



DMD Discovery™ 1100 Chip Set

At the heart of the DMD Discovery™ 1100 Chip Set is the TI 0.7 XGA DDR DMD, an optical semiconductor that allows developers to manipulate light digitally. When integrated with light source and optics, this unique device creates binary light patterns with speed, precision, and efficiency far surpassing that of other spatial light modulators.

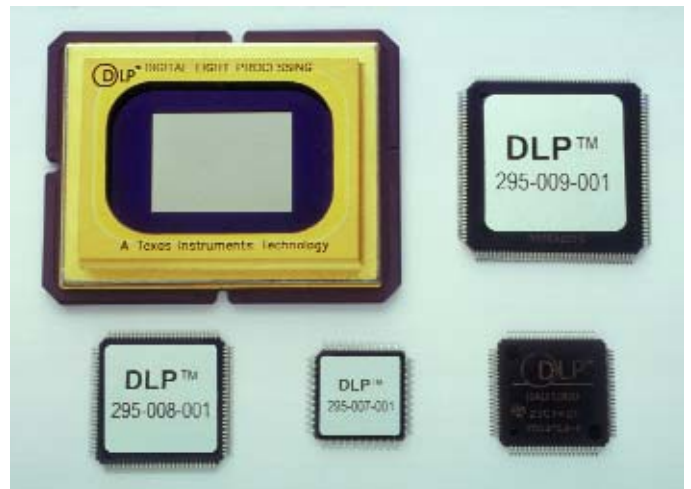
The DMD .7XGA 12° DDR (Double Data Rate) consists of a 1024 x 768 array of micro-mechanical mirrors on a 13.68 micrometer pitch. Each mirror can be individually deflected at +/- 12° about a hinged diagonal axis. Deflection polarity (positive or negative) of the mirrors is individually controlled by changing the binary state of the underlying CMOS control circuitry and mirror reset signals.

The 1024 x 768 mirrors are driven in a block reset fashion allowing for either global or phased reset. Effectively, the DMD 0.7XGA 12° DDR is an electrical input, optical output memory device.

The DMD Discovery 1100 Chip Set features the DMD and other supporting devices. Unlike TI DMD controllers optimized for projection display, Discovery 1100 is designed to support a wide variety of DMD applications by delivering maximum flexibility in formatting and sequencing data and resulting light patterns.

0.7 XGA DDR DMD FEATURES

- 1024 x 768 bistable mirrors (16 banks of 1024 x 48)
- +/-12 degree mirror tilt
- Up to 9,800 full array mirror patterns/sec (7.7 Gbs)
- 13.68um x 13.68um mirror pitch
- 85% optical fill factor
- Visible, ultraviolet (UV), and near infrared (NIR) package options available. (See reverse page transmission charts for details. UV & NIR not in volume production at this time.)

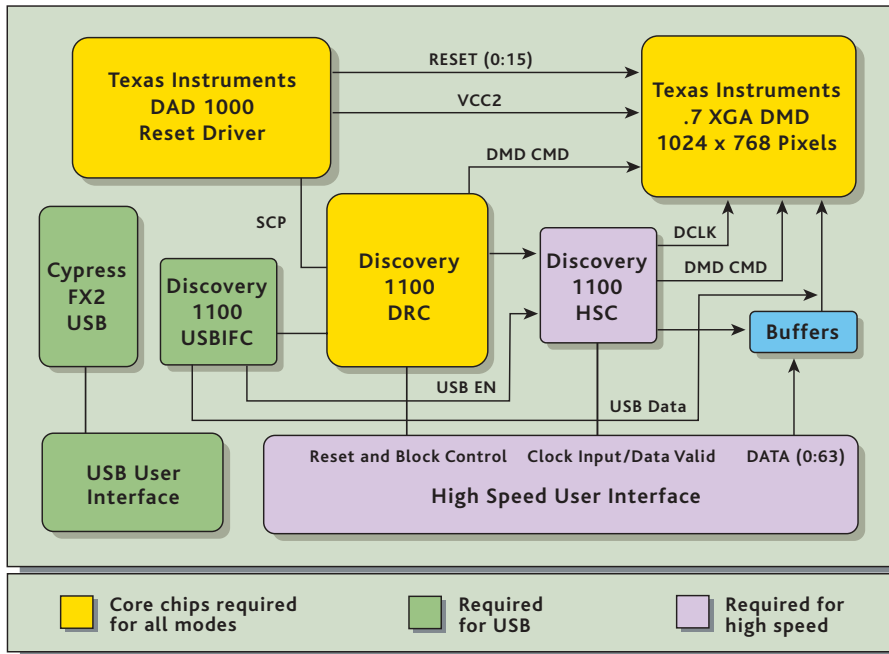


DMD Discovery™ 1100 Chip Set
(Cypress FX2 not featured)

DMD DISCOVERY™ 1100 CHIP SET

(See reverse page system diagram.)

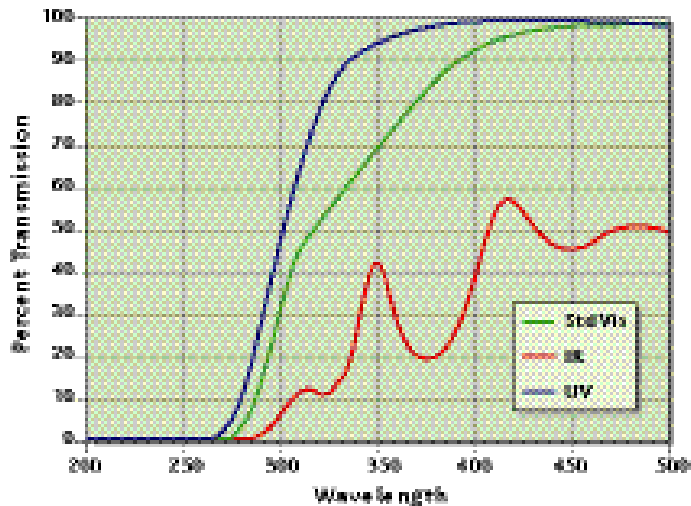
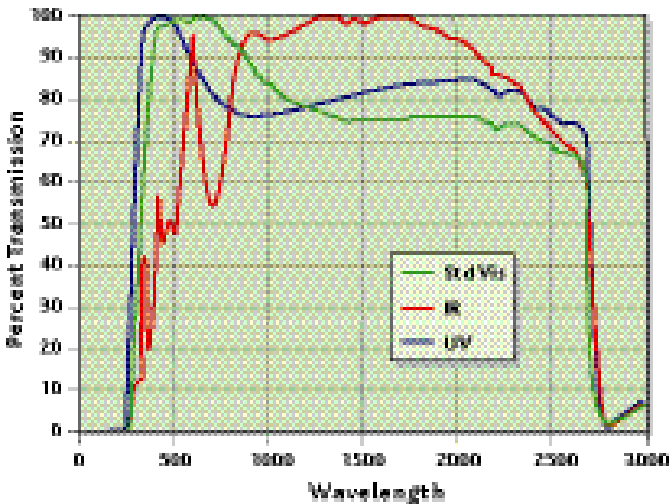
- 0.7 XGA DMD Spatial Light Modulator (See description this page.)
- DAD 1000 controls 16 banks of DMD mirrors.
- Discovery 1100 DRC (DAD Reset Controller) provides user interface to DAD1000 with overlapping mirror bank reset capability. (DLP 295-008-001)
- Discovery 1100 HSC (High Speed Controller) provides DMD data load command interface, supporting 7.7 gigabits/sec DMD data load. (DLP 295-007-001)
- Discovery 1100 USBIFC (USB Interface Controller) provides seamless interface between USB and DLP components, supporting up to 80 megabit/sec DMD data load. (DLP 295-009-001)
- Cypress FX2 (purchased separately) provides USB 2.0 system interface.



Discovery 1100 Block Diagram
 With and without USB and/or High Speed capability

DMD WINDOW TRANSMISSION CHARTS

Typical Single-Pass Window Transmission



ORDERING

Discovery products and accessories are available from TyRex Services. The purchase of a *DMD Discovery™ 1100 Starter Kit* is required before ordering the *DMD Discovery™ Chip Sets*. This allows the developer to become familiar with the technology.

CONTACTS

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