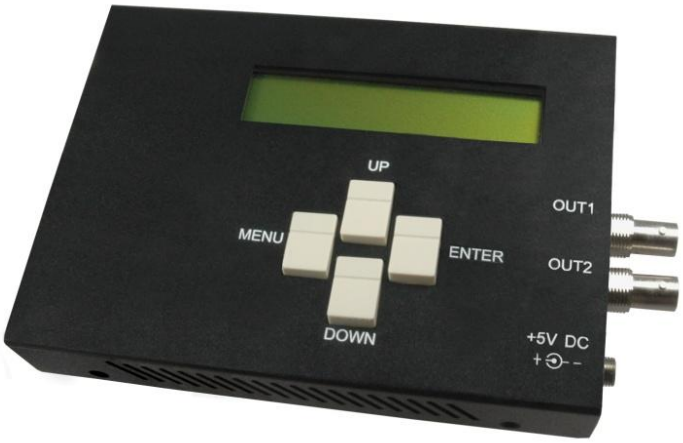
HD/SD-SDI Pattern Generator

User Guide



Models

PG-HDSDI

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Section 1: Getting Started

1.1 Important Safeguards

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
    - Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
    - Repair or attempted repair by anyone not authorized by us.
    - Any damage of the product due to shipment.
    - Removal or installation of the product.
    - Causes external to the product, such as electric power fluctuation or failure.
    - Use of supplies or parts not meeting our specifications.
    - Normal wear and tear.
    - Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

1.2 Safety Instructions

The Avenview PG-HDSDI, 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 HDMI-C5SP-4 should be used with care. Read the following safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Do not dismantle the housing or modify the module.
- Dismantling the housing or modifying the module may result in electrical shock or burn.
- Refer all servicing to qualified service personnel.
- Do not attempt to service this product yourself as opening or removing housing may expose you to dangerous voltage or other hazards
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Have the module checked by a qualified service engineer before using it again.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

1.3 Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

1.4 Introduction

The Avenview PG-HDSDI is an advanced SDI pattern generator with multi-format (HD/SD) and multi-pattern support. Besides still and moving video test patterns, other features such as Closed Caption (CC) (EIA-608) and VANC (SMPTE-334M) are also provided. With portable size, PG-HDSDI is equipped 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.

- Supported output resolution
    - NTSC 525@60, PAL 625@50, 720p@23.98, 720p@24, 720p@25, 720@29.94, 720p@30, 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
    - Bit Rate: 1.485 Gbps, 1.4835 Gbps, 270Mbps
    - Resolution: 10bitHDCP compliant
- 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 Acts as 2X1 HDMI Switch and 1X4 HDMI over CAT5 Splitter
- Save settings to memory option
- ANC Data: EDH (RP-165), SMPTE 352M, SMPTE 334M, EIA-608, SMPTE-12M
- Control: LCM & Panel Buttons
- Video Output: Dual SDI Ouput

1.5 Package Contents

Before you start the installation of the converter, please check the package contents.

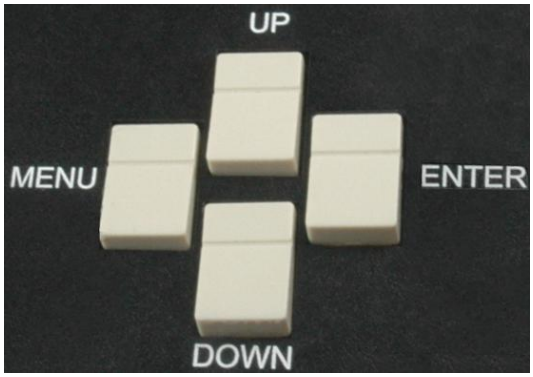
- PG-HDSDI x 1
- Power Adapter (+5VDC) x 1
- User's Manual x 1

1.6 Before Installation

- Put the product in an even and stable location. If the product falls down or drops, it may cause an injury or malfunction.
- Don’t place the product in too high temperature (over 50°C), too low temperature (under 0°C) or high humidity.
- Use the DC power adapter with correct specifications. If inappropriate power supply is used then it may cause a fire.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.

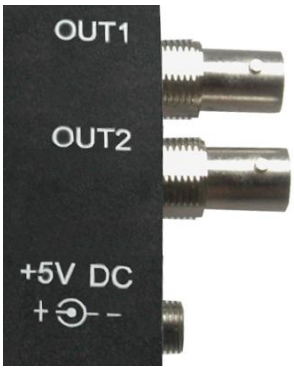
1.7 Panel Description

1.7.1 Top Panel



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

1.7.2 Front Panel



Connector	Function
OUT1, OUT2	HD/SD SDI Output
+5V DC	5V Power Input

1.8 Menu Operation

Menu	Items	
01 Format	Resolution	NTSC
		PAL
		720p
		1080p
		1080i
	Frequency	60
		59.94
		50
		30
		29.97
		25
		24
		23.98
	Output	YCbCr 422
02 Video	Patterns	SMPTE Bar
		100% Bar
		Check Field 1
		Check Field 2

		Check Field 3
		Gradient R1
		Gradient G1
		Gradient B1
		Gradient R2
		Gradient G2
		Gradient B2
		Gradient R3
		Gradient G3
		Gradient B3
		Gradient R4
		Gradient G4
		Gradient B4
		Red Level 1
		Red Level 2
		Green Level 1
		Green Level 2
		Blue Level 1
		Blue Level 2
		100% Red
		100% Green
		100% Blue
		100% While
		70% Gray
		40% Gray

		Black
		Noise
		Circle 1
		Circle 2
		Moire
		H Stripe R
		H Stripe G
		H Stripe B
		V Stripe R
		V Stripe G
		V Stripe B
		Chess 1
		Chess 2
		Sequence
	Text	Off
		On-White
		On-Black
	Timer	Off
		On-W/B
		On-B/W
03 Audio	Not available in this model	
04 Motion	Motion	No Motion
		Square 1
		Square 2
		2 Squares

		Square Inv
	Speed	1
		2
		3
		4
		5
		6
		7
		8
05 ANC Data	CC	Off
		On
	Time Code	Off
		On
	VANC	Off
		On
	SMPTE-352M	Off
		On
	EDH	On
06 System	Status	No Change
		Factory
		Now Save
	Version	V1.00

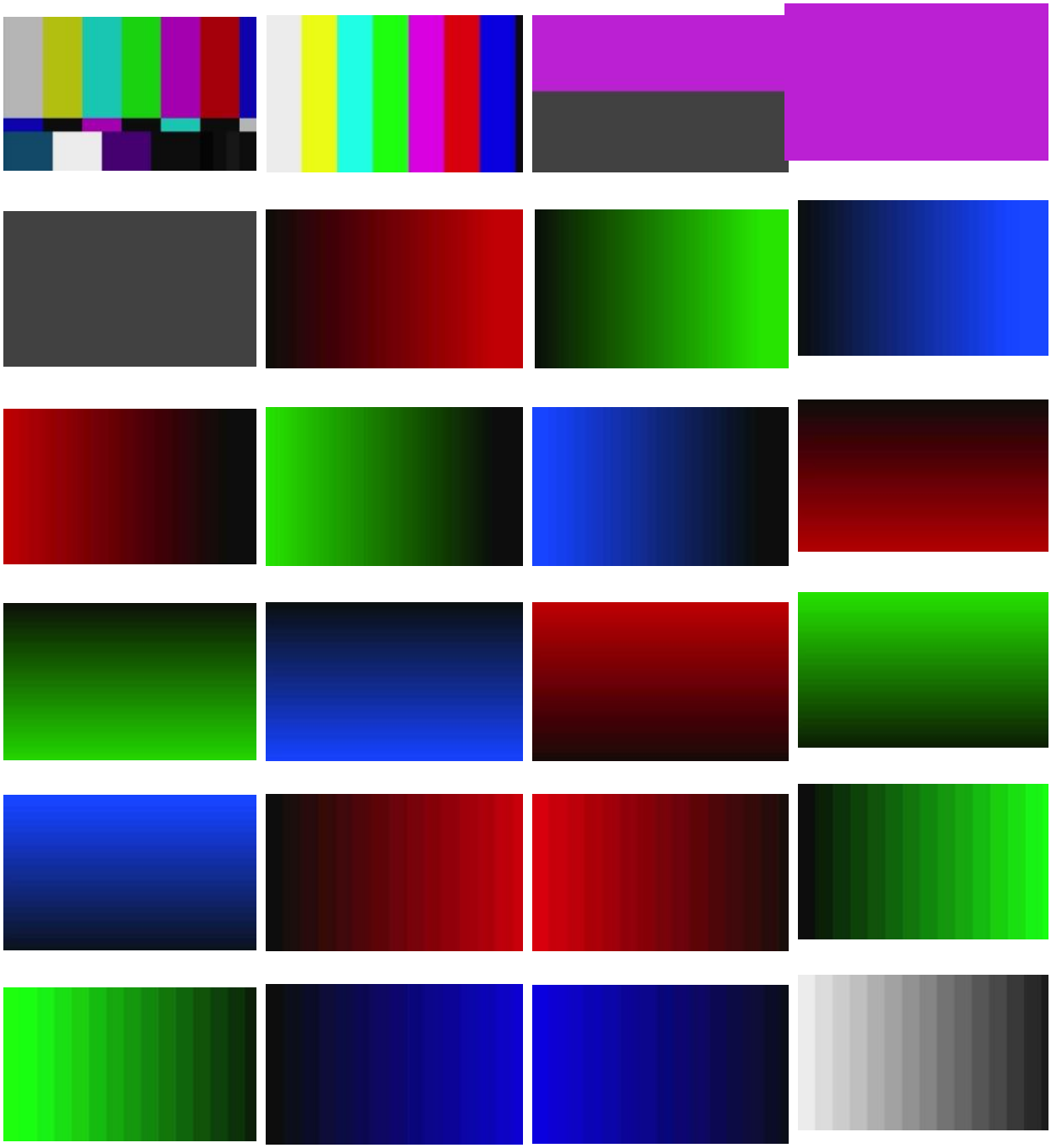
1.9 Appendix

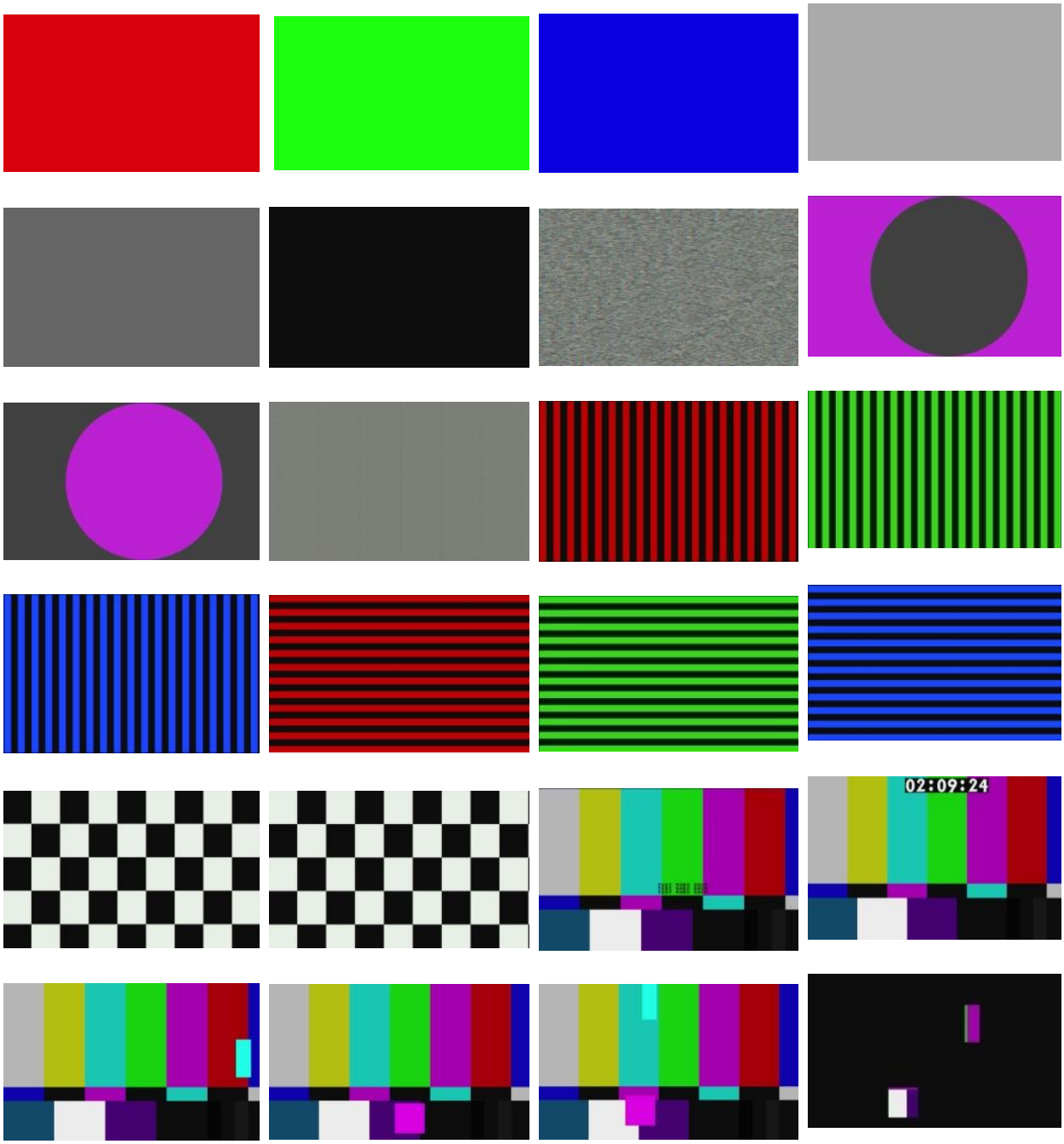
Data Identification Word of Ancillary Data Packet

ANC Data	DID	SDID/DBN
334M-CC	0x61	0x02
334M-VANC	0x5F	0xFA
12M-TC	0x60	0x60
352M	0x41	0x01
RP-165-EDH*	0xF4	0x00

* Data Type 1(SMPTE-291M)

Build-n Video Patterns

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Section 2: Specifications

Item	Description
Units	PG-HDSDI
Unit Description	HD/SD-SDI Pattern Generator
SDI Standards	SD-SDI & HD-SDI
Auto HD/SD-SDI Detection	Yes
Supported Protocols	SMPTE 259M (270Mbps / 360Mpbs), DVB ASI (270Mbps) SMPTE 292M / HDTV (1.485Gbps and 1.485/1.001Gbps)
Video Bandwidth	1.485Gpbs & 1.485/1.001Gbps
Data Rates	143 / 270 / 1483 / 1485 Mbps
Video Support	**HD:** 720p50/59.94/60, 1035i50/59.94/60, 1080i50/59.94/60, 1080p24/30 **SD:** NTSC@59.94Hz, PAL@50Hz
SDI Signal Type	SMPTE-292M, SMPTE-259M, DVB-ASI
Output Impedance	75Ω
Cable (Belden 1294A) Equalization / Transmission	HD-SDI up to 150m (500ft) SD-SDI up to 300m (1000ft)
Audio Support	No
Output	BNC x 2 (SDI)
BNC Connector	75Ω interlocking socket
Eye Pattern Characteristics	Amplitude: Within 800mV ±3% (<10%) Rise overshoot: Less than 2% (<10%) Fall overshoot: Less than 2% (<10%) Long time jitter: 0.195µ (<1.0µ) Timing jitter: 0.195µ (<1.0µ) Alignment jitter: 0.127µ (<0.2µ)
Dimensions (L x W x H)	6.3” x 4.3” x 0.8”
Power Supply	5V 4A DC
Power Consumption	10 Watt (max)

Environmental

Operating Temperature	32˚ ~ 104˚F (0˚ to 40˚C)
Storage Temperature	-4˚ ~ 140˚F (-20˚ ~ 60˚C)
Relative Humidity	20~90% RH (no condensation)

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