

# GigaSTAR® Digital Display Link (DDL)

## Giving High-Definition Screens the Green Light

Digital Video Over Distances Of More Than 500 Meters

Inova Semiconductors introduces two new GigaSTaR® Digital Display Link (DDL) products, INDT/R166 and INDT/R331, the next evolutionary step in transporting digital video over distance. These new products are targeted at the burgeoning High resolution and HD markets. The INDT/R166 and INDT/R331 products integrate „elastic buffers“ to significantly reduce jitter and overfeeding. The INDT/R166 and INDT/R331 are pin compatible replacements and functional upgrades for the INDT/R165 and INDT/R330. The new challenges of DVI and HDMI, present in designing video digital display systems, highlights the need for a solution to the problem of transporting high resolution digital video over distance, enabling long-distance HD quality video using only one single cable pair with the capability to adapt to all display interface standards like DVI or LVDS. The fact that a digital video signal attenuates after 3-4 meters, without external assistance, created a requirement for this next evolutionary in the GigaSTaR® Digital Display Link (DDL) product line. These new products are ideally suited for video extenders for high-resolution computing, HDTV, studio broadcast video equipment and high resolution security monitoring equipment.

A second cable pair, using the integrated 100 Mbit/s return channel, makes the link fully interactive. This capability enables the popular Universal Serial Bus (USB2.0) to be used beyond the present limits of 5 meters for video and audio signals. The robust and reliable DDL link can bridge distances up to 50 meters with low-profile UTP/STP-cables and over 500 meters with multimode fiber, without the need for repeaters.

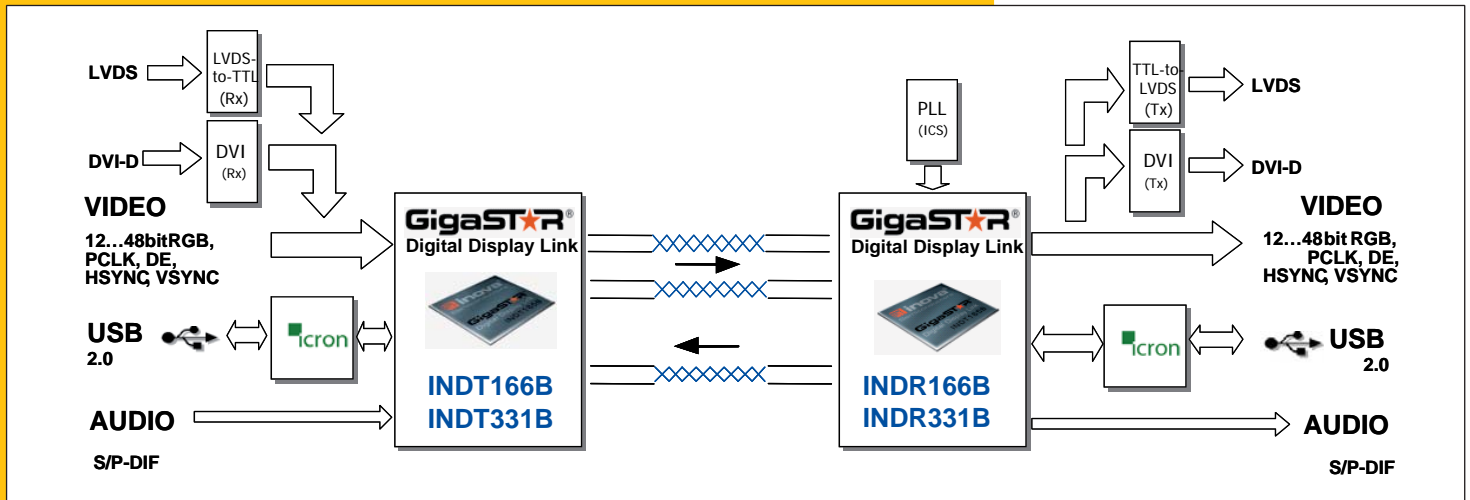


**HD  
ready**



### Applications

- Long distance multimedia consoles
- HD Broadcast consoles
- High resolution industrial remote terminals
- Video HD-SD Connectivity systems
- Digital Signage
- HD Capture Cards
- Digital TV equipment
- Video Projectors and Home Cinemas
- DVI Extension products
- LED & LCD Video Walls
- High Resolution camera links
- Machine vision systems



The GigaSTAR® Digital Display Link 166/331-series is an innovative high-speed link featuring simultaneous transmission of digital video, audio and bi-directional sideband data over one standard shielded twisted pair cable up to 50 m (500 m with fiber optics).

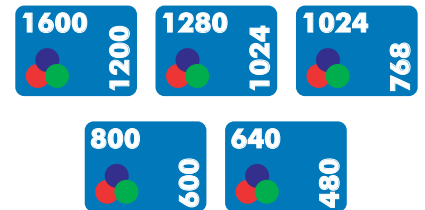
It supports VGA...UXGA as well as Digital TV (DTV) and High-Definition TV (HDTV) formats up to 720p or HDTV1080i (24 or 30 color bits). The sideband channels provide bandwidth up to 264 Mbps to connect peripheral components like keyboard, mouse, disc drive and audio devices. Using the GigaSTAR® DDL link chips together with ICRON Technologies' patented Extreme USB® technology, USB 1.1 and 2.0 is no longer limited to the desktop range of 5 m, and can be extended together with the digital video signal on a single cable for distances of up to 50 m over STP CAT5, or up to 500 m over fiber.

Also incorporating a digital S/P-DIF compliant audio interface the GigaSTAR® DDL link is the ideal long-distance link for all innovative multimedia applications around all popular video and desktop applications.

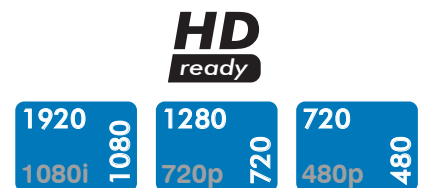
### Features

- Supported VESA resolutions:
  - INDT/R166: up to XGA/24bit/60Hz
  - INDT/R331: up to UXGA/18bit/60Hz or SXGA/24bit/60Hz
- Supported Video resolutions:
  - INDT/R166: up to 480p (up to 30 color bits)
  - INDT/R331: up to 720p / 1080i (both up to 30 color bits)
- Parallel graphics controller and LC-display interface
  - 18- / 24-bit (1 pixel/clock) or 36- / 48-bit (2 pixel/clock)
- Pixel data clocking on rising/falling/both clock edges
- Pixel Clock frequency: 24 – 161 MHz
- 4 channel audio interface (IEC958 compliant S/P-DIF)
- High- and low-speed bi-directional sideband data channels
- Single + 3.3 V power supply
- Extended temperature range: -40 – +85 °C
- Fully RoHS compliant chip

### PC Monitor Resolutions



### Video/TV Resolutions



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