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Reclocking Deserializer with a Serial Loop-through Cable Driver

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> **GS1660**
HD-, SD-SDI and DVB-ASI Receiver Complete with SMPTE Video Processing

> **GS1660A**
HD-, SD-SDI and DVB-ASI Receiver Complete with SMPTE Video Processing

> **GS1661**
HD-, SD-SDI and DVB-ASI Receiver with Integrated Adaptive Cable Equalizer

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HD-, SD-SDI and DVB-ASI Receiver with Integrated Adaptive Cable Equalizer

> **GS1662**
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GS2961A

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Semtech GS2961A

3G-, HD-, SD-SDI and DVB-ASI Receiver, with Integrated Adaptive Cable Equalizer

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Overview

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The GS2961A is a multi-rate SDI integrated Equalizer-Receiver which includes complete SMPTE processing, as per SMPTE 425M (Level A and Level B), SMPTE 424M, 292M and SMPTE 259M-C.

The SMPTE processing features can be bypassed to support signals with other coding schemes.

The GS2961A integrates Gennum's next-generation state-of-the-art adaptive cable equalization technology, achieving unprecedented cable lengths and jitter tolerance. It features DC restoration to compensate for the DC content of SMPTE pathological signals.

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 GS2961 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 GS2961A 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.

Features

- > Integrated adaptive cable equalizer
- > Integrated Reclocker with low phase noise, integrated VCO
- > Typical equalized length of Belden 1694A cable:
 - > 150m at 2.97Gb/s
 - > 230m at 1.485Gb/s
 - > 440m at 270Mb/s
- > Operation at 2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
- > Supports SMPTE 425M (Level A and Level B), SMPTE 424M, SMPTE 292M, SMPTE 259M-C and DVB-ASI
- > Serial digital reclocked, or non-reclocked output
- > Ancillary data extraction
- > Optional conversion from SMPTE 425M Level B to Level A for 1080p 50/60 4:2:2 10-bit
- > 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 515mW)
- > Small 11mm x 11mm 100-ball BGA package
- > Pb-free and ROHS compliant

Applications

- > Monitors
- > Camera control units
- > Multiviewers
- > Production switchers
- > Master control switchers
- > VTRs
- > Video servers
- > Encoders/decoders
- > Up/down/cross converters
- > Audio de-embedders
- > Format detectors
- > Test and measurement equipment

Order Codes

- > GS2961AIBE3: Lead-Free, RoHS Compliant, Tray-168 Pieces

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