PG-303MK

12G/6G/3G/HD/SD-SDI Pattern Generator

User Manual

rev: 210719
Made in Taiwan

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INTRODUCTION

The **PG-303MK 12G/6G/3G/HD/SD-SDI Pattern Generator** is an advanced SDI pattern generator with multi-format (12G/6G/3G/HD/SD) and multi-pattern support. Besides still and moving video test patterns, other features such as audio (SMPTE-291M) are also provided. PG-303MK can support up to 8 channel AES compliant audio with 48KHz sample rate. PG-303MK is equipped with four buttons, one rotary switch and LCD screen to ease the control. This device provides a cost effective way to calibrate and test SDI enable video devices and displays.

FEATURES

- **Supported output resolution**
  NTSC 525@60, PAL 625@50, 720p@23.98, 720p@50,720p@59.94, 720p@60, 1080i@50, 1080i@59.94, 1080i@60, 1080p@23.97, 1080p@24, 1080p@25, 1080p@29.97, 1080p@30, 1080p@50, 1080p@59.94, 1080p@60, 4K2K@23.97, 4K2K @24, 4K2K @25, 4K2K @29.97, 4K2K @30, 4K2K @50, 4K2K @59.94, 4K2K @60
  Bit Rate: 2.97 Gbps, 2.967 Gbps, 1.485 Gbps, 1.4835 Gbps, 5.94Gbps, 5.934Gbps, 11.88Gbps, 11.868Gbps,270 Mbps
  Resolution: 10bit

- **Video Patterns**
  100% Color Bars, Borderline, Random Noise, Check Field, Black, Vertical Lines, Black / White alternate fields, Full Grey / Full White, Black to White Gradient, Random Generator for all still patterns, moving squares White noise, Inverse effect with still pattern, Scrolling Title (see Appendix for illustrations)

- **Save Settings to Memory Option**

- **Control**
  By LCM, panel buttons & rotary switch

- **Video Output**
  SDI output (SDI, HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI)

- **Supports Preset Modes**

PACKAGE CONTENTS
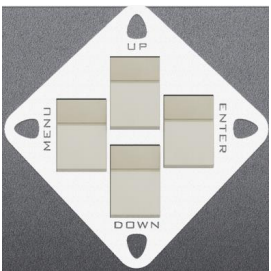
- 1x PG-303MK
- 1x 12V power supply unit
- 1x User Manual

SPECIFICATIONS

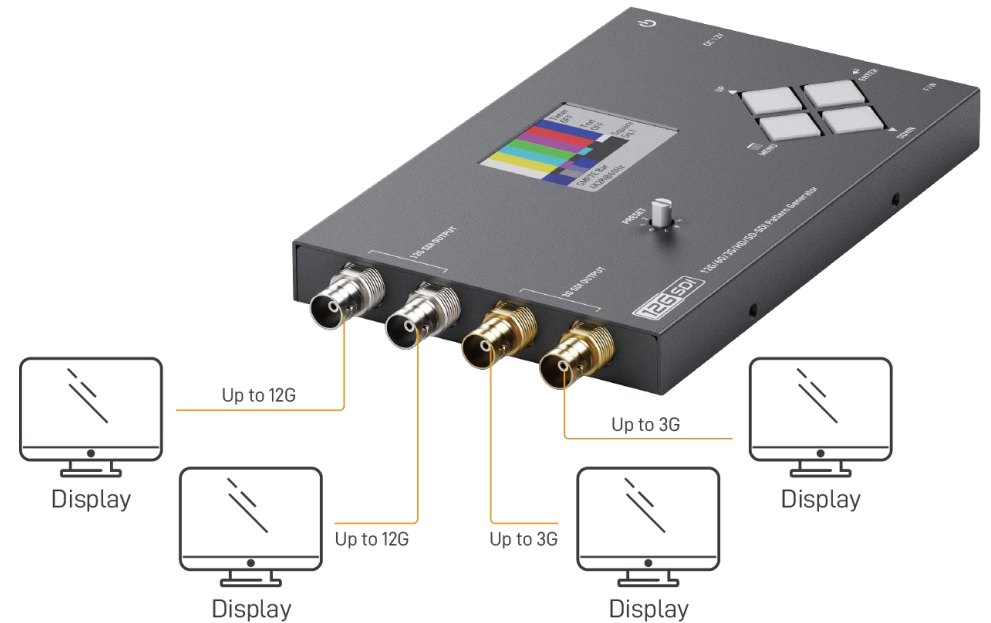| Model Name	PG-303MK
Technical	
Role of usage	Pattern generator
SDI standards	12G/6G/3G/HD/SD-SDI
Auto SDI rate detection	Yes
Supported protocols	SMPTE 259M (270Mbps / 360Mpbs) SMPTE 292M / HDTV (1.485 & 1.485/1.001Gbps) SMPTE 424/425M (2.97 & 2.97/1.001Gbps) SMPTE ST-2081 (5.94&5.94/1.001Gbps) SMPTE ST-2082 (11.88&11.88/1.001Gbps)
Video bandwidth	11.88Gpbs
Data rates	270 / 1483 / 1485 / 2967 / 2970 / 5934 / 5940 / 11868 / 11880 Mbps
Video support	[12G] 4K2K@50/59.94/60 [6G] 4K2K@23.97/24, 25, 30 [3G] 1080p@50/59.94/60 (4:2:2) [HD] 720p50/59.94/60, 1080p24/30, 1035i50/59.94/60, 1080i50/59.94/60 [SD] NTSC@59.94Hz, PAL@50Hz
SDI signal type	SMPTE-292M / 259M / 424M / ST-2081 / ST-2082
Output impedance	75Ω
Cable (Belden 1694A) equalization / transmission	[12G-SDI] up to 50m (165ft) / [6G-SDI] up to 100m (330ft) / [3G-SDI] up to 200m (660ft)
Audio support	Yes
PCB Stack-up	6-layer board [impedance control — differential 100Ω; single 75Ω]
Output	4x BNC [SDI]
BNC connector	75Ω interlocking socket
[HD] Eye pattern characteristics	Amplitude: Within 800mV <10%Long time jitter <1.0 UI Rise overshoot: Less than 2% Timing jitter <1.0 UI Fall overshoot: Less than 2% Alignment jitter <0.2 UI
Mechanical	
Housing	Metal enclosure
Dimensions [L x W x H] — Model	167 x 112 x 24mm[6.5" x 4.4" x 0.9"]
Dimensions [L x W x H] — Package	325 x 196 x 92mm[12.7" x 7.7" x 3.6"]
Dimensions [L x W x H] — Carton	490 x 426 x 352mm[1'6" x 1'4" x 1'2"]
Weight — Model	303g [0.6 lbs]
Weight — Package	533g [1.1 lbs]
Power supply	12VDC
Power consumption	5 Watts [max]
Operation temperature	0~40°C [32~104°F]
Storage temperature	-20~60°C [-4~140°F]
Relative humidity	20~90% RH [no condensation]

PANEL DESCRIPTIONS

1. **SDI OUT1:** 12G/6G/3G/HD/SD-SDI output
2. **SDI OUT2:** 12G/6G/3G/HD/SD-SDI output
3. **SDI OUT3:** 3G/HD/SD-SDI output
4. **SDI OUT4:** 3G/HD/SD-SDI output
5. **Rotary Switch:** for 0-7 preset mode
6. **LCD:** 2.0" LCD monitor
7. **PUSH BUTTON:**

Button	Function
Menu	Trigger the menu operation
Enter	Enter the menu item
Up	Choose the last menu item
Down	Choose the next menu item

8. **Micro USB:** Micro-USB port for F/W update
9. **+12V DC:** 12V DC power jack
10. **Power Switch:** Power ON/OFF

CONNECTION DIAGRAM

Up to 12G

Up to 3G

Up to 12G

Up to 3G

Display
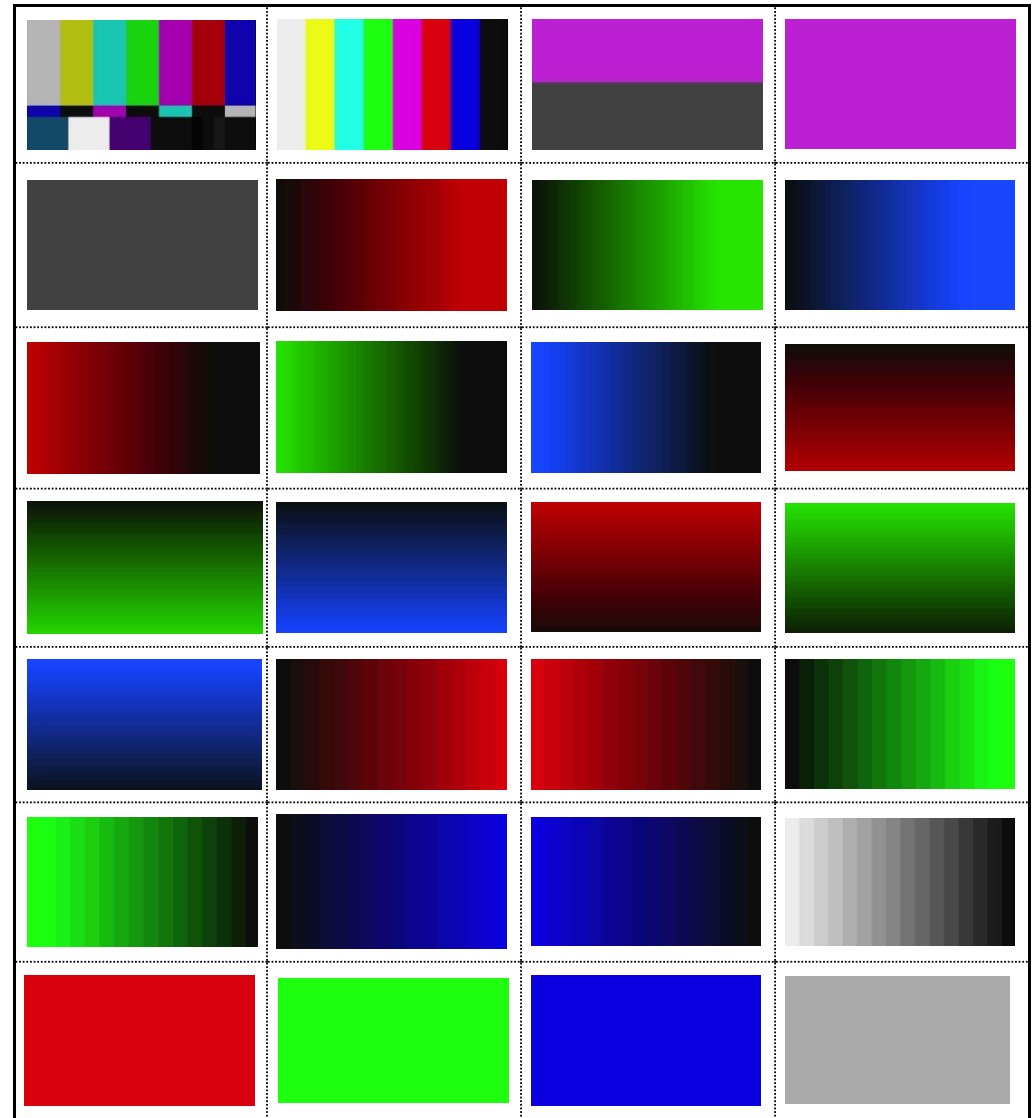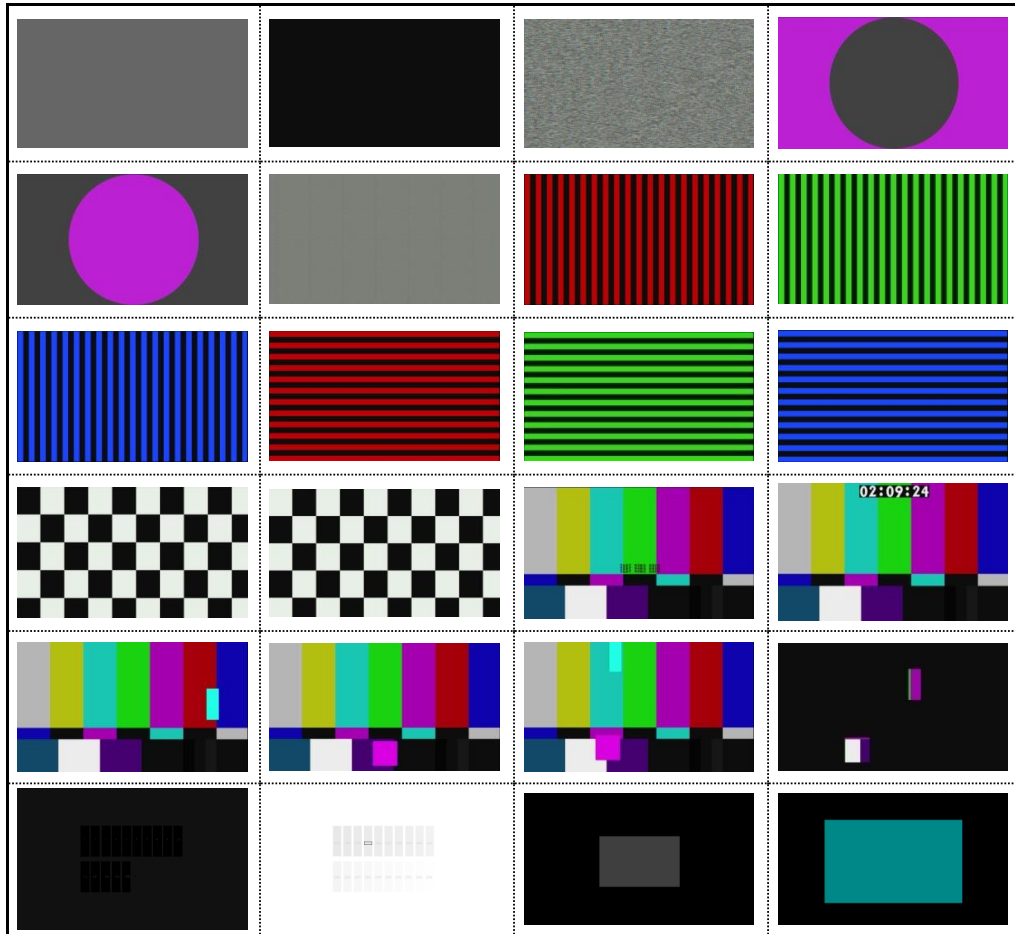
Display

Display

Display

NOTICE

1. Due to the high frequency bandwidth and low jitter requirement of SDI signals, it is strongly recommended to use just one SDI OUTPUT with one 75 ohm.

2. The features including new timings and patterns may increase without notice after the firmware is updated! This may affect the menu items, but will keep the same framework for users!

APPENDIX

- Built-in Video Patterns

WARRANTY

The SELLER warrants the **PG-303MK 12G/6G/3G/HD/SD-SDI Pattern Generator** to be free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, The SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surges.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables are limited to a 30 day warranty and cable must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. **Also, the technical information contained herein regarding the PG-303MK features and specifications is subject to change without further notice.**