

BG-SDITPG

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

User Manual





Safety and Notice

The **BG-SDITPG 12G/6G/3G/HD/SD-SDI Pattern Generator** has been tested for conformity to safety regulations/requirements and has been certified for international use. However, like all electronic equipment, the **BG-SDITPG** 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 away from 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 **BG-SDITPG 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. BG-SDITPG can support up to 8 channel AES compliant audio with 48KHz sample rate. BG-SDITPG 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

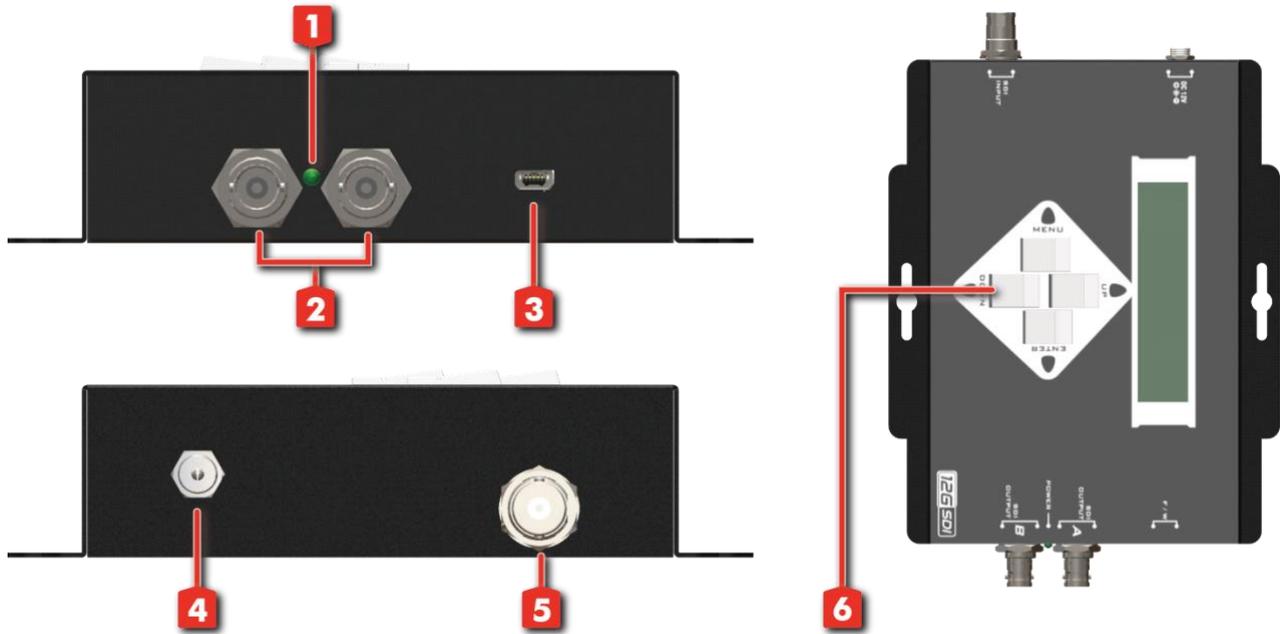
- 1x BG-SDITPG
- 1x 12V power supply unit
- 1x User Manual

SPECIFICATIONS

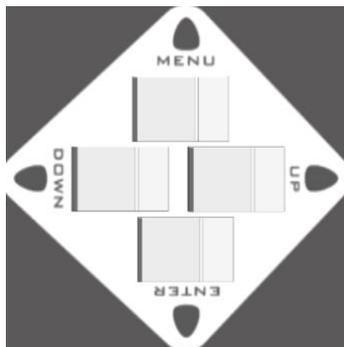
Model Name		BG-SDITPG
Technical		
Role of usage	Pattern generator	
SDI standards	12G/6G/3G/HD/SD-SDI	
Auto SDI rate detection	Yes	
Supported protocols	SMPTE 259M (270Mbps / 360Mbps) SMPTE 292M / HDTV (1.485 & 1.485/1.001Gbps) SMPTE 424/425M (2.97 & 2.97/1.001Gbps) SMPTE ST-2081 (5.94&5.94/1.001Gbps) 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	263 x 170 x 97mm [10.3" x 6.7" x 3.8"]
	Carton	512 x 364 x 288mm [1'7" x 1.2' x 11.3"]
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



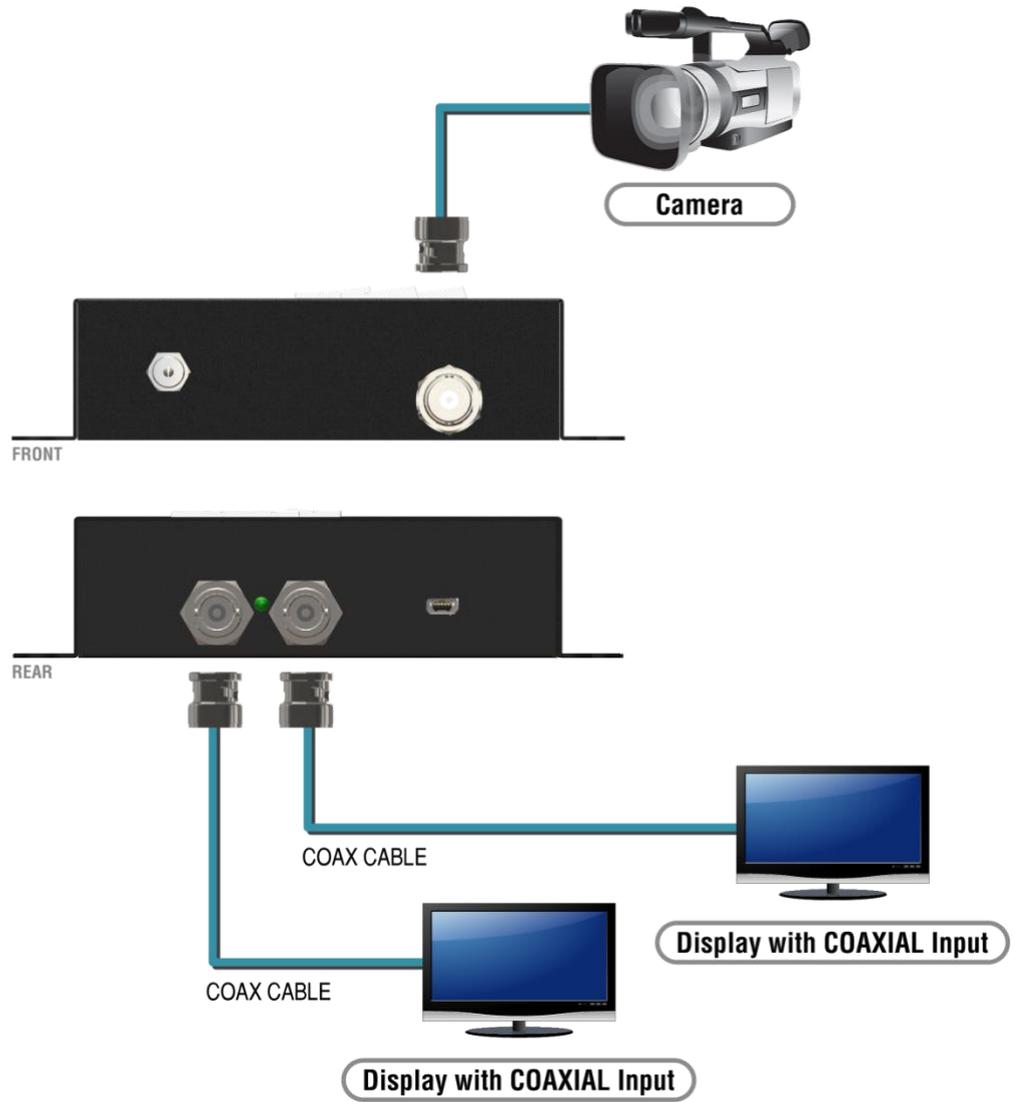
- 1. POWER LED:** Power LED indicator
- 2. SDI OUTPUT:** Connect to an SDI device for SDI signal output either from the chosen pattern or the SDI source signal
- 3. Mini-USB:** F/W update
- 4. +12V DC:** Connect to a 12V DC power supply unit
- 5. SDI INPUT:** Connect to an SDI source
- 6. PUSH BUTTON:**



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

→ COAXIAL



NOTICE

1. In HDMI bypass mode, users must be aware 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. Features including timings and patterns may change without notice after the firmware is updated!

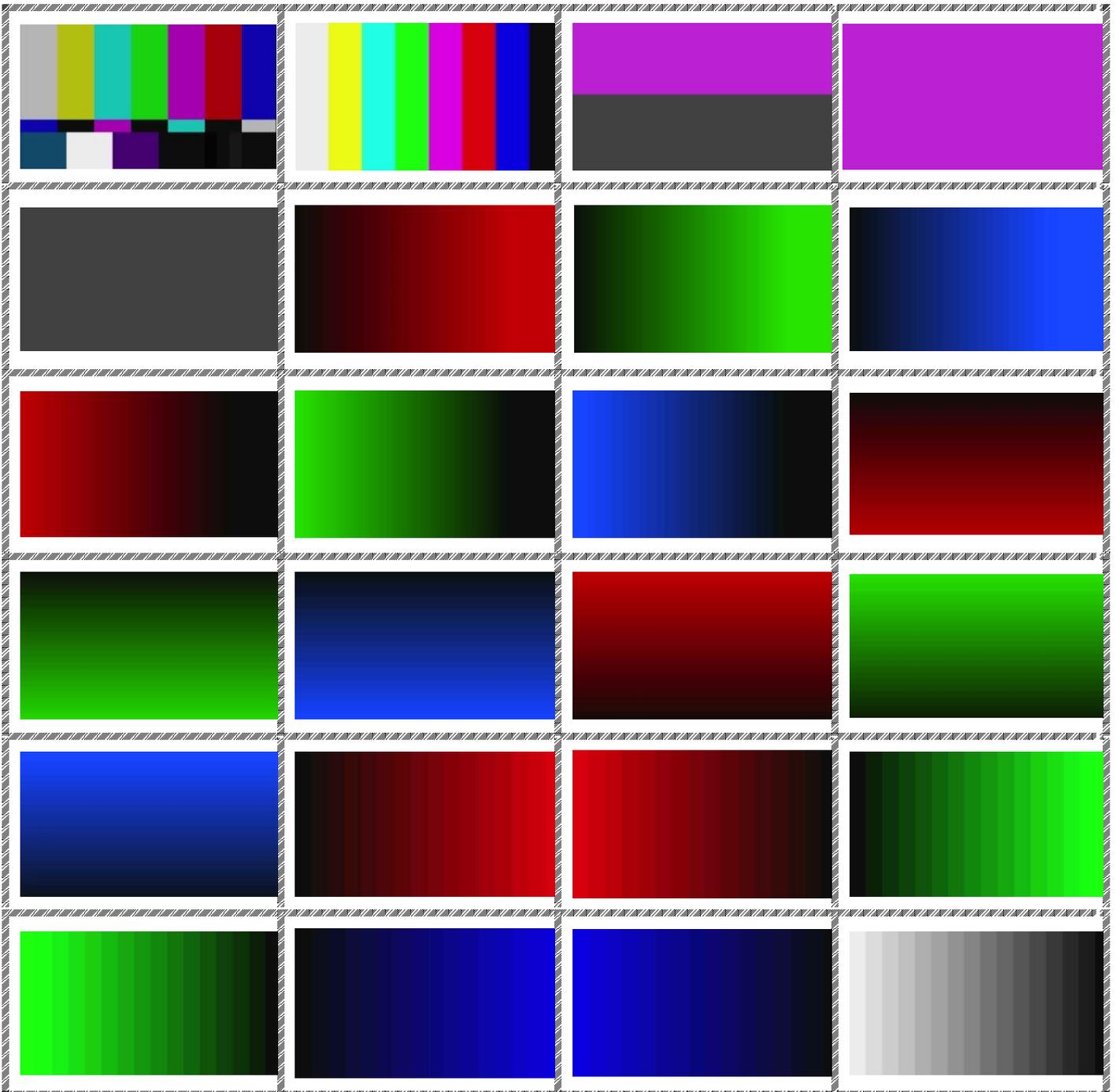
APPENDIX

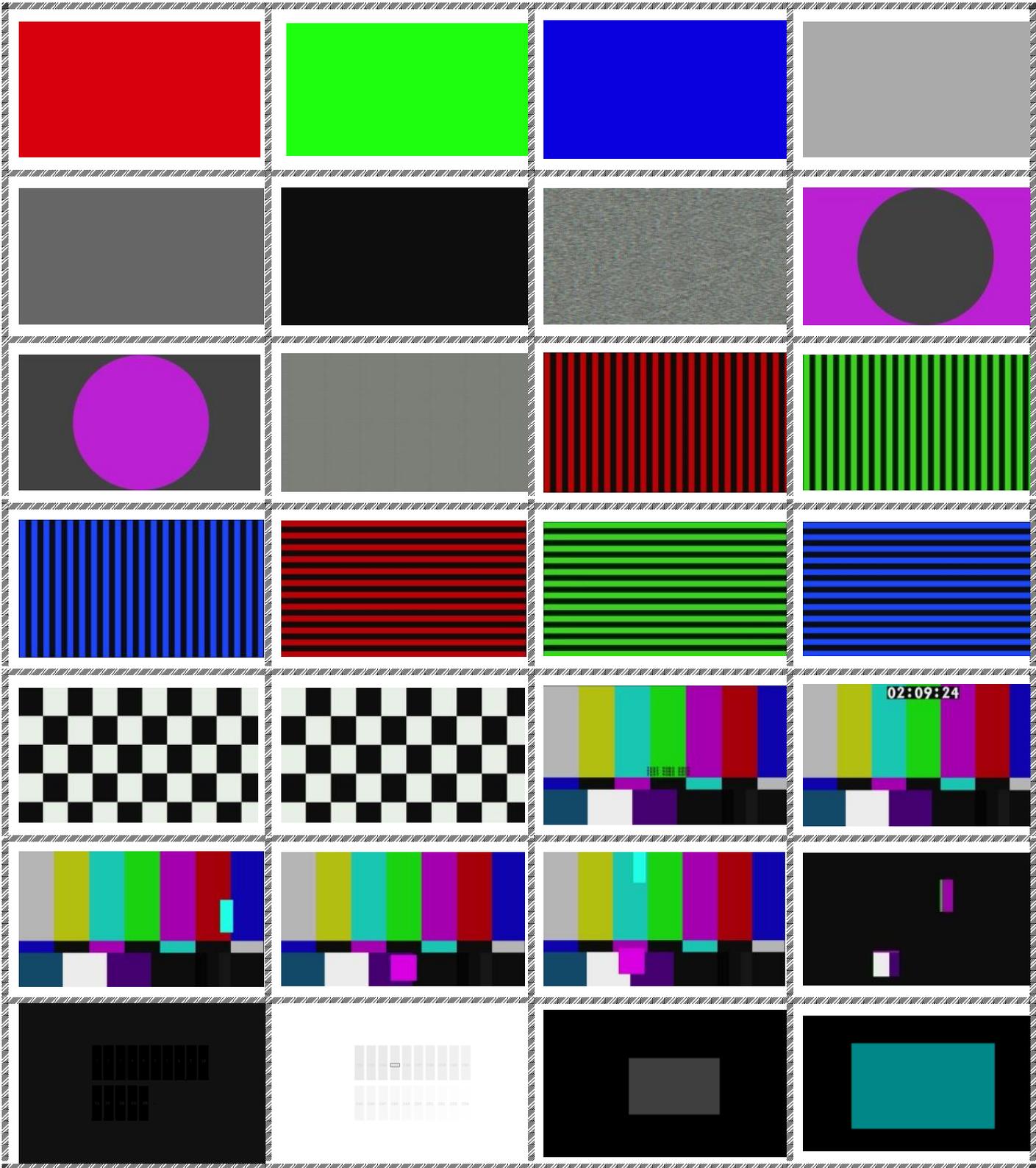
- Data Identification Word of Ancillary Data Packet

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

* Data Type 1(SMPTE-291M)

- Built-in Video Patterns





WARRANTY

BZBGear wants to assure you peace of mind. We're so confident in the quality of our products that along with the manufacturer's one-year limited warranty, we are offering free second-year warranty coverage upon registration*.

Taking advantage of this program is simple, just follow the steps below:

1. Register your product within 90 days of purchase by visiting BZBGear.com/warranty.
2. Complete the registration form. Provide all necessary proof of purchase details, including serial number and a copy of your sales receipt.

For questions, please call 1.888.499.9906 or email support@bzbgear.com.

For complete warranty information, please visit BZBGear.com/warranty or scan the QR code below.



*Terms and conditions apply. Registration is required.

MISSION STATEMENT

BZBGear manifests from the competitive nature of the audiovisual industry to innovate while keeping the customer in mind. AV solutions can cost a pretty penny, and new technology only adds to it. We believe everyone deserves to see, hear, and feel the advancements made in today's AV world without having to break the bank. BZBGear is the solution for small to medium-sized applications requiring the latest professional products in AV.

We live in a DIY era where resources are abundant on the internet. With that in mind, our team offers system design consultation and expert tech support seven days a week for the products in our BZBGear catalog. You'll notice comparably lower prices with BZBGear solutions, but the quality of the products is on par with the top brands in the industry. The unparalleled support from our team is our way of showing we care for every one of our customers. Whether you're an integrator, home theater enthusiast, or a do-it-yourselfer, BZBGear offers the solutions to allow you to focus on your project and not your budget.