![Chipsmall logo]

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Gennum Products

Key Features

- Converts between 1.5G, 3G, 6G and 12G SDI
  - Quad Link 3G-SDI $\leftrightarrow$ 12Gb/s
  - Dual Link 6Gb/s $\leftrightarrow$ 12Gb/s
  - Dual Link (2 x 3Gb/s) ST 425-3 $\leftrightarrow$ 6Gb/s
  - Quad Link (4 x 3Gb/s) ST 425-5/-6 $\leftrightarrow$ Dual Link 6Gb/s
  - Quad Link HD-SDI (4 x 1.5Gb/s) $\leftrightarrow$ 6Gb/s
- Serial Bypass modes for all support rates
- 4 Serial Differential Inputs
  - 100Ω differential inputs support DC-coupling to 1.2V CML Logic
  - Input trace equalization for up to 6" FR4 at 12Gb/s
- 4 Serial Differential Outputs
  - 100Ω differential outputs support DC-coupling to 1.2V CML Logic
  - Output de-emphasis to compensate for up to 6" FR4 at 12Gb/s
- Reference Clock/Crystal Input —148.5MHz/27MHz
- GSPI serial control and monitoring interface
- Selectable 1.8V and 2.5V digital control I/O
- Automatic SMPTE ST 352 packet creation
- 14mm x 14mm 256-Ball BGA (0.8mm pitch)
- Pb-free and RoHS-compliant package

Applications

- UHDTV1 and 4K D-Cinema end-equipment: Cameras, Monitors, Switchers
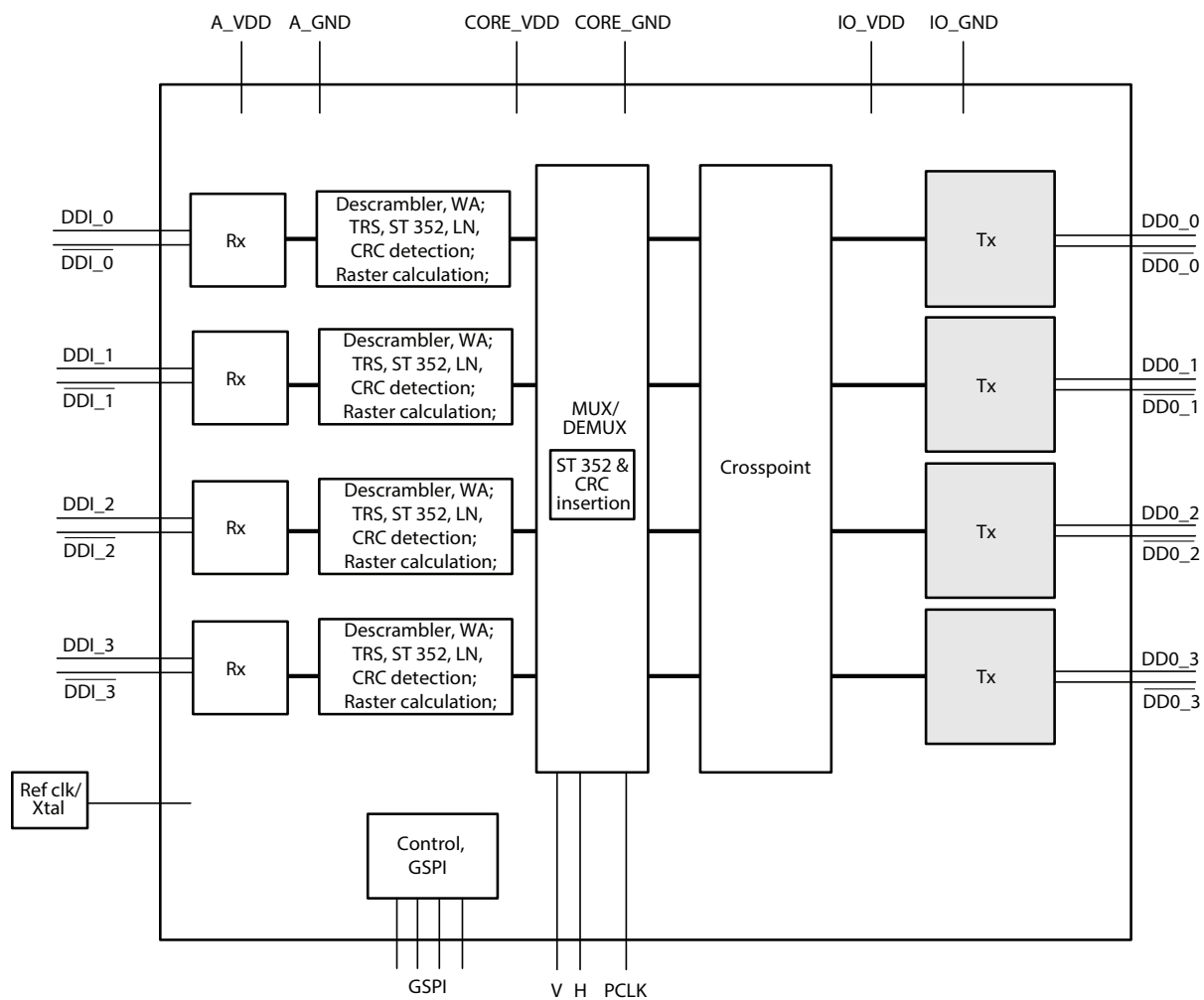
Description

The GS12070 is an UHD-SDI Gearbox which performs the multiplexing and de-multiplexing necessary to facilitate conversions between the ST 425-3 and ST 425-5 multi-link 3Gb/s UHD-SDI Interface and the SMPTE ST 2081 (6Gb/s) and ST 2082 (12Gb/s) Interfaces. A conversion between 4 x 1.5Gb/s and 6Gb/s is also supported.
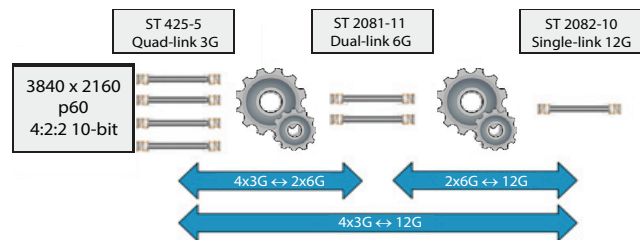
GS12070 Supported Conversions of SMPTE Standard Interfaces

The GS12070 features four high-speed differential signal inputs and four high-speed differential serial outputs which can be interfaced to 1.2V CML I/O. The high-speed inputs and outputs include programmable trace equalization and de-emphasis drivers to compensate for high-frequency losses associated with board-level interconnect.

The high-speed serial inputs and outputs support 270Mb/s, 1.5G, 3G, 6G and 12G nominal data rates. The supported conversions are performed by manually selecting the input and output rates. Unused output ports at 6G and 12G may be configured to output a copy of the primary converted output. A serial bypass mode is also available as a manually selectable option.

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A_VDD A_GND   CORE_VDD CORE_GND   IO_VDD IO_GND

DDI_0 — Rx — Descrambler, WA; TRS, ST 352, LN, CRC detection; Raster calculation;

DDI_1 — Rx — Descrambler, WA; TRS, ST 352, LN, CRC detection; Raster calculation;

DDI_2 — Rx — Descrambler, WA; TRS, ST 352, LN, CRC detection; Raster calculation;

DDI_3 — Rx — Descrambler, WA; TRS, ST 352, LN, CRC detection; Raster calculation;

MUX/ DEMUX

ST 352 & CRC insertion

Crosspoint

Tx — DD0_0
Tx — DD0_1
Tx — DD0_2
Tx — DD0_3

Ref clk/ Xtal

Control, GSPI

GSPI   V H PCLK

GS12070 Block Diagram

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CAUTION

ELECTROSTATIC SENSITIVE DEVICES

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

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