

# QUESTTEL

Broadcast Systems

# 3G/HD/SD-SDI Mini Pattern Generator User Manual 1B-SDI-MN-PTG



## Contents

<b>CHAPTER 1. INTRODUCTION .....</b>	<b>2</b>
1.1 OVERVIEW .....	2
1.2 FEATURE .....	2
1.3 APPLICATION.....	2
<b>CHAPTER 2. PANEL DESCRIPTION .....</b>	<b>3</b>
<b>CHAPTER 3. TECHNICAL SPECIFICATION .....</b>	<b>4</b>
<b>CHAPTER 4. DEVICE DIMENSION .....</b>	<b>5</b>

## Chapter 1. Introduction

### 1.1 Overview

### 1.2 Feature

- Comply with SMPTE-424M 3G-SDI, SMPTE-292M HD-SDI and SMPTE-259M SD-SDI standard, supports 2970Mb/s, 1485Mb/s and 270Mb/s
- Support NTSC and PAL, which can be switched by button on the front panel
- Support the most popular SDI format, which can be switched by button on the front panel
- Support 1080P@59.94/29.97, 1080I@59.94, 720P@59.94, 525I@59.95 format of NTSC
- Support 1080P@60/30, 1080I@60, 720P@60, 625I@50 format of PAL
- Support embedded 8 channel audio signal of 1 KHz sine wave
- Support NTSC/PAL and SDI format indicator led on the front panel

### 1.3 Application

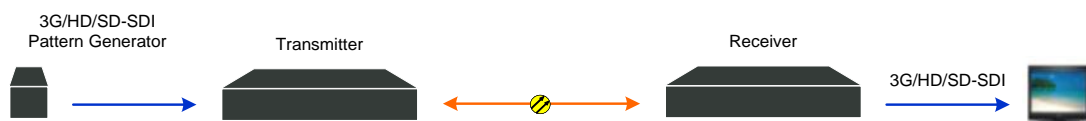


Figure1-3-1 Application Diagram

## Chapter 2. Panel Description

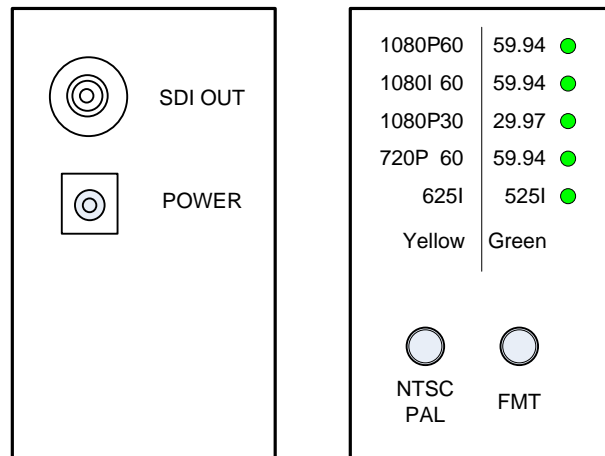
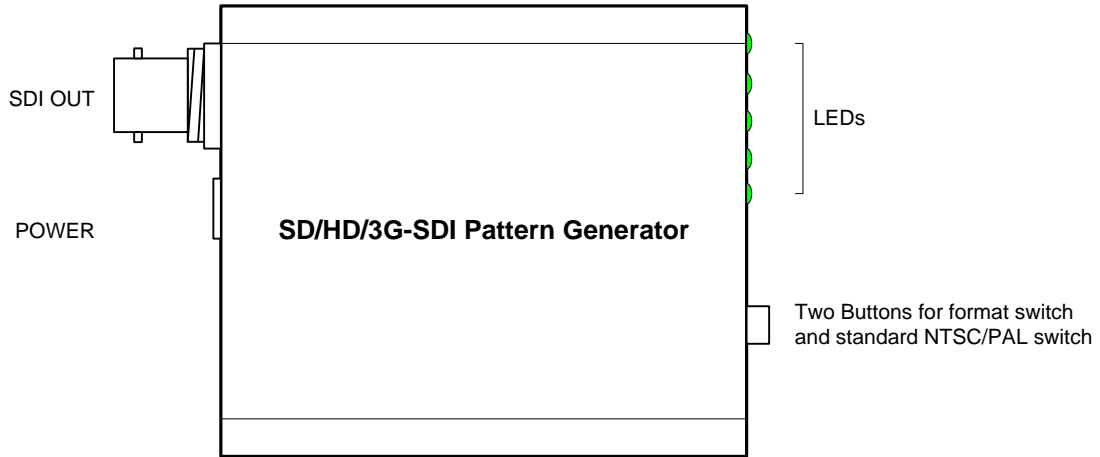


Figure 2-1 Panel View

Table 2-1 Interfaces on the Panel

Name	Description
SDI OUT	SD/HD/3G-SDI signal output
POWER	DC12V power supply input
NTSC/PAL Switch	NTSC/PAL switch button, switch on every push
Format Switch	SDI format switch button, switch on every push For NTSC: 525I@59.94-> 720P@59.94-> 1080P@29.97-> 1080I@59.94-> 1080P@59.94, push again and switch back to 525I@59.94

	<p>For PAL:          625I@50-&gt;          720P@60-&gt;          1080P@30-&gt;          1080I@60-&gt;          1080P@60, push again and switch back to 625I@50</p>
LED	<p>SDI format indicator led, green/yellow          Green indicates NTSC, yellow indicates PAL</p>

### Chapter 3. Technical Specification

Table 3-1 Technical Specification

Item	Typical value
<b>SD/HD/3G-SDI</b>	
Connector	BNC
Bit rate	2970Mb/s, 1485Mb/s and 270Mb/s
Impedance	75Ω
Return loss	>15dB
Output level	800mVp-p ± 10%
Rise and fall time (3G-SDI)	≤135ps
Rise and fall time (HD-SDI)	≤270ps
Rise and fall time (SD-SDI)	≤1.50ns
SD-SDI Alignment jitter (1KHz)	≤0.2UI
SD-SDI Timing jitter (10Hz)	≤0.2UI
HD-SDI Alignment jitter (100KHz)	≤0.2UI
HD-SDI Timing jitter (10Hz)	≤1.0UI
3G-SDI Alignment jitter (100KHz)	≤0.3UI
3G-SDI Timing jitter (10Hz)	≤2.0UI
Standard	Comply to SMPTE-424M 3G-SDI, SMPTE-292M HD-SDI and SMPTE-259M SD-SDI standard
<b>Embedded Audio</b>	
Wave	1 KHz sine wave
Quantization grade	24 bits
Sample frequency	48KHz
<b>Dimension</b>	
Dimension	93.0mmx46.2mmx29.6mm

## Chapter 4. Device Dimension

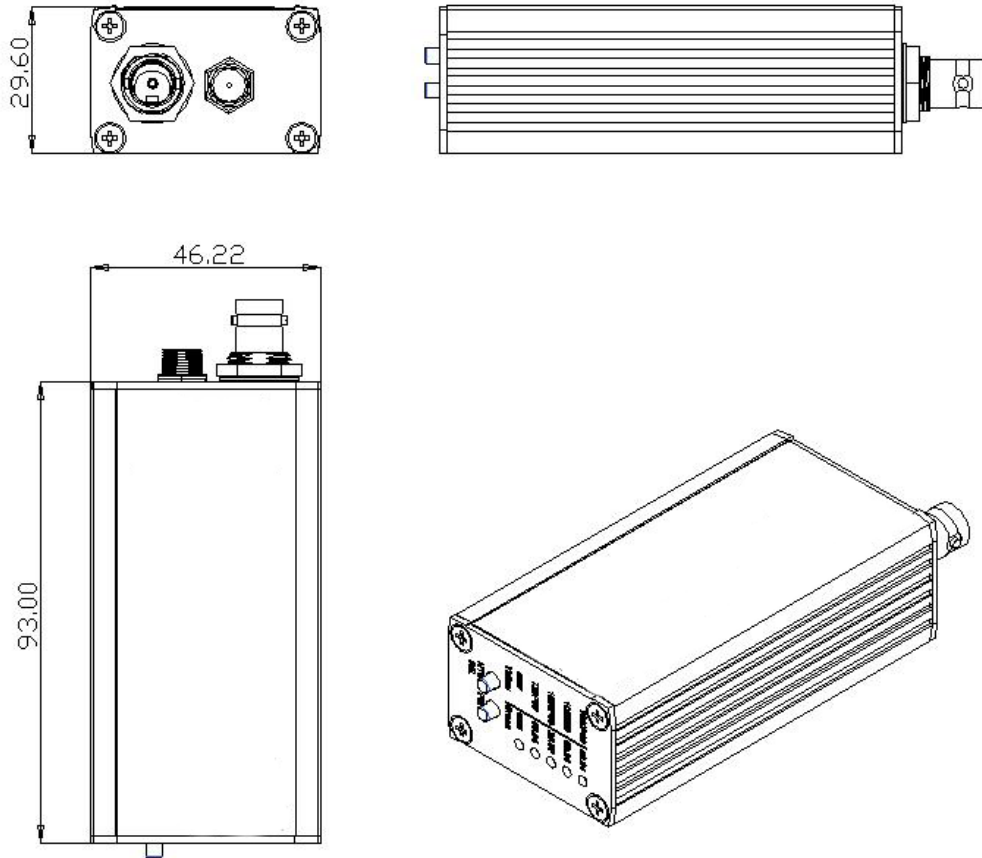


Figure 4-1 Device dimension(unit: mm)

Read before operating equipment.

1. **Cleaning** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
2. **Power Sources** - Use supplied or equivalent UL/CSA approved low voltage DC plug-in transformer.
3. **Outdoor Antenna Grounding** - If you connect an outside antenna or cable system to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
4. **Lightning** - Avoid installation or reconfiguration of wiring during lightning activity.
5. **Power Lines** - Do not locate an outside antenna system near overhead power lines or other electric light or power circuits or where it can fall into such power lines or circuits. When installing an outside antenna system, refrain from touching such power lines or circuits, as contact with them might be fatal.
6. **Overloading** - Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
7. **Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short out parts, resulting in a fire or electric shock. Never spill liquid of any kind on the product.
8. **Servicing** - Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
9. **Damage Requiring Service** - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - When the power supply cord or plug is damaged.
  - If liquid spills or objects fall into the product.
  - If the product is exposed to rain or water.
  - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. An improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
  - If the video product is dropped or the cabinet is damaged.
  - When the video product exhibits a distinct change in performance, this indicates a need for service.