

HDVG1 Test Signal Generator



Features and Benefits

- Provides Reliable 1.485 Gb/s Serial Digital Video Signal Sources in 1080i, 1080p and 720p Formats
 - 1080i @ 60, 59.95 and 50 Hz
 - 1080p @ 25, 24, 23.98 Hz, 24 sF and 23.89 sF
 - 720p @ 60 and 59.94 Hz
- Up to 8 Channels of Embedded Audio in 1080i
- Character ID and Logo Insertion
- Create New HD Test Signals with Supplied SDP2000 PC Software
- Three HD Serial Outputs
- Synchronous Solution with AGL1 Genlock Module



HDTV Generator Module for the TG2000 Video Signal Generator Platform

The HDVG1 is a high accuracy, multi-format high definition test signal generator module that is designed to install into the Tektronix TG2000 video signal generation platform. The HDVG1 provides three 1.485 Gb/s serial digital video test signal outputs in 1080i format in 60, 59.95, and 50 Hz rates, 1080p formats in 25, 24/24 sF and 23.98/23.98 sF formats and 720p in 60 and 59.94 Hz formats. Completely programmable with the included SDP2000 PC-based signal creation software, the HDVG1 module in the TG2000 generator platform, offers terrestrial broadcasters, content providers and manufacturers a complete solution for their high definition video test signal creation and generation needs.

EMBEDDED AUDIO

Modeled after the successful DVG1 digital SDTV generator module, the HDVG1 includes the ability to add up to 8 channels of embedded audio as ancillary data. Each audio channel can be switched off, set to silence, or have independent selection of frequency and amplitude characteristics.

HD SYSTEM TIMING STRESSING

The HDVG1 provides the ability to vary the system timing relative to the TG2000's system clock by up to ± 5 frames in 1 sample clock increments allowing stress testing of HD serial receiver circuits.

HD TEST SIGNALS

The HDVG1 comes pre-loaded with a large complement of test signals selected for maximum functionality in today's HD broadcast, content creation and manufacturing environments. Custom HD test signals can also be created with the included SDP2000 PC-based signal creation and editing software. User definable custom character ID and logos can be created and embedded in any of the HD test signals.



See Tektronix on the World Wide Web:
<http://www.tektronix.com>



Tektronix measurement products
are manufactured in ISO
registered facilities.

HDVG1 Test Signal Generator

COMPETE HD TEST SIGNAL AND MASTER SYNC LOCK SOLUTION

The TG2000 with the HDVG1 and AGL1 (analog genlock module) and ECO422 sync changeover unit provides a completely redundant master sync and HD test signal solution for broadcasters and content creation applications. The AGL1 module provides a precise lock of the TG2000 and HDVG1 module clocks to an external timing reference source. Analog black out and high definition test signals can then be routed to the high definition plant. See figure 1.

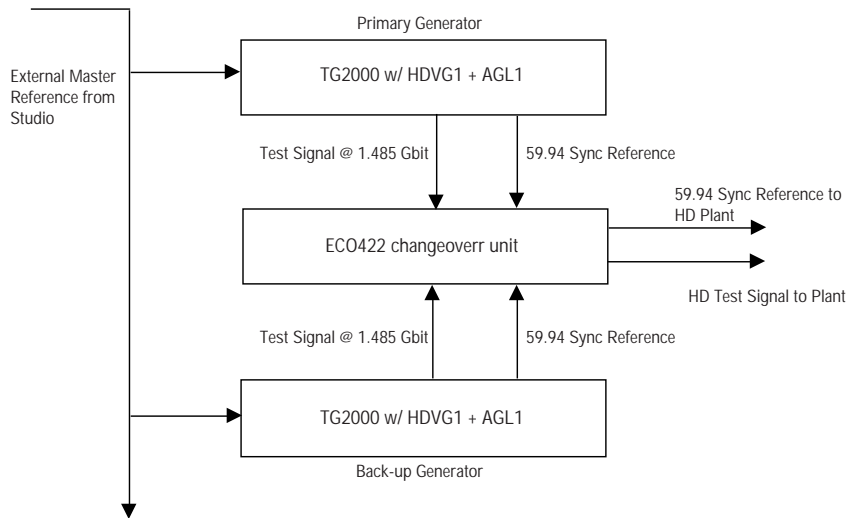


Figure 1.

CHARACTERISTICS

Standards Conformance- SMPTE 272M, 292M, 274M, 296M.

ELECTRICAL CHARACTERISTICS (TYPICAL)

Connector (Serial) – (3) BNC.

Bit Rate – 1.485 Gb/s, 1.485/1.001 Gb/s.

Formats –

1080i/60 Hz, 59.94 and 50 Hz.

1080p/25 Hz, 24 Hz/24 sF and 23.98 Hz/23.98 sF.

720p/60 Hz and 59.94 Hz.

Amplitude – 800 mv \pm 10%.

Overshoot – \leq 10%.

Rise and Fall Times – \leq 270 ps (20% to 80%) difference less than 100 ps.

DC Offset (AC Coupled) – 0.0 V \pm 0.5 V.

Jitter – \leq 135 ps (alignment jitter).

Return Loss –

\leq 15 dB from 5 MHz to 742.5 MHz.

\leq 10 dB from 742.5 MHz to 1.485 GHz.

AUDIO SIGNAL (EMBEDDED)

Channels Active – 1, 2, 3, 4, 5, 6, 7, 8.

Audio Sampling Frequency – 48 kHz.

Sampling Alignment – Asynchronous, synchronous without frame numbers, synchronous with frame numbers. 24, 20.

For Each Channel:

Audio amplitude: 0 to –60 dBFS in 1 dB increments.

Audio Frequency (Hz): 50, 100, 150, 200, 250, 300, 400, 500, 600, 750, 800, 1000, 1200, 1500, 1600, 2000, 2400, 3000, 3200, 4000, 4800, 6000, 8000, 9600, 12000, 16000, 24000.

ORDERING INFORMATION

HDVG1

Includes: SDP2000 Signal Generation Software.

WARRANTY

1 year parts and labor.

For further information, contact Tektronix:

Worldwide Web: for the most up-to-date product information visit our web site at: www.tektronix.com

ASEAN Countries (65) 356-3900; **Australia & New Zealand** 61 (2) 9888-0100; **Austria, Central Eastern Europe, Greece, Turkey, Malta, & Cyprus** +43 2236 8092 0; **Belgium** +32 (2) 715 89 70;

Brazil and South America 55 (11) 3741-8360; **Canada** 1 (800) 661-5625; **Denmark** +45 (44) 850 700; **Finland** +358 (9) 4783 400; **France & North Africa** +33 1 69 86 81 81; **Germany** +49 (221) 94 77 400;

Hong Kong (852) 2585-6688; **India** (91) 80-2275577; **Italy** +39 (2) 25086 501; **Japan (Sony/Tektronix Corporation)** 81 (3) 3448-3111; **Mexico, Central America, & Caribbean** 52 (5) 666-6333;

The Netherlands +31 23 56 95555; **Norway** +47 22 07 07 00; **People's Republic of China** 86 (10) 6235 1230; **Republic of Korea** 82 (2) 528-5299; **South Africa** (27 11)651-5222; **Spain & Portugal** +34 91 372 6000;

Sweden +46 8 477 65 00; **Switzerland** +41 (41) 729 36 40; **Taiwan** 886 (2) 2722-9622; **United Kingdom & Eire** +44 (0)1628 403300; **USA** 1 (800) 426-2200.

From other areas, contact: Tektronix, Inc. Export Sales, P.O. Box 500, M/S 50-255, Beaverton, Oregon 97077-0001, USA 1 (503) 627-6877.

Copyright © 1999, Tektronix, Inc. All rights reserved. Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specification and price change privileges reserved. TEKTRONIX and TEK are registered trademarks of Tektronix, Inc. All other trade names referenced are the service marks, trademarks or registered trademarks of their respective companies.

4/99 HB/XBS 20A-13233-0