



# 01S-AGS11

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

User Manual



rev: 260529  
Made in Taiwan

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## INTRODUCTION

The **01S-AGS11 12G/6G/3G/HD/SD-SDI Pattern Generator** is an advanced SDI pattern generator that offers support for multiple formats (12G/6G/3G/HD/SD) and various patterns. In addition to the classic still and moving video test patterns, the unit now includes a dynamic Circular Zone Plate (CZP) with selectable static phase or animated ring sweep, a smooth 0–255 luma Ramp, a redesigned Multi-Burst module, a Crosshatch convergence grid, an 8-step Gray Steps staircase, an auto-walking Sequence mode, and a fully-controllable Bounce Square overlay (independent colour, width, height, horizontal speed and vertical speed). Two selectable boot Splash logos let the customer pick the start-up branding. The unit also supports embedded SMPTE-291M audio (up to 8 channels of AES compliant audio at a 48 kHz sample rate), seven user-writable presets plus a scratch "Save Current" slot, and a USB-CDC virtual COM port that exposes the same control set as the front panel for host-application automation. It is equipped with four buttons, a rotary switch, an LCD screen for easy control, and a built-in rechargeable battery for extended operation. This device provides a cost-effective solution for calibrating and testing SDI-enabled 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  
Color depth: 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, Dynamic CZP (Circular Zone Plate (Mono + Color), animated or static phase), Smooth Luma Ramp, New Multi-Burst module, Crosshatch / Convergence Grid, 8-step Gray Steps Staircase, Auto-walk Sequence (cycles through patterns), Bounce Square overlay (selectable colour, size and H/V speed) (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 (7 user-writable slots + scratch "Save Current" slot)**
- **Boot Splash Screen Support**  
Two selectable boot splash images (Splash 1 / Splash 2) plus "None" to skip directly to the menu. Splash selection is persisted across power-cycles.
- **USB-CDC Remote Control**  
The micro-USB port enumerates as a virtual COM port (CDC) and accepts the full host-application VCmd command set: pattern & format select, audio overlay, timer / running text, dynamic CZP, bounce overlay,

presets, safe-area markers and version readback. See the separate PG-303MK Specification document for the wire-level command catalogue.

- Battery powered for portability, it can extend operation time with a full load up to 20 hours
- Designed with a rechargeable battery, the charging time is about 4 hours<sup>2</sup>



1. Before using the PG-303MKB, please plug in the power adapter to switch off the shipping mode.
2. The device takes approximately 4 hours to fully charge when it is powered off. Charging time will be longer if the device is in use.

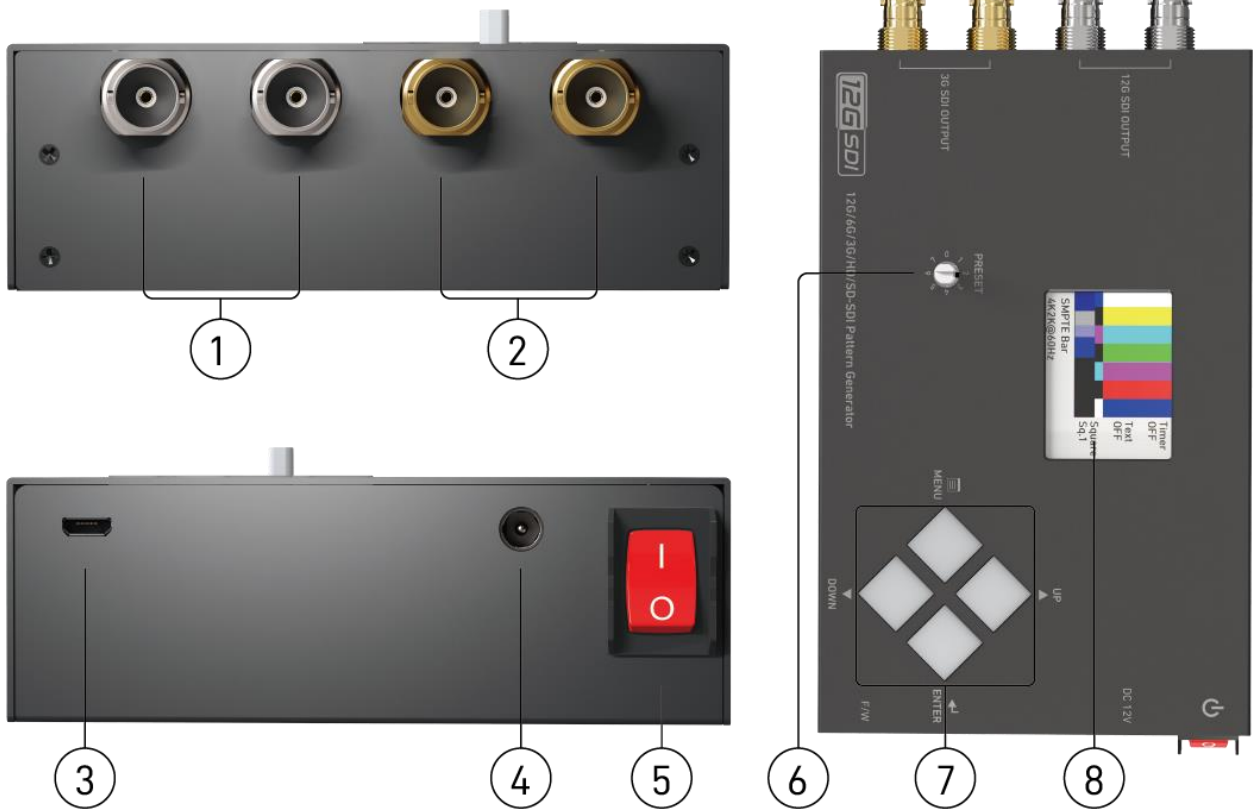
## PACKAGE CONTENTS

- 1x 01S-AGS11
- 1x 12V power supply unit
- 1x User Manual

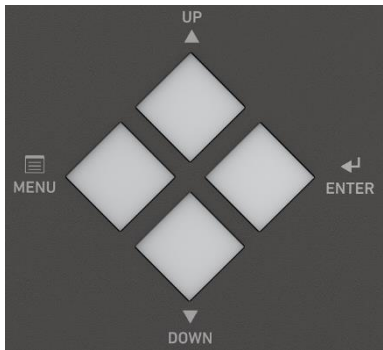
# SPECIFICATIONS

Model Name		O1S-AGS11
<b>Technical</b>		
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		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
<b>Mechanical</b>		
Housing		Metal enclosure
Dimensions [L x W x H]	Model	170 x 106 x 36mm[6.7" x 4.2" x 1.4"]
	Package	264 x 170 x 77mm[10.3" x 6.7" x 3"]
	Carton	430 x 358 x 291mm[1'4" x 1'2" x 11.5"]
Weight	Model	1149g [2.5 lbs]
	Package	1355g [3 lbs]
Power supply		12VDC
Power consumption		35 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



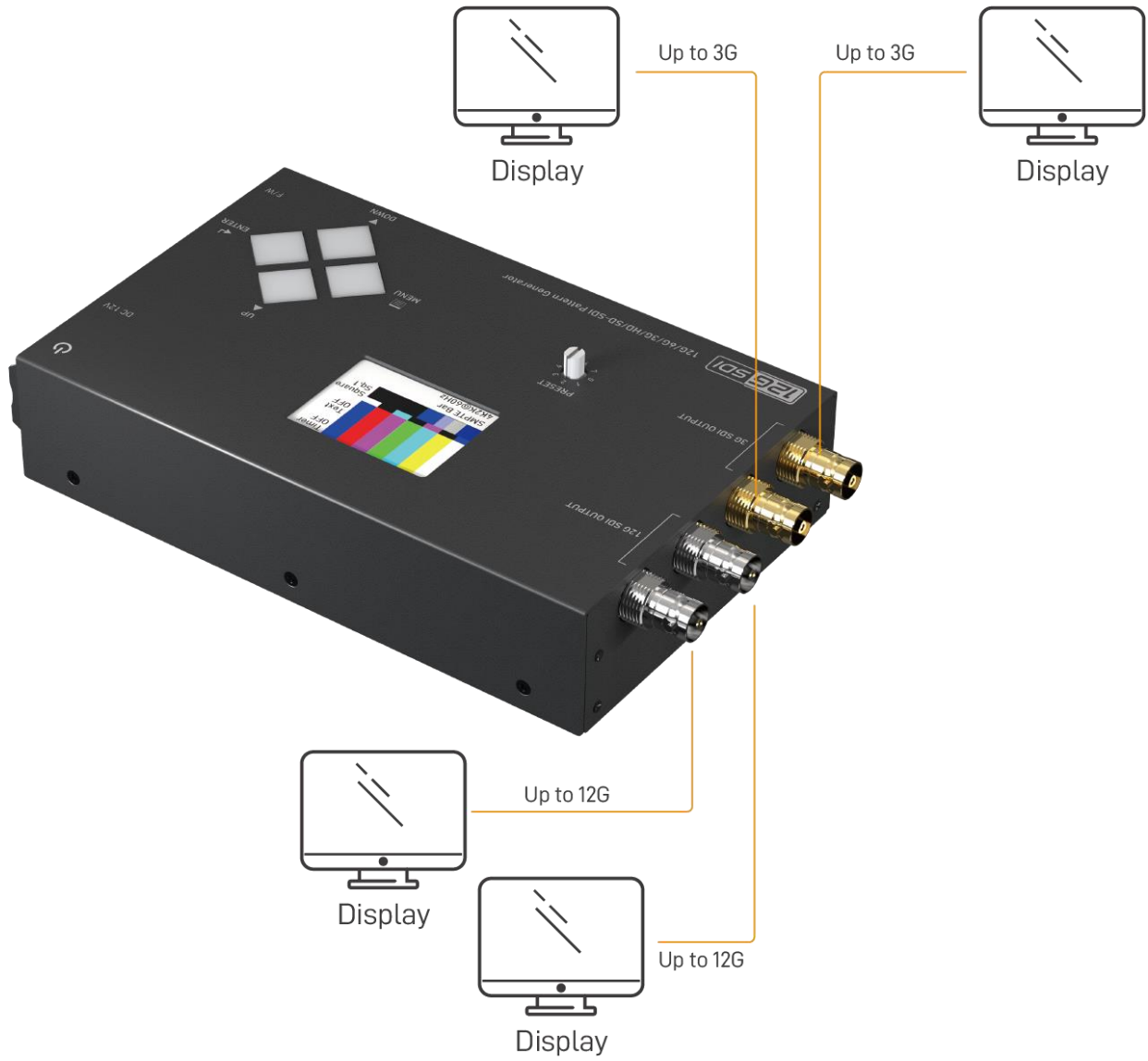
- 1. **SDI OUT1-2:** 12G/6G/3G/HD/SD-SDI output
- 2. **SDI OUT3-4:** 3G/HD/SD-SDI output
- 3. **Micro USB:** Micro-USB port for F/W update
- 4. **+12V DC:** 12V DC power jack
- 5. **Power Switch:** Power ON/OFF
- 6. **Rotary Switch:** for 0-7 preset mode
- 7. **PUSH BUTTON:**



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. **LCD:** 2.0" LCD monitor

# CONNECTION DIAGRAM



## 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 be added without notice after the firmware is updated! This may affect the menu items, but will keep the same framework for users!

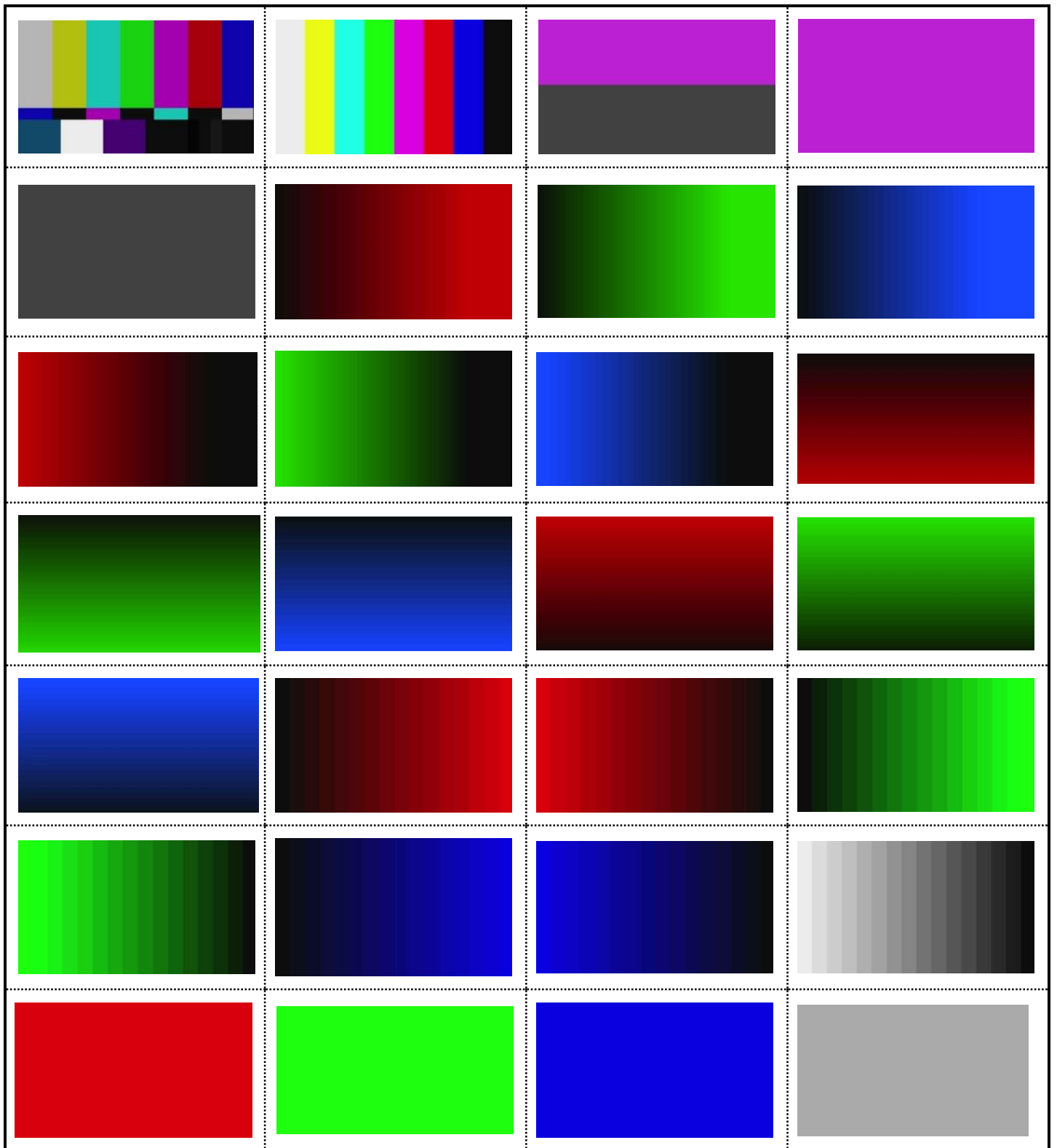
# OSD MENU

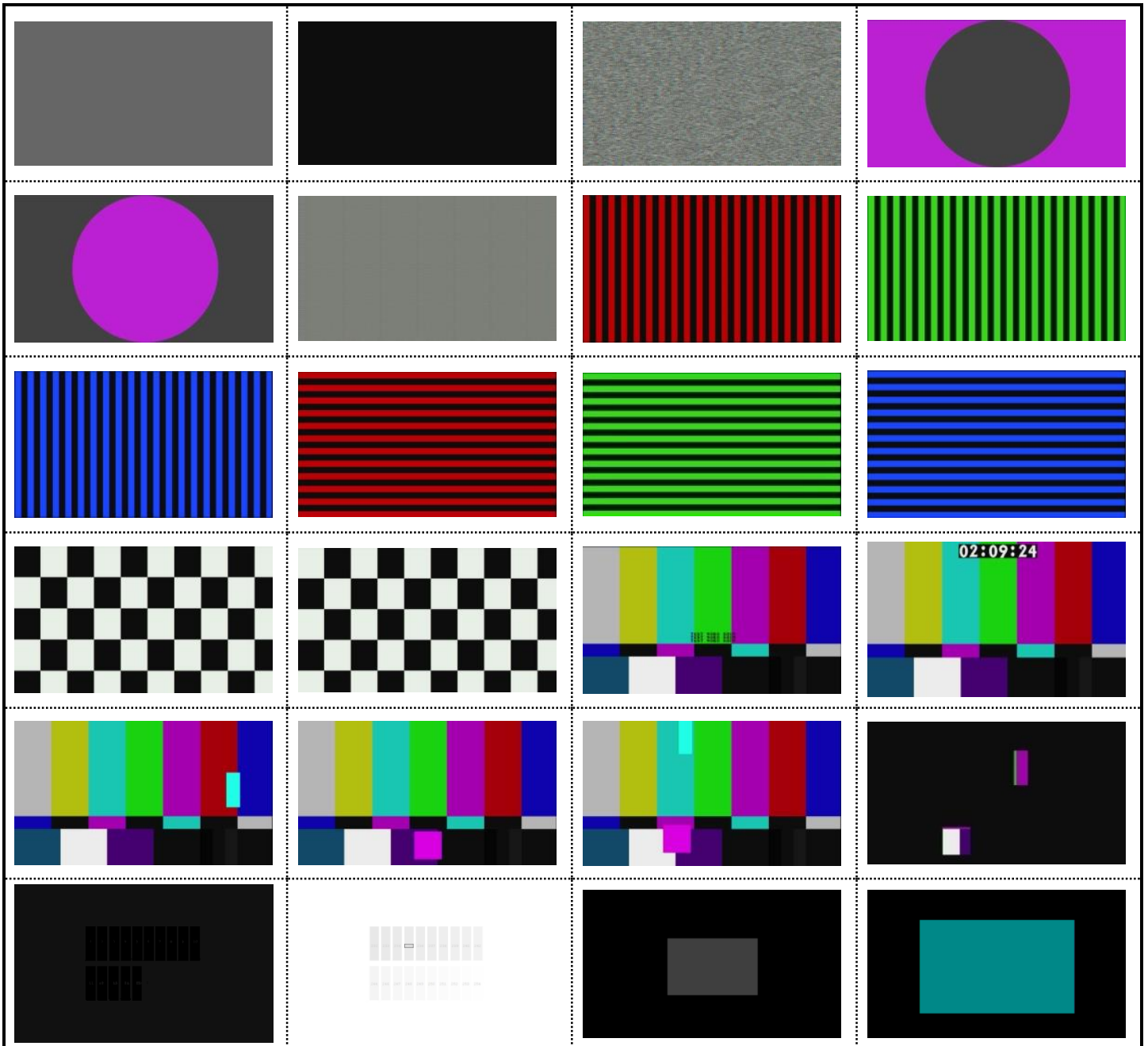
Menu	Item	Remark
1. Output	Resolution Frequency Data Filter	NTSC, PAL, 720p, 1080i, 1080p, 4K2K 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 ON, OFF
2. Video	Pattern  Text Timer	SMPTE Bar, 100 Color Bar, 75 Color Bar, Check Field, EQ, PLL, H Ramp B→R, H Ramp B→G, H Ramp B→B, H Ramp R→B, H Ramp G→B, H Ramp B→B, V Ramp B→R, V Ramp B→G, V Ramp B→B, V Ramp R→B, V Ramp G→B, V Ramp B→B, H Stair B→R, H Stair R→B, H Stair B→G, H Stair G→B, H Stair B→B, H Stair B→W, H Stair W→B, 100 Red, 100 Green, 100 Blue, 100 White, 70 Gray, 40 Gray, Black, Noise, Circle 1, Circle 2, Moire, V Stripe R, V Stripe G, V Stripe B, H Stripe R, H Stripe G, H Stripe B, Chess 1, Chess 2, Black Level, White Level, Multi-Burst, CZP (Dynamic / Static, animated rings), Ramp (smooth 0-255 luma), Multi-Burst (new module), Crosshatch (convergence grid), Gray Steps (8-step staircase), Sequence (auto-walk through patterns) White, Black, Gray, OFF W/B, B/W, OFF
3. Audio	Mute Group Level Mask	Mute, Unmute 1+2, 3+4 Random, Silence, -42dB, -36dB, -30dB, -24dB, -18dB, -12dB, -6dB, 0dB OFF, CH1, CH2, CH3, CH4, CH1+2, CH3+4, CH1+2+3+4
4. Motion	Square Speed	OFF, Square 1, Square 2, 2 Squares, Inverse 1-8

	Bounce	OFF, Red, Green, Blue, Yellow, Cyan, Magenta
	Bounce Size	Width: Smallest, Small, Medium, Large, Largest / Height: Smallest, Small, Medium, Large, Largest
	Bounce Speed	Horizontal: Slowest, Slow, Medium, Fast, Fastest / Vertical: Slowest, Slow, Medium, Fast, Fastest (independent H / V)
	CZP Mode	Static, Animated (only meaningful when Pattern = CZP)
	CZP Speed	Fastest (1 step / frame) ... Slowest (~9 min / cycle), continuous range while Animated
	CZP Phase	0 ... 255 (used as static phase offset when CZP Mode = Static)
5. System	Preset	Save to 1-7
	Factory Reset	Yes, No
	Version	Core & SW Version information
	Power Shipping Mode	Yes, No
	Splash	None, Splash 1, Splash 2 (boot logo selectable; takes effect at next power-on)
	Save Current	Snapshot live state into scratch slot 0 (next boot loads from slot 0); Clear (next boot loads from rotary)

# APPENDIX

- Built-in Video Patterns





\*\* Subject to change without notification

### 1. Pattern Name Reference (LCD display order)

The following list mirrors the pattern indicator shown on the front-panel LCD. Codes match those accepted by the USB-CDC SET\_PATTERN command (see PG-303MK Specification).

Index	Code	Pattern Name (as shown on the LCD)
1	0x00	SMPTE Bar
2	0x01	100% Color Bar
3	0x02	75% Color Bar
4	0x03	CheckField 1
5	0x04	EQ (CheckField 2)
6	0x05	PLL (CheckField 3)
7	0x06	Gradient H: Black $\square$ Red

Index	Code	Pattern Name (as shown on the LCD)
8	0x07	Gradient H: Black □ Green
9	0x08	Gradient H: Black □ Blue
10	0x09	Gradient H: Red □ Black
11	0x0A	Gradient H: Green □ Black
12	0x0B	Gradient H: Blue □ Black
13	0x0C	Gradient V: Black □ Red
14	0x0D	Gradient V: Black □ Green
15	0x0E	Gradient V: Black □ Blue
16	0x0F	Gradient V: Red □ Black
17	0x10	Gradient V: Green □ Black
18	0x11	Gradient V: Blue □ Black
19	0x12	Red Level: Black □ Red
20	0x13	Red Level: Red □ Black
21	0x14	Green Level: Black □ Green
22	0x15	Green Level: Green □ Black
23	0x16	Blue Level: Black □ Blue
24	0x17	Blue Level: Blue □ Black
25	0x18	Gray Level: Black □ White
26	0x19	Gray Level: White □ Black
27	0x1A	100% Red (flat field)
28	0x1B	100% Green (flat field)
29	0x1C	100% Blue (flat field)
30	0x1D	100% White (flat field)
31	0x1E	70% Gray
32	0x1F	40% Gray
33	0x20	Black
34	0x21	Noise
35	0x22	Circle 1
36	0x23	Circle 2
37	0x24	Moiré
38	0x25	Vertical Stripe Red
39	0x26	Vertical Stripe Green
40	0x27	Vertical Stripe Blue
41	0x28	Horizontal Stripe Red

<b>Index</b>	<b>Code</b>	<b>Pattern Name (as shown on the LCD)</b>
42	0x29	Horizontal Stripe Green
43	0x2A	Horizontal Stripe Blue
44	0x2B	Chess 1
45	0x2C	Chess 2
46	0x2D	Black Level
47	0x2E	White Level
48	0x2F	Multi-Burst
49	0x30	CZP — Circular Zone Plate (animated, dynamic phase)
50	0x31	Ramp — smooth 0–255 luma ramp
51	0x32	Multi-Burst (new module)
52	0x33	Crosshatch — convergence grid
53	0x34	Gray Steps — 8-step staircase
54	0x35	CZP Color — Rainbow Zone Plate (animated, V1.04+)
55	0x36	Sequence — auto-walk through patterns

## WARRANTY

The SELLER warrants the **01S-AGS11 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 01S-AGS11 features and specifications is subject to change without further notice.**