patterns

3D (stereoscopic) test patterns, consisting of two 1.5G HD-SDI streams for Left Eye (LE) and Right Eye (RE) can be selected. This is accomplished by assigning the individual 3D patterns for LE and RE from the provided 3D patterns. The SDI format has to be set to one of the 1.5G HD-SDI standards (not 3G-SDI).

By default, these two different signals will be streamed as two individual 1.5G SDI streams for LE and RE, one per BNC connector, according to SMPTE 292-1.

As an alternative way of streaming these two 1.5G HD-SDI signals, the user can enable the “3G Level B Dual Stream” mode. When enabled, the two individual 1.5G signals will be multiplexed into a single 3G-SDI Level B Dual Stream signal according to SMPTE 425. In this case, both SDI outputs have the same signal.

Two dedicated 3D patterns are provided which provide a 3D effect when viewed in a 3D environment. These comprise of two slightly different patterns for left eye (LE) and right eye (RE).

3D Test Patterns

- 3D Boxes
- 3D Grey Boxes

Nav: **HOME > PATTERN > 3D STEREOSCOPIC** (Select LE,RE patterns)

NOTE: When setting the Testor Lite for 3D operation, please first select an appropriate SDI format and 3D SDI Streaming mode.

To set the 3D streaming mode:

Nav: **HOME > STANDARD > 3D/HD STREAMING FORMAT** (set mode)

Selecting Overlays

Several overlay elements can be superimposed into each of the SDI outputs. Configured overlays are the same for both outputs but can be turned ON and OFF independently.

Circle Overlay

A 16:9 or 4:3 circle overlay can be superimposed. The circle center point of the circle is the geometric center of the image.

Navigation: **HOME > PATTERN >SDI (X) > OVERLAY > CIRCLE**

Text Overlay

A text-overlay can be added to each SDI output. A maximum of 16 characters can be inserted on one line. The following characters are available for text insertion:

```
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
01234567890-_*()/ [SPACE]
```

Navigation: **HOME > PATTERN >SDI (X) > OVERLAY > TEXT >** (select text)

Cage / Markers Overlay

Blanking edge/safe action/safe title boxes can be superimposed onto each SDI output. The positions of the boxes are at 90% (safe action) and 80% (safe title), as specified in SMPTE RP218-2002.

The following selections are available:

- OFF [**Default**]
- Blanking Edge
- SMPTE safe action (90/90) according to SMPTE RP218-2002
- SMPTE safe title (80/80) according to SMPTE RP218-2002

Navigation: **HOME > PATTERN >SDI (X) > OVERLAY > CAGE >** (select)

Setting Audio

Audio Generators

Two audio generators are provided, each generator has four channels and each channel can be configured independently. The following selections are available

- Frequencies: 50Hz, 100Hz, 200Hz, 250Hz, 400Hz, 500Hz, 800Hz, 1kHz, 2kHz 3kHz, 4kHz, 8kHz, 16kHz [**Default 1kHz**]
- Adj. Amplitude: 0dBFS to -79dBFS in 1dB steps [**Default -18dBFS**]
- IDENT – [ON or OFF] typically used to put a small repeating break (or pause) in the audio signal to easily identify a specific channel [**Default OFF**]
- BREAK [ON or OFF]. Switch the selected channel ON (silent) or OFF [**Default OFF**]

To configure Audio Generator A

Navigation: **HOME > AUDIO > GEN A**

To configure Audio Generator B

Navigation: **HOME > AUDIO > GEN B**

Audio Embedders

Once the audio generators have been configured, the audio channels can be mapped into the SDI outputs for embedding. Each SDI output can have a different audio embedder configuration.

The embedder for each SDI channel supports 4 groups (16 channels) of audio and the audio generators can be mapped as required.

Nav: **HOME > AUDIO > EMBEDDER SDI (X) >** (select group and assign)

Note: If Testor lite 3G is configured for a SMPTE425 Dual Stream or Dual Link output signal, audio is embedded into both streams.

Sync Output

The reference output (or Sync Output) generates an analog reference sync signal in the same video standard as the SDI outputs.

- In SDTV, the device will generate a Bi-Level Sync (no Color Burst or active video content).
- In HDTV, the device will generate an appropriate Tri-Level Sync.

User Settings

System settings

The Testor lite 3G provides access to the following system settings:

- Key Clicks ON or OFF [**Default ON**]
- Factory RESET (Reset the Testor lite 3G back to factory defaults)
- Show System Version (Firmware revision)

Navigation: **HOME > SETTINGS > SYSTEM** (make selection)

Battery Timeout

When the device is powered from the internal battery, the Testor lite 3G will power down when no user interaction (touch screen use) has been detected for a certain time period to preserve battery life. The time period can be preset to one of the following settings:

- 5 minutes [**Default**]
- 10 minutes
- 20 minutes
- Never

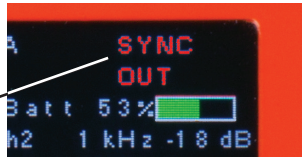
Note: The power saving function is active only when the device is powered from the internal battery. When the device is powered from an external power source then this temporarily defaults to "Never".

Navigation: **HOME > SETTINGS > BATTERY TIMEOUT** (make selection)

Oscillator

It is possible to change the setting of the internal oscillator to generate an incorrect (or out of spec) test signal with respect to frequency. This may be useful for testing the device under test for tolerance to out of spec video signals. Frequency deviation is adjustable +/- 50ppm around the calibrated default value in increments of 1 ppm. The factory calibrated default value is easily restored.

Note: When Oscillator is set to uncalibrated "SYNC OUT " on the touch screen display will be in RED



Nav: **HOME > SETTINGS > OSCILLATOR FREQUENCY** (make changes)

User Presets

There are 3 user presets which can be used to store a specific configuration for the Testor lite 3G. The settings are stored in internal flash RAM and will survive a power cycle.

Simply select the desired preset (1, 2 or 3) and then select SET to store the current module configuration as a new preset, or press RECALL to recall the stored settings if one was previously saved.

Navigation: **HOME > USER PRESETS** (make selection)

USB Port

The USB port is provided for power / charging and firmware updates

Firmware Updates

Firmware updates will be provided as a free download from the LYNX Technik website, download section:

www.lynx-technik.com > Support > Download Area

Battery Replacement

The battery will last for approximately 500 charge cycles. A replacement battery is available (Part PTG-BATT). Follow the procedure below to exchange the battery.

1. Remove screws where shown
2. Remove cover

3. Unplug and remove old battery
4. Install new battery & reassemble

Note: Only use OEM replacements from LYNX Technik AG. Please do not try to substitute an equivalent or generic replacement. This could damage the unit and will void any product warranty.

Please dispose of the old battery responsibly and respect any applicable local laws and ordinances regarding battery disposal.

Service and Support

If you have questions, or are experiencing problems with your Testor lite 3G, please visit the technical support section of our website **www.lynx-technik.com** to request assistance. Please have the serial number available (refer to barcode sticker on the rear of the unit).

Warranty + Registration

Product Registration

Please take the time to register your product to activate your warranty coverage. Registering also lets us provide you with push notifications (via email) of any free firmware updates for bug fixes, new features and product enhancements when they become available.

Goto **www.lynx-technik.com** **Support > Register Product**

Warranty

LYNX Technik AG warrants that the Testor lite 3G will be free from defects in materials and workmanship for a period of **three (3) years** from the date of shipment, and the rechargeable battery free from defects for a period of **six (6) months** from the date of shipment. If this product proves defective during the warranty period, LYNX Technik AG at its option will either repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, customer must notify LYNX Technik AG of the defect before expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by LYNX Technik AG, with shipping charges prepaid. LYNX Technik AG shall pay for the return of the product to the customer if the shipment is within the country which the LYNX Technik AG service center is located. Customer shall be responsible for payment of all shipping charges, duties, taxes and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure, or damage caused by improper use or improper or inadequate maintenance and care. LYNX Technik AG shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than LYNX Technik AG representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non LYNX Technik AG supplies; or d) to service a product which has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty servicing the product.

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Options

Protect your Testor lite 3G with a durable protective cloth case / pouch. This incorporates a transparent window to view and operate the touch screen, as well as a belt clip. Part **PTG-CASE**

Please visit our website for the latest product information and news

www.lynx-technik.com

All LYNX Technik AG products are designed and manufactured in Germany

The contents of this guide and specifications are subject to change without prior notice