

PG-303K

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

User Manual



rev: 171124
Made in Taiwan



Safety and Notice

The **PG-303K12G/6G/3G/HD/SD-SDI Pattern Generator** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **PG-303K** should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.



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INTRODUCTION

The **PG-303K12G/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-303K can support up to 8 channel AES compliant audio with 48KHz sample rate. PG-303K is equipped with four buttons and LCM 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**
- **ANC Data**
EDH (RP-165), SMPTE 352M, SMPTE291M
- **Control**
By LCM & panel buttons
- **Video Output**
SDI output (SDI, HD-SDI, 3G-SDI, 6G-SDI, 12G-SDI)

PACKAGE CONTENTS

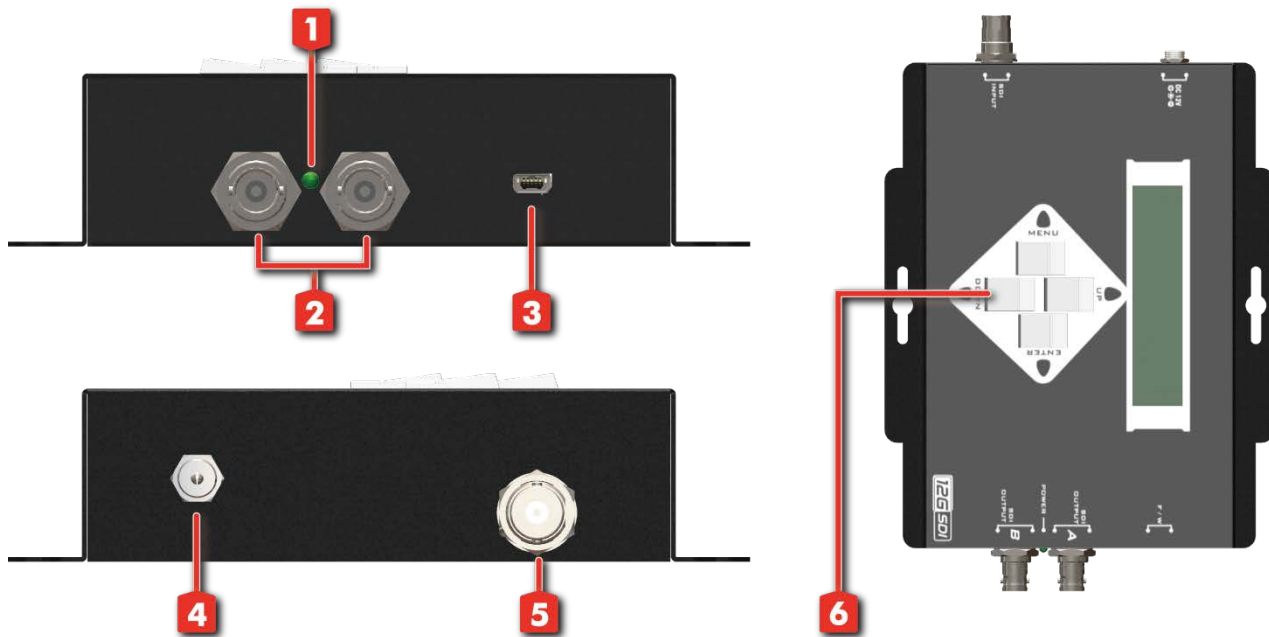
- 1x PG-303K
- 1x 12V power supply unit
- 1x User Manual

SPECIFICATIONS

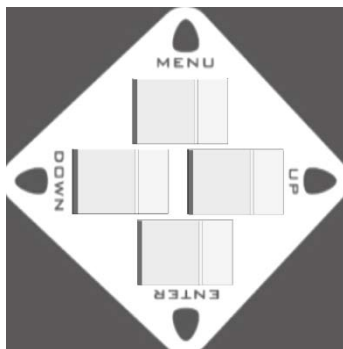
Model Name	PG-303K	
Technical		
Role of usage	Pattern generator	
SDI standards	12G/6G/3G/HD/SD-SDI	
Auto SDI rate detection	Yes	
Supported protocols	SMPTE 259M (270Mbps / 360Mbps) SMPTE 292M / HDTV (1.485 & 1.485/1.001Gbps) SMPTE 424/425M (2.97 & 2.97/1.001Gbps) SMPTE ST-2081 (5.94&5.94/1.001Gbps) SMPTE ST-2082 (11.88&11.88/1.001Gbps)	
Video bandwidth	11.88Gpbs	
Data rates	143 / 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	2x 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	150 x 190 x 32mm [5.9" x 7.5" x 1.3"]
	Package	175 x 270 x 100mm [6.9" x 10.6" x 3.9"]
	Carton	450 x 370 x 300mm [1'6" x 1'3" x 1']
Weight	Model	660g [1.5 lbs]
	Package	1260g [2.8 lbs]
Fixedness	Interlocking power supply	
Power supply	12V 2A DC	
Power consumption	8 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

Front/ Rear Panel



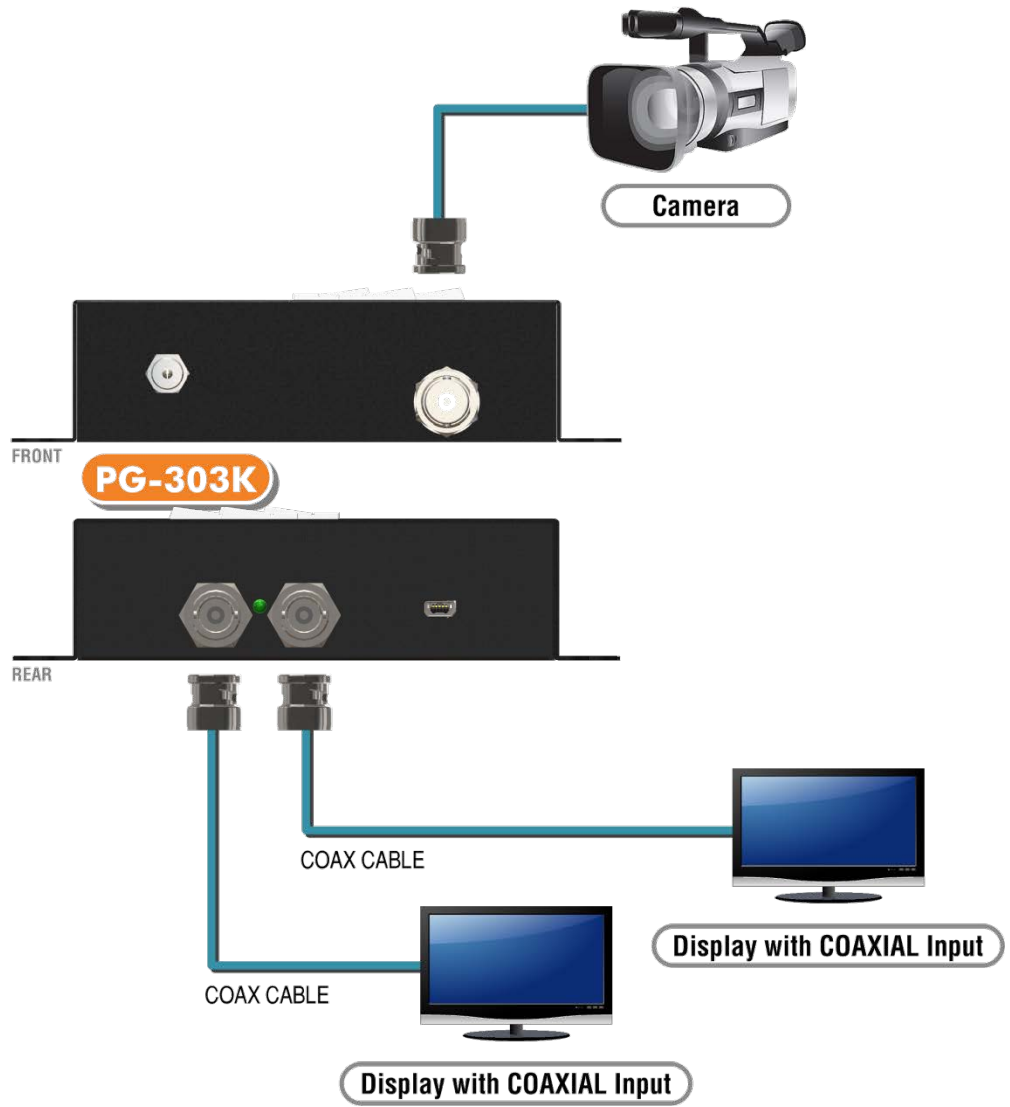
1. **POWER LED:** Power LED indicator
2. **SDI OUTPUT :** Connect to a SDI device for SDI signal output either from the chosen pattern or the SDI source signal
3. **Mini-USB:** F/W update
4. **+12V DC:** Connect to a 12V DC power supply unit
5. **SDI INPUT:** Connect to a SDI source
6. **PUSH BUTTON:**



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

CONNECTION DIAGRAM

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NOTICE

1. In HDMI bypass mode, users must be aware of that the jitters coming from HDMI sources, such as DVD players, may be much higher than typical requirement according to SMPTE request on HD-SDI signals. This will result in SDI output with high jitters or even no SDI outputs!
2. Due to the high frequency bandwidth and low jitter requirement of 3G-SDI signals, it is strongly recommended to use just one SDI OUTPUT with one 75 ohm.
3. 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!

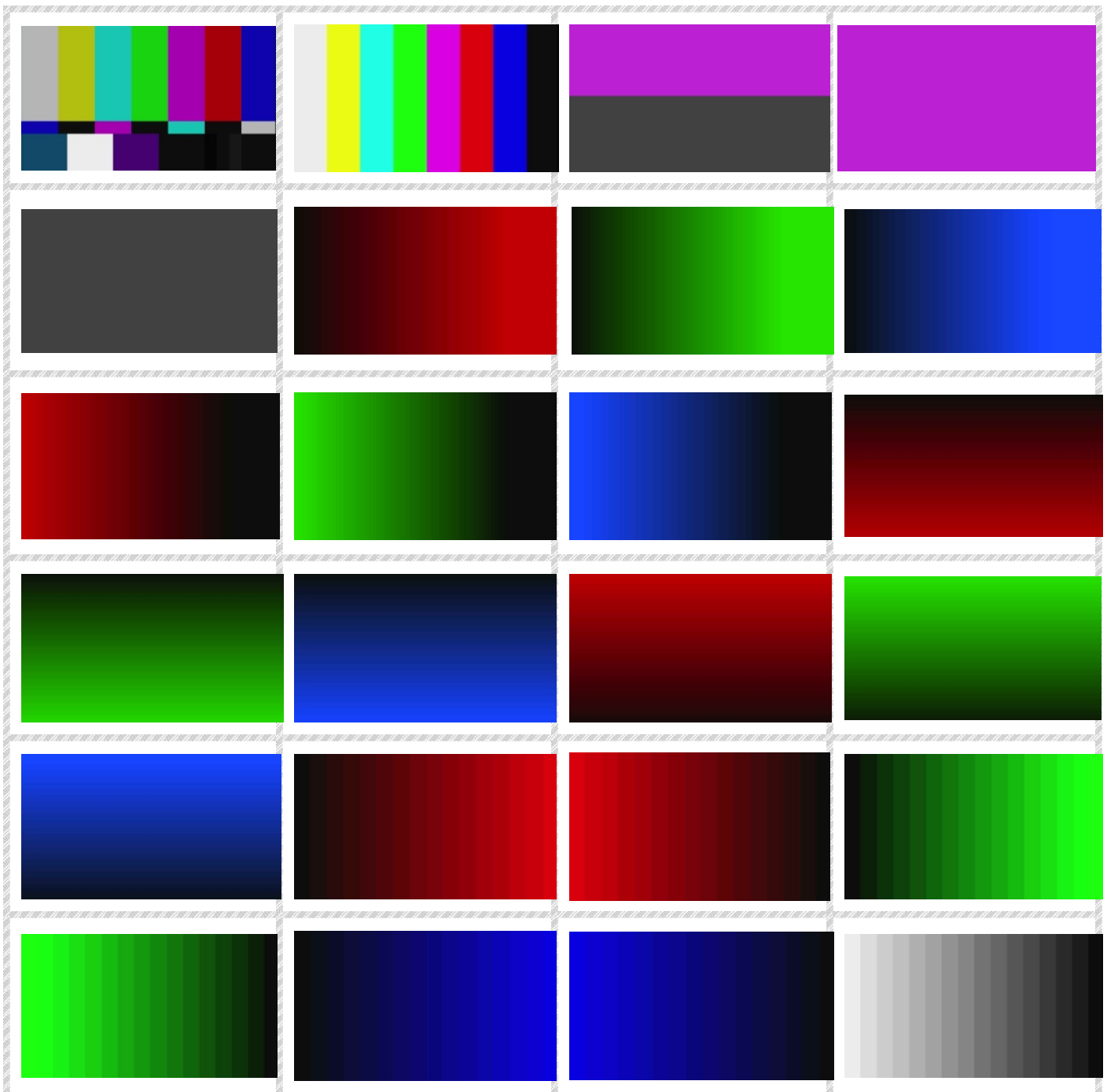
APPENDIX

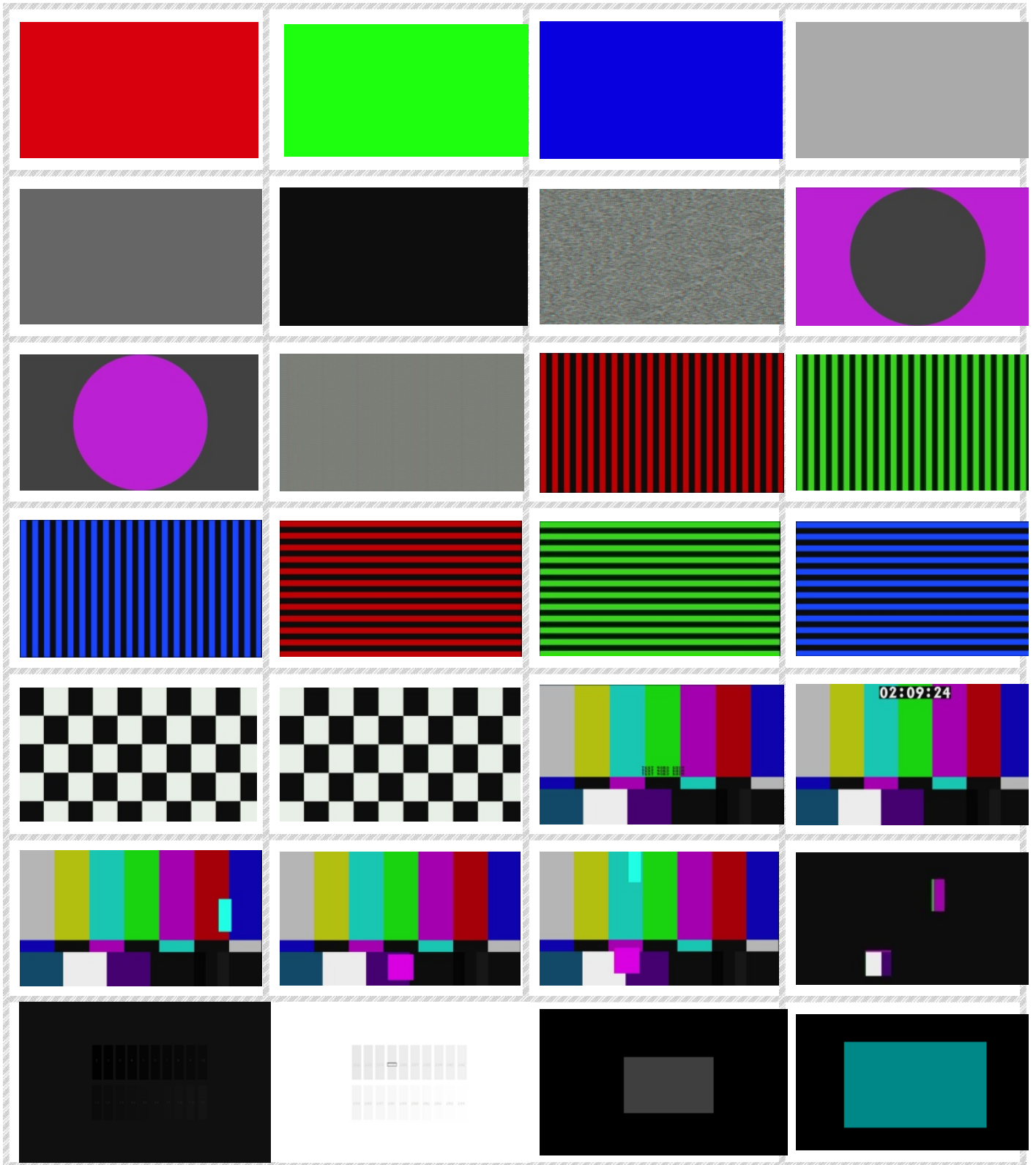
- Data Identification Word of Ancillary Data Packet

ANC Data	DID	SDID/DBN
352M	0x41	0x01
RP-165-EDH*	0xF4	0x00

* Data Type 1(SMPTE-291M)

- Built-in Video Patterns





WARRANTY

The SELLER warrants the **PG-303K12G/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-303K features and specifications is subject to change without further notice.**