



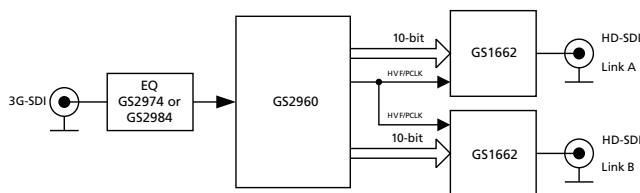
GS1662 HD, SD SDI Transmitter Product Brief

Key Features

- Operation at 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
- Supports SMPTE 292M, SMPTE 259M-C and DVB-ASI
- Integrated Cable Driver
- Integrated low noise VCO
- Integrated ClockCleaner™
- Ancillary data insertion
- Parallel data bus selectable as either 20-bit or 10-bit
- SMPTE video processing including TRS calculation and insertion, line number calculation and insertion, line based CRC calculation and insertion, illegal code re-mapping, SMPTE 352M payload identifier generation and insertion
- GSPI Host Interface
- 1.2V digital core power supply, 1.2V and 3.3V analog power supplies, and selectable 1.8V or 3.3V I/O power supply
- -20°C to +85°C operating temperature range
- Low power operation (typically 330mW including Cable Driver)
- Small 11mm x 11mm 100-ball BGA package
- Pb-free and ROHS compliant

Applications

Application: Single Link (3G-SDI) to Dual Link (HD-SDI) Converter



Description

The GS1662 is an SDI Transmitter, generating a SMPTE 292M, SMPTE 259M-C or DVB-ASI compliant Serial Digital Output signal.

The integrated ClockCleaner™ allows the device to accept parallel clocks with greater than 300ps input jitter and still provide a SMPTE compliant serial digital output.

The device can operate in four basic user-selectable modes: SMPTE mode, DVB-ASI mode, Data-Through mode, and Standby mode.

In SMPTE mode, the GS1662 performs SMPTE scrambling and NRZ to NRZI coding. In addition, the device can insert TRS words, calculate and insert line numbers and line based CRC's, re-map illegal code words, map 8-bit TRS to 10-bit TRS, calculate and insert EDH CRC's and flags, and insert SMPTE 352M payload identifier packets. All of the processing features are optional, and may be disabled via external control pins and/or via the Host Interface.

The GS1662 provides ancillary data insertion in SMPTE mode as well. The entire ancillary packet is programmed into internal registers through the GSPI Host Interface, including the Ancillary Data Flag (ADF), Data Identification words (DID and SDID) and checksum. The GS1662 then recalculates the checksum and inserts the complete ancillary packet into the video stream.

In DVB-ASI mode, the device will perform 8b/10b encoding prior to transmission.

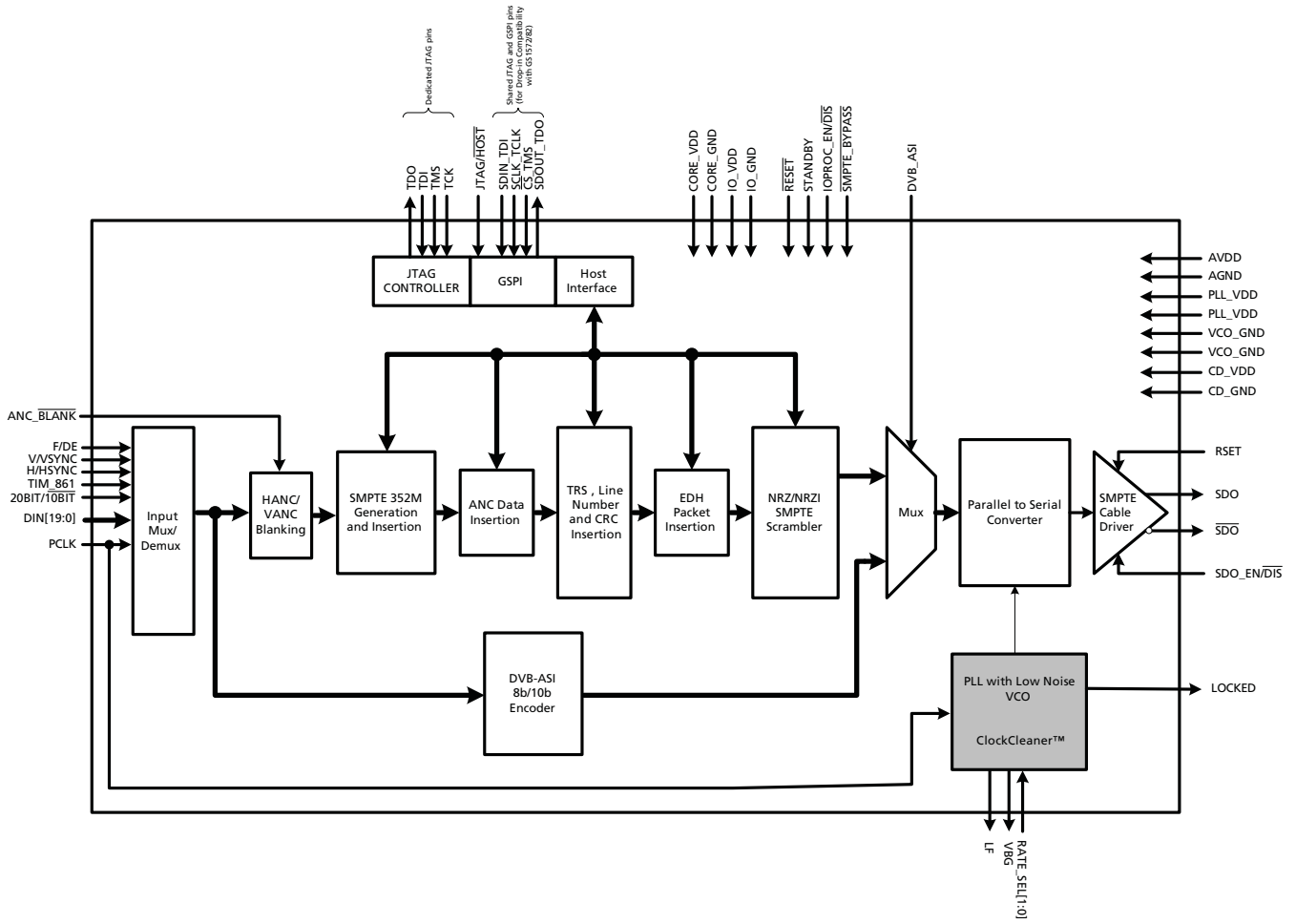
In Data-Through mode, all SMPTE and DVB-ASI processing is disabled, and the device can be used as a simple parallel to serial converter.

The device can also operate in a lower power Standby mode. In this mode, no signal is generated at the output.

Parallel data inputs must be provided in 20-bit or 10-bit multiplexed format for HD and SD video rates. The associated Parallel Clock input signal operates at 148.5 or 148.5/1.001MHz (HD 10-bit multiplexed format), 74.25 or 74.25/1.001MHz (for HD 20-bit format), 27MHz (for SD 10-bit format) and 13.5MHz (for SD 20-bit format).

The GS1662 includes an integrated Cable Driver fully compliant with SMPTE 259M-C and SMPTE 292M. It features automatic dual slew-rate selection, depending on HD or SD operational requirements.

Functional Block Diagram



GS1662 Functional Block Diagram

**DOCUMENT IDENTIFICATION
PRODUCT BRIEF**

The product is in a development phase and specifications are subject to change without notice. Gennum reserves the right to remove the product at any time. Listing the product does not constitute an offer for sale.

CAUTION

ELECTROSTATIC SENSITIVE DEVICES

DO NOT OPEN PACKAGES OR HANDLE EXCEPT AT A
STATIC-FREE WORKSTATION

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