

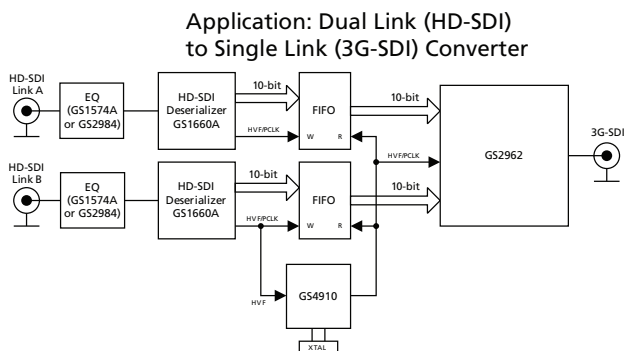


GS1660A HD, SD SDI Receiver

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 Reclocker with low phase noise integrated VCO
- Serial digital reclocked, or non-reclocked output
- Ancillary data extraction
- Parallel data bus selectable as either 20-bit or 10-bit
- Comprehensive error detection and correction features
- Output H, V, F or CEA 861 Timing Signals
- 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
- GSPI Host Interface
- -20°C to +85°C operating temperature range
- Low power operation (typically 280mW)
- Small 11mm x 11mm 100-ball BGA package
- Pb-free and RoHS compliant

Applications



Description

The GS1660A is a multi-rate SDI Receiver which includes complete SMPTE processing, as per 292M and SMPTE 259M-C. The SMPTE processing features can be bypassed to support signals with other coding schemes.

The device features an integrated Reclocker with an internal VCO and a wide Input Jitter Tolerance (IJT) of 0.7UI.

A serial digital loop through output is provided, which can be configured to output either reclocked or non-reclocked serial digital data. The Serial Digital Output can be connected to an external Cable Driver.

The device operates in one of four basic modes: SMPTE mode, DVB-ASI mode, Data-Through mode or Standby mode.

In SMPTE mode, the GS1660A performs SMPTE de-scrambling and NRZI to NRZ decoding and word alignment. Line-based CRC errors, line number errors, TRS errors and ancillary data check sum errors can all be detected. The GS1660A also provides ancillary data extraction. The entire ancillary data packet is extracted, and written to host-accessible registers. Other processing functions include H:V:F timing extraction, Luma and Chroma ancillary data indication, video standard detection, and SMPTE 352M packet detection and decoding. All of the processing features are optional and may be enabled or disabled via the Host Interface.

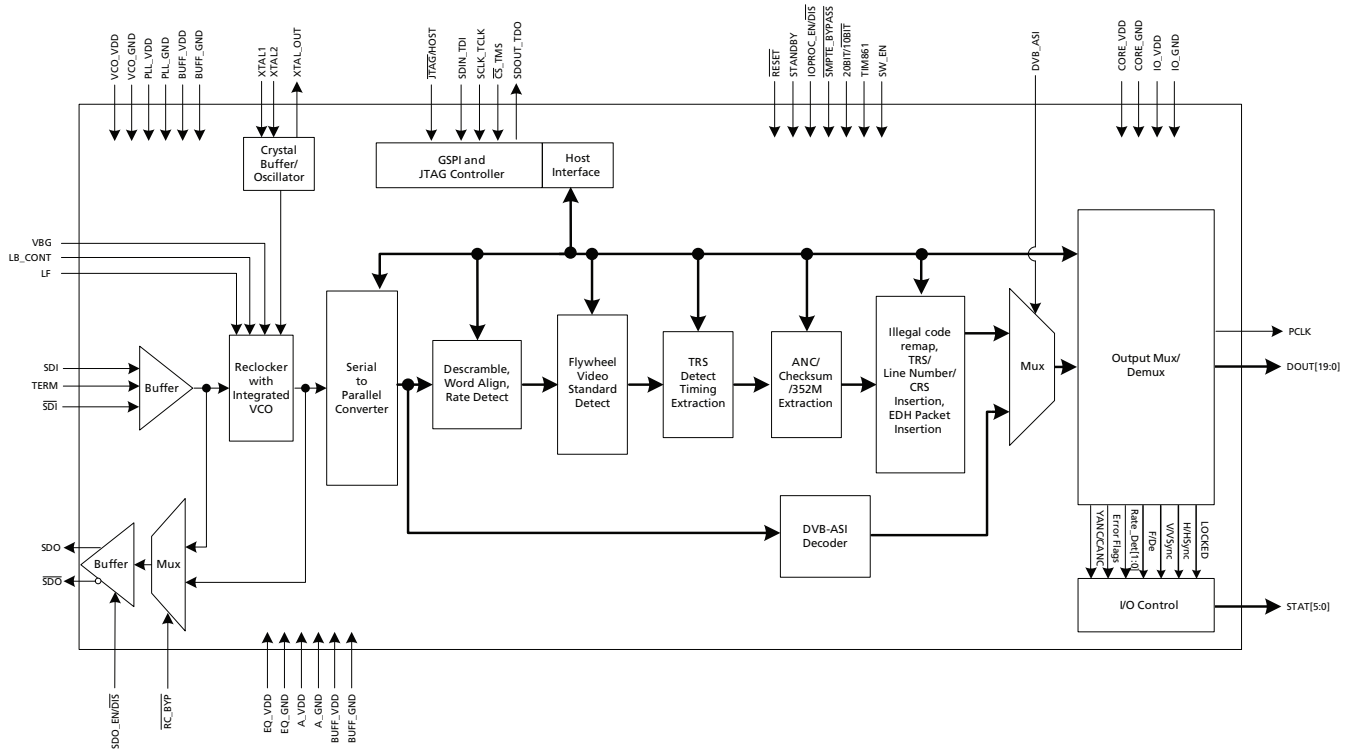
In DVB-ASI mode, 8b/10b decoding is applied to the received data stream.

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

The device can also be placed in a lower power Standby mode. In this mode, no signal processing is carried out and the parallel output is held static.

Parallel data outputs are 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 modes), 74.25 or 74.25/1.001MHz (for HD 20-bit mode), 27MHz (for SD 10-bit mode) and 13.5MHz (for SD 20-bit mode).

Functional Block Diagram



GS1660A 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

GENNUM CORPORATE HEADQUARTERS

4281 Harvester Road, Burlington, Ontario L7L 5M4 Canada

Phone: +1 (905) 632-2996

E-mail: corporate@gennum.com

Fax: +1 (905) 632-2055

www.gennum.com

OTTAWA232 Herzberg Road, Suite 101
Kanata, Ontario K2K 2A1
Canada

Phone: +1 (613) 270-0458

Fax: +1 (613) 270-0429

CALGARY3553 - 31st St. N.W., Suite 320
Calgary, Alberta T2L 2K7
Canada

Phone: +1 (403) 284-2672

UNITED KINGDOMSouth Building, Walden Court
Parsonage Lane,
Bishop's Stortford Hertfordshire, CM23 5DB
United Kingdom

Phone: +44 1279 714170

Fax: +44 1279 714171

INDIA#208(A), Nirmala Plaza,
Airport Road, Forest Park Square
Bhubaneswar 751009
India

Phone: +91 (674) 653-4815

Fax: +91 (674) 259-5733

SNOWBUSH IP - A DIVISION OF GENNUM439 University Ave. Suite 1700
Toronto, Ontario M5G 1Y8
Canada

Phone: +1 (416) 925-5643

Fax: +1 (416) 925-0581

E-mail: sales@snowbush.comWeb Site: <http://www.snowbush.com>**MEXICO**288-A Paseo de Maravillas
Jesus Ma., Aguascalientes
Mexico 20900

Phone: +1 (416) 848-0328

JAPAN KKShinjuku Green Tower Building 27F
6-14-1, Nishi Shinjuku
Shinjuku-ku, Tokyo, 160-0023
Japan

Phone: +81 (03) 3349-5501

Fax: +81 (03) 3349-5505

E-mail: gennum-japan@gennum.comWeb Site: <http://www.gennum.co.jp>**TAIWAN**6F-4, No.51, Sec.2, Keelung Rd.
Sinyi District, Taipei City 11502
Taiwan R.O.C.

Phone: (886) 2-8732-8879

Fax: (886) 2-8732-8870

E-mail: gennum-taiwan@gennum.com

GERMANYHainbuchenstraße 2
80935 Muenchen (Munich), Germany

Phone: +49-89-35831696

Fax: +49-89-35804653

E-mail: gennum-germany@gennum.com**NORTH AMERICA WESTERN REGION**691 South Milpitas Blvd., Suite #200
Milpitas, CA 95035
United States

Phone: +1 (408) 934-1301

Fax: +1 (408) 934-1029

E-mail: naw_sales@gennum.com**NORTH AMERICA EASTERN REGION**4281 Harvester Road
Burlington, Ontario L7L 5M4
Canada

Phone: +1 (905) 632-2996

Fax: +1 (905) 632-2055

E-mail: nae_sales@gennum.com

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